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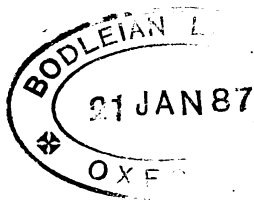
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P R E F A C E.

THE Secretary of State for War, in concurrence with His Royal Highness the Field Marshal Commanding in Chief, having directed that complete returns of the equipment of the Army should be made by the officers of the Topographical and Statistical Depot, and illustrated by drawings of every article authorized to be supplied to the army, the work was divided into seven parts, and intrusted to the following officers :—

- | | | |
|-----------------------|---|---------------------------------|
| Part I. Cavalry | - | Lieut. Hozier, 2nd Life Guards. |
| II. Royal Artillery | | Major Miller, R.A., <i>V.C.</i> |
| III. Royal Engineers | | Lieut.-Colonel Cooke, R.E. |
| IV. Military Train | - | Lieut. Hozier, 2nd Life Guards. |
| V. Infantry | - | Captain Petrie, 14th Regiment. |
| VI. Commissariat | - | Lieut. Hozier, 2nd Life Guards. |
| VII. Hospital Service | | Captain Petrie, 14th Regiment. |

The present part comprises only the equipment of a company of Engineers. The details of the troops of engineer train (including the pontoon train), not having been completely settled, the publication of the returns of equipment of that branch of the corps has been postponed, but they will be issued as Section II.

As the proportion of tools to accompany a company of Engineers in the field is carried by the engineer train, it will be given in Section II., but lists and illustrations of the authorized sets of tools used by the engineers in their ordinary duties are supplied in this section.

The prices given are intended to show the approximate value of the different articles, and not their absolute value in any one year, as this varies according to the different contracts.

HENRY JAMES,
Colonel Royal Engineers.

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HISTORICAL NOTICE OF THE CORPS OF ROYAL ENGINEERS.*

THE Corps of Engineers was first raised to carry on the works of Gibraltar, by an order under the sign manual dated 6th May 1772. It consisted of one company called the "Soldiers Artificers Company." In 1786 the force was increased to two companies, each comprising 137 non-commissioned officers and men. Up to this period the companies were filled up mainly by artificers drafted from the line; but in 1786, officers of engineers were appointed to recruit specially for the corps.

Up to 1787 no increase was made to the numbers, and they were employed only in Gibraltar, but on 10th October of that year, a warrant was signed, authorizing the formation of a corps of "Royal Military Artificers," on the model of the "Soldiers Artificers" of Gibraltar, to consist of six companies of 100 men each. In 1789 a Colonel Commandant was appointed. These companies appear to have been enlisted for home service only.

By Royal Warrant, 11th September 1793, four additional companies were raised expressly for service abroad, and were sent to Flanders, the West Indies and Upper Canada. These companies were kept distinct from the home companies and from those at Gibraltar.

On the 15th May 1794, an Adjutant was appointed to the corps, and Woolwich became their head quarters.

In 1797, the Soldiers Artificers companies at Gibraltar were incorporated with the Royal Military Artificers, forming together a body whose nominal strength was 1,075 of all ranks, but their actual strength was only 759.

In 1805, three companies were formed, quite independent of the existing ones, for service in Malta and the Mediterranean, consisting principally of Maltese and Sicilians, and called the "Maltese Military Artificers;" and in the same year, the number of companies of Royal Military Artificers was raised from 10 to 12, and the number of men in each from 100 to 126.

In 1811, the corps was increased to four battalions of eight companies each, amounting to 2,861 of all ranks.

In 1812, the title of the corps was changed to "Royal Military Artificers, or Sappers and Miners," and in 1813, it was again changed to "Sappers and Miners" only.

In 1817, the last of the Maltese companies was disbanded.

* Extracted from Quartermaster Conolly's History of the Corps of Royal Engineers.

In 1819, the corps was reduced to 12 companies, containing 752 of all ranks.

Since that time the corps has been gradually increased to its present strength.

In 1857, the name was again changed to "Royal Engineers," the privates retaining the name of "Sapper."

In 1861, the officers of the Indian Engineers were amalgamated with those of the Royal Engineers, and the whole now form one corps, called the Royal Engineers.

The old lists of officers of Royal Engineers and of the three presidencies of India are still kept distinct, and those officers who obtained their commissions previous to the amalgamation will be promoted in their own lists only ; but those who joined after the amalgamation are placed on the general list of the Royal Engineers, and as they rise to the top of the list of lieutenants, they will be promoted indiscriminately into the different lists as vacancies occur, and the same process will be followed in the higher ranks.

The amalgamation only extended to the officers ; the sappers remain distinct as before, those in India consisting of natives.

PRESENT ORGANIZATION OF THE ENGINEERS.*

In the Corps of Engineers there are two distinct units of organization, the "company" and the "troop;" the latter are termed troops of engineer train. Units of organization.

Companies of Engineers, which consist of trained artificers, are available, without any change in their composition, for service either in garrison or with an army in a field, but in the latter case a detachment of engineer train would be attached to each company for the care and conveyance of the tools, &c., forming its field equipment. Company of Engineers.

Troops of Engineer Train are of two descriptions, "field equipment troops" and "pontoon troops," differing from one another in the object for which they are intended and in the manner in which they are equipped. Troop of Engineer Train.

A field equipment troop intended for the care and conveyance of the camp equipage, intrenching tools, artificers' stores, and scientific instruments required by companies of engineers when serving with an army in the field, is equipped with the necessary wagons, carts, and pack-saddles, and divided into three sections, each of which has arrangements for carrying the field equipment of one company, and is capable of being detached with a company serving separately. Field equipment troop.

There is also in the equipment of each troop a proportion of wagons for conveying such stores as would be required with the engineer field park at the head quarters of an army corps.

The men of the troop are instructed in the manner of distributing the tools, and in laying them out in readiness for a working party; also in the mode of packing and arrangements for travelling.

Pontoon troops are organized and equipped as units of pontoon train. Pontoon troop.

Each troop has a definite length of bridge, with the means of keeping it in an efficient state.

The pontoon troops are charged with the duty of constructing military bridges, as well as with the care and conveyance of the necessary material.

The present equipment for a pontoon troop consists of 100 yards of bridge of Blanchard's pattern.

The men of the Royal Engineer Train are available for duty with either description of troop, according to the necessities of the service.

There are at present only two troops of Engineer Train in the British service, affording the means of keeping up a model of each description of equipment, and forming a nucleus for extension in the event of war.

* By Captain Duff, R.E.

DEPARTMENTS IN CHARGE OF EQUIPMENTS.

From the REGULATIONS for the SUPPLY of MILITARY STORES to an

ARMY in the FIELD, authorized 26th February 1866

87
Gen. No.
3318

All demands for the Royal Engineers are made through the Deputy Adjutant-General of the corps.

The stores required for troops of all arms are classified according to the military departments which are charged with their administration, and responsible for taking due measures to maintain the necessary supplies of them in a state of readiness and efficiency.

Under the Adjutant-General's department are included all articles of equipment which would be required by the troops when in heavy marching order, and kept in their possession, together with reserves, and materials for the repair of the same, with the exception of tents, blankets, camp kettles, and blanket covers. Also clothing and extra clothing for the regular forces; armaments, and articles for siege purposes, and engineer professional equipments.

The Quartermaster-General's department is charged with issuing and maintaining the efficiency of all stores required for camping and quartering troops, as well as such as are needed in addition to the regular equipment supplied; and generally with all stores not appertaining to the department of the Adjutant-General, and which do not move in the possession of the troops, except in the case of the Engineer Train.

Food, forage, fuel, and light are provided by the Commissariat department.

The Army Medical department is responsible for the supply of medicines, medical appliances, and surgical instruments.

The Purveyor's department is charged with the provision of medical comforts, subsistence for the sick, and the furniture and equipment of hospitals.

The principal Veterinary Surgeon has the care of providing horse medicines and veterinary surgical instruments.

Munitions of war, military matériel, and stores of all kinds, with the exception of those appertaining to the Commissariat department, are under ordinary circumstances kept in charge of the Store department both at home and abroad. When an army is organized for active service, a Chief Military Store Officer, with a suitable staff, is appointed, who is attached to Head-quarters, and whose duty it is to receive, take charge of, and issue all stores with the exception of those of the Commissariat, Medical, Purveyor's, and Veterinary departments.

In order that the wants of the army may be anticipated, the heads of civil and military departments are responsible for furnishing periodical estimates of their probable requirements to the Adjutant-General and Quartermaster-General, by whom they will be made known to the chief military store officer, who is then responsible, under the authority of the Commander of the Forces, for making timely provision to meet all the store requirements of the service by the transmission of demands to the Director of Stores, the final approval and order for the supply resting with the Secretary of State for War.

Officers demanding stores are to take care that all requisitions contain full and exact details as to the number and particular description of every article required, because the military store officers are responsible only for providing and issuing them in accordance with the lists thus furnished.

All stores, with the exception of those of the Commissariat, Medical, Purveyor's, and Veterinary departments, will be obtained by the heads of military and civil departments by requisitions upon the chief military store officer, approved by the Adjutant-General or Quartermaster-General of the Army.

In the case of stores authorized by a *General Order* to be issued to troops at certain seasons or under particular circumstances, the requisition may be sent *direct* to the military store officer by the commanding officer, the general order itself constituting sufficient authority for their issue; this must, however, be quoted in the demand.

Engineer Field Equipment.

On an army preparing to take the field, a detail of the requirements of the Engineer Field Equipment and pontoon train will be furnished by the Adjutant-General, showing the stores necessary for the *equipment* distinct from those to form a *reserve*. The former will be in possession of the Engineers, the latter of the chief military store officer, who will be responsible for maintaining such proportions at the grand and intermediate depôts as may be submitted by the Commanding Royal Engineer, and approved by the Commander of the Forces.

The Commanding Engineer will make requisitions in detail (which will have the covering authority of the Adjutant-General of the Army) upon the store officer for such of the reserve stores as are from time to time required for service, stating whether they are required to replace expended articles or as additions.

Portions of the equipment of tools and materials will be distributed by the Commanding Royal Engineer among the companies, the remainder will be with the field park at the head-quarters of the army. The whole will be carried by detachments of the Engineer Train.

The account of expenditure of all tools and materials will be kept by the Commanding Royal Engineer, and examined once every six months by an Officer of the Store department.

The Commanding Royal Engineer is to hold no reserve of stores. Articles no longer necessary for the service of the Engineers to be returned to the nearest military store.

Stores obtained by the Commanding Royal Engineer by manufacture or conversion on the spot, or by the dismantling of any work, are to be brought on charge, or, if not required, are to be delivered to the nearest military store.

The Pontoon train is to be regulated in the same way as the rest of the Engineer Equipment.

COLOURS, &c.

From the QUEEN'S REGULATIONS, &c., 1859, page 18.

—	Regimental Badge.	Devices and Distinction.	Regimental Mottos.	Colour of Uniform.	Colour of Facings.	County Title.	No.
Royal En- gineers.	Royal Arms and supporters, with a cannon.	Nil -	"Ubique." "Quo Fas et Gloria du- cunt."	Scarlet	Blue -	Nil -	Nil.

PERSONAL EQUIPMENT OF OFFICERS.
PLATES 1 & 2.

FULL DRESS.

PLATE 1.

FULL DRESS ORDER. (Figs. 1 & 2.)

At Court, Dinner parties, Balls, &c.; when the Sovereign or any Crowned Head is present, whether the Officer is in the Ranks or not; when not attached to troops, but accompanying, or on Parade with, a General (or Commanding) Officer, who with the Staff is in red.

- Belt, field glass.
- *Busby or cocked hat.
- Case, field glass.
- Trousers, with gold lace stripe.
- Tunic.

DRESS ORDER. (Fig. 3.)

At Church Parades & Funerals; on General, District, or Garrison Courts-martial; on Garrison Duty, as Field Officer, &c.; on Guards of Honour, except to the Sovereign or any Crowned Head; Officer in Command of the Royal Engineer Battalion, mounted Officers with the Battalion, Brevet Field Officers, Captains and Subalterns in the Ranks with Companies, the Sovereign or any Crowned Head not being present.

Same as Full Dress Order, except Trousers with red stripe.

HORSE FURNITURE.

- | | | |
|--|---|-----------------------|
| Breastplate.
Bride.
Crupper.
Girths (white)
Saddle.
Steel chain rein.
Wallets and cover. † | } | To be
always used. |
|--|---|-----------------------|

Saddlecloth to be worn only with tunic.

UNDRESS.

PLATE 2.

UNDRESS ORDER (Fig. 1.)

On Regimental Courts-martial, Courts of Inquiry, Committees, &c., Inspections of Barracks, and as a Common Dress in Quarters.

- Forage cap and chin strap.
- Frock coat.
- Trousers, with red stripe.
- Waistcoat.

DRILL ORDER. (Fig. 2.)

At Drill and on Orderly Duty.

- Belt, field glass.
- Case for field glass.
- Forage cap with chin strap.
- Jacket (buttoned).
- Trousers, with red stripe.

MESS ORDER.

At Mess; at Evening Parties, &c. when specially permitted by the Orders of the Garrison.

- Jacket, unbuttoned, hooked at throat with gold braid.
- Trousers, with gold lace stripe.
- Waistcoat.

STAFF ORDER. (Fig. 3.)

When not attached to troops, but accompanying, or on Parade with, a General (or Commanding) Officer, who with the Staff is in blue.

- Belt, field glass.
- Case, do.
- Cocked hat and feather.
- Frock coat.
- Trousers, with red stripe.
- Waistcoat.

When Officers of Royal Engineers are attached for any particular occasion, to do the duties of the Staff, they should appear in the same order of dress as the Staff, viz., if in red, full dress order, if in blue, Staff order.

ON ALL OCCASIONS.

- Belt, sword (not in mess order).
- Boots, Wellington.
- Gloves, white kid at Court, evening parties, &c., buckskin on all other occasions.
- Stock.
- Sword and knot (not in mess order).
- Spurs and straps for mounted and field officers.

SKETCHING CASE is not part of any order of dress; to be worn only when required in the field.

SPURS to be worn by all field and mounted officers, whether on foot or horseback.

STRAPS to be always worn with spurs.

BOOTINGS, leather, staff pattern, to be worn with red-stripe trousers on all mounted duties. (Plate 2b.)

CLOAK, blue cloth, double-breasted, 49 inches long for an officer 5 ft. 9 in. high, to vary one inch in length for every inch of difference in height, lined with scarlet shalloon, collar, stand and fall, 4 inches deep, blue both sides, velvet on side next face. Cape, blue cloth, 29 inches deep, lined with scarlet shalloon. When the cloak is worn on parade or duty the cape is to be attached; on other occasions, either may be worn separately.

LEGGINGS to be worn when ordered; to be put on as described at page 39; of the same pattern as the line. (Plate 2b.)

BOOTS, Wellington, are the regulation pattern, but lace boots may be worn with leggings.

REMARKS.

Distinctions of rank are shown by the lace and braid on the sleeve and collar, and by the badges on the collar, as shown in Plate 2c. The badges are silver for the tunic, and gold for the shell jacket. Field officers have the badges of their rank at each corner of their saddle cloth.

* Busbies are to be worn by subalterns doing duty at the Royal Engineer Establishment Chatham (except the educational staff), field officers for military duties at Chatham, adjutants, brevet field officers and captains in command of, or on parade with, companies, subalterns attached to, or on parade with, companies; the above-mentioned officers when doing garrison duty in tunics. The busby is never to be worn at Court.

No outside pockets on the tunic, frock coat, or jacket are allowed.

Shirt collars are not to be seen in uniform.

Watch chains and trinkets are not to be seen attached to tunic, frock coat, or jacket.

Sword belt is not to be worn without the sword.

On active service the field glass belt and sword belt may be of bridle leather, 1½ inches wide, without embroidery, instead of embroidered Russia leather.

Crape on left arm is the only indication of private mourning.

† Bearskin cover except in the tropics, when it is of black patent leather.

PERSONAL EQUIPMENT OF NON-COMMISSIONED OFFICERS AND MEN.

SAPPER.

For the latest prices of Arms and Accoutrements, see page 22.

The prices of Clothing and Necessaries vary according to the contracts.

Description.	No. of Plate.	Total No.	Total Cost.	Total Weight.
<i>Arms and Accoutrements.</i>				
			<i>£ s. d.</i>	<i>lbs. oz.</i>
Belts, buff { pouch - - - - -	3	1	0 2 4	0 8 $\frac{3}{4}$
„ waist, with frog and waist plate - -	„	1	0 3 4 $\frac{1}{2}$	0 14 $\frac{1}{2}$
*Canteen, wooden, with straps - - - -	4	1	0 2 6	1 13
Carbine, including ramrod - - - - -	3	1	3 7 9	8 3
„ Sword bayonet for ditto - - - -	„	1	0 14 3	1 9
„ Scabbard for sword bayonet - - - -	„	1	0 0 11	0 9
Havresack - - - - -	4	1	0 0 11	0 7
†Pouches (40 rounds) - - - - -	3	1	0 4 7	1 8
Do. leather, for percussion caps - - -	„	1	0 0 10 $\frac{1}{2}$	0 1 $\frac{3}{4}$
Sling, carbine, buff - - - - -	„	1	0 0 10	0 4
Snap cap, with chain - - - - -	„	1	0 0 1 $\frac{1}{2}$	0 0 $\frac{1}{2}$
Stopper, muzzle - - - - -	„	1	0 0 2	0 0 $\frac{1}{2}$
Wrench nipple, without cramp - - - -	„	1	0 0 9	0 4
			4 18 5	16 3
<i>Ammunition (in constant Possession).</i>				
Caps, percussion - - - - -		30	0 0 2	0 0 $\frac{3}{4}$
Cartridges, ball - - - - -		20	0 1 8	1 13
			0 1 10	1 13 $\frac{3}{4}$
<i>Clothing, &c.</i>				
<i>Uniform, &c. :—</i>				
Boots, ankle, pair - - - - -	7	1	0 10 9	2 5
Busby, complete with plume - - - -	„	1	0 10 7	1 4
†Great coat - - - - -	6	1	\$1 9 3 $\frac{1}{2}$	5 4
†Leggings, leather, pair - - - - -	7	1	0 3 4	0 11
Trousers, pair - - - - -	„	1	0 10 6	2 2 $\frac{1}{2}$
Tunic - - - - -	5	1	0 19 3	2 15
<i>Working dress :—</i>				
Boots, ankle, pair - - - - -	7	1	0 10 9	2 5
Jacket - - - - -	„	1	0 14 1	2 1 $\frac{1}{2}$
Trousers, pair - - - - -	„	1	0 10 6	2 2 $\frac{1}{2}$
			5 19 0 $\frac{1}{2}$	21 2 $\frac{1}{2}$
<i>|| Necessaries and Books.</i>				
Bag, shaving - - - - -		1	0 0 1 $\frac{3}{4}$	0 0 $\frac{3}{4}$
Bag, waterproof, with hook - - - -		1	0 5 11 $\frac{1}{2}$	1 9 $\frac{1}{2}$
Blacking, tin of - - - - -		1	0 0 2 $\frac{1}{2}$	0 8
Books, viz., Account book, small - -		1	0 0 6	0 2
„ Bible - - - - -		1	0 0 8 $\frac{1}{2}$	0 8 $\frac{1}{2}$
„ Common Prayer Book - - - - -		1	0 1 0	0 2 $\frac{1}{2}$
Boots, ankle, pair - - - - -		1	0 10 9	2 5
Braces, pair - - - - -		1	0 0 11	0 4
Brass ball. See "Paste, brass."				

* The canteen is carried on active service only.

† A new pouch to hold 20 rounds is under consideration.

‡ These are not technically articles of clothing.

§ This is the price of the old great coat, that of the new one is 1*l.* 14*s.* 9*d.*

|| The prices of necessaries are taken from W. O. Circular 908, 28th March 1865. Since these lists were made out new prices have been fixed by W. O. Circular 948, 27th March 1866, and a table showing the alterations is given in the next page.

SAPPER—continued.

Description.	No. of Plate.	Total No.	Total Cost.	Total Weight.	
			£ s. d.	lbs. oz.	
Brushes {		brass - - - - -	1	0 0 7	0 3
		clothes - - - - -	1	0 0 10 ³ / ₄	0 3 ¹ / ₄
		hair - - - - -	1	0 0 11 ¹ / ₂	0 3 ¹ / ₂
		shaving - - - - -	1	0 0 3 ¹ / ₄	0 1
		shoe (set of 3) - - - - -	1	0 2 0 ¹ / ₂	0 13
Button-holder, brass		1	0 0 1 ¹ / ₂	0 2	
*Cap and strap, forage	7	1	0 1 10 ¹ / ₂	0 5 ¹ / ₂	
Case, plume. See Plume case.					
Comb - - - - -		1	0 0 2 ³ / ₄	0 0 ¹ / ₂	
Gloves, leather, pair		1	0 2 8 ¹ / ₄	0 3	
Holdall - - - - -		1	0 0 7 ¹ / ₂	0 3	
†Jacket - - - - -		1	0 14 5 ¹ / ₄	2 1 ¹ / ₂	
Knapsack, complete, with straps	7	1	0 6 2 ³ / ₄	4 4	
Knife, fork, and spoon (set)		1	0 0 7 ³ / ₄	0 5	
Knife, clasp - - - - -		1	0 0 8 ¹ / ₄	0 4	
Paste, brass, tin of - - - - -		1	0 0 1 ¹ / ₂	0 4	
Plume case - - - - -		1	0 0 2 ¹ / ₂	0 0 ¹ / ₂	
Razor and case - - - - -		1	0 0 4 ³ / ₄	0 3	
†Shirts {		cotton, or - - - - -	3	0 12 10 ¹ / ₂	3 0
		flannel - - - - -	2	0 10 9	1 2
Soap, cake of - - - - -		1	0 0 0 ³ / ₄	0 0 ¹ / ₂	
Socks, worsted, pairs		3	0 3 0 ¹ / ₂	0 12	
Sponge, pipe-clay - - - - -		1	0 0 9 ¹ / ₄	0 0 ¹ / ₂	
Stock - - - - -		1	0 0 5 ³ / ₄	0 2	
Straps, great coat, pair		1	0 1 0 ¹ / ₂	0 4 ¹ / ₂	
Tin, mess, with cover and strap		1	0 2 1 ¹ / ₄	1 9	
Towels - - - - -		2	0 2 6	1 0	
†Trousers - - - - -		1	0 10 6	2 2 ¹ / ₂	
Vests, flannel - - - - -		2	0 7 7 ¹ / ₂	1 2	
			4 14 2	25 5	
Total equipment of a sapper			15 13 6	64 8	
Deduct weight of waterproof bag, jacket and trousers, which are not carried by the sapper				5 13	
Total weight carried by the sapper, including the clothes he wears				58 11	

* The survey companies are allowed to wear a peak to their forage cap.

† The jacket and trousers are carried in the waterproof bag, and not in the knapsack.

‡ A sapper is obliged to have 3 cotton or 2 flannel shirts, but not both; the price and weight of the former only have, therefore, been included in the total. Blue-striped cotton shirts may be issued with a kit instead of white or flannel shirts, by War Office Circular 919, 4th August 1865, price 3s. 8¹/₂d.

ALTERATIONS IN PRICES caused by W. O. Circular 948.

	s. d.		s. d.		s. d.
Bag, waterproof, with hook	6 0 ¹ / ₂	Plume case - - - - -	0 1 ³ / ₄	Sponge - - - - -	0 9
Boards for knapsack, long	0 1 ¹ / ₂	Razor and case - - - - -	0 5 ¹ / ₄	Straps, great coat	1 1 ¹ / ₂
Do. do. short	0 1 ¹ / ₂	Shirt, cotton, white	4 1	Tin, mess - - - - -	2 0 ¹ / ₂
Braces, pair - - - - -	0 11 ¹ / ₂	Do. do. blue-striped	3 6	Towel - - - - -	0 9 ¹ / ₂
Brass ball - - - - -	0 1	Do. flannel - - - - -	6 4	Trousers - - - - -	12 10 ¹ / ₂
Cap and strap - - - - -	2 0	Socks, cotton - - - - -	1 0 ¹ / ₄	Vest, flannel - - - - -	4 1 ¹ / ₂
Jacket - - - - -	15 7 ³ / ₄	Do. worsted - - - - -	1 4 ¹ / ₂		

SERJEANT.

Description.	No. of Plate.	Total No.	Total Cost.	Total Weight.
			£ s. d.	lbs. oz.
<i>Arms and Accoutrements.</i>				
Belts, buff { pouch - - - - -	3	1	0 2 6	0 8 $\frac{1}{2}$
{ waist, with frog and waist plate - -	„	1	0 3 8 $\frac{1}{2}$	0 14 $\frac{1}{2}$
*Canteen, wooden - - - - -	4	1	0 2 6	1 13
Carbine, including ramrod - - - - -	3	1	3 7 9	8 3
„ Sword bayonet for ditto - - - - -	„	1	} 0 14 3	1 9
„ Scabbard for sword bayonet - - - - -	„	1		0 9
Havresack - - - - -	4	1	0 0 11	0 7
† Pouches, 40 rounds - - - - -	3	1	0 4 7	1 8
„ leather, for percussion caps - - - - -	„	1	0 0 10 $\frac{1}{2}$	0 13 $\frac{1}{2}$
Sling, carbine, buff - - - - -	„	1	0 0 10	0 4
Snap cap, with chain - - - - -	„	1	0 0 1 $\frac{1}{2}$	0 0 $\frac{1}{2}$
Stopper, muzzle - - - - -	„	1	0 0 2	0 0 $\frac{1}{2}$
Whistle and chain - - - - -	„	1	0 2 9	0 3 $\frac{1}{2}$
Wrench nipple, with cramp - - - - -	„	1	0 1 9	0 6 $\frac{1}{2}$
			5 2 9	16 9
<i>Ammunition in constant possession.</i>				
Caps, percussion - - - - -		30	0 0 2	0 0 $\frac{1}{2}$
Cartridges, ball - - - - -		20	0 1 8	1 13
			0 1 10	1 13 $\frac{1}{2}$
<i>Clothing, &c.</i>				
Uniform, &c. —				
Boots, ankle, pair - - - - -	7	1	0 10 9	2 5
Busby, complete with plume - - - - -	„	1	0 11 11 $\frac{1}{2}$	1 4
† Great coat, including chevrons - - - - -	6	1	1 10 3 $\frac{1}{2}$	5 4
† Leggings, leather, pairs - - - - -	7	1	0 3 4	0 11
Trousers, pairs - - - - -	1.	1	0 17 6	1 15
Tunic - - - - -	5	1	2 12 10	3 2 $\frac{1}{2}$
Working dress :—				
Boots, ankle, pair - - - - -	7	1	0 10 9	2 5
Jacket - - - - -	„	1	1 1 8	2 5
Trousers - - - - -	„	1	0 11 9 $\frac{1}{2}$	2 2 $\frac{1}{2}$
			8 10 10 $\frac{1}{2}$	21 6
<i>Necessaries, &c.</i>				
Same as for sapper (see p. 16) - - - - -			4 14 2	25 5
Add additional cost of—				
§ Cap and strap, forage, with peak - - - - -			0 12 7 $\frac{1}{2}$	
Jacket - - - - -			0 7 7	
Trousers - - - - -			0 1 3 $\frac{1}{2}$	
			5 15 8	25 5
Total equipment of a serjeant - - - - -			19 11 2	59 5

* The canteen is carried on active service only.

† A new pouch to hold 20 rounds is under consideration.

‡ These are not technically articles of clothing.

§ By W. O. Circular 948, 27th March 1866, the price of a serjeant's cap, old pattern, is 14s. 2d., new pattern, 8s. 8 $\frac{1}{2}$ d.

|| The weight of the articles carried in the waterproof bag is not included (see p. 17).

BUGLER.

Description.	No. of Plate.	Total No.	Total Cost.	Total Weight.
<i>Arms and Accoutrements.</i>				
Belts, buff, waist, with frog and waist plate	3	1	£ 0 3 4½	0 14½
Bugle	4	1	1 1 0	1 6½
Do. strings	"	1	0 2 0	0 4½
*Canteen, wooden	"	1	0 2 6	1 13
Havresack	"	1	0 0 11	0 7
Sword	"	1	} 0 12 6 {	1 14
Do. scabbard	"	1		0 10½
			2 2 3	7 6
<i>Clothing.</i>				
Same as for sapper (see page 16)	-	-	5 19 0½	21 2½
<i>Necessaries.</i>				
Same as for sapper (see page 16)	-	-	4 14 2	25 5
Total equipment of a bugler	-	-	12 15 6	†48 0

* The canteen is carried on active service only.

† The weight of the articles carried in the waterproof bag is not included (see page 17).

COLOUR SERJEANTS, CORPORALS, MISCELLANEOUS.

Description.	No. of Plate.	Total No.	Total Cost.	Total Weight.
<i>Colour Serjeant.</i>			<i>£ s. d.</i>	<i>lbs. oz.</i>
Equipment, same as for serjeant, see page 18 -	-	-	19 11 2	59 5
Add additional cost of—				
Tunic - - - - -	5		0 2 7	
Jackets (2) - - - - -	..		0 5 2	
Chevrons to great coat - - - - -	..		0 0 3	
Total equipment - - - - -	-	-	19 19 2	*59 5
<i>Corporal.</i>				
Equipment, same as for sapper, see page 16 -	-	-	15 13 6	58 11
Add additional cost of—				
Chevrons to tunic - - - - -			0 5 1 $\frac{3}{4}$	
Do. jackets (2) - - - - -			0 10 3 $\frac{1}{2}$	
Do. great coat - - - - -			0 0 6	
Do. forage cap - - - - -			0 1 0	
Wrench, nipple, with cramp † - - - - -			0 1 0	
Total equipment - - - - -	-	-	16 11 5	*58 11
<i>2nd Corporal.</i>				
Equipment, same as for sapper, see page 16 -	-	-	15 13 6	58 11
Add additional cost of—				
Chevrons to tunic - - - - -			0 2 7	
Do. jackets (2) - - - - -			0 5 2	
Do. great coat - - - - -			0 0 3	
Do. forage cap - - - - -			0 0 6	
Wrench, nipple, with cramp † - - - - -			0 1 0	
Total equipment - - - - -	-	-	16 3 0	*58 11
<i>Miscellaneous.</i>				
Spare nipples - - - - -		54	0 8 1	0 8
Shooting badges, 2nd prize - - - - -		1	0 2 7	0 0 $\frac{1}{2}$
" 3rd " - - - - -		10	0 6 8	0 2 $\frac{1}{2}$
Chevrons for lance corporals, sets † - - - - -		8	0 16 0	0 2 $\frac{1}{2}$
Badges for good conduct, 1 bar - - - - -				
" " 2 bars - - - - -				
" " 3 " - - - - -				
" " 4 " - - - - -				
Instruments for marking men with the letters				
D. and B.C. § - - - - -		1 set	0 5 6	0 2
Handcuffs, with 2 keys, pairs - - - - -		2	0 7 6	2 10
			2 6 4	3 9

* These weights do not include those of the articles contained in the waterproof bag (see page 17).

† The amount given is the *additional* cost of the nipple wrench with cramp over that without one, the former being carried by all non-commissioned officers.

‡ The dress of the lance corporal is the same as that of the sapper (page 16), with the addition of chevrons as shown in plates 5 and 7.

ABSTRACT OF THE PERSONAL EQUIPMENT OF A COMPANY OF ENGINEERS.

The abstract given below shows the total cost and weight of all the articles of personal equipment required by a company of Engineers on active service.

The weights put against the different ranks include those of all the articles which they would have to carry when fully equipped for active service, with the exception of blankets.

Description.	Rate of Regimental Pay.	Cost of Equipment of each.	Weight of Equipment of each.	Total No.	Total Cost.	Total Weight.
<i>Officers.</i>						
<i>s. d.</i>	<i>£ s. d.</i>	<i>lbs. oz.</i>			<i>£ s. d.</i>	<i>lbs. oz.</i>
Captain - - - - -	11 0			1		
Lieutenants - - - - -	6 10			3		
Assistant Surgeon - - - - -	5 7			1		
	10 0					
<i>Non-commissioned Officers and Sappers.</i>						
Colour serjeant (page 20) - - - - -	3 4½	19 19 2	59 5	1	19 19 5	59 5
Serjeants (page 18) - - - - -	2 10½	19 11 2	59 5	5	97 15 10	296 9
Corporals (page 20) - - - - -	2 2½	16 11 5	58 11	6	99 8 6	352 2
Do. 2nd (page 20) - - - - -	1 10¾	16 3 0	58 11	6	96 18 0	352 2
Sappers (pages 16 and 17) - - - - -	1 2½	15 13 6	58 11	100	1,567 10 0	5,868 12
Buglers (page 19) - - - - -	1 2½	12 15 6	48 0	2	25 11 0	96 0
				120	1,907 2 9	7,024 14
Articles carried in bags - - - - -						697 8
<i>Miscellaneous.</i>						
(Page 20) - - - - -					2 6 4	3 9
Total equipment to be carried - - - - -					1,909 9 1	7,725 15

The camp equipment for a company of Engineers is given at page 65. This, together with the proportion of tools required, is carried by the section of the Engineer Train attached for that purpose to a company when in the field, as stated at page 11, and the method of transport, with details of the pack saddles, carts, &c., will be given in Part III, Section 2.

**GENERAL LIST OF PERSONAL EQUIPMENT FOR A COMPANY
CONTAINING 120 N.C. OFFICERS AND SAPPERS.**

The prices of arms and accoutrements are taken from W. O. Circular 907, 3rd April 1865.

Description.	No. of Plate.	Cost of each.	Weight of each.	Total No.	Duration, Years.
<i>Arms and Accoutrements.</i>					
		£ s. d.	lbs. oz.		
Belts, buff { pouch - - - - -	3	0 2 4	0 8½	118	12
waist, with frog and waist plate, for serjeants - -	"	0 3 8½	0 14½	6	12
Do. for sappers, &c. - -	"	0 3 2½	0 14½	114	12
Bugle, with strings - - -	4	1 3 0	1 11½	2	6
Canteen, wooden, with straps - -	"	0 2 2	1 13	120	not defined.
Carbine, including ramrod - - -	3	3 11 3	8 3	118	8
" sword bayonet for ditto - -	"	0 11 9	} 2 6	118	8
" scabbard for sword bayonet -	"	0 3 0	}	6	6
Havresack - - - - -	4	0 1 1	0 7	120	3
*Pouches (40 rounds) - - - - -	3	0 5 0	1 8	118	12
Do. leather, for percussion caps -	"	0 0 9½	0 1¼	118	12
Sling, carbine, buff - - - - -	"	0 0 9½	0 4	118	8
Snap cap, with chain - - - - -	"	0 0 2½	0 0½	118	8
Stopper, muzzle - - - - -	"	0 0 2¼	0 0½	118	8
Sword with scabbard (bugler's) - -	4	0 12 6	2 8½	2	} 12 sword. 6 scabbard.
Whistle and chain - - - - -	3	0 12 0	0 3½	6	12
Wrench nipple, without cramp - - -	"	0 1 3	0 4	100	12
Do. with cramp - - - - -	"	0 2 1	0 6½	18	12
<i>Ammunition in constant Possession.</i>					
Caps, percussion - - - per 1,000		0 5 0	1 8	3,540	1
Cartridge, ball - - - - -		0 0 1	0 1½	2,360	1
<i>Clothing, &c.</i>					
Boots - - - - -	7	0 10 9	2 5	240	1
Busby, complete with plume, serjeant's	..	0 11 11½	1 4	6	4
Do. do. sapper's, &c. - - -	7	0 10 7	1 4	114	4
Chevrons for lance corporals - - -	..	0 1 0	-	16	1
†Great coats (new pattern) - - -	6	†1 14 9	5 4	120	4
Jackets, colour serjeant's - - -	..	1 3 7	2 5	1	1
Do. serjeant's - - - - -	..	1 1 8	2 5	5	1
Do. sapper's, &c. - - - - -	7	§0 14 1	2 1½	114	1
‡Leggings, leather, pairs - - - -	"	0 3 4	0 11	120	3
Trousers, serjeant's - - - - -	..	0 17 6	1 15	6	1
Do. do. working dress - - -	..	0 11 9½	2 2½	6	1
Do. sapper's, &c. - - - - -	7	0 10 6	2 2½	228	1
Tunic, colour serjeant - - - - -	5	2 14 8	3 2½	1	1
Do. serjeant's - - - - -	"	2 12 10	3 2½	5	1
Do. 1st corporal - - - - -	"	1 3 2	2 15	6	1
Do. 2nd corporal - - - - -	"	1 1 3	2 15	6	1
Do. sapper's and bugler - - -	"	0 19 3	2 15	102	1

The necessaries are the same for all ranks, except the serjeant's cap, and as they are not issued regularly, but are kept up complete by the soldier himself, and are given at page 16, they are not repeated.

* A new pouch to hold 20 rounds is under consideration.

† These are not technically articles of clothing.

‡ For serjeants, corporals, and 2nd corporals the expense of the chevrons has to be added.

§ For corporals and 2nd corporals the expense of the chevrons has to be added.

CLOTHING AND NECESSARIES.

The following is taken principally from the "Revised Royal Clothing Warrant, 1865."

All requisitions for clothing and necessities are to be on the prescribed forms W.O. Form 81 and W.O. Form 306 for clothing, and W.O. Form 307 for necessities, and are to be forwarded to the deputy adjutant-general, Royal Engineers; and in no case should a demand for necessities be made on the same form as that for clothing.

CLOTHING.

The requisition is to be made in *triplicate* for the following articles, Requisition for clothing.
viz. :—

Boots.	Leggings.
Busbies.	Trousers.
Gloves.	Tunics.
Jackets.	

And for badges and chevrons, when required apart from or in addition to the garments.

Materials or garniture issued on payment will not include parts or fractions less than detailed below.

- (a.) Cloth, serge, and other materials measured by the yard, including laces, cords and braids, &c., not less than a quarter of a yard; and an issue of 20 yards or more may contain from one to three yards more than demanded, to prevent cutting off useless remnants.
- (b.) Buttons, hooks and eyes, and other articles counted by the gross or dozen, not less than one dozen.
- (c.) Thread, silk, twist, and other articles disposed of by weight, not less than a quarter of a pound.

Soldiers of all ranks belonging to the corps on the 1st of April, shall on that day, if possible, be provided with complete clothing, consisting of the articles herein-after mentioned.

Requisitions for the yearly supply of clothing are to be forwarded so as to reach the deputy adjutant-general's office, Royal Engineers,—

From India and China, not later than the 31st May in each year.

From other Tropical Stations and the Australian Colonies, and British Columbia, not later than the 30th June in each year.

From America, Halifax, and Bermuda, not later than the 31st July in each year.

From the Mediterranean, not later than the 31st August in each year.

From Great Britain, Ireland, and the Channel Islands, not later than the 1st January in each year.

Duplicate or triplicate requisitions are to be sent by officers commanding in China or the colonies (stations in the Mediterranean excepted) by two successive mails to ensure their receipt at the Horse Guards.

When clothing for the corps arrives at the place where the troops are stationed, it is to be inspected without delay by a board of survey, composed of the three senior officers present (the commanding officer excepted); and, in the case of the supply of the annual clothing for the whole force, where practicable, of an officer of another corps, and an officer of the military store or barrack department in addition, and the proceedings are to be forwarded in duplicate by the officer commanding to the deputy adjutant-general, R.E., on W.O. Form 620. Receipt and issue of clothing.

When clothing is unpacked at the station, the number of each bale, barrel, case, and package is to be carefully noted with the articles which it contains; and in every instance of excess or deficiency of goods, as compared with the invoices or vouchers, the numbers and contents of each package of the whole supply are to be detailed in the report of such excess or deficiency.

In the event of any damage to the articles received, or of their not being equal to sealed pattern in materials or workmanship, or not corresponding in measurement to the size tickets affixed to the garments (a number of which, not under 10 per cent. on the whole, should be fitted to men of corresponding measurements in presence of the board), a statement of the same is to be made in the report of the board, and an estimate furnished of the cost at which they can be rendered fit for issue.

The officer commanding is to make a report, and forward the same in duplicate to the deputy adjutant-general, R.E., at the end of the military year, stating his opinion as to the quality of the clothing supplied, and whether it has worn well. He will specify any defects, either in quality or make, to which he may think it advisable to call attention.

The articles to be furnished to each man are :—

Articles of clothing.

Royal Engineers.	Mounted.	Dismounted.
<i>Uniform.</i>		
Busby and holland bag, quadrennially - - -	1	1
Tunic, annually - - - - -	1	1
Overalls, unbooted, annually - - - - -	1	—
Trousers, cloth, annually - - - - -	—	1
Boots, ankle, annually - - - - -	—	1
Boots, Wellington, annually - - - - -	1	—
Gloves, pair, annually - - - - -	1	—
Bootings, leather, biennially - - - - -	1	—
<i>Working Dress.</i>		
Frock coat for staff-serjeants, annually - - -	1	1
Jacket for other ranks, annually - - - - -	1	1
Trousers, cloth, annually - - - - -	—	1
Boots, ankle, pair, annually - - - - -	—	1
Bootings, leather, biennially - - - - -	1	—
Overalls, unbooted, annually - - - - -	1	—
Boots, Wellington, annually - - - - -	1	—

Foreign stations.

Except when stationed at the Cape of Good Hope, Ceylon, China, the Mauritius, St. Helena, and the West Indies (Bermuda excepted), in which cases the following rules will be observed in the issue of clothing, viz. : When stationed at the Cape of Good Hope, Ceylon, the Mauritius, St. Helena, and the West Indies (Bermuda excepted), and in the Mediterranean :—

The uniform clothing and boots will be issued annually as at other stations, excepting the cloth tunic, which will be issued biennially, red serge frocks being supplied in alternate years, the men to receive compensation in money for the difference in value.

The boots belonging to the working dress will be issued annually as at other stations.

The working dress will be issued biennially, and in the year in which it is not issued compensation in money at the rates laid down at page

29 shall be expended in equal proportions, one half on the 1st April, and one half on the 1st October of that year, in such articles as the soldier may require. This compensation is to be charged in the pay list, supported by the usual voucher.

When stationed in China :—

The uniform clothing will be issued biennially, and compensation will be allowed for the year in which the clothing is not issued.

The uniform boots and working dress boots will be issued annually, as at other stations.

The working dress will be of serge, and will be issued annually, compensation being allowed for the difference in value between the cloth and serge working suit, viz. :

		<i>s.</i>	<i>d.</i>		
Serjeants	{	frock	7	3	per annum.
		trousers	3	4	”
Rank and file	{	frock	3	6	”
		trousers	1	10	”

The compensation for the dress clothing, and for the difference between the cloth and serge working suit, is to be charged and expended as above directed.

Staff-serjeants may invariably draw compensation in lieu of boots at the rates laid down in page 29.

The wicker helmet and puggaree (issued biennially) being the regulation head-dress for India, China, Ceylon, and Mauritius, all busbies of men embarking for these stations are to be left at home for re-issue to recruits. On leaving the above stations the helmets and puggarees are to be delivered into the nearest military store.

The under-mentioned rates will be admitted for making up such articles of clothing as may be issued in material to the Royal Engineers.

Description of Garments.	Rates, including the entire Charge for making or altering.	
	<i>s.</i> <i>d.</i>	
Regimental staff-serjeants	tunics	8 6
	frock coats	8 6
	overalls, unbooted	3 9
	trousers	3 0
Colour serjeants and serjeants on the staff with four chevrons	tunics	5 0
	undress jackets	3 3
	overalls, unbooted	2 10
	trousers	2 0
Serjeants	tunics	4 9
	undress jackets	3 1½
	overalls, unbooted	2 10
	trousers	2 0
Common	tunics	3 2
	undress jackets	2 0½
	overalls, unbooted	2 3
	trousers	1 5
Overalls strapped from the seat to the bottom	1 0	
Booting overalls that were supplied strapped as above	bootings closed or sewn up the sides previous to issue	0 6
	bootings not closed or sewn up the sides	1 0

Description of Garments.		Rates, including the entire charge for making or altering.
Strapping and booting overalls in one operation	bootings not closed up the sides previous to issue	s. d. 1 9
	bootings closed up the sides	1 3
Bootings	removing and putting on annual overalls	1 0
	chevron bars and good-conduct badges	0 1½
For sewing on	badges for instructors in gunnery and trumpet majors	0 1½
	for artificers and trumpeters	0 1
For providing materials and sewing on gold badges	chevron and good-conduct	*1 0
	shoes	1 11½
	bits	1 11½
	wheels	2 5½
	spurs	2 3½
	hammers and tongs	2 3½
For providing materials and sewing on worsted badges	trumpet badges	2 3½
	chevrons and good-conduct	0 2
	shoes	0 6
	bits	0 8
	wheels	0 10
	spurs	0 9
	hammers and tongs	0 9
	trumpet badges	0 9

The sums expended for making up the clothing sent in materials are to be charged in the pay list, supported by voucher, W.O. Form 56.

Altering clothing.

Should any alterations be required in made-up garments, new or part-worn, the actual and unavoidable expense of the same will be allowed. The amount is not to exceed—

4*d.* for each undress jacket.

8*d.* for each tunic.

3*d.* for each pair of overalls or cloth trousers.

2*d.* for each pair of serge trousers.

The sums thus paid for alterations are to be charged in the clothing account included in the pay list, supported by the proper vouchers, the receipt of the master tailor, and a certificate of the quartermaster countersigned by the commanding officer, stating the number and description of the articles altered.

Where clothing is supplied unmade no charge will be admitted for alterations, but in the case where made-up or part-worn clothing is supplied to recruits from store, the rates laid down above may be paid.

For issues to recruits, see articles 50 and 51 of the Revised Clothing Warrant, 1865.

General Directions.

Clothing and necessaries which have been approved after examination at the Royal Army Clothing Depôt at Pimlico, and subsequently passed by the board of officers as fit for issue, and have been taken into the possession of the soldier, cannot be received back as unfit for issue.

Clothing when replaced the property of the soldier.

All clothing (head-dresses, † leggings, great coats, and cloaks excepted) that has been in wear the prescribed period, becomes the property of the soldier when replaced by the next issue, but may be continued in

* This has been raised to 1*s.* 6*d.* to cover the cost of the new pattern lace,
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Engineers, 4th June.

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† Head-dresses are delivered into store. For leggings, great coats, and cloaks, see pages 29 to 31.

wear, at the discretion of the general officer commanding, for an additional period, without giving the soldier a claim to compensation.

This power should, however, only be exercised under exceptional circumstances, and for the benefit of the soldier.

The boots of soldiers becoming non-effective will not be required to be returned into store after six months' wear.

Clothing of non-effectives.

Any new articles of clothing which may be surplus in store, and not likely to be wanted by the corps for the current year, may be sold to such soldiers as may require them.

Part-worn clothing sold to men is to be charged for at rates varying according to the period it has been in wear. These valuations should be based on the compensation rates laid down at page 29, with 5 per cent. added. This does not apply to the case of clothing to be sold by auction.

Part-worn clothing.

The amounts directed to be charged for new articles of clothing issued as above from store, or realized by the sale of part-worn articles, are to be credited in the pay list, supported by certificate, W.O. Form 605.

The busbies of discharged and non-effective men at home are in all cases to be returned into store complete.

The worn clothing and busbies of non-effective men abroad are to be sold by auction at the end of each quarter, and the amount realized credited in the clothing account included in the pay list, supported by a certificate of the commanding officer. W.O. Form 617.

If unsaleable, the articles must be handed over to the nearest superintendent of stores or barrack master.

At home stations part-worn clothing is to be taken into the regimental store, and sent to head-quarters by the cheapest conveyance, *if fit, and suitable for issue to recruits*. If not fit for use, which is to be determined by a board of officers on the spot, it is to be sold by auction, and the proceeds credited to the public, supported by certificate, W.O. Form 605, or if unsaleable, handed over to the nearest barrack master.

Men who may join from desertion, or who may return to their duty from confinement, if they require clothing, shall, whatever may be the date of their rejoining, be supplied with part-worn clothing, when practicable; should there be none in store, they will be dealt with for clothing as recruits. Should they be absent without leave, or under confinement on the date when the extra articles are due, and rejoin before the 1st April, they will not be entitled to the new articles, but will receive part-worn articles equal to those in wear by other men of the corps, if there are any in store, or the prescribed rate of compensation from the date of rejoining to the 31st March.

Clothing of deserters, &c.

Such men shall have no title to clothing for the period between the date of their rejoining and the carrying out of the sentence of the court-martial.

A corporal or private, when promoted to be serjeant after the yearly issue of clothing, will, when practicable, receive the clothing of his predecessor; if not practicable, and the promotion takes place before 1st October, he will receive new clothing of his rank, if it can be supplied, and return the old into store if promoted on or after 1st October he will retain his clothing, and receive the difference in money between serjeant's and rank and file clothing, at the regulated rates, from the date of his promotion to the 31st March following.

Clothing of men promoted, &c.

He will, however, be entitled to the extra serjeant's chevrons at the public expense.

If appointed drummer, the same rule will be observed, but no compensation granted.

When a serjeant is reduced to the ranks, an exchange of clothing should be effected with his successor, if possible, or part-worn clothing issued to him ; should there be none in store, he should be treated as a recruit, returning his former clothing into store.

The clothing so returned must be in a serviceable state, after allowing for fair wear and tear, otherwise the soldier will be charged for the unnecessary damage.

Clothing of
discharged
men.

Men whose period of service will expire or who have given notice that they intend to purchase their discharge during the first quarter of the year, namely, from the 1st of April to the 30th of June, are not to be supplied with clothing, but are to be paid compensation up to the date of their discharge or re-engagement.

If brought forward for discharge between 1st July and 31st December, they will be allowed to take with them—

One part-worn tunic.

One part-worn pair cloth trousers.

One pair boots if before 1st October, or

Two pair boots if after 30th September.

These articles are to have been three months at least in wear.

If discharged after 31st December they will be allowed to take with them such clothing as would have become their property on the following 1st of April,* except the regimental head-dress, which must be returned into store, and for which no compensation will be allowed.

When soldiers are sent from any regiment, corps, or depôt, to another regiment, corps, or depôt, or the invalid depôt for discharge or otherwise, the officer commanding is to take care that any compensation in lieu of clothing that may be due to them is paid up to the end of the month preceding that in which they leave the regiment or depôt, and that a return according to W.O. Forms 607 and 32 (viz., 607 for soldiers sent to invalid depôt, and 32 for those sent to other corps,) is forwarded, sealed up, to the officer commanding the regiment, corps, or depot to which the soldiers are going.

These documents will be the authority upon which all further claims for compensation will be settled on the spot previous to the final discharge of the men.

All sums so paid are to be charged in the pay list, supported by the respective returns as vouchers.

Clothing of
invalids.

When the date on which an invalid will be discharged is known, the officer commanding the corps to which the soldier is attached will enter in the return received with him, and also in his pocket ledger, the amount of compensation (if any) in lieu of clothing which may have accrued to him since the date to which he was settled with on leaving his regiment. The invalid will sign the above-mentioned return for the amount of compensation entered therein ; he will also sign the entry of the same in his pocket ledger. The officer commanding his corps will then hand the return to the paymaster, who will either pay the amount to the soldier, or credit it in his accounts. The total amount so paid for each corps is to be charged in the pay list, supported by the Form No. 13, Appendix to W.O. Circular 891, and vouchers enumerated therein.

In the case of men being forwarded from the invalid depôt to their regiments or depôts, a certified extract from the above return is to be sent by the officer commanding the invalid depôt with them, in order that the men's claims may be settled at their regiments or depôts.

* See page 26.

All compensation, when sanctioned, shall be paid to non-commissioned officers and men at the following rates (which show the value per month of each article detailed), or the amount expended in articles for their benefit, at the direction of the commanding officer. The said compensation shall be paid in the currency of the country in which the regiment may be serving at the rate at which the soldier receives his pay and other allowances.

Corps.	Articles.	Staff Serjeants.			Serjeants.			Other Ranks.		
		£	s.	d.	£	s.	d.	£	s.	d.
Royal Engineers, mounted and dis- mounted men.	Busby - - - -	0	0	3	0	0	3	0	0	2½
	Tunic - - - -	0	7	1	0	4	3	0	1	7½
	Trousers, dress, per pair	0	1	9	0	1	6½	0	0	10½
	„ fatigue „ -	0	1	6	0	1	1½	0	0	10½
	Jackets, undress -	—	—	—	0	1	9½	0	1	2
	Boots, per pair -	0	0	8½	0	0	8½	0	0	8½
	Overalls, unbooted, per pair - - - -	0	2	10	0	1	9	0	1	4
	Overalls, working, per pair - - - -	0	1	9	0	1	5½	0	1	4
	Boots, Wellington, per pair - - - -	0	1	3	0	1	3	0	1	3
	Frock coat - - - -	0	2	8	—	—	—	—	—	—
	Gloves, per pair - -	0	0	2	0	0	2	0	0	2
	Bootings „ - - -	0	0	2½	0	0	2½	0	0	2½

Claims for compensation for part of a month will be dealt with upon the following principle :—

Should the soldier have a claim for 15 or more days of a month, he will be entitled to compensation for that month, but no claim will be admitted for less than 15 days of one month.

No claim whatever for compensation will be entertained when extra articles of clothing are issued in lieu of those herein laid down, or when such changes are made in the patterns or quality of any portions of the clothing as may be from time to time deemed expedient; provided always, that the extra articles or different patterns so issued have been of such a nature as to enable the soldier to perform his duties without entailing any additional expense to himself.

GREAT COATS AND CLOAKS.

The cost of cloaks, great coats, and capes, together with the expected period of duration, are detailed in the following table, in order that the proper charges may be made against men who may lose or damage them by neglect or misconduct.

	Value when new.	Duration in Years.	Value when worn out.					
	£	s.	d.	£	s.	d.		
<i>Great Coats, Cloaks, and Capes of the New Patterns.</i>								
Engineers, mounted {	cloak, without cape -	2	2	0	10	0	4	1
„	cape alone - - - -	0	13	8	10	0	1	6
„	dismounted, great coat -	1	15	3	4	0	4	0

At the following stations, namely, Cape Town, Halifax, N.S., Montreal, Hobart Town, Sydney, and Auckland, New Zealand, a supply of great coats will be always kept in charge of the superintendent of

stores, and when an issue of the same is required by the troops quartered in those localities it will be made upon requisitions from the officer commanding the regiment or corps, approved by the general or other officer commanding at the station.

Supply of new great coats.

New cloaks, capes, and great coats may in general be supplied, if reported necessary by a board of survey, at the expiration of the periods of duration before specified. For troops employed in North America, or in active or continued operations in the field, these articles may, if necessary, be supplied one year earlier. In these cases the necessity of supplying new cloaks, capes, or coats must be specially certified by the general or other officer commanding at the station; and it is in all cases to be understood distinctly that new cloaks, capes, or great coats are not to be supplied to a regiment or corps as a matter of course immediately on the termination of the respective periods above stipulated, but only when the commanding officer shall certify that such supply is required.

Disposal of unserviceable great coats.

All cloaks, capes, or great coats which may be reported unserviceable are at the time of the delivery of the new articles to be transferred as condemned stores to the nearest barrack master. Some of the quantity condemned may be retained at the regiment or depôt for issue to invalids or time-expired men under orders for discharge, and such numbers as may be certified by the commanding officer to be actually necessary for the repair of others in wear by the regiment or corps, the expense of which repairs is to be borne by the soldier.

Charge for putting on chevrons.

A charge of 2*d.* per chevron will be allowed for putting on chevrons of half-inch yellow worsted lace on scarlet cloth on the great coats of serjeants and other non-commissioned officers, the expense to be charged in the pay list, supported by the usual vouchers.

Marking great coats.

Every great coat, new or part worn, is to be marked inside on the middle of the back, and an allowance of 2*d.* will be granted for this service; the same to be charged in the pay list, supported by W.O. Form 857.

One penny will be allowed for sewing on the straps and buckles to the cape of the cavalry cloak.

When the cape of the cloak is issued separately, 1*d.* will be allowed for marking it.

Great coats, cloaks, and capes shall be taken care of by the soldier in the same manner as his necessaries, any loss or damage thereof occasioned by his neglect shall be made good by stoppages from his pay; the fact of such loss or damage shall be ascertained by frequent inspection. The amount to be charged to the soldier to be based on the value of the article and the time it has been in wear, keeping in view the regulated value of the article when worn out, as laid down at page 29.

New cloaks, capes, or great coats issued from store on repayment will be charged for as laid down at pages 27 and 29.

Great coats of non-effective and discharged men.

When a soldier becomes non-effective in the service companies of a regiment or corps, his great coat is to be retained, and issued to the next man whose great coat is worn out.

All soldiers discharged as invalids or time-expired men will be allowed to take with them from their regiment or depôt a condemned cloak or great coat.

In the event of there being none in store they may take their own cloaks or great coats, provided that they are not new (in which case an exchange may be made). Staff-serjeants and serjeants may take with them the great coats of their respective ranks.

LEATHER LEGGINGS.

Supply of new leather leggings.

Leather leggings will be issued to dismounted non-commissioned officers and men of the corps serving at home and in colonies where

they are worn, to be replaced, if above three years in use, on the report of a board of officers that they have become unserviceable from fair wear and tear. The old leggings are to be returned into the charge of the nearest barrack master, when new supplies have been received.

Should leggings become unserviceable in less than three years from the date of the first issue, they must be made good at the expense of the soldier, unless under such special circumstances as shall be satisfactory to the Secretary of State for War.

The sum to be paid by the soldier in making good deficiencies will be regulated by the time the damaged or lost articles had been in wear. For the purposes of adjustment the value of a new pair of leggings may be estimated at 3s. 4d., but for all issues of new leggings on payment five per cent. is to be charged in addition to that sum.

Leather leggings will be accounted for in the annual clothing return.

One penny per pair will be allowed for marking leggings on first issue, the amount to be charged in the pay list supported by a voucher. W.O. Form 857.

Leggings which are lost, made away with, or rendered unserviceable through unfair usage within one year from date of issue, are to be charged for at their full value; but for all losses subsequent to that period, a deduction of 1s. is to be made on their full value for each year they would otherwise have been required to be worn without renewal.

Men losing their part-worn leggings are to be supplied with part-worn leggings which have been in wear for the same time as those which may have been lost, or such part-worn leggings as shall last till the next issue is due to the corps.

Leggings which have worn the full period of three years may be sold at the rate of 4d. per pair.

NECESSARIES.

Every recruit joining the corps shall receive from the public stores a **Kit of recruits;** complete kit of necessaries, free of all charge, as a single issue, to be kept up by him at his own expense.

Non-commissioned officers and men re-engaging after the expiration of their first period of service will be entitled to a free kit similar in all respects to the pattern supplied for recruits (without reference to their rank) should they require one, or, in the event of their not requiring a complete kit, commutation in lieu, at the rate for **dismounted engineers** of 4l. 2s. 6d., and for **mounted engineers** of 4l. 12s.

Out of the sum received the man will have to provide himself with such articles of necessaries as are required to complete his kit. The amount is to be charged in the pay list, supported by voucher, W.O. Form 1,057.

All articles of necessaries are to be served out in the presence of the quartermaster or his serjeant *in the place where they are kept in store, and nowhere else*; and soldiers must be made to understand that their objection to the articles, if any, must be made before they are taken away from the said stores, or they cannot be attended to.

A soldier is to defray the expense of marking his necessaries, with the exception of the kit issued to him on enlistment or re-enlistment, the marking of which is to be charged in the pay list, supported by the usual certificate. The sum allowed for marking a full kit is as follows:—

		s.	d.
Engineers, mounted	-	1	11
„ dismounted	-	1	9

When small numbers of articles are issued, one halfpenny per article will be allowed for marking.*

The sum of 2*d.* will be allowed for painting the device on the knapsacks of recruits or of men transferred to the Royal Engineers from other corps.

List of necessaries.

The following lists are to be considered as comprising all the articles of a soldier's necessaries required for the services to which they refer; and none others are permitted to be charged against the men of any corps as articles of regimental necessaries than those established by this regulation, unless first specially authorized by the Secretary of State for War.

Two cotton frocks are to be added to the lists of necessaries in warm climates. They will be provided from the public stores, if demanded, but are to be paid for and kept up by the men.

	Royal Engineers.	Mounted.	Dismounted.
Bags	{ brush - - - -	1	—
	{ stable - - - -	1	1†
	{ waterproof and hook - - - -	1	1
	{ shaving - - - -	1	1
Blacking, tin of	- - - -	1	1
Boots, pair	- - - -	1	1
Braces, pairs	- - - -	1	1
Button-holder, brass	- - - -	1	1
	{ brass - - - -	1	1
	{ clothes - - - -	1	1
	{ hair - - - -	1	1
Brushes	{ shaving - - - -	1	1
	{ shoe { blacking - - - -	1	1
	{ shoe { hard - - - -	1	1
	{ shoe { polishing - - - -	1	1
Can for oil	- - - -	1	—
Cap, forage, and strap	- - - -	1	1
Case, plume	- - - -	1	1
Comb	- - - -	1	1
Drawers, pairs	- - - -	2	—
Gloves, leather, pairs	- - - -	1	1
Holdall	- - - -	1	1
Jacket	- - - -	1	1
Knife, fork, and spoon	- - - -	1	1
Knife, pocket	- - - -	1	1
Knapsack and slings	- - - -	—	1
Paste, brass, tin of	- - - -	1	1
Razor and case	- - - -	1	1
Soap, cake of	- - - -	1	1
Straps, great coat, pairs	- - - -	—	1
Rubbers, horse	- - - -	1	1†
Shirts	{ cotton, white, or - - - -	3	3
	{ do. striped, or - - - -	3	3
	{ flannel - - - -	2	2
Socks, worsted, pairs	- - - -	3	3
Sponge, pipe-clay	- - - -	1	1
Stocks	- - - -	1	1
Tin mess and strap	- - - -	1	1
Trousers, pair	- - - -	1	1
Cover for mess tin	- - - -	—	1
Towels	- - - -	2	2
Valise with straps, set of	- - - -	1	—
Vests, flannel	- - - -	2	2

* A pair is to count as two articles.

† Issued to dismounted men of the Engineer Train only, $\frac{52}{3 \text{ Engineers.}}$

Men embarking for foreign stations will be provided with sea kit Sea kit necessaries for use during the voyage, to be paid for out of the advance of pay made to them prior to embarkation. These necessaries will be supplied on requisitions of commanding officers, addressed to the Secretary of State for War, or they may be obtained by application to the deputy adjutant-general, R.E., and are not to be delivered to the men until they shall have actually embarked.

FOR THE EAST INDIES, CHINA, CEYLON, AND MAURITIUS.

Frocks, canvas -	- 2	Brush, scrubbing -	- 1
Trousers, canvas, pair -	- 1	Knife, clasp -	- 1
Neck-handkerchief -	- 1	Bag, in lieu of haversack -	- 1
Shoes, pair -	- 1	Needles and thread.	
Soap, marine, lbs.	- 3	Tobacco, lbs. -	- 3
Soap, yellow, lbs.	- 2	(For men who smoke.)	
Pipe-clay, balls -	- 9	Belts, flannel -	- 2
Pot, tin, with hook, quart	- 1	Shirts, check -	- 2
Tins, blacking -	- 3	Blue worsted cap -	- 1

FOR NEW SOUTH WALES.

Frocks, canvas -	- 2	Brush, scrubbing -	- 1
Trousers, canvas -	- 2	Tins, blacking -	- 4
Shirts, flannel -	- 2	Knife, clasp -	- 1
Neck-handkerchief -	- 1	Needles and thread.	
Socks, pairs -	- 3	Tobacco, lbs. -	- 4
Shoes, pairs -	- 2	(For men who smoke.)	
Soap, marine, lbs.	- 3	Pot, tin, with hook, quart	- 1
Soap, yellow, lbs.	- 3	Bag, in lieu of haversack	- 1
Pipe-clay, balls -	- 12	Blue worsted cap -	- 1

FOR GIBRALTAR.

Bag, in lieu of haversack -	- 1	Tobacco, lb. -	- $\frac{1}{2}$
Soap, lb. -	- $\frac{1}{2}$	(For men who smoke.)	
Pot, tin, with hook -	- 1	Blue worsted cap -	- 1

FOR CAPE OF GOOD HOPE, AMERICA, MEDITERRANEAN, WEST INDIES, &C.

Canvas frock -	- 1	Pot, tin -	- 1
Do. trowsers, pair -	- 1	Needles and thread.	
Shirt -	- 1	Pipe-clay, balls -	- 2
Bag, in lieu of haversack	- 1	Tobacco, lb. -	- 1
*Soap, marine, lb. -	- $1\frac{1}{2}$	(For men who smoke.)	
Soap, yellow, lb. -	- 1	Blue worsted cap -	- 1

The above lists may be modified by commanding officers according to the probable duration of the voyage, which must necessarily depend on the description of vessels.

All soldiers will be supplied at the expense of the public with peaks and covers for forage caps previous to embarkation for St. Helena, West Indies, Mediterranean, Cape of Good Hope, Mauritius, Ceylon, and China; also white cotton busby covers for any of the above stations where busbies are worn. Officers commanding should send in requisitions as early as possible after the receipt of orders to embark. The covers will have to be kept up at the expense of the men.

Necessaries will in future be supplied for old soldiers from the public stores *if demanded*, upon payment of such prices as shall from time to time be published. Supply of new necessaries.

Commanding officers, however, will still be at liberty, if they think fit, to provide necessaries for their men in any manner which may be

sanctioned by the rules and regulations of the service, provided they do so on their own responsibility, and that the articles so procured are in all respects equal to the authorized sealed patterns, and not higher in price than those supplied from the public stores.

Any of the materials specified in the official garniture lists for clothing, or used in the manufacture of soldiers' boots and shoes, and any tailors' or shoemakers' tools, which may be required for the use of regimental workshops, will also be supplied, but payment will be required to be made in the quarter in which the supply is made; and for the special convenience of officers serving with their regiments, or on the staff of the army *abroad*, extra materials of *staff serjeants' quality, but none others*, will be supplied, if desired, on the same terms. But all requisitions for officers must be kept separate and distinct from those of the non-commissioned officers and soldiers; they must be signed by the commanding officer or head of the department; those for all officers belonging to the same regiment or department must be included in one regimental or departmental demand, and they must be transmitted with the periodical regimental or departmental requisitions in the usual manner, or they cannot be attended to. Requisitions are to be made out on W.O. Form 308.

The following are the materials and tools that can be supplied from the public stores, in addition to those specified in the official garniture lists, viz. :—

Materials, Leather.

Crop butt, stout.
Struck shoulders, English, for insoles.
Struck ditto, foreign, for lifting.
Welting shoulders.
Shaved hides.
Neats "
Cow " brown.
Kip butts.
Struck bellies, light.

Grindery.

Hemp, sewing, brown.
" stitching, white.
" closing, pattern No. 9.
Hairs, stout, harness.
" " closing.
Cut brads, $\frac{1}{4}$, $\frac{3}{8}$, and $\frac{3}{4}$ inch.
Tip-nails, cut 1 inch.
American pegs, $\frac{3}{8}$ inch.
Tips, wrought iron, from $2\frac{1}{4}$ to $3\frac{1}{4}$ inch.
Steel bills, $\frac{1}{8}$ inch.
Lasts, men's, block.
Webbing, boot, $1\frac{1}{4}$ inch.

* Articles used in Mounted Corps only.

Long fronts, blocked, English calf.
Backs, kip.
Roans, red.
Twist, yellow.
Buckles, $\frac{3}{8}$ inch, in bridle.

Tools.

Needles, of sizes from 3 to 6.
Thimbles.
Shears.
Scissors.
Knives, paring.
" peg.
Rasps, 9 inch, $\frac{1}{2}$ file.

Pincers, shoemakers.
Nippers "
Hammers "
Clams "
Lasting tacks, $\frac{3}{8}$, 1, and $1\frac{1}{4}$ inch.
Awls, sewing.
" heel.
" French stabbing.
" closing.
" stabbing.
" pegging.
Awl hafts, sewing.
" " pegging.
Fore-part irons.
Seat "
Glazing "
Jigger "
Box wheels.
Breakers.
Aprons, leather, unstrained Basil.
Rubbers, sandstone.
Heel balls.
Sandpaper.
Size sticks, standard, inside.
" " outside.
Measuring tape.
Punches, spring.
Drills.
Welt runners.
Long sticks.
Paring horns.
Stabbing wheels.
Last hooks.
Seat files.
Edge knives and scrapers.
Welt plough.
" sets.
Top sets.
Compasses.
Eyelets, French.
Eyelet machines.

* These articles will not be issued to dismounted corps.

The issues under these regulations will be limited to such articles only as have been duly approved and for which the necessary sealed patterns have been prepared and deposited at the Royal Army Clothing Dépôt at Pimlico, in the usual manner.

A price list will accompany all supplies, for which payment will be required within the quarter, and officers commanding should be careful to demand only such quantities as may be absolutely required for the quarter's consumption, as payment cannot be allowed to stand over after the expiration of that period.

Requisitions for necessaries are to be made through the deputy adjutant-general of the corps, on W.O. Form 307. Requisition for necessaries.

When jackets are supplied for issue on repayment, no allowance will be made for alteration, nor will any allowance be granted for the alteration of any articles issued to the soldier on similar terms.

When a soldier is sentenced to imprisonment by court-martial, or by the civil power, for a term not exceeding one year, his kit is to be retained by the corps, and re-issued to him on his release.

Should the term of imprisonment exceed one year, and the man be still retained on the strength of the corps, his kit may be sold, and the balance, if any, after paying his debts, credited to the public; such men on rejoining will be supplied from the quartermaster's store at the public expense with such articles as were sold.

Men losing their necessaries on becoming prisoners of war shall have no claim against the public on account thereof; but on rejoining their corps, they shall, if requisite, be supplied with fresh necessaries at the public expense, if recommended under the provisions of the Articles of War.

When a soldier becomes non-effective from any cause, his knapsack or valise is to be sold with the rest of his effects (except in some cases when it can be issued to recruits). Knapsack.

A soldier receiving his discharge will have the option of taking his valise or knapsack with him.

Men transferred to the Royal Engineers will be entitled under all circumstances to have their kits completed at the public expense.

WINTER CLOTHING IN NORTH AMERICAN COLONIES.

In the event of the under-mentioned articles not being supplied from the public stores, they may be provided by officers commanding, who may draw 40s. for each soldier present and effective in their corps at the commencement of his first winter, to meet the expense of provision; viz. :—

- 1 fur cap.
- 1 pair Canadian boots.
- 2 flannel waistcoats.
- 2 pair of flannel or worsted drawers.

These articles will be supplied from the public stores at the option of officers commanding, but will have to be paid for within the quarter they are received.

The allowance is to be drawn only once for each soldier, and is to be charged in the pay list, supported by a certificate signed by the commanding officer, stating that the sum has been expended in the supply of the articles above named, and that no men have been included except those who, to the best of his belief, have not received the allowance previously since their arrival in the country. Volunteers, or men transferred from other regiments who have already received the allowance, will not be entitled to it again, but must bring their winter equipment with them.

Men re-engaging will, however, be entitled to the allowance on the 1st October following their re-engagement.

Commanding officers will further be allowed to draw 7s. 6d. for each soldier (excepting men re-enlisting) present and effective in their regiments on the 1st October of each subsequent year, to defray the expense, renewals, or repairs of the above-named winter equipment.

The cost of marking articles of warm clothing will have to be defrayed by the soldier.

GENERAL DIRECTIONS FOR THE CLOTHING OF TROOPS DESTINED FOR ACTIVE OPERATIONS IN THE FIELD.*

Upon receiving orders to take part in active operations in the field, the officer commanding will be entitled to draw extra clothing for his men in the following proportions for every hundred men present and effective in his corps, according as their destination may be in cold, temperate, or tropical climates.

In cold climates :—

Sheep-skin coats	-	-	-	-	8
Caps, fur	-	-	-	-	100
Comforters, woollen	-	-	-	-	100
Shirts, grey flannel	-	-	-	-	200
Jerseys, blue	-	-	-	-	100
Boots, knee, brown leather, pairs	-	-	-	-	100
Stockings, woollen, pairs	-	-	-	-	200
Drawers, flannel, pairs	-	-	-	-	200
Mitts, lined with lambskin or other fur, pairs	-	-	-	-	100
Belts, cholera, for wear in summer weather	-	-	-	-	200

In addition to the above articles, mounted Engineers will be supplied with a pilot coat for each man present and effective in the corps.

For Temperate Climates.

Shirts, flannel, of a light texture	-	-	-	-	200
Belts, cholera, when not included in the sea kit	-	-	-	-	200
Coats, watch	-	-	-	-	3
Capes, waterproof	-	-	-	-	10

For Tropical Climates.

Shirts, flannel, of the lightest texture	-	-	-	-	200
Covers, chaco, white cotton, (except in cases when the wicker helmet and puggaree are worn)	-	-	-	-	100
Covers, forage cap, white cotton	-	-	-	-	100
Frocks, red, green, or blue serge, when not supplied as clothing	-	-	-	-	100
Belts, cholera, when not included in the sea kit	-	-	-	-	200
Capes, waterproof	-	-	-	-	10

Requisitions for these articles are to be addressed to the Under Secretary of State for War, through the Deputy Adjutant-General Royal Engineers, with the least possible delay after officers commanding have received instructions to hold their corps in readiness for active operations.

Requisitions on actual service are to be addressed to the military store officer at the scene of operations, and are to be signed by the general commanding the expeditionary force.

* Officers commanding should distinctly understand that the men in their corps cannot demand these articles of extra equipment as a *matter of right*. Nor will their non-issue be admitted as constituting a claim for compensation.

Requisitions are to be accompanied by size-rolls, and care should be taken in measuring the men that ample margin is left to enable the articles to fit easily over the ordinary clothing. Special attention is to be paid to the sizes of the boots, and due allowance is to be made for the thickness of the woollen stockings supplied with the equipment for cold climates.

These articles, with the exception of the knee-boots, water-proof capes, watch, pilot, and sheep-skin coats, will have to be kept up by the men, and officers commanding should be careful to see that they are not worn unnecessarily at times when not required by the exigencies of the climate.

When not required, the knee-boots, water-proof capes, watch, pilot, and sheep-skin coats are to be returned into store for re-issue when demanded. Upon their receipt, the officer in charge of the stores will cause them to be surveyed, and any articles found unserviceable through unfair usage will be charged to the corps in which they may have been in use at rates proportionate to the periods they have been in wear.

The knee-boots, water-proof capes, watch, pilot, and sheep-skin coats can only be renewed when absolutely necessary, and any application for a fresh issue must be accompanied by a report of a regimental board, countersigned by the general commanding, and by a statement showing the dates when the last supply was made.

The non-issue of any or of all these extra articles will not be admitted as affording a claim to compensation, and officers commanding should distinctly understand that they will not be supplied except in cases where troops are actually engaged in the field, or are under orders to embark to take part in active operations.

In the event of extra clothing not being required by the men on ship-board at the outset of the voyage, officers commanding are to cause it to be stored in such part of the vessel as may be easily accessible, in order that no difficulty may be experienced in serving it out to the men on their arrival in latitudes where it may be required to be worn.

Regiments proceeding to the North American colonies and receiving the extra articles of clothing for cold climates prior to their arrival will not have any claim to the winter equipment as given at page 35. They will however, be entitled to draw the allowance of 7s. 6d. on the 1st October in each year succeeding their disembarkation, to defray the expenses of its renewal and repair.

GENERAL DIRECTIONS.

No soldier shall be put under stoppages to pay for any articles of clothing or necessaries not ordered by these regulations to be provided at his expense, except in case where the absolute necessity of replacing articles of clothing supplied by the public shall have been occasioned by his own neglect or misconduct, or by the articles being worn out before the period for the next delivery of clothing.

Stoppage of pay for clothing or necessaries.

The pay of the soldier on every station shall be liable to a stoppage of 2s. 4d. per week in the Royal Engineers, for keeping up his clothing and necessaries; which rate of stoppage shall not be exceeded unless by sentence of a court-martial. But the stoppages are not to be made in advance before the necessaries are required, except either by the desire of the soldier, or when any expensive article is likely to be soon required;—in which case the regulated stoppages may be resorted to during the month prior to the delivery of such article.

Soldiers are not in any case to be sent to military prisons in plain clothes.

Soldiers committed to military prisons shall take with them only the articles of regimental dress necessary to proceed to prison and return to the regiment; viz. :

Dress in prison.

Cap, forage	-	-	-	-	-	-	1
Fatigue jacket	-	-	-	-	-	-	1
Fatigue trousers	-	-	-	-	-	-	1
Stock	-	-	-	-	-	-	1
Shirt	-	-	-	-	-	-	1
Socks, pair	-	-	-	-	-	-	1
Boots, pair	-	-	-	-	-	-	1
Braces, pair	-	-	-	-	-	-	1
Waistcoat, flannel	-	-	1	-	-	-	} For men in the habit of wearing them.
Drawers, cotton or flannel	-	-	1	-	-	-	
Coat, great, or cloak	-	-	-	-	-	-	1

All printed forms connected with the articles named in the clothing warrant will be supplied upon demands addressed to the Secretary of State for War describing accurately the form required.

Chests for
clothing, &c.

Store chests for the carriage of surplus clothing and necessaries will be provided, when actually required, at the public expense, upon application to the Secretary of State for War. The number allowed will not exceed one for each troop or company of the Royal Engineers.

They will be required to last 15 years, and all repairs of chests belonging to regiments at home will have to be defrayed out of the Baggage Fund. The cost of the repairs of chests belonging to regiments abroad will be defrayed by the public, but all such repairs must be specially reported to the Secretary of State for War, accompanied by the report of a board convened to inquire into the circumstances under which the repairs became necessary.

When application for a renewal of these articles is made, a statement must be forwarded by the officer commanding, showing how long they have been in use, and the circumstances under which they have become unserviceable.

DRESS WORN BY MEN ON DIFFERENT OCCASIONS.

The following shows the dress to be worn by non-commissioned officers and sappers on different occasions:—

Marching order.	}	Busby.
		Cross belt and pouch.
		Gloves.
		Great coat folded on knapsack (except in wet weather).
		Havresack.
		Knapsack.
		Mess tin.
		Rifle.
		Sword bayonet.
		Trousers, uniform.
		Tunic.
Waist belt, with cap pouch and frog.		

For Church parade, when witness before a court-martial, and when commanding officer's orderly, the dress is as above, with the omission of—

Cross belt and pouch.
Great coat (unless in wet weather or specially ordered).
Havresack.
Knapsack.
Mess tin.
Rifle.

- | | | | |
|--------------------------------|---|--|-------------|
| Drill order. | } | Cap, forage. | |
| | | Cross belt and pouch. | |
| | | Gloves. | |
| | | Jacket. | |
| | | Rifle. | |
| | | Sword bayonet. | |
| For Orderly duty | } | Trousers, working. | |
| | | Waist belt with cap pouch and frog. | |
| | | the dress is as in drill order, with the omission of— | |
| | | Cross belt and pouch. | |
| For Working duty | } | Rifle. | |
| | | the dress is as in drill order, with the omission of— | |
| | | Cross belt and pouch. | |
| | | Gloves. | |
| | | Rifle. | |
| | | Sword bayonet. | |
| Prisoner before Court-Martial. | } | Waist belt with cap pouch and frog. | |
| | | Gloves. | |
| | | Trousers, uniform. | |
| | | Tunic. | |
| On Furlough. | } | Forage cap, when marching to and from the court. | |
| | | Cap, forage. | |
| | | Gloves. | |
| | | Trousers, uniform. | |
| | | Tunic. | |
| | | Great coat } not necessary, but may be taken by
waist-belt, } permission of commanding officer. | |
| Out of Barracks not on duty. | } | Sunday. | Weekdays. |
| | | Busby. | Forage cap. |
| | | Gloves. | Gloves. |
| | | Trousers, uniform. | Jacket. |
| | | Tunic. | Trousers. |
| | | Waist-belt, with cap pouch and frog. | |

The badges worn by the different ranks and the good conduct and shooting badges are shown on Plates 5 and 7.

A stock is worn on all occasions.

Waist belts, when worn, to be complete with cap pouch and frog.

When ordered for service, and blankets and canteens are issued, the great coat is to be folded $12\frac{1}{2}$ by $11\frac{1}{2}$ inches, and strapped to back of knapsack; the blanket rolled 14 by 8 inches on top of knapsack, and the mess tin secured to it.

The havresack to be worn on the left hip; when full, to be worn over the frog and sword bayonet, when empty to be rolled, the roll to be horizontal, the centre of it to be immediately inside the handle of sword, the lower edge of roll to be 3 inches above the orifice of scabbard.

When the great coat is worn over the accoutrements, the back strap is to be buttoned down vertically; on all other occasions to be buttoned horizontally. The collar to be worn turned over except in very bad weather.

Leggings to be worn when ordered; they are to be put on as follows: The trousers to be drawn up six inches, the legging buttoned on and strap buckled, the slack of which is to be neatly arranged; the bight of trousers to be drawn down over the top of legging, the edge being kept horizontal; the trouser should cover four inches of top of legging. If the trousers when drawn up five inches are not sufficiently tight to lie smooth under the legging, they must be arranged in vertical pleats, and not in one great fold.

ARMS, ACCOUTREMENTS, AND APPOINTMENTS.

The following is taken from the Royal Warrant for the provision of arms, accoutrements, &c., of 23rd January 1865, W.O. Circular 895.

List of arms, &c. and duration.

The arms, accoutrements, and appointments for a company of Royal Engineers, with the number of years which they are expected to last for home service, are given in the following list :—

		Duration, Years.		
Staff serjeant	arms	sword - - - - -	12	
		„ scabbard - - - - -	6	
	accoutrements	belt, pouch, complete - - - - -	12	
		„ waist, with sword carriages and billets - - - - -	12	
		knot, sword.	—	
Serjeants - accoutrements		plate for waist belt - - - - -	12	
		pouch, ammunition - - - - -	12	
		whistles and chains, with grenades.	—	
		carbine, Lancaster's oval bore, with rammer - - - - -	8	
		sword bayonet - - - - -	8	
		„ scabbard - - - - -	6	
		brass jag (if rammer is not jagged).	—	
		muzzle stopper - - - - -	8	
		nipples, spare, three to each nipple wrench, with cramps.	—	
		snap cap, with eyelet - - - - -	8	
Serjeants and rank and file	arms	wrenches, nipple	—	
			<i>with cramp, one for each non-commissioned officer carrying carbine.</i>	—
	accoutrements		<i>without cramp, one for each private carrying carbine.</i>	—
			belt, pouch, complete - - - - -	12
			„ waist - - - - -	12
			frog for sword bayonet - - - - -	12
			plate for waist belt - - - - -	12
			pouch, ammunition - - - - -	12
			„ for percussion caps - - - - -	12
			sling, carbine - - - - -	8
Buglers -	arms, &c.	sword - - - - -	12	
		„ scabbard - - - - -	6	
	accoutrements	bugle, with string - - - - -	6	
		belt, waist - - - - -	12	
		frog for sword bayonet - - - - -	12	
All ranks	appointments	plate for waist belt - - - - -	12	
		canteen, wood, with strap (<i>on active service only</i>).	—	
		havresack, with slide - - - - -	3	
		handcuffs, two pairs per company.	—	

At foreign stations and on active service the duration of these articles will vary according to the climate and nature of the service, but the above periods are to be kept in view and acted upon as far as practicable.

If they shall have become unserviceable after the periods stated, they will be exchanged, on a report being made of their condition, and the period during which they have been in use.

An inspection is to be made of all arms, accoutrements, and appointments by the three senior officers of the corps present between the 1st November and 1st January, and their condition reported, under the heads serviceable, repairable, and unserviceable, on W.O. Form 657, for arms and ammunition, and 1,099 for accoutrements and appointments. Annual inspections.

When arms, &c., are supplied by the War Office to replace any which have become unserviceable, the articles which have been replaced are to be carefully returned into store.

The Lancaster carbine used by the engineers is a "non-interchange-able" arm, that is to say, its parts are not interchangeable with those of other arms. The length of barrel is 2 ft. 7½ in., the diameter of bore .577 inch. Carbine.

The carbine is marked on the back side of the flat part of the butt end of the stock with the date of the year in which it is issued.

The following are the prices for repairs, &c., to carbines, as laid down at p. 5 of War Office Circular No. 907, 3rd April 1865:— Prices for repairs.

	<i>s.</i>	<i>d.</i>	
Bridle, forged - - - -	0	1	each.
Cock, forged - - - -	0	2	"
Sear, filed, left soft - -	0	8	"
Tumblers, filed and swivelled, bents not cut - - - -	0	11	"
Spring, main, finished, tempered steel, left large - - - -	1	4	"
Spring, sear, finished, tempered steel, left large - - - -	0	6	"
Swivel, finished, left soft - - - -	0	3½	"
Screws, lock, four to a set, forged - - - -	0	8	per dozen sets.
Swivels, butt, finished, left soft - - - -	0	6	each.
Nails, side (2), ditto breech (1), forged - - - -	0	1	per set.
Screws, wood, five to a set, finished - - - -	0	1	"
Swivel, band, finished, soft - - - -	0	3½	each.
Springs, rammer, finished - - - -	0	2	"
Trigger, filed and soft - - - -	0	4	"
Nipple, finished - - - -	0	1¼	"
Sight, back, finished but not graduated - - - -	3	2	"
Flap, with cap and slider, finished - - - -	1	10	"
Springs, sight, forged - - - -	0	1	"
Back, band, finished - - - -	0	8	"
Band, front, finished - - - -	0	11	"
Screws and bur, band, finished - - - -	0	1	"
Scabbard, sword bayonet, finished - - - -	3	3	"
Mountings for scabbard, sword bayonet, finished - - - -	1	6	per set.
Rammer, finished - - - -	0	10½	each.
Brass work, cast - - - -	1	2	per set.
Rivet, brass, finished - - - -	0	6	per 100.
Wire, iron 13G, finished, for priming, &c. - - - -	0	3½	per lb.
Wire, steel, 12G, finished, for joint of back sight - - - -	0	11	"
Grips, leather, sword bayonet, finished - - - -	0	10	per pair.
Bolt, screw and springs, finished, sword bayonet - - - -	0	10	per set.
Wire, iron, 11G, finished, for grips of sword bayonet - - - -	0	3	per lb.

	<i>s.</i>	<i>d.</i>	
Caps, snap, finished - - -	0	1½	each.
Stoppers, muzzle, finished - - -	0	2½	„
Stocks, carbine, Lancaster, rough - - -	2	6	„

Browning
carbine.

The barrels of the carbine are to be browned every two years. (If the carbine is not in use, this of course will not be necessary.) Half the expense, or 3*d.* per year, is to be defrayed by the soldier, and the difference charged against the public is to be included in the pay list.*

Any repairs that are required to arms are to be paid for by the captain of the company or the public, as the case may be, unless caused by carelessness or intention.

Prices for
marking.

The following are the allowances granted for marking non-interchangeable arms by par. 51 of W.O. Circular 895.

The musket, rammer, bayonet, and scabbard, and fitting the same to the bayonet for the stand complete - - -	}	Threepence.
The rifled artillery carbine, with rammer, sword bayonet, and scabbard complete - - -	}	Threepence.
The rammer, bayonet, or sword bayonet alone		One penny each.
The scabbard alone, and fitting it to the bayonet - - -	}	One penny.
The new pattern nipple wrench, with cramp, viz. :—		
Upon the spring cramp - - -	}	Twopence
„ ball drawer or double wrench - - -	}	halfpenny for
„ screw ball drawer - - -	}	the set.
„ drift - - -	}	
The nipple wrench (without cramp) and ball drawer - - -	}	Three halfpence for the two.
The brass jag - - -		One halfpenny.
The muzzle-stopper - - -		One halfpenny.
The cavalry carbine - - -		Three halfpence.
„ pistol - - -		Three halfpence.
„ lance - - -		Three halfpence.
The cavalry, artillery, or infantry sword and scabbard, each - - -	}	Three halfpence.

Accoutrements
and appoint-
ments.

All accoutrements and appointments are marked on the inside or back part of the belts, pouches, slings, &c.

The sum to be charged to the soldier who loses by neglect any article of his equipment, is to be the value of the article when new, according to approved lists of prices circulated by the War Office.†

Should spare parts of accoutrements be required to replace others lost or worn out, the cost of which is chargeable to the public, they will be supplied on requisition, supported by the inspection returns previously mentioned.

Should they be required to replace others lost or damaged by neglect, or worn out before the prescribed period, the cost of which is

* This has been cancelled by Corps General Order, R. Engineers, No. 496, 3rd November 1865, which directs that the practice of deducting 3*d.* a year is to be discontinued, and the full amount of 1*s.* for each arm to be charged biennially to the

public, quoting as authority W. O. Letter, 29th October 1861, Armourers.

† W. O. Circular 907, of 3rd April 1865, contains the latest approved prices for arms, accoutrements, &c. See page 22.

to be borne by the soldier, they will be supplied by the War Department only if the commanding officer certifies that they cannot be procured on the spot of the required quality and pattern, and at a reasonable cost, and are to be charged for at prices, a list of which will be circulated from time to time.

Nipple wrenches with cramps are issued only to serjeants and 1st and 2nd corporals. Other ranks have the nipple wrench without cramp. Nipple wrench.

The pouch belt is the same for all ranks, except that serjeants have a whistle and chain attached to it. Pouch belt.

The waist belt is the same for all ranks, except that for serjeants the plate is of fine gun metal, and for other ranks it is of brass. Waist belt.

All empty cases, &c., for conveying arms or other stores are to be made over, as soon as they can be dispensed with, to the officer in charge of the nearest military store station.

The following are the military store stations from which arms are issued :—

HOME.

Athlone.
Chatham.
Chester.
Cork Harbour.
Devonport.
Dover.
Dublin.

Edinbro'.
Guernsey.
Jersey.
Pembroke Dock.
Portsmouth.
Stirling Castle,
The Tower of London.

FOREIGN.

Auckland, New Zealand.
Barbadoes.
Bermuda.
Cape Town.
Colombo.
Gibraltar.
Halifax, Nova Scotia.
Hong Kong.

Jamaica.
Kingston, C.W.
Malta.
Mauritius.
Montreal.
New Brunswick.
Newfoundland.
Quebec.

AMMUNITION.

The ammunition for the Lancaster rifled carbine used by the engineers is the same as that for the Enfield rifle, and is issued under the latter head.

Ball Cartridge Ammunition.—The bullet is elongated, with plug of baked clay soaked in melted beeswax; weight (with plug), 530 grains; length, 1.095 inch; diameter, 0.55 inch. The charge is $2\frac{1}{3}$ drams "rifle F.G." powder.* The outer envelope or "outside forming paper" which contains the bullet is fastened to the inner envelope or "inside forming paper" which contains the powder by a band of gummed paper; this keeps the two parts together and facilitates tearing off the end of the cartridge. Ball cartridges are made up with "white fine" paper, which distinguishes them from blank cartridges which are made up with "purple fine." The paper round the bullet has 4 longitudinal slits, three of which are made before lubricating and one afterwards, to enable the bullet to free itself readily from the paper; the lubricating material is pure beeswax. The weight of 60 rounds and 90 copper caps packed, is 5 lbs. $10\frac{3}{4}$ oz. The price of cartridges is about 2l. per 1,000.

Ball cartridges are made up into packets containing 10 each. Each packet having a waterproof paper wrapper, and being covered with brown paper. These are packed in quarter barrels or boxes, the latter being used for field service and for all stations within the tropics. The boxes for the tropics are made of teak with mahogany ends.

Quarter barrels of ball cartridge for the Enfield rifle or Lancaster carbine are $14\frac{1}{4}$ inches long, and $11\frac{5}{8}$ inches in diameter. The gross weight is about $75\frac{1}{2}$ lbs.; they contain 700 rounds and 1,050 percussion caps, being 50 per cent. spare. The caps are contained in a zinc cylinder. The barrels have the following label in black letters upon *white* paper, the head of the barrel being black. The same label is also placed on each package of 10 cartridges.

FOR
RIFLE MUSKETS
(Including Lancaster's)
• 577 BORE
BULLET •55 DIAMETER
WAX—
Powder $2\frac{1}{3}$ Drs.
WOOD PLUG.
CARTRIDGES 700.
CAPS A 1,050.
WATERPROOF BAGS.

The boxes for ball cartridge are $16\frac{1}{2}$ inches long, $7\frac{1}{4}$ broad, and $8\frac{1}{2}$ deep, external dimensions over all. The caps are contained in a zinc box. The label is similar to that for the quarter barrels. The number of rounds in each box was formerly 560 with 700 caps, but since the cartridges have been made up with a new description of powder and been put in waterproof bags, and the proportion of caps increased, the number is reduced to 440 rounds with 660 caps. Each box weighs about 50 lbs.

* Known until 1865 as E.R. or Enfield rifle powder, size, 12 to 20 mesh.

Practice Ammunition.—Ammunition for practice is issued with only 10 per cent. of spare caps instead of 50. It is distinguished from other ball cartridge ammunition by having a *blue* label instead of a white one marked as follows :

FOR
PRACTICE.
RIFLE MUSKETS
(Including Lancaster's)
· 577 BORE
BULLET · 55 DIAMETER
WAX—
Powder 2½ Drs.
WOOD PLUG.
CARTRIDGES 700.
CAPS A 770.
WATERPROOF BAGS.

Blank Cartridge Ammunition.—The charge for the Lancaster carbine is 3½ drams. Blank cartridges are made up with purple paper to distinguish them from ball cartridges. They are made up into packages of 10 in purple paper.

Blank ammunition is packed in half barrels 17 inches long and 13½ in diameter. The caps are contained in a zinc cylinder. The number of common blank cartridges in a half barrel is 1,800 with 1,980 caps, being 10 per cent. spare. The weight is 45½ lbs.

The following is stencilled in blue letters on the head of the barrel, which is painted white :—

BLANK
COMMON.
No. 1,800.
CAPS 1,980.

Applications for the authorized allowances of ammunition for practice and exercise are made to the deputy adjutant-general R.E. in duplicate on W.O. Form 736.

The amount of ammunition allowed for practice and exercise in each year is for each trained soldier 90 rounds of ball cartridge, 60 rounds of blank, and 165 percussion caps. This is due on the 15th March in Great Britain, North America, &c., and on the 15th September in the Mediterranean and other stations, where on account of the heat the annual course of training is required by the "Instructions of " Musketry " to commence on that date. Ammunition for practice.

Companies should have in constant possession of each man 20 rounds of service ammunition, which is carried in the pouch. The existing pouch is intended to hold 40 rounds, but will not contain that number. A new pouch to hold 20 rounds is under consideration. Application for this ammunition should be made to the adjutant-general on Form 737. Should it be necessary to supply the men with more rounds they are carried in the knapsack. Ammunition for service.

The service ammunition in the men's pouches should be expended annually in practice, and replaced by a similar quantity out of that supplied for the annual practice.

When a company quits a station such part of the service ammunition in possession as may exceed the portion carried in the men's pouches should be delivered into a military store, if there is one in the immediate vicinity ; a receipt should be taken for the quantity so returned into store, and transmitted with the next application for a fresh supply. Change of station.

**In steamers
and on rail-
ways.**

When troops are ordered to embark in steam vessels, to proceed by railways, or send their baggage by that mode of conveyance, they should return into the nearest military store the whole of their ammunition (both service and practice), with the exception of that which is carried in the men's pouches. A receipt should be taken from the store department for the ammunition thus returned, which receipt should be forwarded to the War Office with an application for its re-issue if required.

Inspections.

Annual inspections of the ammunition in charge should be made in a similar manner to those of arms and accoutrements. See p. 41.

Price.

When ammunition is lost or destroyed through neglect of the soldiers, it is charged for at the rate of *1d.* for each ball cartridge and *6d.* per 100 percussion caps.

With an army in the field the two first reserves of ammunition, exclusive of the regimental reserve, are carried by the Artillery, the third by the Military Store Department. The first and second reserves are calculated at the rate of about 40 rounds per man each, the third at about 50.

ARTICLES FOR MUSKETRY INSTRUCTION.*

A complete set of articles authorized for musketry instruction is issued to each battalion, regiment, or depôt battalion on application to the barrack-master at the station ; if any articles are lost or destroyed through neglect the cost price will be charged against the troops ; when worn out by fair wear and tear they will be renewed free of charge.

On a regiment or battalion leaving a station, the whole of the musketry articles are to be handed over by the officer instructor of musketry to the quartermaster, who will deliver them into the barrack store again.

The cord or Gunter's chain, 900 yards long, which used to be issued, was superseded in 1861 by the stadia with tripod stand, staff and reel with 40 yards of measuring tape, all of which are contained in a box 7 feet 4 inches long, 8 inches wide, and 4½ inches deep. A new pattern of stadiometer has since been approved. In this latter the single tripod stand is replaced by a support at either end. And there are two 20 yards length of chain instead of the measuring tape.

Chalk, whiting, lamp black, and glue are to be demanded from the barrack master in small quantities as they are required. The following annual allowances of paper and fine sand for practising the manufacture of cartridges are granted :—

For each depôt battalion, where recruits are trained,—

Cartridge paper	-	-	6 quires,
White	”	-	20 ”
Sand	”	-	½ bushel

For all other corps and battalions, per troop or company,—

Cartridge paper	-	-	3 sheets.
White	”	-	¼ quire.
Sand	”	-	½ pint.

LIST OF ARTICLES FOR MUSKETRY INSTRUCTION.

	Cost.	Weight.	Number.	
	£ s. d.	lbs. oz.		
Bags, sand, bushel - - - - - each	0 0 6	0 10	12	
Board, black, 6 feet by 4 feet - - - - - ”	0 18 3	56 0	1	
Easel for do. - - - - - ”	0 10 6	27 0	1	
Brushes, for colouring {	0 2 0	0 7½	2	
	0 0 8	0 3½	2	
Cap, with cross wires - - - - - ”	0 0 5	0 0½	1	
Cartridges, implements for making, viz.:	0 17 8	75 12	50	
	0 0 2	0 0½	12	
	0 0 4	0 10	1	
	0 0 10	0 7½	1	
	0 0 2	0 0½	12	
	0 0 3.	0 0½	5	
	0 0 2	0 3½	1	
	0 2 9	0 14	1	

* This, taken from Part V. of the Army Equipment Returns, is only immediately applicable to regiments, but is introduced here, as it will be probably useful to Engineer officers,

	Cost.	Weight.	Number.
Compasses, with holder to contain chalk - pair	£ 0 3 6	lbs. oz. 0 11	1
Files, for documents - - - - - doz.	0 1 0	0 1 $\frac{1}{4}$	12
Flags { shalloon, 2 $\frac{1}{2}$ feet square	bunting, red, 6 feet square - - each	0 5 0	1 5 $\frac{1}{2}$
	dark blue - - - - - "	0 1 9	0 4 $\frac{1}{4}$
	red - - - - - "	0 1 9	0 4 $\frac{1}{4}$
	upper half red, lower white - - each	0 1 9	0 4 $\frac{1}{4}$
	white - - - - - "	0 1 8	0 4 $\frac{1}{4}$
Locks, with cocks, hardened, swivel pattern, complete - - each	0 8 6	0 9 $\frac{1}{4}$	6
Model, wooden, with suspended wires - - "	0 5 9	1 4	1
Box for ditto - - - - - "	0 3 0	2 0	1
Mantlets - - - - - "	26 3 0	2,254 0	—*
Poles, lance, 10 feet long, shod with iron - - "	0 2 2	5 10	11
Plug, cylindrical wooden, with hole through centre - - each	0 0 2	0 0 $\frac{1}{8}$	1
Rifle musket barrel, pattern 1853 - - - "	0 19 0	4 4	1
Ruler, flat, hard wood, 3 feet long - - "	0 0 7	0 8	1
Sponge, pieces of 2 oz. - - - - - each piece	0 2 8	0 2	1
Stadia, pattern 1863, complete with box - each	1 18 0	40 0	2
Tripod rests, with rings - - - - - "	0 6 0	16 0	12
Wrenches, nipple, with cramp - - - - - "	0 2 4	0 6 $\frac{1}{2}$	6
Targets, iron, complete with staves, bolts, &c., each	0 10 0	430 0	10
„ new pattern, with stays, &c. - - - "	8 0 0	505 0	—
<i>Materials.</i>			
Chalk - - - - - per cwt.	0 0 3 $\frac{1}{2}$	—	—
Lamp black - - - - - per lb.	0 0 1 $\frac{1}{2}$	—	—
Glue to make size - - - - - "	0 0 7	—	—
Plugs† for bullets {	boxwood - - - - -	—	—
	baked clay - - - - -	—	—
Whiting - - - - - per cwt.	0 1 6	—	—
Sand, fine - - - - - per bush.	0 0 3	—	—
Paper {	cartridge - - - - - per ream	1 1 5	45 0
	white, for envelopes of cartridges - - - "	1 6 0	13 0

* Issued only when required by circumstances, on special demand and approval.

† In consequence of the difficulty experienced in obtaining the necessary supplies of boxwood, plugs of baked clay for the bases of elongated rifle bullets were approved on the 15th December 1863 (W. O. Circular 855, 17th March 1864).

TOOLS USED BY A COMPANY OF ENGINEERS.

The following are the authorized sets of tools issued from the Tower :—

The prices and weights are given, but the former, as has been before stated, are only approximate, as they vary according to the contracts.

The proportion of tools necessary for a company of engineers in the field are carried by the engineer train, and will be given, as stated in the introduction, in Part III., Section II.

ABSTRACT.

Description.	No. of Plate.	Total Cost of One Chest.			Total Weight of One Chest.	
		£	s.	d.	lbs.	oz.
Intrrenching - - - -
Bricklayers and masons -	..	6	6	5	140	10
Carpenters - - - -	..	9	0	9	232	1
Collar makers and saddlers -	..	3	19	8	62	5
Cooper - - - -	..	4	18	2	140	5
Farrier and shoeing smith -	..	4	11	7	140	3
Miner - - - -	..	8	12	7	591	13
Painter - - - -
Smith - - - -	..	30	17	2	289	3
Tinman - - - -	..	5	3	0	124	13
Whealers & saddletree makers	..	14	4	0	351	12

INTRENCHING TOOLS.

These are not according to any authorized list.

Description.	No. of Plate.	Cost of each.			Weight of each.	
		£	s.	d.	lbs.	oz.
Axes, felling, Canada, 4½ lb. head -	-	0	4	0	6	0
„ hand, ditto 2 lb. „ -	-	0	2	0	3	0
„ pick, medium 5 lb. „ -	-	0	2	6	6	8
Bars, crow, 5 ft. -	-	0	4	1	26	0
„ 4 ft. 3 in. -	-	0	3	2	19	0
„ 3 ft. 6 in. -	-	0	2	3	13	0
Bill hooks -	-	0	2	0	1	12
Hammers, sledge -	-	0	3	6	12	8
Handles, spare shovel -	-	0	0	6½	1	8
„ „ pick -	-	0	0	6	1	8
„ „ Canada axe -	-	0	0	5½	1	8
„ „ sledge -	-	0	0	6	1	14
Knives, gabion -	-	0	0	8	0	4
Levels, field service -	-	0	6	6	3	8
Lines, tracing tape, 50 yards -	-	0	5	0	2	4
„ „ cord -	-	0	3	6	1	0
Reaping hooks, strong -	-	0	1	0½	1	8
Rods, measuring, 6 feet -	-	0	3	6	0	10
Shovels, field service -	-	0	2	9	4	12
Spades, ditto -	-	0	2	9	6	0
Sand bags, common, 125 weigh 86 lbs. -	-	{	*0	0	7	} 0 11
		{	†0	1	3	

* Plain.

† Tarred

BRICKLAYERS' AND MASONS'.

57

Approved 17th May 1862, Gen. No. Set packed in a chest.

2246.

Description.	No. of Plate.	Cost of each.	Weight of each.	Total No.	Total Cost.	Total Weight.	Remarks.
		£ s. d.	lbs. oz.		£ s. d.	lbs. oz.	
Auger, brick, handled -	8	0 3 6	7 15	1			
Axes, pick, handled, 6½ lbs. -	"	0 2 6	8 10	1	0 2 6	8 10	
Bar, setting -	"	0 2 9	6 14	1	0 2 9	6 14	
Bevel, wood blade -	"	0 1 6	0 10	1	0 1 6	0 10	
Bob plumb -	10	0 0 3	1 0	1	0 0 3	1 0	
Brushes, whitewash -	8	0 1 5	0 9	1	0 1 5	0 9	
" " -	"	0 2 1	0 14	1	0 2 1	0 14	
Bucket, leather, with strap, forming a case for sieve -	..	0 5 2	2 8	1	0 5 2	2 8	
*Chest, complete -	..	0 11 0	37 0	1	0 11 0	37 0	3' 8½" x 1' 3" x 9".
Chisel, brick, 2 ft. long -	..	0 1 6	4 9	1	0 1 6	4 9	
" " 1 ft. 6 in. -	8	0 1 6	3 5	1	0 1 6	3 5	
" " 1 ft. -	..	0 1 6	1 12	1	0 1 6	1 12	
" masons' 2½ in. -	8	0 1 2	1 7	1	0 1 2	1 7	
" " 2 in. -	"	0 1 2	1 1	1	0 1 2	1 1	
" " 1½ in. -	"	0 1 2	1 2	1	0 1 2	1 2	
" " 1 in. -	"	0 1 2	1 4	1	0 1 2	1 4	
Hammers, axe or chisel, handled -	9	0 1 1	5 8	2	0 2 2	11 0	
" brick, handled -	"	0 0 11	2 8	1	0 0 11	2 8	
" mash, 4 lb., handled -	"	0 2 0	4 5	1	0 2 0	4 5	
" masons', handled -	..	0 2 0	7 3	1	0 2 0	7 3	
" spalling, handled -	9	0 5 0	10 7	1	0 5 0	10 7	
Level, field service, small -	"	0 12 0	3 6	1	0 12 0	3 6	
Line, chalk, 20 yards -	..	0 0 1½	0 1	1	0 0 1½	0 1	
Mallet, mason -	9	0 1 3	4 11	1	0 1 3	4 11	
Pins and line, pair -	"	0 0 4	0 4	1	0 0 4	0 4	
Plugs and feathers, sets -	"	0 8 0		6	2 8 0	7 2	
Points, masons' -	"	0 0 7	1 5½	2	0 1 2	2 11	
Rule, 2-foot, 4-fold -	10	0 1 0	0 3	1	0 1 0	0 3	
" plumb -	"	0 3 6	1 12	1	0 3 6	1 12	
Shovel, barrack -	..	0 2 6	5 3	1	0 2 6	5 3	
Sieve, iron wire, 5 mesh -	10	0 3 0	2 15	1	0 3 0	2 15	
Square, iron, figured -	"	0 1 3	1 6	1	0 1 3	1 6	
Trowels, bricklayers', 10 in. -	"	0 1 6	0 13	1	0 1 6	0 13	
" masons', 12 in. -	"	0 1 4	1 1	1	0 1 4	1 1	
" plasterers' -	"	0 1 6	1 2	1	0 1 6	1 2	
Total -	..	..	..	..	6 6 5	140 10	

* This is the new pattern chest; it has no padlock, and is fitted with a trunk lock.

CARPENTERS'.

For General Army and Engineer Field Service.*

54

Approved 30th August 1858, Artillery. Set packed in a chest.

2044.

Description.	No. of Plate.	Cost of each.		Weight of each.		Total No.	Total Cost.		Total Weight.		Remarks.	
		£	s.	d.	lbs.		oz.	£	s.	d.		lbs.	oz.
Adze, wheelers' - - -	11	0	3	9	6	0	1	0	3	9	6	0
„ carpenters' - - -	..	0	5	0	6	0						
Apron, canvas - - -	..	0	1	4	1	4						
Augers, shell, $\frac{1}{2}$ in. - - -	11	0	0	10	0	11	1	0	0	10	0	11
„ „ $\frac{3}{4}$ in. - - -	..	0	1	0	0	14	1	0	1	0	0	14
„ „ $\frac{1}{2}$ in. - - -	..	0	1	0	1	2	1	0	1	0	1	2
„ „ $\frac{3}{8}$ in. - - -	..	0	1	3	1	4	1	0	1	3	1	4
„ „ 1 in. - - -	11	0	1	6	1	12	1	0	1	6	1	12
„ „ $1\frac{1}{8}$ in. - - -	..	0	1	10	2	0	1	0	1	10	2	0
„ „ $1\frac{1}{4}$ in. - - -	..	0	2	0	2	2	1	0	2	0	2	2
„ „ $1\frac{1}{2}$ in. - - -	11	0	2	6	2	13	1	0	2	6	2	13
„ „ $1\frac{3}{4}$ in. - - -	..	0	3	3	7	14	1	0	3	3	7	14
Axe, broad ($6\frac{1}{2}$ lb.), handled - -	..	0	1	3	1	13	1	0	1	3	1	13
Bag, tool - - -	..	0	1	3	1	13	1	0	1	3	1	13
Bar, crow, hand (7 lbs.) - - -	11	0	2	9	7	0	1	0	2	9	7	0
Bevel, steel blade, 12 in. - - -	..	0	2	0	0	8	1	0	2	0	0	8
Bits for stocks:												
centre - - -	16	0	0	3	..	7	7	0	1	9	0	12
countersunk - - -	..	0	0	3	..	2	2	0	0	6	0	3
dowling, sash, with collar - - -	..	0	0	6	..	1	1	0	0	6	0	1 $\frac{1}{2}$
gouge - - -	..	0	0	4	..	5	5	0	1	8	0	9
nose - - -	..	0	0	6	..	6	6	0	3	0	0	11
rimer, square - - -	..	0	0	10	..	1	1	0	0	10	0	2
screwdriver - - -	..	0	0	1	..	1	1	0	0	1	0	2
taper - - -	..	0	0	6	..	1	1	0	0	6	0	2
Blades, awl, brad - - -	11	0	0	0 $\frac{1}{4}$	..	24	24	0	0	6	0	4
Brush for glue - - -	..	0	0	4	0	2	1	0	0	4	0	2
Chisels, cold, hand, $\frac{3}{4}$ in. x 8 in. - -	11	0	1	0	0	14	1	0	1	0	0	14
„ „ 1 in. x 8 in. - - -	..	0	1	3	1	3	1	0	1	3	1	3
„ firmer, $\frac{1}{2}$ in. - - -	11	0	0	6	0	3	1	0	0	6	0	3
„ „ $\frac{3}{4}$ in. - - -	..	0	0	7	0	4	1	0	0	7	0	4
„ „ 1 in. - - -	..	0	0	8	0	6	1	0	0	8	0	6
„ „ $1\frac{1}{8}$ in. - - -	11	0	1	0	0	14	1	0	1	0	0	14
„ mortice, $\frac{1}{2}$ in. - - -	..	0	1	0	0	9	1	0	1	0	0	9
„ „ $\frac{3}{4}$ in. - - -	11	0	1	0	0	14	1	0	1	0	0	14
„ „ $\frac{1}{2}$ in. - - -	..	0	1	3	1	5	1	0	1	3	1	5
„ „ $\frac{3}{4}$ in. - - -	..	0	1	0	0	12	1	0	0	9	0	12
„ socket, $\frac{1}{2}$ in. - - -	11	0	0	9	0	14	1	0	0	10	0	14
„ „ $\frac{3}{4}$ in. - - -	..	0	0	10	0	14	1	0	0	10	0	14
„ „ 1 in. - - -	..	0	0	10	1	0	1	0	0	10	1	0
„ „ 1 in. - - -	..	0	1	0	1	6	1	0	1	0	1	6
„ „ $1\frac{1}{8}$ in. - - -	..	0	1	0	1	7	1	0	1	0	1	7
Compasses, common, 7 in., pair - -	12	0	0	6	0	5	1	0	0	6	0	5
„ „ with sweep, 10 in., pair - -	..	0	2	6	0	8	1	0	2	6	0	8
Dogs, iron, sawyers' - - -	..	0	1	6	3	6						

The articles in italics are not in the approved lists.

* There is also a smaller set of carpenters' tools for "general field service," packed in a small chest, 57

approved 17th October 1859, Hong Kong.

780

CARPENTERS'—continued.

Description.	No. of Plate.	Cost of each.		Weight of each.		Total No.	Total Cost.		Total Weight.		Remarks.	
		£	s.	d.	lbs.		oz.	£	s.	d.		lbs.	oz.
Files, bastard, ½ round, 14 in. -	12	0	1	0	1	6	2	0	2	0	2	12
" " round, 14 in. -	"	0	1	0	0	12	1	0	1	0	0	12
" saw, cross-cut -	"	0	0	7	0	2½						
" " hand, 5½ in. -	"	0	0	3	0	2	18	0	4	6	2	4
" " pit -	"	0	0	7	0	2½						
" " tenon, 4 in. -	"	0	0	2	0	1	6	0	1	0	0	6
Gauges, mortice -	"	0	1	6	0	6	1	0	1	6	0	6
" single -	"	0	0	5	0	4	1	0	0	5	0	4
Gimlets, nail -	"	0	0	2	0	0¾	8	0	1	4	0	6
" spike, ¼ in. -	"	0	0	3	0	3	2	0	0	6	0	6
" " ¾ in. -	"	0	0	4	0	4	2	0	0	8	0	8
" " ⅝ in. -	"	0	0	3	0	2						
Gouges, firmer, or scribing, ⅜ in. -	"	0	0	6	0	2	1	0	0	6	0	2
" " " ½ in. -	"	0	0	6	0	2½	1	0	0	6	0	2½
" " " ⅜ in. -	"	0	0	7	0	3	1	0	0	7	0	3
" " pecking, 1 in. -	"	0	0	10	1	4	1	0	0	10	1	4
<i>Hammers, handled, carpenters' size -</i>	"	0	1	9		2	12					
<i>Hammers, handled, claw, spike size -</i>	"	0	1	4		2	12					
Hammers, handled, hand, or rivetting, 24 oz. -	"	0	1	9	1	15	1	0	1	9	1	15
<i>Hammers, handled, large -</i>	"	0	1	6	4	8						
" " shoeing, small -	"	0	3	0	5	13	1	0	3	0	5	13
" " sledge, 10 lbs. -	"	0	3	0	11	12	1	0	3	0	11	12
Handles, adze, wheelers' -	11	0	0	8	1	2	1	0	0	8	1	2
" augers shell, of sizes -	"	0	0	1	0	6	4	0	0	4	1	8
" awl, brad -	"	0	0	1	0	1	6	0	0	6	0	6
" hammer, sledge -	12	0	0	6	1	14	1	0	0	6	1	14
Line, chalk; with ¼ lb. chalk -	13	0	0	1¾	0	5	1	0	0	1¾	0	5
Mallet, wood, carpenters' -	"	0	1	0	2	12	1	0	1	0	2	12
<i>Oil can, 1 quart -</i>	"	0	0	6	0	8						
" ½ pint -	"	0	0	3	0	6						
<i>Oil, sweet, quart -</i>	"	0	4	2½	2	0						
Pencils, black lead -	13	0	0	0½	0	1¾	12	0	0	6	1	5
Pincers, carpenters', pair -	"	0	1	6	1	1	1	0	1	6	1	1
Pins, drawbore, iron, short 16 in. -	"	0	0	10	1	9	1	0	0	10	1	9
Do. do. do. " 12 in. -	"	0	0	6	1	4	2	0	1	0	2	8
Planes, bead, ⅜ in. -	"	0	2	3	1	0	1	0	2	3	1	0
" jack, double iron -	"	0	3	6	5	0	1	0	3	6	5	0
" plough, with 8 irons -	"	0	14	0	4	6	1	0	14	0	4	6
" skew, rebate, 1½ in. -	"	0	2	0	1	7	1	0	2	0	1	7
" smoothing, double iron -	"	0	2	9	2	4	1	0	2	9	2	4
" trying -	"	0	4	3	7	0	1	0	4	3	7	0
Pot, glue, cast iron, double -	12	0	3	6	6	2	1	0	3	6	6	2
Punches, carpenters' or wheelers', 7 in., large -	13	0	0	8	1	2	1	0	0	8	1	2
Punches, carpenters' or wheelers', 7 in., small -	"	0	0	8	0	8	1	0	0	8	0	8
Rasp, 12 in., ⅓ round, coarse -	"	0	0	10	1	0	1	0	0	10	1	0
Reel for chalk line -	"	0	0	3	0	2	1	0	0	3	0	2
Rule, 2 ft., common -	"	0	1	0	0	3	1	0	1	0	0	3
Saws, cross-cut, 5 ft. -	14	1	0	0	9	12						
" hand, 26 in. -	15	0	3	6	1	15	1	0	3	6	1	15
" pit, 7 ft. -	14	0	10	0	18	0						
" tenon, 19 in., iron back -	15	0	3	0	2	7	1	0	3	0	2	7

The articles in italics are not in the approved lists.

CARPENTERS'—*continued.*

Description.	No. of Plate.	Cost of each.	Weight of each.	Total No.	Total Cost.	Total Weight.	Remarks.
		£ s. d.	lbs. oz.		£ s. d.	lbs. oz.	
Saws, turning or compass -	15	0 1 6	0 8	1	0 1 6	0 8	
„ wood cutters' -	„	0 4 6	5 0				
Scissors, tailors', 9 in. -	„	0 1 9	0 10				
Screwdrivers, 14 in. -	„	0 1 3	1 11	1	0 1 3	1 11	
„ „ 6 in. -	„	0 0 5	0 8	1	0 0 5	0 8	
Sets, saw, cross cut -	„	0 1 2	1 0				
„ hand -	„	0 0 8	0 3	1	0 0 8	0 3	
„ pit -	„	0 1 2	0 8				
Shaves, spoke, 4 in. -	16	0 0 10	0 6	2	0 1 8	0 12	
„ „ 3 in. -	„	0 0 8	0 4	2	0 1 4	0 8	
Spanners, M'Mahon's, 15 in. -	„	0 12 0	3 6	1	0 12 0	3 6	
Squares, iron, figured, 24 in. -	„	0 1 3	1 6	1	0 1 3	1 6	
„ steel blade, 9 in. -	„	0 1 3	0 10	1	0 1 3	0 10	
Stock for bits -	„	0 10 0	1 6	1	0 10 0	1 6	
Stones, grind, carpenters', 10 in. -	„	0 19 6	19 0	1			
„ „ 18 in. -	„	1 3 6	89 0	1			With every 2 chests.
„ oil, in frame -	„	0 3 0	2 8	1	0 3 0	2 8	With every 4 chests.
„ rag -	„	0 2 0	0 14	1	0 2 0	0 14	
Tapes, measuring, 50 ft. -	„	0 4 2	0 11				
*Chest, complete, with lock -	..	1 2 0	87 8	1	1 2 0	87 8	3' 5½" × 1' 7" × 16½".
Total -	..	..	..	..	9 0 9	232 1	

The articles in italics are not in the approved lists.

* This is the new pattern chest; it has no padlock, and is fitted with a trunk lock.

COLLAR MAKERS' AND SADDLERS'.

54
Approved 30th August 1858, Artillery. Set packed in a chest.
2044.

Description.	No. of Plate.	Cost of each.	Weight of each.	Total No.	Total Cost.	Total Weight.	Remarks.
Blades, awl—		£ s. d.	lbs. oz.		£ s. d.	lbs. oz.	
Backing - - - - -	17			6		0 0 $\frac{1}{4}$	
Buckling, large - - -	"			3		0 1 $\frac{1}{2}$	
" "small - - - - -	"			3		0 0 $\frac{1}{4}$	
Drawing - - - - -	"			2	0 5 8 $\frac{1}{2}$	0 1 $\frac{1}{4}$	
Garnishing, in 2 sizes	"			4		0 1 $\frac{1}{2}$	
Harness, in 5 sizes -	"			18		0 1	
Pannel or seat, in 2 sizes	"			4		0 1 $\frac{1}{4}$	
Bone, hollow - - - -	"	0 2 6	0 2	1	0 2 6	0 2	
*Chest, complete - - -	..	0 11 6	20 8	1	0 11 6	20 8	3' 3" x 11" x 6 $\frac{1}{2}$ ".
Chisel, cold, carpenters', $\frac{3}{4}$ in. by 8 in. - - - - -	17	0 1 0	0 14	1	0 1 0	0 14	
Clams, pair - - - - -	..	0 2 3	2 13	1	0 2 3	2 13	
Compasses, common, 7 in. pair	..	0 0 6	0 5	1	0 0 6	0 5	
Crease, screw - - - -	17	0 1 1	0 3	1	0 1 1	0 3	
" single - - - - -	..	0 0 6	0 2	1	0 0 6	0 2	
Gimlet nail, $\frac{1}{2}$ in. - -	12	0 0 0 $\frac{3}{4}$	0 0 $\frac{3}{4}$	1	0 0 0 $\frac{3}{4}$	0 0 $\frac{3}{4}$	
Hafts or handles, awl—							
Drawing - - - - -	17	0 0 1	0 2	4		0 8	
Harness - - - - -	"	0 0 1	0 1 $\frac{1}{2}$	4	0 1 0	0 6	
Seat - - - - -	"	0 0 1	0 1 $\frac{1}{2}$	4		0 6	
Hammer, handled, rivetting, 1 $\frac{1}{2}$ lb. head - - - - -	"	0 1 6	1 15	1	0 1 6	1 15	
" " " " rivetting, $\frac{1}{2}$ lb. do. - - -	"	0 0 10	0 15	1	0 0 10	0 15	
" " " " saddle, seat - - - - -	..	0 2 3	0 15	1	0 2 3	0 15	
Hammer, handled, saddlers' -	17	0 1 9	0 9	1	0 1 9	0 9	
Hemp, sewing, fine - - -	..						To be demanded in lbs. as required.
" " coarse - - - - -	..						
Iron, collar, 23 in. - - -	17	0 1 9	1 0	1	0 1 9		} 4 1
" " 29 in. - - - - -	"	0 2 3	1 7	1	0 2 3		
" " 34 in. - - - - -	"	0 2 8	1 10	1	0 2 8		
" palm - - - - -	"	0 0 8	0 3	1	0 0 8	0 3	
" pricking (of sorts) - -	"	0 0 6	0 1 $\frac{1}{2}$	3	0 1 6	0 4 $\frac{1}{2}$	
" seat stuffing, 14 in. -	"	0 1 0	1 4	1	0 1 0	1 4	
Knife, collar, $\frac{1}{2}$ round -	"	0 1 9	0 4	1	0 1 9	0 4	
" hand, straight, or laboratory small - - -	"	0 0 5	0 4	1	0 0 5	0 4	
" head - - - - -	"			1	0 0 6	0 5	
Lead, to punch on, piece, 8 lbs.	"	0 2 0	8 0	1	0 2 0	8 0	
Mallets, boxwood, tinmans' -	"	0 0 9	1 6	1	0 0 9	1 6	
" collar - - - - -	"	0 1 9	3 6	1	0 1 9	3 6	
Marline spike, wood - - -	"	0 0 6	0 13	1	0 0 6	0 13	
Nail claw - - - - -	"	0 0 7	0 3	1	0 0 7	0 3	
Needles, assorted, saddlers' -	"			100	0 0 7		} 0 8
" collar - - - - -	"			18	0 1 4 $\frac{3}{4}$		
" harness - - - - -	"			100	0 0 6		
" quilting or darning, 4 in. - - - - -	"			6	0 0 3		
" stitching - - - - -	"			25	0 2 1		

* This is the new pattern chest; it has no padlock, and is fitted with a trunk lock.

COLLAR MAKERS' AND SADDLERS'—*continued.*

Description.	No. of Plate.	Cost of each.	Weight of each.	Total No.	Total Cost.	Total Weight.	Remarks.
		£ s. d.	lbs. oz.		£ s. d.	lbs. oz.	
Needles, common - -	..			..			} To be demanded as required.
Pincers, saddlers' - -	17	0 2 6	0 14	1	0 2 6	0 14	
Pliers, flat nose - -	"	0 1 6	0 5	1	0 1 6	0 5	
Punches, oval, bridle, middle, No. 20 - - - -	"	0 0 6	0 1½	2	} 0 8 5	} 1 13	
Punches, oval, bridle, large, or stirrup - - No. 22	"	0 0 6	0 1½	2			
Punches, oval, shaft, large ,, 31	"	0 1 4	0 5	1			
" " " small ,, 30	"	0 1 2	0 4½	1			
" " " strap, large ,, 24	"	0 0 8	0 2	1			
" " " small ,, 23	"	0 0 7	0 1½	1			
" " " trace, large ,, 28	"	0 1 0	0 4½	1			
" " " small ,, 27	"	0 0 10	0 3	2			
Rasp, shoemakers' - -	"	0 1 9	0 10	1	0 1 9	0 10	
Rule, 2 ft., 4 fold - -	"	0 1 0	0 3	1	0 1 0	0 3	
Scissors, tailors', 9 in., pair -	"	0 1 3	0 10	1	0 1 3	0 10	
Screwdriver, 6 in. - -	"	0 0 5	0 8	1	0 0 5	0 8	
Spoke shave, collar makers' -	"	0 1 6	0 4½	1	0 1 6	0 4½	
Steel, butchers' - -	"	0 1 9	0 13	1	0 1 9	0 13	
Stone, oil, in frame - -	16	0 3 0	2 8	1	0 3 0	2 8	
Stone, rag - - - -	17	0 0 2	1 9	1	0 0 2	1 9	
Tacks - - - -	..			..			To be demanded as required.
Thimbles, tailors' - -	17	0 0 0½	0 0½	2	0 0 0½	0 0½	
Thread, packing, small - -	..			..			To be demanded as required.
Tools, edge, 3 sizes - -	17	0 0 4	0 1½	3	0 1 0	0 4½	} To be demanded as required.
Wax, bees - - - -	..			..
" black - - - -	..			..
Total - - - -	..	..	..	..	3 19 8	62 5	

COOPERS.

54
Approved 4th February 1860, Artillery. Set packed in 1 chest.
4367.

Description.	No. of Plate.	Cost of each.	Weight of each.	Total No.	Total Cost.	Total Weight.	Remarks.
		£ s. d.	lbs. oz.		£ s. d.	lbs. oz.	
Adzes, chequered head	18	0 3 10	3 2	1	0 3 10	3 2	
" rounding	"	0 1 5	4 12	1	0 1 5	4 12	
<i>Apron, canvas</i>	"	0 1 4	1 4				
Axe, handled	18	0 2 8	4 6	1	0 2 8	4 6	
Borer, bung, 3 in.	"	0 4 1	4 3	1	0 4 1	4 3	
*Chest, complete	"	0 14 6	49 0	1	0 14 6	49 0	2' 11" x 1' 5 1/4" x 13".
Chisel, cold, 7 in.	18	0 1 1	1 0	1	0 1 1	1 0	
Chive, 6 gall. 7 1/2 in. sweep	"	0 4 0	1 5	1	0 4 0	1 5	
" 4 " 6 1/2 "	"	0 3 6	1 3	1	0 3 6	1 3	
Compasses, wing, 12 in.	"	0 1 0	0 11	1	0 1 0	0 11	
Croze, stock, puncheon or barrel, 2 in., iron	"	0 4 3	5 2	1	0 4 3	5 2	
Croze, stock, pail, 1 1/2 in., iron	"	0 2 8	1 12	1	0 2 8	1 12	
Driver, upright, socket, for wood	"	0 1 0	1 9	1	0 1 0	1 9	
" kneed, iron	"	0 1 3	2 12	1	0 1 3	2 12	
Files, hand saw, 5 1/2 in.	"	0 0 2	0 2 1/2	6	0 1 0	1 0	
Froe or splitting knife, 12 in.	"	0 1 3	2 10	1	0 1 3	2 10	
Hammer, hand, 3 1/2 lbs.	"	0 1 4	4 4	1	0 1 4	4 4	
" rivetting 8 oz., handld.	"	0 1 1	1 1	1	0 1 1	1 1	
Handle, froe	"	0 0 1	0 9	1	0 0 1	0 9	
" hammer, hand, 3 1/2 lbs.	"	0 0 2	0 9	1	0 0 2	0 9	
Howel, small, 3 1/2 in., or barrel	"	0 1 5	1 13	1	0 1 5	1 13	
Iron, bick, upon wood, field service	"	0 12 0	4 7	1	0 12 0	4 7	
		per ton					
<i>Iron hoop</i>	"	20 0 0					
Jigger	19	0 1 8	2 0	1	0 1 8	2 0	
Jointer, small, field service	"	0 9 0	17 0	1	0 9 0	17 0	
Knife, crammng, large	"	0 1 3	2 8	1	0 1 3	2 8	
" drawing	"	0 1 3	2 0	1	0 1 3	2 0	
" notching	"	0 1 3	2 0	1	0 1 3	2 0	
Pincers, carpenters'	"	0 1 2	1 2	1	0 1 2	1 2	
Punches, large 10 in.	"	0 0 5	1 10	1	0 0 5	1 10	
" small 6 in.	"	0 0 5	0 12	1	0 0 5	0 12	
<i>Rivets</i> - per 1,000	"	0 1 1	3 8				
Rule, 18 in.	19	0 0 10	0 3	1	0 0 10	0 3	
Saw, hand, 26 in.	"	0 2 2 1/2	2 0	1	0 2 2 1/2	2 0	
" turning, or compass	"	0 1 0	0 8	1	0 1 0	0 8	
Shave, two hand, round	"	0 0 11	1 2	1	0 0 11	1 2	
" inside, for casks	"	0 1 4	1 5	1	0 1 4	1 5	
" " for pails	"	0 1 4	1 0	1	0 1 4	1 0	
" outside, for casks	"	0 1 7	1 8	1	0 1 7	1 8	
Stock, with bits and jaws, set	"	0 6 0	2 13	1	0 6 0	2 13	
Stone, oil, in frame, Turkey	"	0 1 7	2 10	1	0 1 7	2 10	
Stone, rag	"	0 0 2	1 0	1	0 0 2	1 0	
<i>Tacks, 1/2 in.</i> - per 1,000	"	0 0 3	1 0				
Vice, screw	19	0 1 3	0 2	1	0 1 3	0 2	
Total	..	..	..	..	4 18 2	140 5	Stone, oil, in frame, carpenters' (Plate 16), usually issued in lieu.

The articles in italics are not in the approved lists.

* This is the new pattern chest; it has no padlock, and is fitted with a trunk lock.

FARRIERS' AND SHOEHING SMITHS'.

Approved 28th October 1859, ⁵⁴Artillery. Set packed in a chest.
4069.

Description.	No. of Plate.	Cost of each.		Weight of each.		Total No.	Total Cost.		Total Weight.		Remarks.		
		£	s.	d.	lbs.		oz.	£	s.	d.		lbs.	oz.
*Chest, complete	-	0	12	0	38	0	1	0	12	0	38	0	3' 1½" x 13½" x 9"
Stones, rag	-	0	0	2	1	9	2	0	0	4	3	2	
<i>Forge Tools.</i>													
Chisels, hot	-	20	0	0	10	1	2	3	0	2	6	3	6
Hammers, sledge, 9½ lb.	-	"	0	2	9	9	8	1	0	2	9	9	8
" hand, or turning, 3 lb.	-	"	0	1	3	3	8	2	0	2	6	7	0
Handles, hammer, sledge	-	"	0	0	6	1	14	1	0	0	6	1	14
" " hand	-	"	0	0	5	1	5	2	0	0	10	2	10
Poker	-	"	0	0	9	2	6	1	0	0	9	2	6
Pritchels, all steel, octagonal	-	"	0	0	7	1	2	4	0	2	4	4	8
Slice	-	"	0	1	2	3	0	1	0	1	2	3	0
Stamps, all steel	-	"	0	0	6	0	11	2	0	1	0	1	10
Tongs, pairs	-	"	0	0	10	1	9	6	0	5	0	9	6
<i>Shoeing Tools.</i>													
Bag, tool, leather	-	"	0	5	6	2	7	1	0	5	6	2	7
Buffers	-	"	0	0	7	0	11	4	0	2	4	2	12
Hammers, pointing, handled	-	"	0	2	0	1	12	2	0	4	0	3	10
" shoeing "	-	"	0	2	6	0	14	4	0	10	0	3	8
Irons, branding, letters, set of 5	-	"	0	4	2	4	6	1	0	4	2	4	6
" " numbers, set of 9	-	"	0	6	9	8	0	1	0	6	9	8	0
Knives, drawing	-	"	0	0	6	0	3	12	0	6	0	2	4
" searching	-	"	0	0	6	0	1½	2	0	1	0	0	2½
Pincers, pairs	-	"	0	1	9	2	4	4	0	7	0	9	0
Rasps, 15 in.	-	"	0	1	6	2	0	8	0	12	0	16	0
Stakes, pointing	-	"	0	0	7	0	14	2	0	1	2	1	12
<i>† Medical Tools.</i>													
Bladders	-	..	0	0	4	..	..	..	..	..	..	..	..
Clyster, pipe wood	-	6	3	..	..	..	..	..	..
Cradles	-	..	0	4	0	3	3	..	..	..	..	..	..
"Directions, farriers," copies	-
Horns, drenching	-	..	0	0	6½	0	5	..	..	..	..	..	..
Ladles, ½ pint	-	..	0	1	2	0	15	..	..	..	..	..	..
" pint	-	..	0	1	2	1	12	..	..	..	..	..	..
Phlemes, cases of two	-	..	0	3	6	0	4	..	..	..	..	..	..
Rasp, mouth	-	..	0	1	9	1	11	..	..	..	..	..	..
Scissors, pair	-	..	0	1	1	0	3	..	..	..	..	..	..
Shoot, balling	-	..	0	4	0	0	9	..	..	..	..	..	..
Stick, bleeding	-	..	0	1	4	0	4	..	..	..	..	..	..
Syringe, 1 oz.	-	..	0	1	0	0	5	..	..	..	..	..	..
" 2 oz.	-	..	0	2	0	0	8	..	..	..	..	..	..
Total	-	4	11	7	140	3	..

* This is the new pattern chest; it has no padlock, and is fitted with a trunk lock.

† The medical tools are not now issued with the farriers' set.

MINERS'.

57

Approved 17th May 1862, General No. 2246. Set packed in a chest.

Description.	No. of Plate.	Cost of each.	Weight of each.	Total No.	Total Cost.	Total Weight.	Remarks.
		£ s. d.	lbs. oz.		£ s. d.	lbs. oz.	
Bars, boring, 2 ft. long, 1½ in. bit	21	0 1 1	6 10½	3	0 3 3	20 0	3' 10" x 1' 2½" x 9"
*Chest - " " " 3 " "	"	0 2 0	8 6	3	0 6 0	25 2	
Hammers, sledge - - -	..	0 19 6	41 0	1	0 19 6	41 0	
" striking or boring -	21	0 3 6	16 0	2	0 7 0	32 0	
" " or loading, short handled - - -	"	0 3 0	8 0	4	0 12 0	32 0	
Powder horn - - - -	"	0 3 0	4 8	4	0 12 0	18 0	
Priming wire, brass, 16 gauge -	"	0 2 6	0 9½	1	0 2 6	0 9½	
Wedges - - - - -	"	0 0 6	0 3	3	0 0 6	0 3	
" - - - - -	"	0 1 1	3 7¼	12	0 13 0	41 12	
<i>No. 1 Board, with Straps, comprising—</i>							
Board, with straps - - -	22	0 1 5½	6 0	1	0 1 5½	6 0	
Bars, boring, 3 ft. long, 1½ in. bit	"	0 1 3	10 9	3	0 3 9	30 0	
" crow, 2 ft. 6 in. long -	"	0 2 10	7 0	2	0 5 8	14 0	
Copper needles, 4 ft. long -	"	0 7 0	2 10	2	0 14 0	5 4	
Jumpers, 5 ft. 6 in. long, 1½ in. bit	"	0 4 9	21 0	3	0 14 3	63 0	
<i>No. 2 Board, with Straps, comprising—</i>							
Board, with straps - - -	"	0 1 11½	5 12	1	0 1 11½	5 12	
Bars, boring, 4 ft. long, 3 in. bit	"	0 2 3	17 0	3	0 6 9	51 0	
" crow, 4 ft. 3 in. long -	"	0 3 6	17 0	3	0 10 6	51 0	
" tamping, 4 ft. long, 1½ in. -	"	0 4 0	11 7	1	0 4 0	11 7	
Scraper, 4 ft. long, 1½ in. -	"	0 1 8	2 8	1	0 1 8	2 8	
<i>No. 3 Board, with Straps, comprising—</i>							
Board, with straps - - -	"	0 2 4	8 9	1	0 2 4	8 9	
Bars, boring, 7 ft. long, 3 in. bit	"	0 3 9	31 8	3	0 8 3	94 8	
" tamping, 7 ft. long, 3 in. -	"	0 7 0	21 0	1	0 7 0	21 0	
Needle, 7 ft. long - - -	"	0 9 6	4 5	1	0 9 6	4 5	
Scraper, 7 ft. long, 3 in. -	"	0 2 9	6 14	1	0 2 9	6 14	
Worm, 7 ft. long, 1½ in. -	"	0 3 0	6 0	1	0 3 0	6 0	
Total - - - - -	..	..	..	..	8 12 7	591 13	

* This is the new pattern chest; it has no padlock, and is fitted with a trunk lock.

PAINTERS'.

Approved 5th March 1855, $\frac{C}{3612}$. To be demanded in such quantities as may be considered necessary.

Brushes, sash tool, No. 2 -		0 0 2½	0 0½			
" " " No. 4 -		0 0 3½	0 1			
" " " No. 6 -		0 0 5½	0 2			
" unground, 000 -		0 1 9	0 7			
" ground, 000 -		0 2 0	0 7			

PAINTERS'—*continued.*

Description.	No. of Plate.	Cost of each.	Weight of each.	Total No.	Total Cost.	Total Weight.	Remarks.
		£ s. d.	lbs. oz.				
Brushes (with sticks), sable, writing, goose large	..	0 0 9	} 20 of each weigh 8 oz.				} The weights include the bottles and baskets.
„ sable, writing, goose small	..	0 0 9					
„ sable, writing, duck, large	..	0 0 6					
„ „ „ „ crow	..	0 0 4					
Can, oil, 1 gallon	..	0 2 0	3 0				
<i>Diamond, glaziers'</i>	..	0 17 0	0 1				
		per cwt.	per cwt.				
<i>Dryers, patent</i>	..	1 5 0	12 0				
Knife, stopping	..	0 0 9	0 4				
Oil, linseed, boiled, in 5 gal. bottles	..	per gal.	per bot.				
	..	0 3 1	53 8				
		per gal.	per bot.				
Oil, linseed, raw, in 5 gal. bottles	..	0 2 10½	51 8				
		per cwt.	per keg.				
Paint, white lead (28 lb. keg)	..	1 6 0	32 0				
		per cwt.	per keg.				
„ lamp black (28 lb. keg)	..	0 13 0	50 0				
		per cwt.	per keg.				
„ red lead (28 lb. keg)	..	1 2 6	119 0				
Pot, paint, 1 gallon	..	0 0 4	2 8				
Rule, 2 ft.	..	0 1 0	0 3				
		per gal.					
Turpentine, 5 gal. in bottle	..	0 5 7	49 8				
		per cwt.					
<i>Whiting, for putty</i>	..	0 1 3	..				

SMITHS', No. 1.

For Army General Service.*

54

Approved 8th October 1862, Artillery
9328.

Bits, for brace rimer, square	23	0 0 6	0 4	1	0 0 6	0 4	
„ „ ½ round	..	0 0 5	0 5	1	0 0 5	0 5	
„ countersunk, rose	..	0 0 3	0 2	1	0 0 3	0 2	
Blade, saw, slitting, 10 in. (spare)	24	0 1 4	0 1	1	0 1 4	0 1	
Bow drill, steel, smiths'	23	0 3 3	1 0	1	0 3 3	1 0	
Boxes, drill, wood	..	0 0 3	0 1	2	0 0 6	0 2	
Brace, iron, smiths'	..	0 3 6	2 1	1	0 3 6	2 1	
Callipers, 10 in., pair	..	0 2 9	0 7	1	0 2 9	0 7	
† Chest, complete	..	2 4 0	51 0	1	2 4 0	51 0	3' 6" x 1' 2¼" x 13"
Chisels, cold, smiths'	23	0 1 0	2 3	1	0 1 0	2 3	
„ hot	..	0 0 10	1 13	2	0 1 8	3 10	
„ hand, 1 in., 8 in. long	..	0 1 3	1 3	2	0 2 6	2 6	
„ „ ¾ in. do.	..	0 1 0	0 14	2	0 2 0	1 12	
Compasses, 10 in. wing, with sweep	..	0 2 6	0 8	1	0 2 6	0 8	
Drill, smiths' or armourers'. <i>See Stock.</i>							

The articles in italics are not in the approved lists.

* There is another set of smiths' tools, No. 2, for repairing Armstrong guns and carriages.
† This is the new pattern chest; it has no padlock, and is fitted with a trunk lock.

SMITHS'—continued.

Description.	No. of Plate.	Cost of each.	Weight of each.	Total No.	Total Cost.	Total Weight.	Remarks.
		£ s. d.	lbs. oz.		£ s. d.	lbs. oz.	
Files, bastard, flat, 14 in.	23	0 1 0	1 8	10	0 10 0	15 0	
" " " 10 in.	"	0 0 6	0 10	6	0 3 0	3 12	
" " " 8 in.	"	0 0 4	0 5	4	0 1 4	1 4	
" " $\frac{1}{2}$ round, 14 in.	"	0 1 0	1 6	4	0 4 0	5 8	
" " " 10 in.	"	0 0 6	0 8	4	0 2 0	2 0	
" " " round, 12 in.	"	0 0 9	0 10	4	0 3 0	2 8	
" " " " 8 in.	"	0 0 4	0 3	2	0 0 8	0 6	
" " " rubber, 16 in., $\frac{1}{4}$ thick	"	0 2 0	3 0	3	0 6 0	9 0	
" " " square, 10 in.	"	0 0 5	0 5	2	0 0 10	0 10	
" " " " 8 in.	"	0 0 4	0 3	2	0 0 8	0 6	
" " " 3 square, 12 in.	"	0 0 9	1 2	1	0 0 9	1 2	
" " " " 7 in.	"	0 0 3	0 3	1	0 0 3	0 3	
" warding, 5 in., sharp point, cut both sides, assorted	"	0 0 3	0 1	2	0 0 6	0 2	
" warding, 3 $\frac{1}{2}$ in., sharp point, cut one side, assorted	"	0 0 2	0 0 $\frac{1}{2}$	2	0 0 4	0 1	
Hammers, hand, smiths', 3 lbs.	"	0 1 3	3 0	1	0 1 3	3 0	
" rivetting or hand, 24 oz., handled	"	0 1 6	1 8	1	0 1 6	1 8	
" setting, smiths'	"	0 1 3	4 8	1	0 1 3	4 8	
" sledge, 10 lbs.	"	0 3 0	12 7	1	0 3 0	12 7	
" uphand, 7 lbs.	"	0 2 0	7 0	1	0 2 0	7 0	
Handles, file, large	"		0 3	2	0 0 1 $\frac{1}{2}$	0 6	
" small	"		0 2	4	0 0 2 $\frac{1}{2}$	0 8	
" hammer, hand	"	0 0 2	0 9	1	0 0 2	0 9	
" " sledge	"	0 0 6	1 14	1	0 0 6	1 14	
" " up-hand	"	0 0 5	1 5	2	0 0 10	2 10	
Holdall, leather	24	0 3 4	0 12	1	0 3 4	0 12	
Pincers, carpenters', pair	"	0 1 6	1 1	1	0 1 6	1 1	
Plate, breast, smiths'	"	0 0 10	0 9	1	0 0 10	0 9	
Punches, cold, smiths', 7 in.	"	0 0 8	1 2	2	0 1 4	2 4	
" hot, smiths', $\frac{3}{8}$ in.	"	0 0 9	1 2	1	0 0 9	1 2	
" " " $\frac{1}{2}$ in.	"	0 0 9	1 0	1	0 0 9	1 0	
" " " $\frac{3}{8}$ in.	"	0 0 8	1 0	1	0 0 8	1 0	
Rule, 2 ft. common	"	0 1 0	0 3	1	0 1 0	0 3	
Saw, slitting, bow, 10 in., complete	"	0 1 0	0 12	1	0 1 0	0 12	
Screwdriver, 15 in.	"	0 1 0	1 3	1	0 1 0	1 3	
" " 6 in.	"	0 0 4	0 4	1	0 0 4	0 4	
Screw plate, with 10 taps	"	0 5 0	0 9	1	0 5 0	0 9	
Spanner, patent, 15 in., McMahon's	25	0 12 0	3 6	1	0 12 0	3 6	
Square, iron, figured	"	0 1 3	1 6	1	0 1 3	1 6	
Stock and dies, Whitworth's	24	22 0 0	69 0	1	22 0 0	69 0	
Stock, drill, smiths' or armourers'	23	0 2 4	0 4	1	0 2 4	0 4	
" drills for do.							
Stone, oil, without frame	25	0 3 6	2 9	1	0 3 6	2 9	
Strings, drill, catgut knots	23	0 1 0	0 2	6	0 6 0	0 12	
Tongs, with oval handles, bolt	25	0 1 6	4 7	1	0 1 6	4 7	
" " close, 2 ft.	"						
" " long, 3 lb.	"	0 1 0	3 6	1	0 1 0	3 6	
" " forebit	"	0 1 3	4 1	1	0 1 3	4 1	
" " hammer	"	0 1 9	5 0	1	0 1 9	5 0	
" " hollow bit	"	0 1 3	3 1	1	0 1 3	3 1	
" " plyer	"	0 1 0	2 3	1	0 1 0	2 3	

The articles in italics are not in the approved lists.

SMITHS'—continued.

Description.	No. of Plate.	Cost of each.	Weight of each.	Total No.	Total Cost.	Total Weight.	Remarks.
Vice, hand, 16 oz.	25	£ s. d. 0 2 3	lbs. oz. 1 0	1	£ s. d. 0 2 3	lbs. oz. 1 0	} Size to be given.
„ standing, 36 lbs.	„	0 14 3	36 0	1	0 14 3	36 0	
Iron, British, flat, lbs.	..	per ton. 8 0 0	..	..	..	..
Iron, British, round, lbs.	..	per cwt. 0 10 0	..	..	..	..
Steel, blister	..	1 6 8	..	..	..	..
„ shear	..	2 18 0	..	..	..	..
„ cast	..	2 12 0	..	..	..	..
Borax	..	per lb. 0 0 3	..	..	..	..
Spelter	..	per cwt. 7 18 0	..	..	..	..
Total	30 17 2	289 3	

TINMANS'.

Approved 5th March 1855, ^c/₃₆₁₂. Set packed in a chest.

<i>Aprons, leather</i>	..	0 3 6	1 12				} To be demanded as required.
<i>Awl, scoring</i>	26	0 0 2	0 11	1	0 0 2	0 11	
<i>Bellows, double blast, pair</i>	..	0 12 6	2 9	1	0 12 6	2 9	
* <i>Chest, complete</i>	..	1 0 0	56 0	1	1 0 0	56 0	
<i>Chisels, cold, 1 in.—5 in. long</i>	26	0 1 3	0 12	1	0 1 3	0 12	
„ „ $\frac{1}{4}$ in.—5 in. „	..	0 0 6	0 2	1	0 0 6	0 2	
<i>Compasses, 7 in.</i>	..	0 1 6	0 5	1	0 1 6	0 5	
<i>Files, flat, bastard, 12 in.</i>	..	0 1 0	1 0	2	0 2 0	2 0	
<i>Grover, small, hand</i>	..	0 1 0	2 2	1	0 1 0	2 2	
<i>Hammer, creasing, 10 oz.</i>	..	0 1 6	0 13	1	0 1 6	0 13	
„ hollowing, $1\frac{1}{2}$ in. and $1\frac{1}{4}$ in. faces	..	0 2 5	1 2	1	0 2 5	1 2	
„ rivetting, 16 oz.	..	0 1 7	1 2	1	0 1 7	1 2	
<i>Irons, creasing, 11 lbs.</i>	..	0 12 2	11 0	1	0 12 2	11 0	
„ soldering	..	0 4 2	3 5	2	0 8 4	6 10	
<i>Knife, 5 in.</i>	..	0 0 6	0 3	1	0 0 6	0 3	
<i>Mallet, box wood</i>	..	0 0 9	1 7	1	0 0 9	1 7	
<i>Pot, fire, wrot. iron, for coal</i>	..	0 8 4	14 5	1	0 8 4	14 5	
<i>Rasp, $\frac{1}{2}$ round, 12 in.</i>	..	0 0 6	0 14	1	0 0 6	0 14	
<i>Scraper, plumbers' or hookshave</i>	..	0 1 3	0 3	1	0 1 3	0 3	
<i>Shears, stock, pair</i>	..	0 18 0	18 5	1	0 18 0	18 5	
„ scotch „	..	0 7 6	2 14	1	0 7 6	2 14	
<i>Square, iron, figured</i>	..	0 1 3	1 6	1	0 1 3	1 6	
<i>Borax, per lb.</i>	..	0 0 8	..				
<i>Rosin, per lb.</i>	..	0 0 1	..				
<i>Solder, tinmans', per lb.</i>	..	0 1 2	..				
<i>Tin, XXX., 17 in. x 12$\frac{1}{2}$ in., sheets</i>	..	..	..	
Total	..	..	..	..	5 3 0	124 13

The articles in italics are not in the approved lists.

* This is the new pattern chest; it has no padlock, and is fitted with a trunk lock.

WHEELERS' AND SADDLETREE MAKERS' TOOLS,

Approved 12th June 1861, $\frac{57}{24}$ Set packed in a chest.
2395.

Description.	No. of Plate.	Cost of each.		Weight of each.		Total No.	Total Cost.		Total Weight.		Remarks.
		£	s. d.	lbs.	oz.		£	s. d.	lbs.	oz.	
Adze, wheelers'	-	11	0 3 9	6	0	1	0 3 9	6	0		
Auger, shell, $\frac{1}{2}$ in.	-	"	0 0 10	0	11	1	0 0 10	0	11		
" "	$\frac{3}{8}$ in.	"	0 1 0	0	14	1	0 1 0	0	14		
" "	$\frac{1}{2}$ in.	"	0 1 0	1	2	1	0 1 0	1	2		
" "	$\frac{3}{4}$ in.	"	0 1 3	1	4	1	0 1 3	1	4		
" "	1 in.	"	0 1 6	1	12	1	0 1 6	1	12		
" "	$1\frac{1}{2}$ in.	"	0 1 10	2	0	1	0 1 10	2	0		
" "	$1\frac{3}{4}$ in.	"	0 2 0	2	2	1	0 2 0	2	2		
" "	$1\frac{1}{2}$ in.	"	0 2 6	2	13	1	0 2 6	2	13		
Axe, broad, 7 lbs., handled	-	"	0 3 3	7	14	1	0 3 3	7	14		
Bag, tool	-	"	0 1 3	1	13	1	0 1 3	1	13		
Bar, crow, hand, 7 lbs.	-	11	0 2 9	7	0	1	0 2 9	7	0		
Bevel, steel blade, 12 in.	-	"	0 2 0	0	8	1	0 2 0	0	8		
Bits for stock, centre	-	16				7	0 1 9	0	12		
" countersunk	-	"				2	0 0 6	0	3		
" dowling, sash, with collar	-	"				1	0 0 6	0	$1\frac{1}{2}$		
" gouge	-	"				5	0 1 8	0	9		
" nose	-	"				6	0 3 0	0	11		
" rimer, square	-	"				1	0 0 10	0	2		
" screwdriver	-	"				1	0 0 1	0	2		
" taper	-	"				1	0 0 6	0	2		
Blades, awl, brad	-	11				24	0 0 6	0	4		
Brush, for glue	-	"	0 0 4	0	2	1	0 0 4	0	2		
Buzzes, $\frac{3}{8}$ in.	-	11	0 3 0	2	7	1	0 3 0	2	7		
" "	$\frac{1}{2}$ in.	"	0 2 9	2	2	1	0 2 9	2	2		
*Chest, tool	-	"	1 2 0	87	8	1	1 2 0	87	8	3' 5 $\frac{1}{2}$ " x 1' 7" x 10 $\frac{1}{2}$ ".	
Chisels, boxing, large	-	"	0 1 4	3	7	1	0 1 4	3	7		
" small	-	"	0 1 2	2	8	1	0 1 2	2	8		
" cold, hand, $\frac{3}{4}$ in. x 8 in.	-	11	0 1 0	0	14	1	0 1 0	0	14		
" " " 1 in. x 8 in.	-	"	0 1 3	1	3	1	0 1 3	1	3		
" firmer, $\frac{3}{8}$ in.	-	"	0 0 5 $\frac{1}{2}$	0	2	1	0 0 5 $\frac{1}{2}$	0	2		
" " " $\frac{1}{2}$ in.	-	"	0 0 3 $\frac{3}{4}$	0	2	1	0 0 3 $\frac{3}{4}$	0	2		
" " " $\frac{3}{4}$ in.	-	"	0 0 4 $\frac{1}{4}$	0	1 $\frac{1}{2}$	1	0 0 4 $\frac{1}{4}$	0	1 $\frac{1}{2}$		
" " coachmakers' pattern, $1\frac{3}{4}$ in.	-	"	0 1 10	1	14	1	0 1 10	1	14		
" " " 1 $\frac{1}{2}$ in.	-	"	0 1 8 $\frac{1}{2}$	1	6	1	0 1 8 $\frac{1}{2}$	1	6		
" " " 1 $\frac{1}{2}$ in.	-	"	0 1 7	1	5	1	0 1 7	1	5		
" " " 1 $\frac{3}{8}$ in.	-	"	0 1 3	1	3	1	0 1 3	1	3		
" " " 1 $\frac{1}{4}$ in.	-	"	0 0 11	0	15	1	0 0 11	0	15		
" " " 1 $\frac{1}{2}$ in.	-	"	0 0 10	1	0	1	0 0 10	1	0		
" " " 1 in.	-	"	0 0 9 $\frac{1}{4}$	0	13	1	0 0 9 $\frac{1}{4}$	0	13		
" " " 7 $\frac{3}{8}$ in.	-	"	0 0 8 $\frac{1}{2}$	0	10	1	0 0 8 $\frac{1}{2}$	0	10		
" " " 7 $\frac{1}{8}$ in.	-	"	0 0 8	0	10	1	0 0 8	0	10		
" " " 7 $\frac{1}{8}$ in.	-	"	0 0 7 $\frac{1}{2}$	0	9	1	0 0 7 $\frac{1}{2}$	0	9		
" " " 7 $\frac{1}{8}$ in.	-	"	0 0 7	0	8 $\frac{1}{2}$	1	0 0 7	0	8 $\frac{1}{2}$		
" " " 7 $\frac{1}{8}$ in.	-	"	0 0 9	0	9	1	0 0 9	0	9		
" " " 7 $\frac{1}{8}$ in.	-	"	0 0 6	0	5	1	0 0 6	0	5		
" mortice, $\frac{1}{4}$ in.	-	11	0 1 0	0	9	1	0 1 0	0	9		
Compasses, common, 7 in.	-	12	0 0 8	0	5	1	0 0 8	0	5	6" in plate.	
" with sweep, 10 in.	-	"	0 2 6	0	8	1	0 2 6	0	8		

* This is the new pattern chest ; it has no padlock, and is fitted with a trunk lock.

WHEELERS' AND SADDLETREE MAKERS' TOOLS—*continued.*

Description.	No. of Plate.	Cost of each.			Weight of each.		Total No.	Total Cost.			Total Weight.	Remarks.	
		£	s.	d.	lbs.	oz.		£	s.	d.			lbs.	oz.
Files, bastard, $\frac{1}{2}$ round, 14 in. -	12	0	1	0	1	6	2	0	2	0	2	12	
" " round " -	"	0	1	0	0	12	1	0	1	0	0	12	
" saw, hand, $5\frac{1}{2}$ in. -	"	0	0	3			18	0	4	6	2	4	
" " tenon, 4 in. -	"	0	0	2	0	1	6	0	1	0	0	6	
Gauge, mortice -	"	0	1	6	0	6	1	0	1	6	0	6	
" " single -	"	0	0	5	0	4	1	0	0	5	0	4	
Gimlets, nail, of sizes -	"	0	0	2			8	0	1	4	0	6	
" " spike, $\frac{1}{4}$ in. -	"	0	0	3	0	3	2	0	0	6	0	6	
" " " $\frac{3}{8}$ in. -	"	0	0	4	0	4	2	0	0	8	0	8	
Gouges, boxing, 2 in. -	"	0	2	9	2	10	1	0	2	9	2	10	
" " " $1\frac{1}{4}$ in. -	"	0	3	6	2	9	1	0	3	6	2	9	
" " firmer or scribing, $\frac{3}{4}$ in. -	"	0	0	6	0	2	1	0	0	6	0	2	
" " " $\frac{1}{2}$ in. -	"	0	0	6	0	3	1	0	0	6	0	3	
" " " $\frac{3}{8}$ in. -	"	0	0	7	0	3	1	0	0	7	0	3	
" " pecking, 1 in. -	"	0	0	10	1	4	1	0	0	10	1	4	
Hammers, handled, hand, or riveting, 24 oz. -	"	0	1	9	2	7	1	0	1	9	2	7	
" " " 16 oz. -	"	0	0	10	1	3 $\frac{1}{2}$	1	0	0	10	1	3 $\frac{1}{2}$	
" " handled, shoeing, small, 6 lbs. -	"	0	3	0	7	0	1	0	3	0	7	0	
" " sledge, 10 lbs. -	"	0	3	0	11	12	1	0	3	0	11	12	
Handles, adze, wheelers' -	11	0	0	8	1	2	1	0	0	8	1	2	
" " augers, of sizes -	"	0	0	1	0	6	4	0	0	4	1	8	
" " awl, brad -	"	0	0	1	0	1	6	0	0	6	0	6	
" " hammer, sledge, 10 lbs. -	12	0	0	6	1	14	1	0	0	6	1	14	
Knife, drawing -	13	0	1	0	1	10	1	0	1	0	1	10	
Line, chalk, carpenters', with $\frac{1}{4}$ lb. chalk -	"	0	0	4	0	7	1	0	0	4	0	7	
Mallet, wood, carpenters' -	"	0	1	0	2	12	1	0	1	0	2	12	
Pencils, blac klead -	"						12	0	0	6	1	5	
Pincers, carpenters' -	"	0	1	6	1	1	1	0	1	6	1	1	
Pins, drawbore, iron, 16 in. -	"	0	0	6	1	9	1	0	0	6	1	9	
" " " 12 in. -	"	0	0	5	0	10	2	0	0	10	1	4	
Planes, bead, $\frac{3}{8}$ in. -	"	0	2	3	1	0	1	0	2	3	1	0	
" " jack, double iron -	"	0	3	6	5	0	1	0	3	6	5	0	
" " plough, with 8 irons -	"	0	14	0	4	6	1	0	14	0	4	6	
" " skew, rebate, $1\frac{1}{2}$ in. -	"	0	2	0	1	7	1	0	2	0	1	7	
" " smoothing, double iron -	"	0	2	9	2	4	1	0	2	9	2	4	
" " trying " -	"	0	4	3	7	0	1	0	4	3	7	0	
Pot, glue, copper, double, pint -	"	0	3	6	1	11	1	0	3	6	1	11	
Punches, carpenters', 7 in. large -	13	0	0	8	1	2	1	0	0	8	1	2	
" " " small -	"	0	0	8	0	8	1	0	0	8	0	8	
Rasp, 12 in., $\frac{1}{2}$ round, coarse -	"	0	0	10	1	0	1	0	0	10	1	0	
Reel for chalk line -	"	0	0	3	0	2	1	0	0	3	0	2	
Rule, 2 ft., common -	"	0	1	0	0	3	1	0	1	0	0	3	
Sampson, wheelers' -	14	1	16	0	73	0	1	1	16	0	73	0	
Saws, dovetail, 9 in. -	"	0	2	6	0	10 $\frac{1}{2}$	1	0	2	6	0	10 $\frac{1}{2}$	
" " frame, 15 in. -	"	0	5	0	1	7	1	0	5	0	1	7	
" " hand, 26 in. -	15	0	3	6	1	15	1	0	3	6	1	15	
" " tenon, 19 in., iron back -	"	0	3	0	2	7	1	0	3	0	2	7	
" " turning or compass -	"	0	1	6	0	8	1	0	1	6	0	8	
Screwdrivers, 14 in. -	"	0	1	3	1	11	1	0	1	3	1	11	
" " 6 in. -	"	0	0	5	0	8	1	0	0	5	0	8	
Set, saw, hand -	"	0	0	8	0	3	1	0	0	8	0	3	

Not packed in chest.

WHEELERS' AND SADDLETREE MAKERS' TOOLS—*continued.*

Description.	No. of Plate.	Cost of each.	Weight of each.	Total No.	Total Cost.	Total Weight.	Remarks.
		£ s. d.	lbs. oz.		£ s. d.	lbs. oz.	
Shaves, spoke, 4 in. - -	16	0 0 10	0 6	2	0 1 8	0 12	
„ „ 3¼ in. - -	„	0 0 8	0 4	2	0 1 4	0 8	
Spanner, M ^o Mahon's, 15 in. -	„	0 12 0	3 6	1	0 12 0	3 6	
Squares, iron, figured, 24 in. -	„	0 1 3	1 6	1	0 1 3	1 6	
„ steel blade, 9 in. -	„	0 1 3	1 10	1	0 1 3	0 10	
„ „ 4 in. - ..	„	0 0 9	0 14	1	0 0 9	0 14	
Stock, for bits - -	16	0 10 0	1 6	1	0 10 0	1 6	
Stones, grind, field service, in frames, 10 in. -	„	0 19 6	19 0	..			} To be de- manded as required.
„ „ „ 18 in. -	„	1 3 6	89 0	..			
„ oil, in frame - -	„	0 3 0	2 8	1	0 3 0	2 8	
„ rag - - - -	„	0 0 2	1 9	1	0 0 2	1 9	
Thumbscrew, 9 in. - -	..	0 6 6	2 12½	1	0 6 6	2 12½	
Vices, bench, portable, saddle- tree makers' - -	..	1 19 6	22 1	1	1 19 6	22 1	
Vices, hand, 16 oz. - -	..	0 2 6	1 6	1	0 2 6	1 6	
Total - - -	..	..	..	..	14 4 0	351 12	

CAMP EQUIPMENT.

Under this head are included tents, blankets, intrenching tools, camp kettles, and a variety of other articles required by troops, in addition to their regular equipment, when encamped or engaged in active operations in the field. Canteens and havresacks are no longer articles of camp equipment.

The proportions and method of issue are decided by War Office Circular No. 869, 6th July 1864, from which what follows has been extracted. When, however, a company is accompanied by a portion of the Engineer Train to carry its equipment, the articles are differently given (*see* "Regulations for the Supply of Military Stores to an Army in the Field," 1866), those marked with a * not being included, and 10 Flanders kettles being given instead of 24 Torrens'.

GENERAL LIST OF CAMP EQUIPMENT FOR FIELD SERVICE FOR A COMPANY CONTAINING 120 N.C. OFFICERS AND SAPPERS.

Articles.	Company of Engineers.			Distribution for a Regiment of Infantry, which regulates that for a Company of Engineers.
	Total No.	Total Price.	Total Weight.	
*Axes, helved		£ s. d.	lbs. oz.	
{ felling, 4½ lbs. -	2	0 7 9	12 0	}
{ pick, 6½ ,, -	2	0 4 6	17 0	
Blankets, grey, field service -	120	36 0 0	450 0	}
*Buckets, leather, water -	1	0 8 0	3 0	
Colours, camp, with poles, &c. -	4	0 12 4	11 12	}
Covers, blanket, waterproof -	120	33 0 0	270 0	
*Files, for cross-cut saw -	1	0 0 6	0 8	}
*Hatchets, hand, 1½ lb. -	16	1 8 0	32 0	
*Hooks, bill -	8	0 13 8	14 0	}
Kettles, camp, light, or Torrens's, with bags -	24	3 14 0	81 0	
*Lanterns -	2	0 6 8	4 8	}
Lines, weather, for tents -	36			
*Mallets, tent, spare -	1	0 0 8	2 0	}
*Pins, tent, spare -	40	0 1 0	9 0	
*Poles, tent, circular, spare -	1	0 3 8	12 0	}
*Saws, cross-cut, 6½ feet -	1	0 8 7	9 1	
*Shovels, T-handles -	2	0 4 1	9 8	}
*Spades, T-handles -	2	0 4 3	12 0	
*Stones, whet or rag -	1	0 0 1½	1 0	}
Tents, circular, complete, with poles, pins (50), mallets (2), pin bags, and valises :				
For officers -	5	21 5 0	350 0	}
For non-commissioned officers, men, &c. -	13	55 5 0	910 0	
Total -	-	154 7 9½	2,210 5	

NOTE.—The number of articles of camp equipage for a company of engineers here given are in proportion to those allowed for a regiment of infantry, by W.O. Circular 869, 6th July 1864.

The articles of camp equipment are carried by the engineer train, and no notice is therefore taken here of the carts, pack-saddles, animals, &c. necessary for their transport, as they will be given in Section 2, Part III. of the Army Equipment, which gives the details of the Engineer Train.

General Remarks.

1. Staff officers and others of the military and civil departments will draw their camp equipage through the quartermaster-general, and according to the scale.

2. Every requisition must be accompanied by the following statement of the strength of the corps or detachment for which the camp equipage is demanded.

<i>Infantry, Siege Artillery, and Engineers.</i>	<i>Cavalry, Field Artillery, Engineer Train, and Military Train.</i>
Number of Companies - -	Number of Troops or Batteries
Field Officers - - -	Field Officers - - -
Officers - - - -	Officers - - - -
Staff Serjeants - - -	Staff Serjeants - - -
N.C. Officers and Rank and File	N.C. Officers and Rank and File
Officers' Chargers - -	Horses { Officer's Chargers -
Public Bât Animals - -	Troop (ridden as
Private Bât Animals - -	Chargers by Officers) - - -
	Troop - - - -
	Public Bât Animals - -
	Private Bât Animals - -

3. When any articles of camp equipment become unserviceable, or require to be replaced, a board of survey, other than regimental, must be assembled, consisting of three officers, one of whom must not be below the rank of captain as president, an officer of the Military Store department being, when practicable, one of the members. Any articles lost, otherwise than by unavoidable accident, or damaged beyond what may be considered as the effects of fair wear and tear, are to be charged against the troops.

4. All articles of camp equipment may, upon service in the field, be *purchased* by officers, with the sanction of the general commanding, provided the state of the store admits of the sale.

5. Horse blankets, nose-bags, picketing implements, &c., will be supplied *free of charge*, for all horses, *the property of the public*, howsoever employed.

6. No horse equipment of any description will be supplied for chargers or bât animals, *not the property of the public, except upon payment*.

7. Blankets, canteens, havresacks, &c., are not to be supplied to officers except upon payment.

8. Canteens, havresacks, nose bags, and corn sacks, are supplied upon demands made through the *Adjutant-General* as articles of *personal quipment*.

WHEN IN STANDING CAMP AT HOME.

The following is the proportion of tents and camp equipment allotted to a Regiment of Infantry by W.O. Circular 869, which should be the guide for the number for a Company of Engineers.

ARTICLES.		DISTRIBUTION.	
Axes, { felling, 4½ lbs.	- - -	One per company.	
helved { pick	- - -	Two per company, and two per regiment.	
Barrows, wheel	- - -	Four per regiment.	
Bill hooks	- - -	One per 10 N.C. officers and men.	
Blankets, grey, field service	- - -	Two per N.C. officer and man.	
Brooms, heath	- - -	Two per company.	
Buckets, leather	- - -	One per N.C. officers' and men's tent.	
Colours, camp	- - -	Six per regiment.	
Covers, waterproof	- - -	One per horse.	
Hammers and wedges, sets	- - -	Two per regiment.	
Hatchets, hand	- - -	One per 10 N.C. officers and men.	
Kettles, camp, Flanders	- - -	One per 8 N.C. officers and men.	
Lanterns	- - -	Two per regiment for guards.	
Picketing implements (See Note 3) { Fetlock chains and straps	- - -	One per mounted officer.	
{ Mauls	- - -	One per regiment.	
{ Posts	- - -	Six per regiment.	
{ Ropes	- - -	One per regiment.	
Shovels	- - -	Two per regiment, and One per company.	
Spades	- - -	Two per regiment and One per company.	
Stones, whet or rag	- - -	Six per regiment.	
Stoves { for officers' mess	- - -	One per regiment.	
{ for serjeants' mess	- - -	One per regiment.	
Tents, complete { Marquees { Officers' mess	- - -	One per regiment, or two if more than 24 officers are present.	
	{ Serjeants' mess	- - -	One per regiment.
	{ Officers' -	- - -	One; or two circular tents, for each regimental field officer, or officer ranking as such.
Circular	- - -	Two for each field officer, or an officer's marquee instead.	
	- - -	One for each other officer.	
	- - -	One per 12 N.C. officers and men.	
	- - -	One per 2 staff serjeants.	
	- - -	Four for guards.	
	- - -	One for orderly room.	
	- - -	One for quartermaster's stores.	
	- - -	Three for field and staff officers' servants.	
	- - -	One per company for officers' servants.	
	- - -	One for paymaster's office.	
- - -	One for bandmaster.		
- - -	Two for tradesmen's shops, or three if necessary.		
- - -	Two for messmen's stores and mess servants.		
Tubs, wood, small, for washing	- - -	One per N.C. officers' and men's tent.	

General Remarks.

1. General officers commanding in standing camps are empowered to authorize the issue of camp equipment, *not exceeding the above-mentioned proportions.*

2. They are, however, to restrict the issues to such articles, and to such quantities, as they consider to be *actually required.*

3. When *field allowance* is not authorized, picketing implements, waterproof horse-covers and nose-bags will be supplied free of charge for the regulated number of officers' horses; and when these articles are demanded, it should be stated in the requisition that field allowance has not been authorized.

4. No other article of horse equipment will be supplied, except for horses the property of the public.

5. Canteens, havresacks, nose-bags, and corn sacks, are supplied upon demands made through the adjutant-general.

6. Staff officers and others of the military and civil departments will draw their camp equipage through the quartermaster-general, and according to the scale.

7. Every requisition must be accompanied by the following statement of the corps or detachment for which the camp equipage is required.

<i>Infantry, Siege Artillery, &c.</i>		<i>Cavalry, Horse or Field Artillery, Military Train, &c.</i>
Number of Companies	-	Number of Troops or Batteries
Field Officers	-	Field Officers -
Officers	-	Officers -
Staff Serjeants	-	Staff Serjeants -
Non-commissioned Officers	-	Non-commissioned Officers
and Rank and File	-	and Rank and File
Officers' Chargers	-	Officers' Chargers -
Public Bât Animals	-	Troop (ridden as
		Chargers by Officers)
		Troop -
		Public Bât Animals -

8. When any articles of camp equipage become unserviceable, or require to be replaced, a board of survey, other than regimental, must be assembled, consisting of three officers, one of whom must not be below the rank of captain, as president, an officer of the Military Store department being, if practicable, one of the members. Any articles lost, otherwise than by unavoidable accident, or damaged beyond what may be considered as the effects of fair wear and tear, are to be charged against the troops.

9. Such barrack stores as are necessary for troops when in standing camp, must be specially applied for through the quartermaster-general.

10. A small quantity of rough plank and nails may be supplied (upon the authority of the general or other officer in command) for the construction and keeping in repair of latrines, sentry boxes, &c.

The following List, showing the Articles of Camp Equipment applicable to all services, with their prices, weights and dimensions, and usual method of packing, is taken from Part V. of the Army Equipment Returns.

Name.	Price.	Weight.	Remarks.	
Axe, felling, with helve -	£ s. d. 0 3 10½	lbs. oz. 6 0	A case containing 50 measures 3' 0" by 2' 1" by 1' 6", and weighs 353 lbs.	
Axe, pick, " -	0 2 3	8 8	Issued loose. Length, 3'.	
Bag, corn, two-bushel -	0 2 0	1 2	A bale of 100 measures 2' 3" by 1' 6" by 1' 1", and weighs 120 lbs.	
Barrow, wheel -	0 15 3	66 0		
Blankets {	field service (grey), for men.	0 6 0	3 12	Size, 7' 2" by 5'. A bale of 25 measures 2' 7" by 1' 8" by 1' 5", and weighs 104 lbs.
	horse or saddle (white)	0 15 6	7 8	Size, 7' 8" by 6' 4". A bale of 25 measures 2' 8" by 2' 2" by 1' 9", and weighs 196 lbs.
Brooms, birch or heath - doz.	0 3 4			
Bucket, leather, for water (cavalry pattern).	0 8 0	3 0	Diameter at top, 10"; at bottom, 7"; depth, 10". Issued by twenties, fixed into one another, and covered with matting.	
Cart, forge -				
Cart, water -	16 5 10	720 0		
*Chain, fetlock, with double strap (latest pattern, 7/10/62; Circular 815).	0 1 4	0 15	Length of chain, 21'. Issued unpacked.	
Colours, {	flag (red shalloon) -	0 0 10	0 1¼	8' long.
	poles -	0 1 10	2 12	
	cases (ticken) -	0 0 5	0 1½	
Cord, forage -	0 0 5½	0 10	Length, 21'. A bale of 250 measures 2' 1" by 1' 11" by 1' 8", and weighs 168 lbs.	
Covers, water-proof. {	blanket -	0 6 4	2 2	Of vulcanized india-rubber, with six eyelet holes. Size, 6' 6" by 3'. A bale of 25 measures 1' 10" by 10" by 10", and weighs 60 lbs. (Approved 21/1/62.)
	horse or saddle -	0 7 2½	1 12	Of blue camlet, waterproof. Size, 4' 3" by 3' 5". A bale of 25 measures 1' 7" by 1' 4" by 0' 10", and weighs 49 lbs. (Approved 22/10/61.)
File, for cross-cut saw, 9" long -	0 0 6	0 8½		
Forage cord. See Cord.				
Hammer and wedges, sets -	0 10 3			
Hammer, sledge, 14 lbs. -	0 4 2	16 0	Two hammers issued for 20 wedges.	
Handles, spare, for intrenching tools.	-	-	Tied together in bundles, and issued as required.	
Hatchet, hand, American, 1½ lb.	0 1 9	2 0	A case containing 100 measures 2' 5" by 1' 6" by 1' 3", and weighs 234 lbs.	
Hobbles, ox-hide -	0 5 10		Pattern provisionally approved 1/8/61, Cir. 724.	
bill -	0 1 8½	1 12	A case containing 50 measures 1' 8" by 1' 3" by 1' 0", and weighs 108 lbs.	
Hooks {	reaping -	0 1 0	1 0	A case containing 100 measures 2' 2" by 1' 9" by 1' 5", and weighs 134 lbs.
Iron, picketing, 2' long, with a ring	0 0 7	2 8		

* A new picketing peg and strap was approved 9th March 1865 87
24
3324

TRANSPORT OF OFFICERS.

The regulations for the transport of officers by sea are given in the Passage Warrant of 2nd January 1865, Circular No. 888.

SCALE of ALLOWANCES, when a Passage is not furnished in a Government Vessel.

Stations.	By Steamers.		By Sailing Vessels.	
	Officer.	Servant.	Officer.	Servant.
Gibraltar - - - - -	£ 12	£ 9	£ 11	£ 8
Malta - - - - -	19	12	11	10
Ionian Islands - - - - -	24	16	13	12
Newfoundland - - - - -	28	14	18	8
Nova Scotia - - - - -	22	11	15	9
New Brunswick and Prince Edward's Island - - - - -	28	14	17	9
Bermuda - - - - -	30	15	20	13
Windward and Leeward Islands - - - - -	35	16	29	17
Canada (Quebec and Montreal) - - - - -	21	8	18	8
Jamaica - - - - -	35	16	26	14
Bahamas - - - - -	32	16	24	14
Honduras - - - - -	40	19	24	13
British Guiana (Berbice, Demerara, Ess.) - Africa, West Coast, Gambia, and Sierra Leone - - - - -	35	16	21	19
Gold Coast and Cape Coast Castle - - - - -	31	15	21	13
St. Helena (viâ Cape) - - - - -	37	18	25	16
Cape of Good Hope - - - - -	68	34	32	20
Mauritius - - - - -	45	22	31	17
Ceylon - - - - -	94	49	54	31
Bombay - - - - -	90	47	68	23
Madras - - - - -	90	47	87	23
Calcutta - - - - -	94	49	87	23
Hong Kong - - - - -	98	52	87	23
Australia (Sydney, Melbourne, and Tas- mania) - - - - -	121	63	65	24
New Zealand - - - - -	111	58	52	20
	125	66	63	16

The allowance granted will be in each case that for the particular route and description of vessel (steam or sailing) by which the officer may be ordered to proceed; and in the case of steam conveyance being authorized, the amount granted will be the actual expense incurred by the officer, less the usual contribution for messing for the period of the voyage, provided such amount does not exceed the rate specified in the foregoing scale.

The following is the amount of baggage engineer officers are allowed to carry :—

	Cwt.	Cubic Feet.
Field officer - - - - -	27	135
Captain - - - - -	18	90
Subaltern - - - - -	12	60
Adjutant { if a captain - - - - -	18	90
{ if a subaltern - - - - -	12	60
Quartermaster - - - - -	12	60

Officers entitled to keep horses at the public expense are allowed, in addition to the above, horse equipment, as follows :—

For one horse, 10 cubic feet admeasurement.

For the second and every additional horse, 5 cubic ft. admeasurement.

TRANSPORT OF TROOPS.*

In estimating the tonnage required for the transport of a given number of troops by sea, regard must be had to the construction of the ship, the probable duration of the voyage, and also to the service upon which the troops are proceeding. If a regiment is expected to take the field on arriving, a large portion of the heavy regimental baggage would be left with the depôt Tonnage.

On embarking from England for Turkey in 1854, each field officer and captain was allowed 180 lbs., and each subaltern 90 lbs. The baggage for the officers of a battalion 1,000 strong should not exceed five tons, including camp equipage.

A cavalry regiment of six troops may be allowed the same, including saddlery.

To these quantities there must be added such regimental tools, &c. as are necessary for carrying on the duty, besides the armourer's forge and the regimental hospital equipment, as detailed in Part VII. of Army Equipment.

The cubic space required for an officer may be estimated at 195 cubic feet, or for two officers occupying one cabin, 270; berthing space for a soldier, 52 cubic feet, and about 126 cubic feet for a horse; these are all exclusive of hospital or sick bay, prison, issue rooms, and stowage for provisions, water, baggage, &c.

Reckoning in tons the foregoing allowance may be calculated to allow from 2 to 2½ tons per man, inclusive of all ranks, and 10 tons for each horse.

An infantry battalion of 1,000 rank and file might upon this calculation be accommodated on board a vessel of about 2,500 tons.

When troops are on board of ship the arms are to be kept in arm racks; these are ordered to be provided on board of all transports carrying troops in a proportion sufficient to hold the arms of every efficient man. Arms.
Circ.Mem.H.G.
No. 274.
19/8/63.

If a detachment does not take its own arms, accommodation is to be provided for ten stands per hundred men. These arm racks are to be placed in such a situation in the vessel as will afford the greatest freedom from rust and at the same time admit of the arms being readily attainable either for the purposes of drill, inspection, or use on an emergency. Officers in command are to exact of all under their control the most scrupulous attention to the preservation of the rifle muskets, and to see that they are not injured by neglect or carelessness.

On a battalion or detachment being warned to hold themselves in readiness for embarkation for foreign service, application is to be made for a supply of service ammunition at a rate of 20 rounds for each serjeant and 60 rounds for every other man who is armed with a rifle musket. This supply is to be put on board the vessel, in which a proper magazine will be provided for its safety. Previously to embarkation the whole of the ammunition in possession of the men is to be given in to the most convenient military store. Ammunition.

In instances where troops embark under circumstances which render it necessary that the ammunition should be retained in the pouches in order to be at hand, the pouches are to be taken from the men before they are permitted to go below, and are to be deposited in some secure part of the vessel. The reserve ammunition is to be placed in the magazine in the custody of the commanding officer.

* Taken from Part V. Army Equipment.

MARKS FOR PACKAGES AND STORES.

The following method of marking stores and packages sent to an army in the field, in order to facilitate their collection, arrangement, and delivery, was approved in 1861, and notified in Circular 732, 21/12/61 ; most of the articles for which the different marks are adopted are included in the general equipment of an army.

Mark.	Class of Stores.
Balls { one blue ball - - -	Ordnance, carriages, shot of all kinds, empty shells, and general stores <i>for field service</i> .*
two ,, - - -	Similar articles <i>for siege service</i> .
one red ball - - -	Small arms, accoutrements, and the implements or materials for their repair.
Crosses { one black cross and ball -	Medicines and medical instruments.
one black cross - - -	Medical comforts.
two ,, - - -	Hospital stores.
Diamonds* (one red diamond) - - -	Ammunition for artillery or small arms, including live shells and combustible stores.
Heart (one black heart) - - -	Clothing and necessaries.
Horse shoes. { one black horse shoe -	Harness and saddlery ; pack-saddles included.
one red ,, and red square -	Veterinary medicines.
two black ,, - - -	Wagons and carts for transport of stores.
Squares { one black square - - -	{ Engineer field and siege stores, pontoon equipment.
two ,, - - -	{ Intrenching tools, nails, &c.
Triangles { one red triangle - - -	Miscellaneous stores.
one ,, and red cross - - -	Barrack stores.
one black ,, - - -	Camp equipage, (except intrenching tools and pack-saddles).
Trefoil (one green trefoil or club) - - -	Food, forage, fuel, and light.

* Ordnance carriages and stores for *naval* service are marked with a blue ball and diamond.

COMPENSATION FOR LOSS OF BAGGAGE.

In the War Office Regulations for 1848 a Scale of Compensation for different branches of the service is given at page 98. The Engineer Corps is not mentioned in it, but the following are the terms fixed for the Staff:—

	Uniforms.		Linen, &c.		Boots, &c.		Sword and Appointments.		Writing Case, Telescope, and Portmanteaus.		Total Baggage.		Horse Equipments.		Canteen, Bedding, and Tent Furniture.		Marquee, when not provided at the public expense.	
	£	s.	£	s.	£	s.	£	s.	£	s.	£	s.	£	s.	£	s.	£	s.
<i>Light Equipment on Service in the Field.</i>																		
General Officer - - -																		
Adjutant-General - - -	89	0	34	0	7	0	24	0	14	0	168	0	56	0	50	0	40	0
Quartermaster-General - - -																		
Deputy or Assistant Adjutant-General or Quartermaster-General - - -	51	0	12	0	5	0	12	10	6	0	86	10	26	0	24	0	18	0
Deputy Assistant do., do.																		
Brigade-Major - - -	51	0	8	0	5	0	12	10	6	0	82	10	26	0	20	0	12	0
Aide-de-camp - - -																		
<i>Full Equipment at a Stationary Command.</i>																		
General Officer - - -																		
Adjutant-General - - -	97	0	54	0	9	0	24	0	17	0	201	0	82	0	50	0	40	0
Quartermaster-General - - -																		
Deputy or Assistant Adjutant-General or Quartermaster-General - - -	70	0	24	0	7	0	12	10	8	10	122	0	26	0	24	0	18	0
Deputy-Assistant do., do.																		
Brigade-Major - - -	70	0	16	0	7	0	12	10	8	10	114	0	26	0	20	0	12	0
Aide-de-camp - - -																		

COMPANY BOOKS.

Description.	No. of Drawing.	Cost of each.	Weight of each.	Total No.	Total Cost.	Total Weight.
<i>Books of Regulations.</i>		£ s. d.	lbs. oz.			
Bayonet Exercise - - - -		0 2 0	0 2	1		
Bugle Sounds - - - -		0 3 0	0 3	1		
Clothing Regulations - - -			0 4			
Field Exercises and Evolutions -		0 4 0	1 10	1		
General Pasley's Operations of a Siege		0 5 0	1 1	1		
Musketry Instructions - - -		0 2 0	0 8	1		
Mutiny Act and Articles of War -		0 4 0	0 10	1		
Orders and Regulations, Royal Engineers - - - -			2 4	1		
Queen's Regulations - - - -		0 3 6	1 9	1		
Rules for Field Instructions at Chatham - - - -			0 4	1		
<i>Administrative and Statistical Books.</i>						
Clothing and Accoutrement Book -		0 4 0	2 1	1		
Court-martial Book - - - -		3 9 0	3 0	1		
Day Book - - - -		0 1 9	1 1	1		
Defaulter's Book - - - -		0 8 0	2 6	1		
Ledger - - - -		0 6 0	3 4	1		
Letter Book - - - -		0 6 0	3 0	1		
Letters received, Guard Book, demy size, half bound - - - -		0 3 0	3 10	1		
Order Book - - - -		0 1 9	1 1	1		
Orders, General and Corps, Guard Book, demy size, half-bound, -		0 3 0	3 10	1		
Pay and Mess Book - - - -		0 6 0	4 12	1		
Register of Soldiers' Services - -		0 11 0	2 14	1		
Roll Book, Nominal and Descriptive, and Variations of Service - -		0 7 0	6 1	1		
Savings' Bank Ledger - - - -		0 1 6	1 4	1		
Total - - - -		4 11 6	46. 7			

REMARKS.

The form of demands for books and forms is W.O. Form O. 313.

BOOKS OF REGULATIONS, &c.*

The following works are published by authority. The discipline and instruction of the troops, and the various duties to be performed by officers, non-commissioned officers, &c., are to be regulated in strict accordance with the rules and principles laid down upon the several subjects.

Description.	Price.	Remarks.
	<i>s. d.</i>	
Artillery Manual, 1860, 304 pp. demy 8vo.	2 4	For Artillery service.
Pocket edition of do. - -	1 0	" "
Artillery Exercises (Field), with diagrams, 1861, 246 pp. demy 8vo.	5 0	" "
Pocket edition do. - - -	1 6	" "
Artillery Exercises, Manual of, 1860, with plates, 304 pp. demy 8vo., cloth boards.	2 4	" "
Artillery, Standing Orders, Dress Regulations, and Trumpet and Bugle Sounds, 286 pp., demy 8vo.	5 0	" "
†Bugle Sounds, Infantry, by Edward Potter.	4 6	
Cavalry, Formations and Movements of, demy 12mo., 1862.	3 0	For Cavalry service.
Cavalry, Formations of a Brigade or Division, 1863, demy 12mo., cloth boards.	3 0	" "
Dress Regulations of the Army, royal 8vo., 156 pp., 1864.	2 6	One copy furnished to the commanding officer at the public expense.
†Drum, Method of Beating, by Edward Potter.	4 6	
†Fife, Method of Playing, by Edward Potter.	3 0	
Gymnastic Exercises, Military System of, Maclaren's, 194 pp. crown 8vo., cloth boards.	1 6	One copy furnished to the commanding officer at the public expense.
Infantry, Field. Exercises, and Evolutions, 1862, 560 pp. demy 8vo., with numerous diagrams.	4 0	} One copy furnished to the commanding officer at the public expense; copies furnished to regiments at the public expense in the proportion of one for each serjeant; one copy to be provided by each officer at his own expense.
Pocket edition, do. - - -	1 0	
Medical Regulations, 250 pp. demy 8vo.	1 8	Every medical officer is required to provide himself with a copy at his own expense.
Military Train Manual, 72 pp. demy 8vo.	1 0	For military train.
Musketry Instruction, Regulations for 1859, with Appendix to 1863, 174 pp., crown 8vo.	1 0	One copy furnished to the commanding officer at the public expense.

* Taken from Part V. of the Army Equipment Returns, and intended for a regiment of the line.

† These works are not published by Her Majesty's Stationery Office, but they contain the system authorized to be followed under existing regulations.

Description.	Price.	Remarks.
Mutiny Act and Articles of War, royal 12mo., published annually.	<i>s. d.</i> 4 0	One copy to the commanding officer, one to the adjutant, one to the paymaster, and one to each officer in command of a troop, battery, or company, furnished annually at the public expense.
Paymasters, Instructions for, 96 pp., imperial 8vo.	1 0	One copy furnished to the commanding officer and one to the paymaster at the public expense.
Purveyor's Regulations, 236 pp., demy 8vo.	3 0	For hospital service only.
Queen's Regulations and Orders for the Army, 1859, demy 8vo., 462 pp.	3 6	} One copy furnished at the public expense to the commanding officers, one to be provided by each officer at his own expense.
Pocket edition, do. - -	1 0	
Sword Exercise, Infantry - -	0 6	One copy furnished at the public expense to the commanding officer.
War Office Circulars and Warrants.	- -	} One copy furnished to the commanding officer as they are published from time to time.
Horse Guards' General Orders and Circular Memoranda.	- -	

RETURNS rendered by COMPANIES of ROYAL ENGINEERS.

Nature of Return.	Number of W.O. Form.	Date on which sent.	Number of Copies sent.	By whom signed.	To whom sent.	Remarks.
<i>Daily.</i>						
Morning state - -	—	Every morning -	1	Captain of Company.	Commanding Officer.	
Births, Marriages, and Deaths.	—	(On occurrence) -	—	Do. - -	Do.	
<i>Monthly.</i>						
Monthly Return .	535	*14th of month -	1	Do. - -	Deputy Adjutant-General, Royal Engineers.	*Transmitted on 20th by Depot Companies.
Return of Regimental Offences.	347	1st Do. -	1	Do. - -	Do.	
Return of Variation of Service.	348	1st Do. -	1	Do. - -	Do.	
Pay List - -	1,059	†To arrive by 10th month.	1	Do. - -	Paymaster -	†Abroad to be sent home by the first mail after the end of the month.
„ Estimate - -	352	Do. - -	1	Do. - -	†Do. - -	†Abroad to Commissariat.
Muster Roll - -	355	After muster -	1	Do. - -	Do.	
Return of Railway and Passage Warrants issued.	—	1st of month -	1	Do. - -	Do. - -	Not rendered, if abroad.
Returns of Courts-martial.	717	Do. - -	2	Commanding Officer.	GeneralCommanding.	When two or more Companies are serving together, one Return is sent for all.
School Report - -	367	Do. - -	2	Do. - -	Council of Education, Local Inspector.	
Musketry Progress Return, Form F.	926	Do. - -	2	Commanding Officer and Instructor of Musketry.	District Inspector of Musketry.	When two or more Companies are serving together, one Return is sent for all.
Men registered for Discharge.	959	Do. - -	1	Commanding Officer.	GeneralCommanding.	For transmission to Deputy Assistant Adjutant-General.
<i>Quarterly.</i>						
Quarterly Return of Courts-martial.	80	} With the first pay list after the end of the quarter.	1	Captain of Company.	Paymaster.	
Return of Forfeiture of Good-Conduct Pay.	121		1	Do. - -	Do.	
Return of Restoration of Good-Conduct Pay.	124		1	Do. - -	Do.	
Amount realized by Sale of Regimental Necessaries.	606		End of quarter -	1	Do. - -	Do. - -	From service Companies only (Revised Royal Clothing Warrant, 1865, par. 98).
Return of Articles of Clothing sold.	605	Do. - -	2	Do. - -	Deputy Adjutant-General, Royal Engineers.	
Return of Necessaries issued.	611	§Do. - -	2	Do. - -	Do. - -	§These form quarterly returns, to accompany annual free kit and regimental necessaries account, W. O. F. 610.
Return of School Fees -	369	Do. - -	2	Commanding Officer.	One to Council of Education, one to Paymaster.	
<i>Half-Yearly.</i>						
Half-Yearly Inspection Return.	534	} In April and September. }	1	Captain of Company.	Commanding Officer.	} For transmission to Adjutant-General of the Forces.
Do. - -	801		1	Commanding Officer.	GeneralCommanding.	

Returns rendered by Companies of Royal Engineers—*continued.*

Nature of Return.	Number of W.O. Form.	Date on which sent.	Number of Copies sent.	By whom signed.	To whom sent.	Remarks.
Demand for Regimental Necessaries.	307	{ 1st March - } { 1st September - }	2	Captain of Company.	Deputy Adjutant-General, Royal Engineers.	If abroad, at same time as requisition for clothing, W. O. F. 305.
Report of Examination by Schoolmaster.	—	December and June.	2	Commanding Officer.	Council of Education, Local Inspector.	
Demand for Stationery	372	Do. - -	2	Do. - -	Council of Education.	
<i>Yearly.</i>						
Requisition for Clothing with size roll.	81	} According to station, see p. 23. After issue of clothing.	2	Captain of Company.	Deputy Adjutant-General, Royal Engineers.	
Boots -	306		1	Do. - -	Do.	Do.
Clothing List	—	On receipt of clothing.	2	Board of Officers -	General Commanding.	
Board on Receipt of Annual Clothing.	620	31st December -	1	Captain of Company.	Deputy Adjutant-General, Royal Engineers.	
Return of Furnishments	751	Do. - -	1	Do. - -	Do.	
Trades -	1,034	Do. - -	1	Do. - -	Do.	
Counties -	1,033	Do. - -	1	Do. - -	Do.	
Increase and Decrease.	748	Do. - -	1	Do. - -	Do.	
Report on Arms and Ammunition.	657	Do. - -	2	Board of Officers -	} Adjutant-General of the Forces through General Commanding.	
Report on Accoutrements and Appointments.	1,099	Do. - -	2	Do. - -		
Board on Arms -	49	Do. - -	2	Do. - -	} Paymaster.	
Savings' Bank Abstract	325	31st March -	1	Captain of Company.		
Copy of Savings' Bank Ledger.	—	Do. - -	1	Do. - -	Do.	
Free Kit and Regimental Necessaries Account.	610	Do. - -	1	Do. - -	Deputy Adjutant-General, Royal Engineers.	
Annual Musketry Practice Return, Form G.	927	At half-yearly inspection.	2	Commanding Officer and Musketry Instructor.	Inspector-General of Musketry through General Commanding.	When two or more Companies are together, one Return is sent for all.
Application for Rewards for good Shooting.	928	Do. - -	3	Do. - -	To accompany the above Return.	
Board on Great Coats -	324	31st December -	2	Board of Officers -	Deputy Adjutant-General, Royal Engineers.	
Demand for Materials for Industrial School.	1,050	31st March -	2	Commanding Officer.	War Office.	
Demand for printed Forms.	36	According to station.	2	Do. - -	Do.	

Memo.—These Returns are in addition to any that may be required by the Commanding Royal Engineer at a station which vary at different stations.

ENGINEERS WITH A CORPS D'ARMÉE.

SINCE this book was in the press the "Regulations for the Supply of Military Stores to an Army in the Field" have been issued, and from them the following details of the proportions of officers and companies of Engineers attached to a corps d'armée are taken.

A corps d'armée consists of 3 Cavalry regiments, 12 Infantry regiments, 8 field batteries, 2 gun and small-arm reserves Royal Artillery, 3 companies Royal Engineers, 1 troop Royal Engineer Train, 8 troops Military Train, numbering altogether about 16,000 combatants.

The following officers of the Royal Engineers are attached to the staff of a corps.

	No. of Officers.	Staff Sergeants.	Drivers.	Staff Clerks.			Servants, civil.	Horses.				Carts.
				1st Class.	2nd Class.	3rd Class.		Chargers, Private.	Draught, Public.	Bât, Private.	Pack, public.*	
GENERAL STAFF AT HEAD QUARTERS.												
Major-General Commanding Royal Engineers.	1	-	-	-	-	-	6	4	-	4	-	-
Assistant Adjutant-General, Royal Engineers.	1	-	} 1	{ 1	1	1	4	3	} 2	{ 2	-	} 1†
Assistant Quartermaster-General, Royal Engineers.	1	-					4	3					2	-
Aide-de-Camp - - - -	1	-	-	-	-	-	4	3	-	2	-	-
Extra do. - - - -	1	-	-	-	-	-	4	3	-	2	-	-
DIVISIONAL STAFF.												
Captains, Royal Engineers - -	2	-	-	-	2	-	6	4	-	2	2	-
REGIMENTAL OFFICERS NOT ATTACHED TO DIVISIONS SERVING WITH THEIR CORPS.												
Lieutenant-Colonel, Royal Engineers, commanding 3 companies and 1 troop.	1	-	-	1	-	1	4	3	-	2	-	-
Brigade-Major, Royal Engineers -	1	-	1	-	1	1	4	3	2	2	-	1
Adjutant do. - - - -	1	1	-	-	-	-	3	2	-	1	1	-
Paymaster do. - - - -	1	-	-	-	1	1	2	1	-	1	1	-
Quartermaster do. - - - -	1	1	-	-	-	-	2	1	-	1	1	-
Captains do. - - - -	2	-	-	-	2	-	6	4	-	2	2	-
Lieutenants do. - - - -	4	-	-	-	-	-	12	8	-	4	-	-
PONTOON TRAIN WHEN WITH THE ARMY CORPS.												
Lieutenant-Col. Royal Engineers, Commanding.	1	-	-	1	-	1	4	3	-	2	-	-
Adjutant, Royal Engineers - -	1	1	-	-	-	-	3	2	-	1	1	-
Quartermaster do. - - - -	1	1	-	-	-	-	2	1	-	1	1	-

* With packsaddle.

† One cart between Assistant Adjutant-General and Assistant Quartermaster-General, or one public pack animal to each.

The full number of civil servants for whom rations may be drawn is given, on the supposition that no military servants will be attainable.

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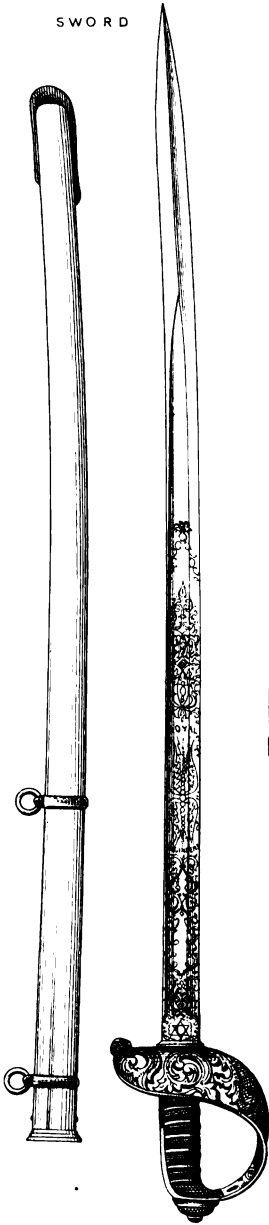
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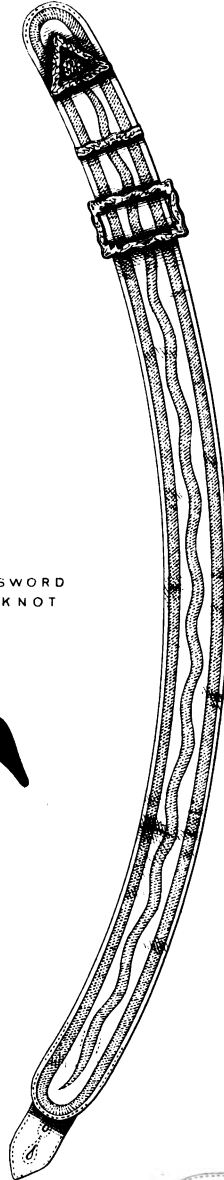
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ARMS & ACCOUTREMENTS.

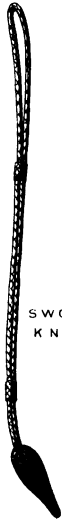
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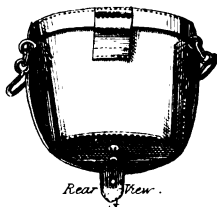
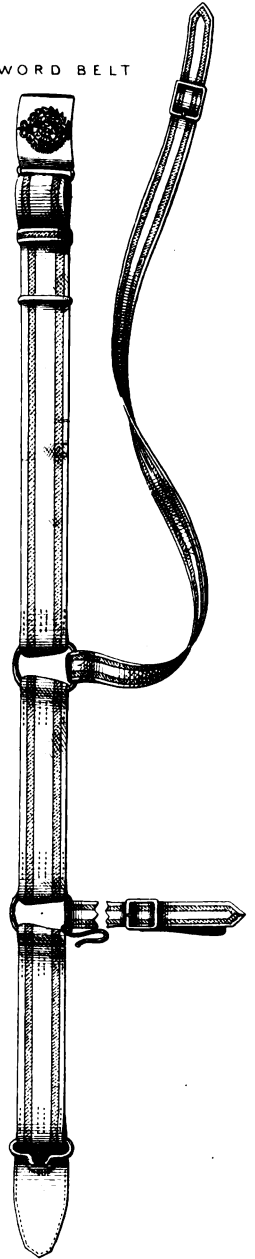
FIELD GLASS BELT



SWORD KNOT



SWORD BELT



Rear View.

FIELD GLASS



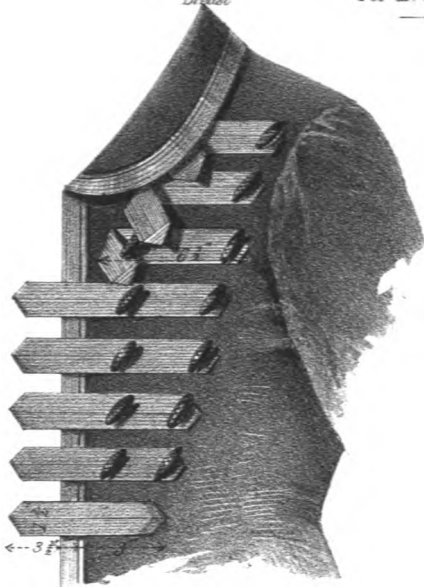
Front View.

SCALE 6

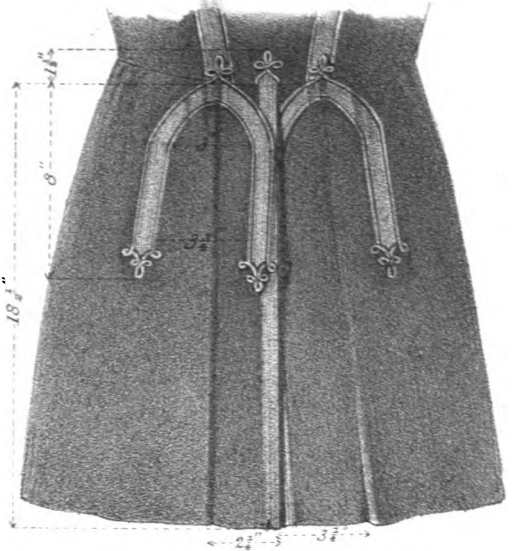
DETAILS OF OFFICERS' DRESS

For an Officer 5 ft. 10 in. high.

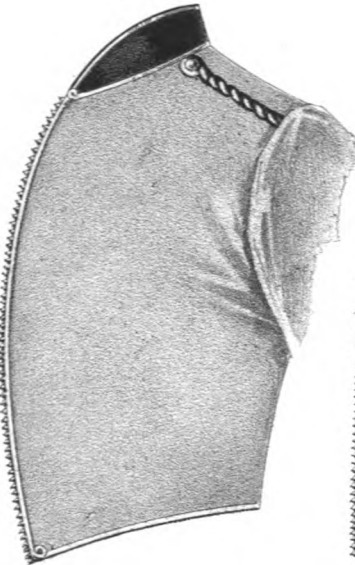
FROCK COAT
Breast



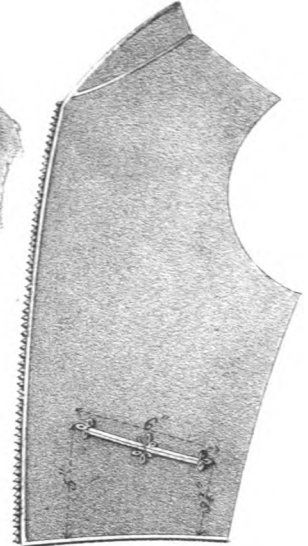
FROCK COAT
Back



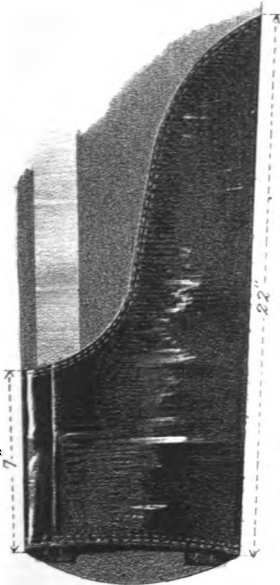
JACKET



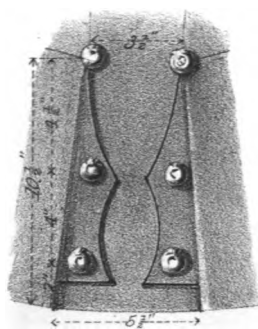
WAISTCOAT



BOOTING



TUNIC



CAP



SCALE †

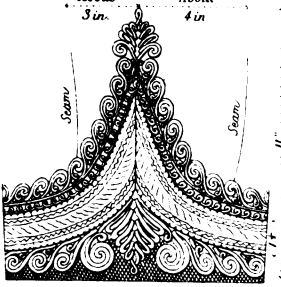
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SLEEVE ORNAMENTS

TUNIC

Field Officers
Left Arm

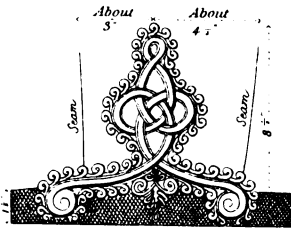
About 3 in. About 4 in.



Captain

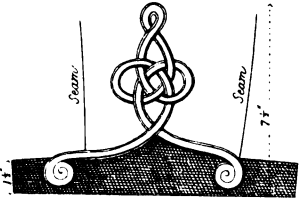
Left Arm

About 3" About 4 1/2"



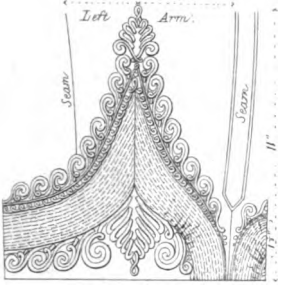
Lieutenant

Left Arm



Field Officers

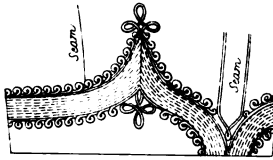
3" 4 1/2"



FROCK COAT.

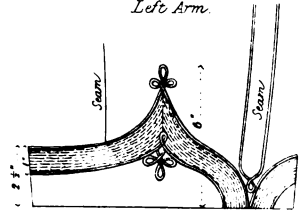
Captain

Left Arm.



Lieutenant

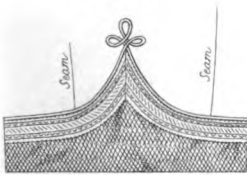
Left Arm.



SHELL JACKET.

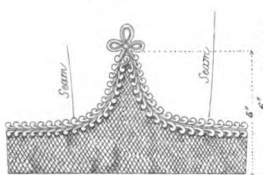
Field Officers.

Left Arm.



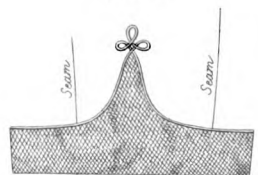
Captain.

Left Arm.



Lieutenant

Left Arm.



COLLAR ORNAMENTS

TUNIC

Colonel



L^t Colonel

Lace as for Colonel. Badge as for Lieut^t

Major.



Captain.

Lace as for Lieut^t. Badge as for Colonel.

TUNIC

Lieutenant



JACKET

For Captain & Lieutenant



The Field Officers have Star and Crown on the Collar of the Jacket, as on that of the Tunic.

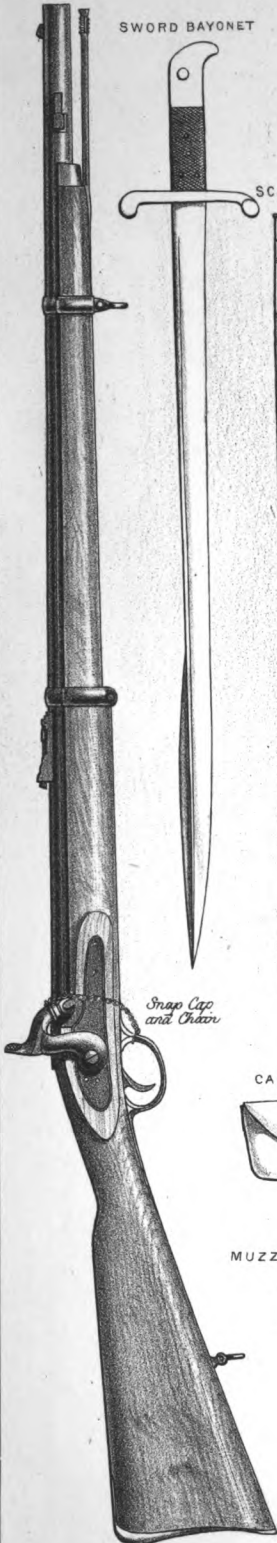
FROCK COAT



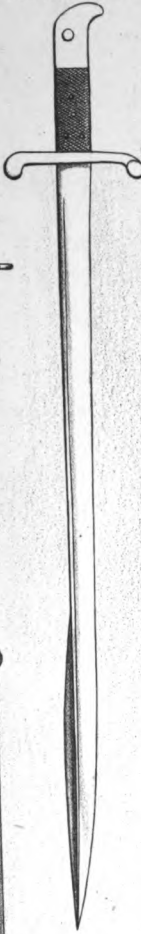
SCALE #

ARMS & ACCOUTREMENTS

CARBINE



SWORD BAYONET



SCABBARD



Snap Cap and Choker

CAP POUCH



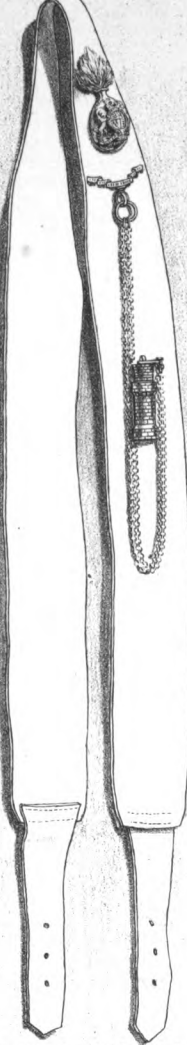
MUZZLE STOPPER



SLING (for Carbine)



POUCH BELT (Serjeants')



WAIST BELT for all ranks

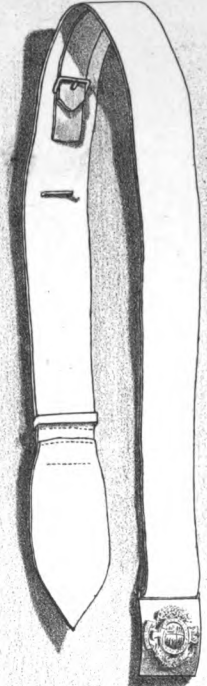
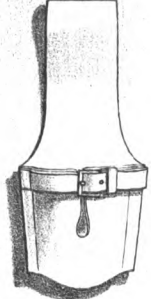


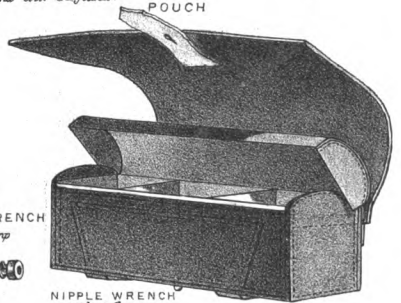
Plate of metal for Serjeants. Brass for other ranks.

FROG for Sword Bayonet



The pouch belt is similar for all ranks, but the ornaments shown on it are worn only by Serjeants and Color Serjeants.

POUCH



NIPPLE WRENCH with Cramp



NIPPLE WRENCH without Cramp

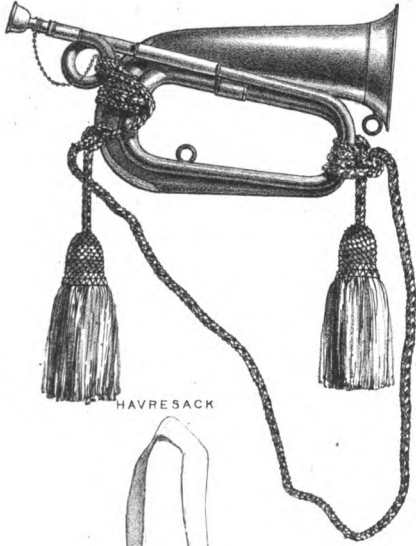


SCALE 6

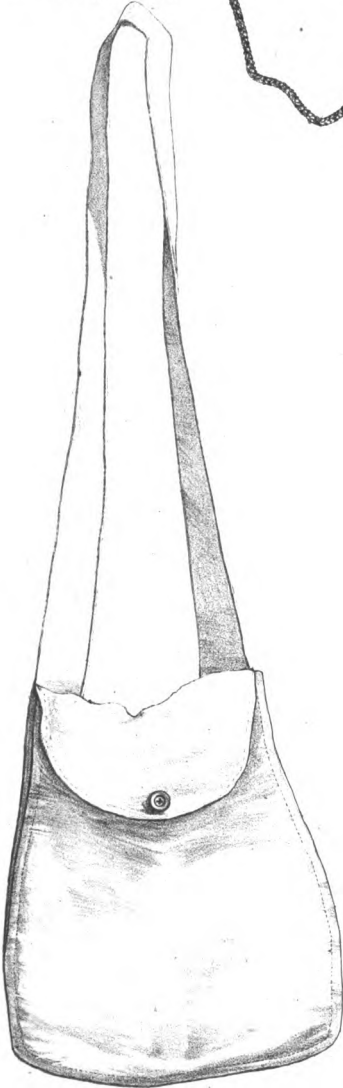
2 FEET

ARMS, ACCOUTREMENTS &c.

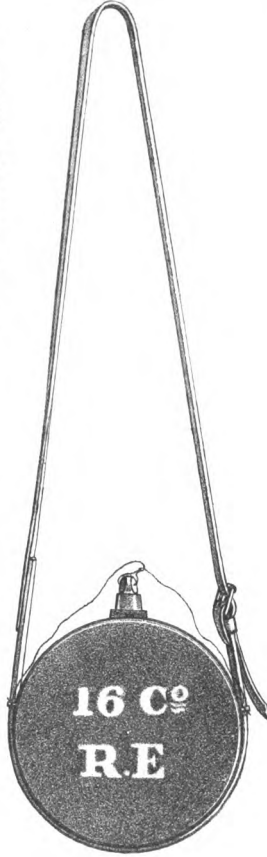
BUGLE & STRINGS



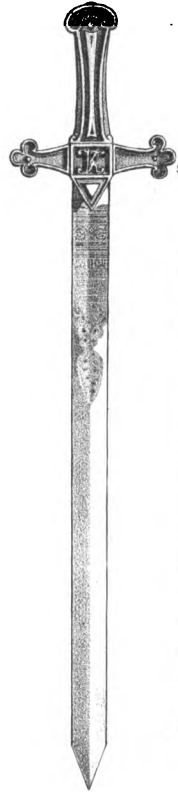
HAVRESACK



CANTEEN
(Wooden)



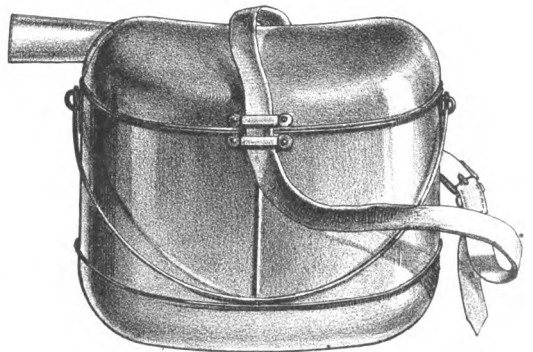
SWORD
(Bugler)



SCABBARD



CAMP KETTLE



SCALE 1/2

2 FEET

CLOTHING

SERGEANT'S TUNIC



1ST CORPORAL'S TUNIC



Colors.

- b.* ~~white~~ blue
- g.* gold
- r.* red
- y.* yellow

four good conduct badges

2ND CORPORAL'S TUNIC



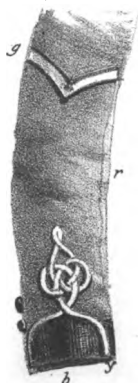
SAPPER'S TUNIC



COLOUR SERJEANT'S BADGE on both sleeves



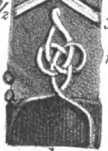
LANCE CORPORAL'S BADGE on right sleeve



BUGLER'S BADGE on both sleeves



GOOD CONDUCT BADGE on right sleeve



SHOOTING BADGE 2ND CLASS on left sleeve



SHOOTING BADGE 1ST CLASS on left sleeve



SHOOTING BADGE 3RD CLASS on left sleeve



SCALE IN

4 FEET

CLOTHING

GREAT COAT



The Great Coat is blue with red piping to the shoulder and waist straps, it is the same for all ranks in make and color with the exception of the badges which are:

For 1st Class Staff Sergeant. 4 yellow stripes with a crown above, on the lower part of the sleeve 5 inches above the cuff.

For Band Sergeant. The same with 3 stripes.

For Bugle Major. 4 yellow stripes with crossed trumpets above in the position of 1st Class Sergeant's badge.

For Sergeant. As shown in plate.

For 1st Corporal. 2 yellow stripes in the same position as Sergeant's

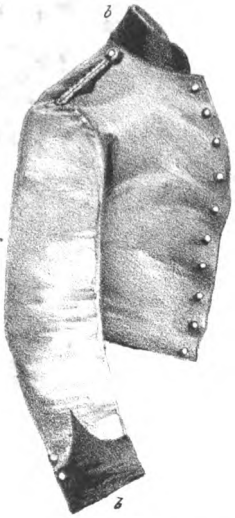
For 2nd Corporal. 1 yellow stripe in the same position as Sergeant's

For Sapper. No stripes.

SCALE $\frac{1}{2}$ 0 $\frac{1}{2}$ 1 2 3 4 FEET

CLOTHING, KNAPSACK &c.

JACKET



TROUSERS



FORAGE CAPS

Sergeants

1st Corporals



2nd Corporals & Lance Corporals

Privates & Buglers



BUSBY

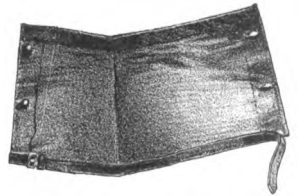


Badges for the different ranks and good conduct badges similar to those on the tunics are worn on the jackets

BOOT

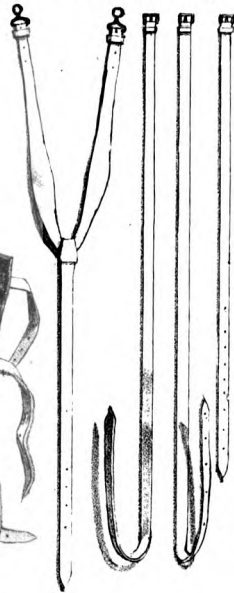
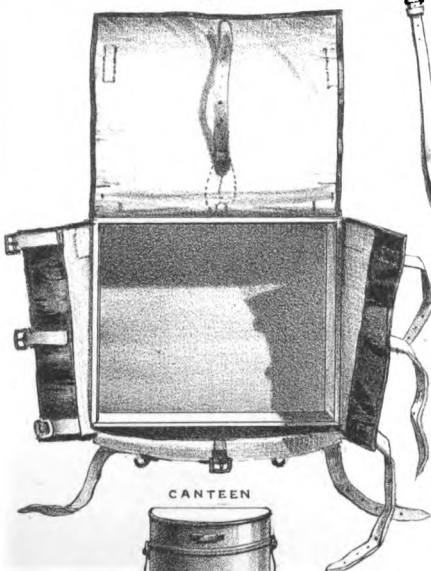


LEGGING



KNAPSACK & STRAPS

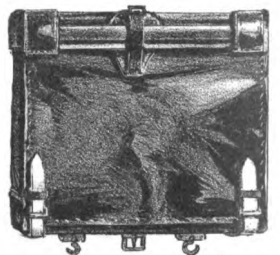
Open



Front



Back



CANTEEN



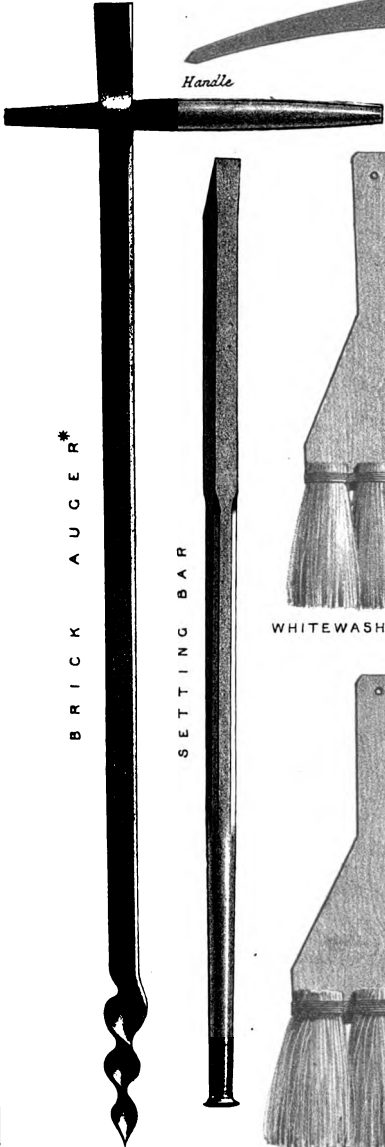
SCALE 1/2

4 FEET

BRICKLAYERS, MASONS, & PLASTERERS' TOOLS.

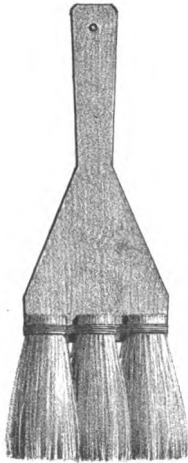
PICK AXE

Handle

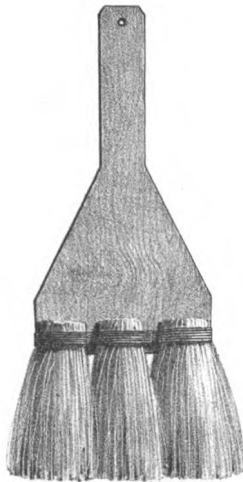


BRICK AUGER*

SETTING BAR



WHITWASH BRUSH (6y)



WHITWASH BRUSH (8y)

CHISEL (Bricks)



CHISELS (Masons')



2 1/2 in



2 in

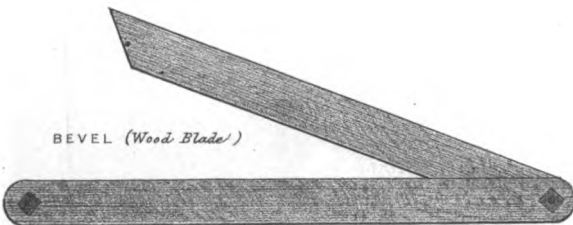


1 1/2 in

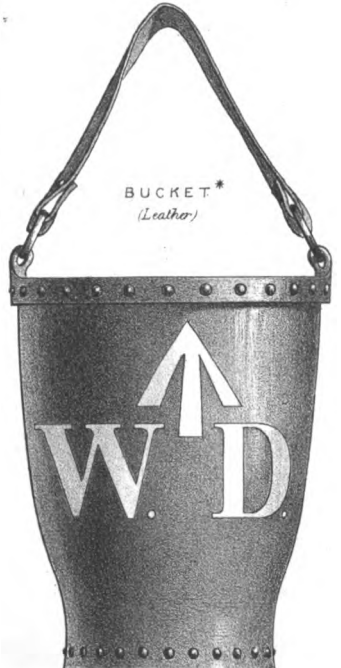


1 in

BEVEL (Wood Blade')



BUCKET* (Leather)



SCALE †

2 FEET

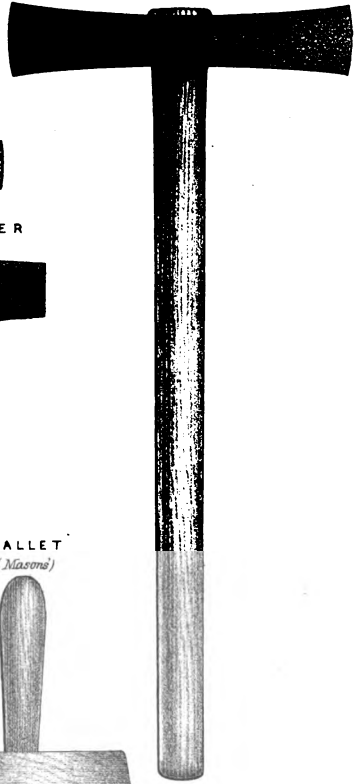
The tools marked * are not in the War Office lists.

BRICKLAYERS', MASONS', & PLASTERERS' TOOLS.

HAMMER*
(Spalling)



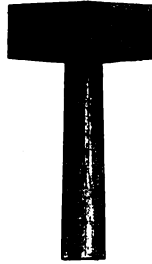
HAMMER
(Axe or Chisel)



HAMMER
(Brick)



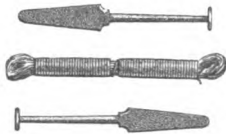
HAMMER
(Mash)



MALLET
(Masons')



PINS & LINE



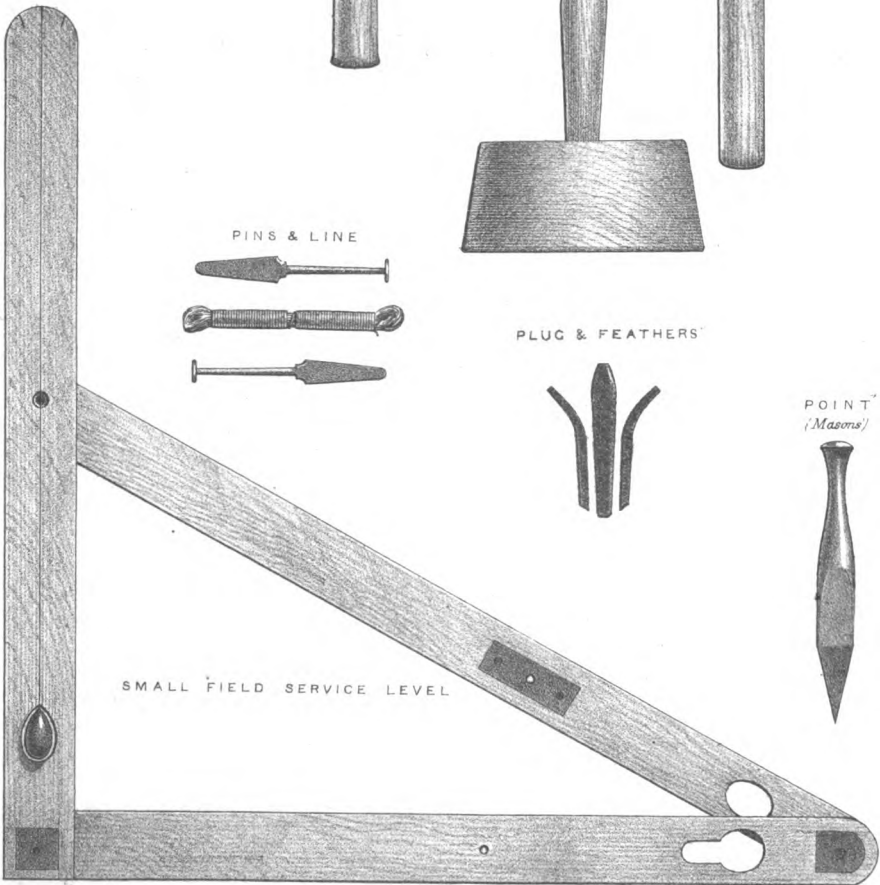
PLUG & FEATHERS



POINT
(Masons')



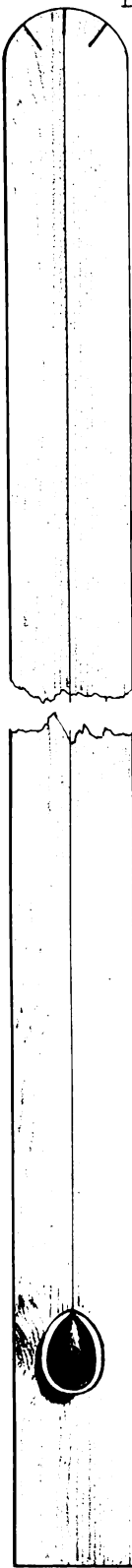
SMALL FIELD SERVICE LEVEL



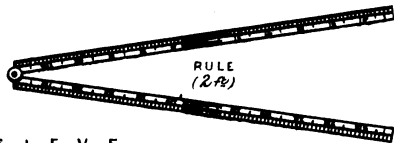
SCALE 1/2

3 FEET

PLUMB RULE (5 Feet in Length)

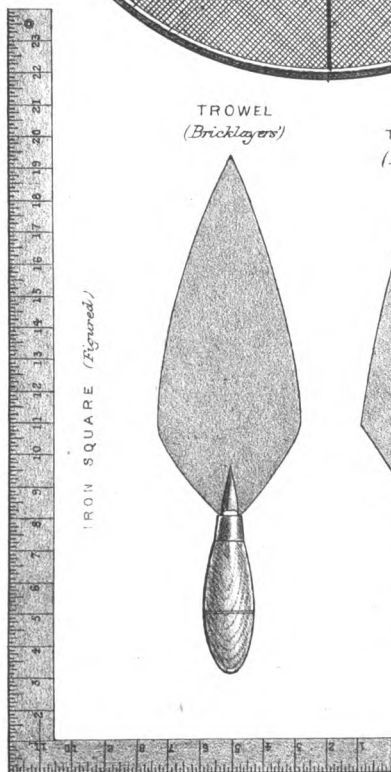
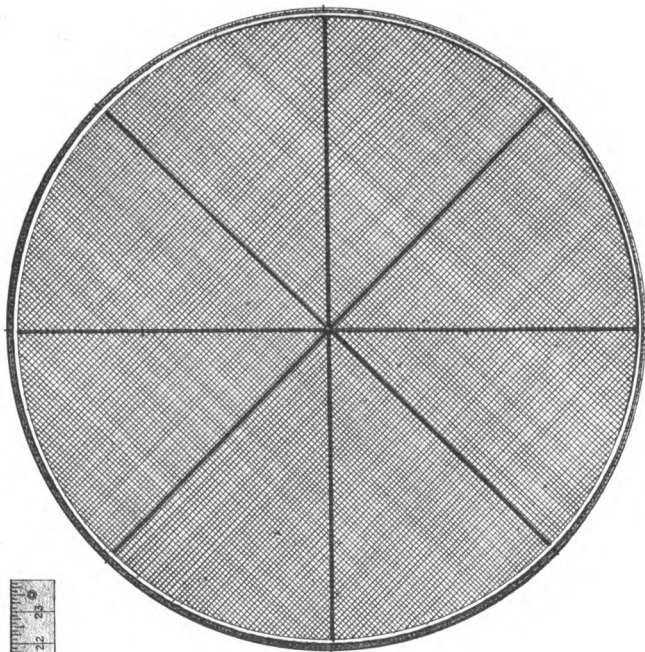


Plumb
Bob



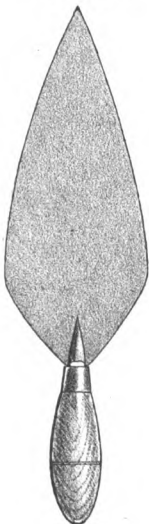
RULE
(2 ft)

S I E V E

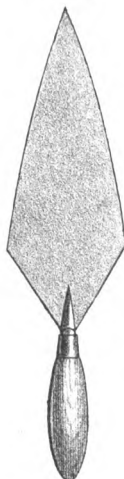


IRON SQUARE (Figured)

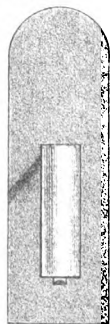
TROWEL
(Bricklayers')



TROWEL
(Masons')



TROWEL
(Plasterers' or Setting)

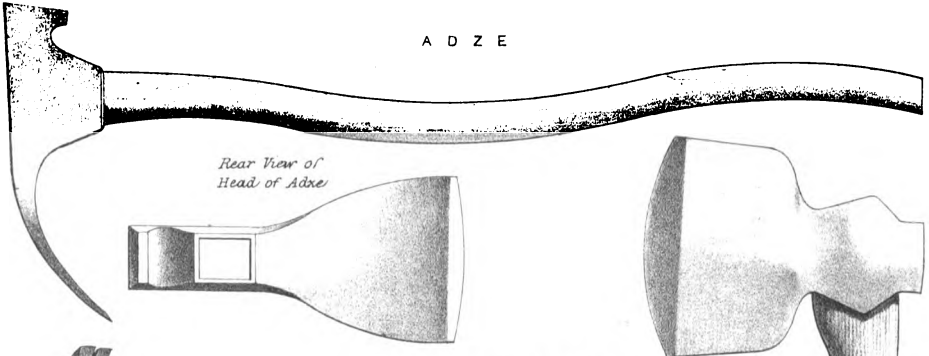


SCALE

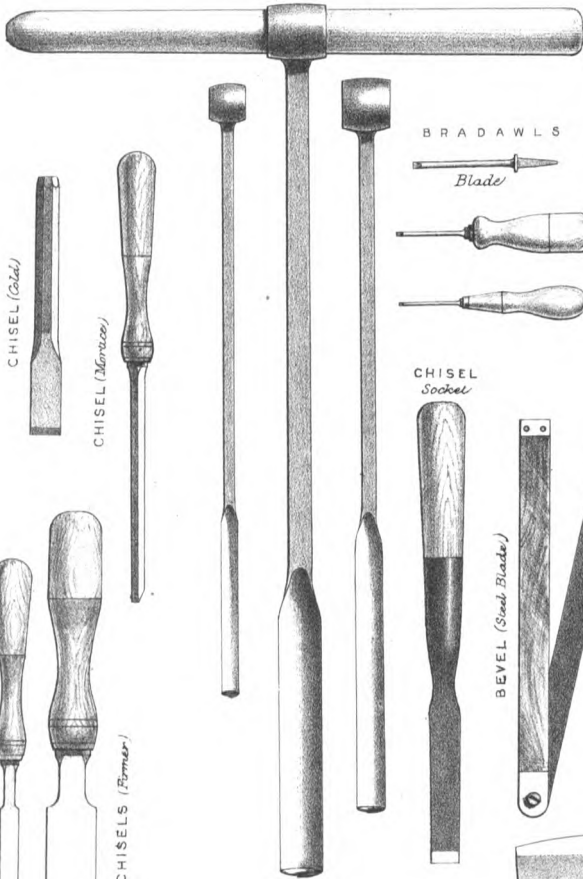
2 FEET

CARPENTERS' & WHEELERS' TOOLS

A D Z E



SHELL AUGERS



BRADAWLS

Blade

CHISEL Socket

BEVEL (Steel Blade)

CROW BAR (Hand)

BUZZ

CHISEL (Cold)

CHISEL (Mortise)

CHISELS (Former)

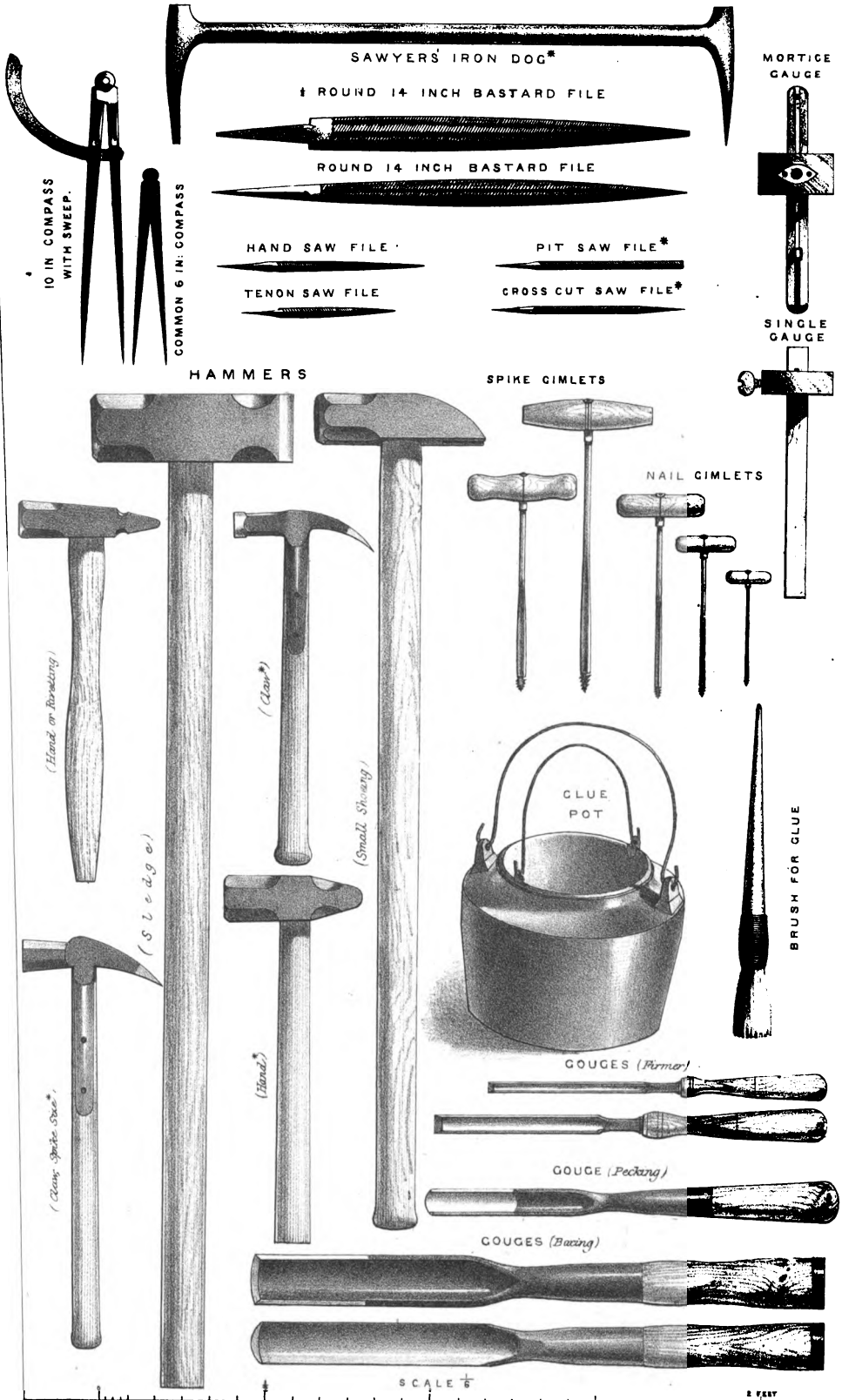
BROAD AXE (Wheelers')

BROAD AXE (Carpenters')

SCALE †

8 PART

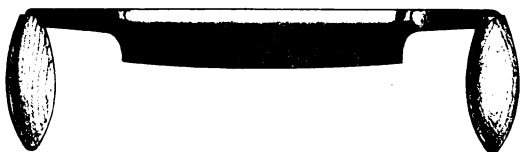
CARPENTERS' & WHEELERS' TOOLS.



The tools marked * are not in the War Office list.

CARPENTERS' & WHEELERS' TOOLS.

DRAWING KNIFE



CHALK LINE



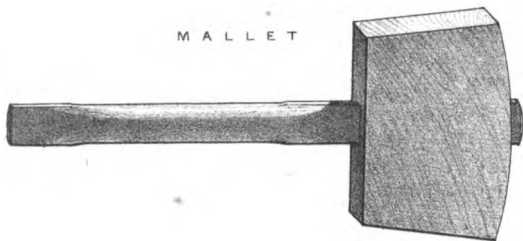
REEL



1 DOZEN PENCILS (CARPENTERS')



MALLET



PINCERS



DRAWBORE PINS

(16 Inch)



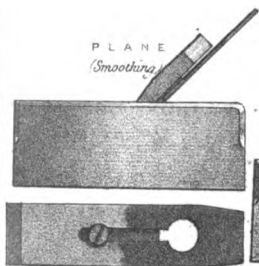
(12 Inch)



PUNCH

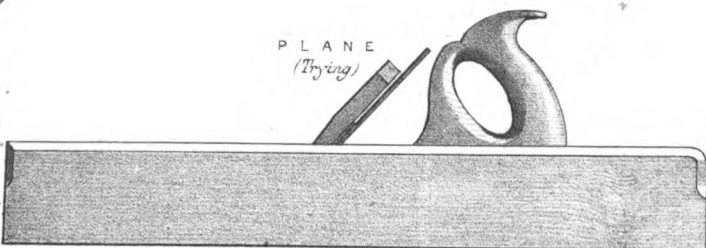


PLANE
(Smoothing)

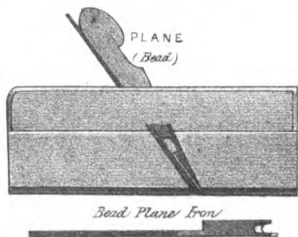


Smoothing Plane Iron

PLANE
(Trying)

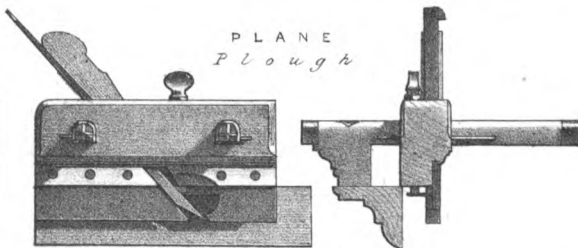


PLANE
(Bead)

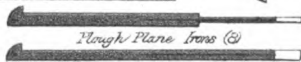


Bead Plane Iron

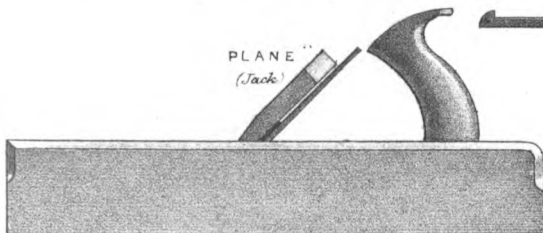
PLANE
Plough



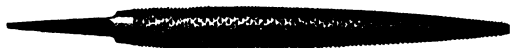
Rough Plane Irons (2)



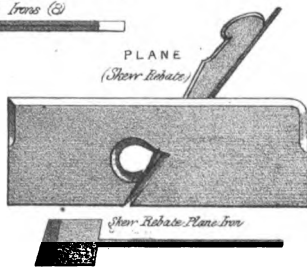
PLANE
(Jack)



RASP



PLANE
(Sherr-Robate)



Sherr-Robate Plane Iron

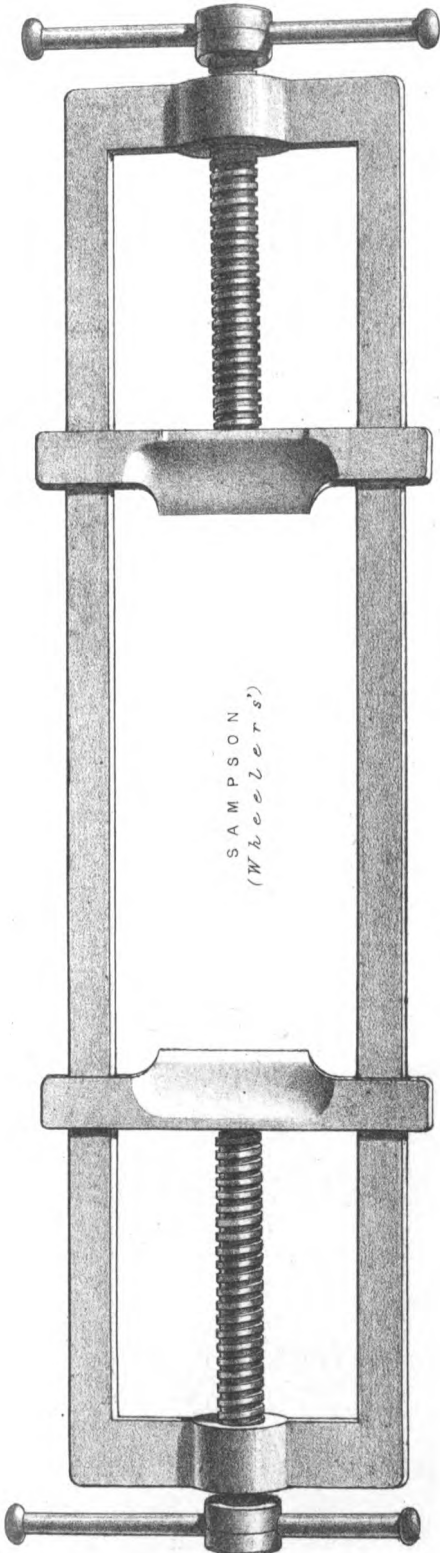
2 FT RULE



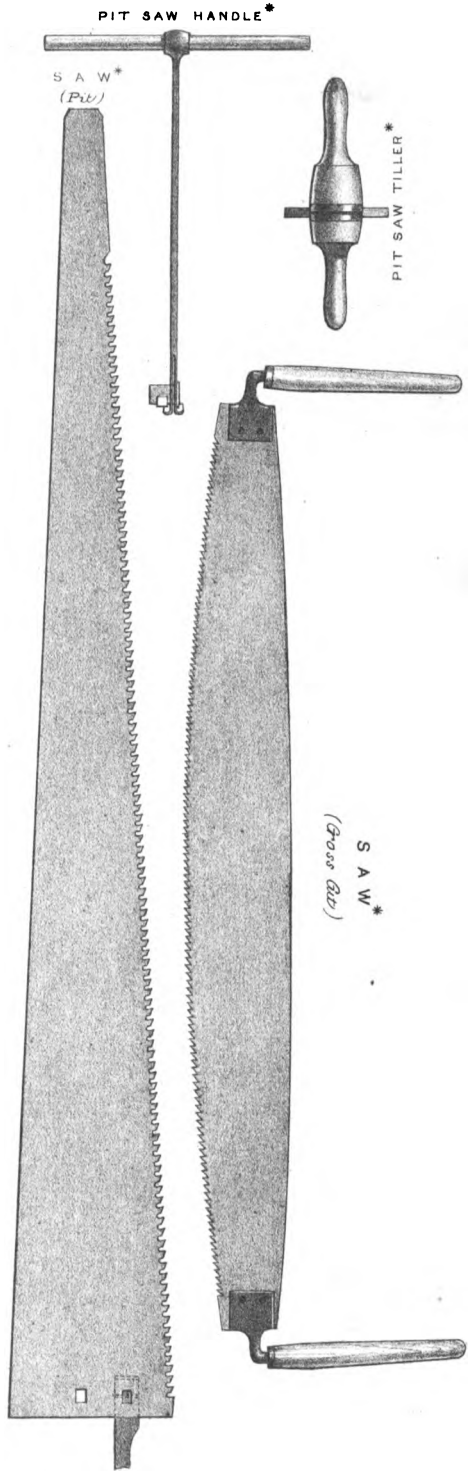
SCALE

2 FT

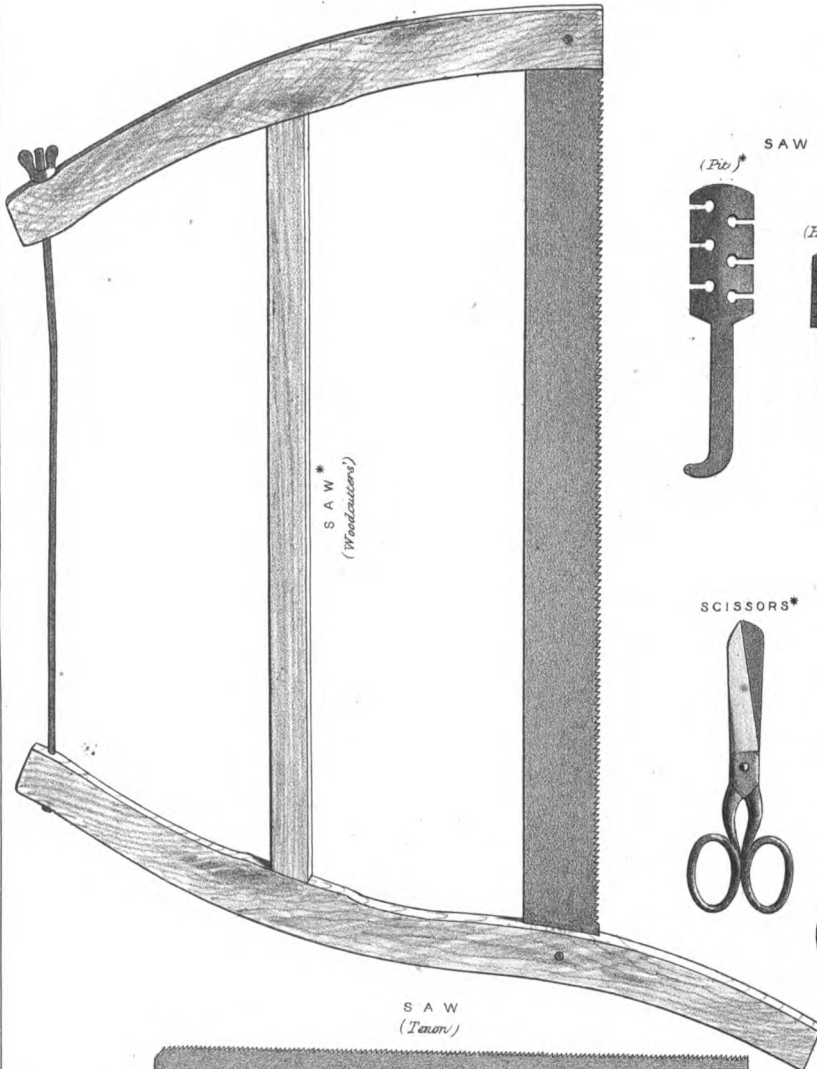
CARPENTERS' & WHEELERS' TOOLS



SCALE 12 INCHES

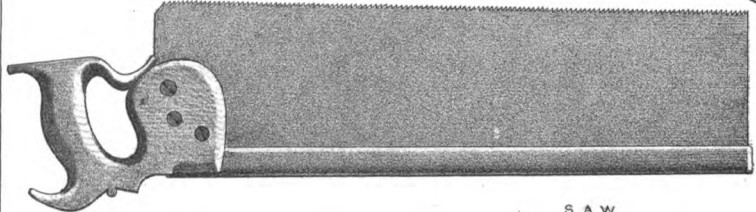


SCALE 6 INCHES

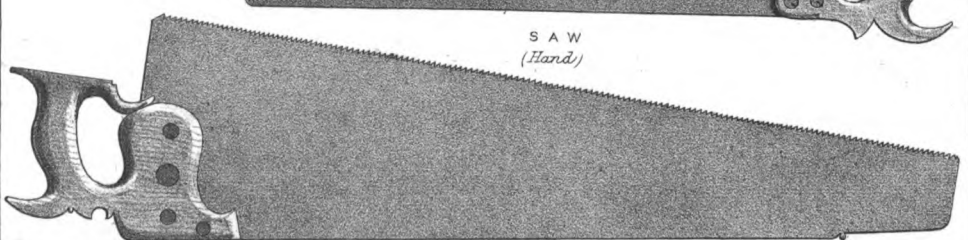


S A W *
(Woodcutters)

S A W
(Tenon)

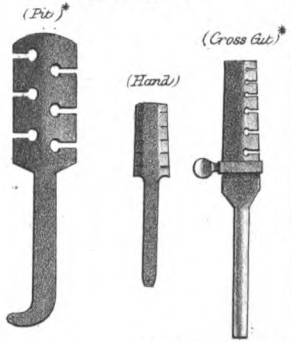


S A W
(Plating or Compass)



S A W
(Hand)

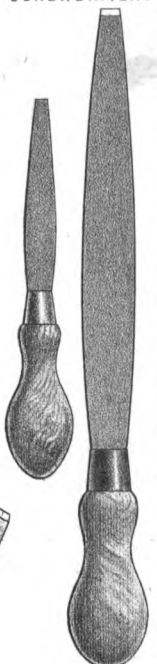
SAW SETS



SCISSORS*



SCREWDRIVERS



SCALE 2

2 FEET

The tools marked * are not in the War Office lists.

WHEELERS' TOOLS

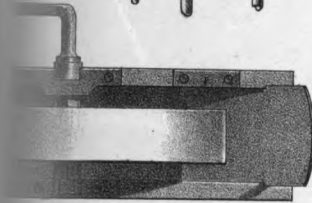
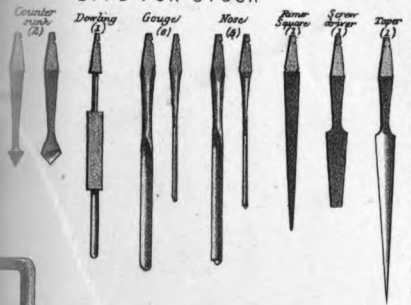
SQUARE, (Steel Blade)



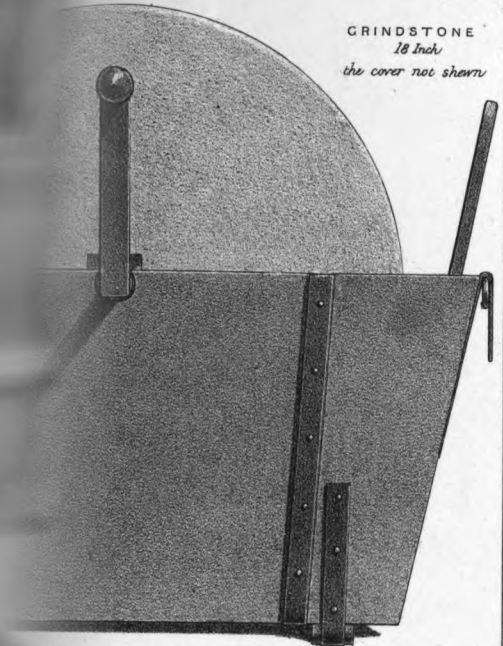
STOCK



BITS FOR STOCK



GRINDSTONE
18 Inch
the cover not shown



SCALE 1/4

2 FEET

CARPENTERS' & WHEELERS' TOOLS

SPOKESHAVES



4 Inch

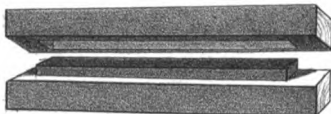


3 Inch

IRON SQUARE, (Figured)



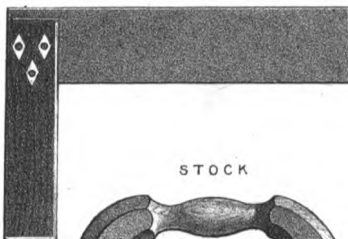
OILSTONE IN BOX



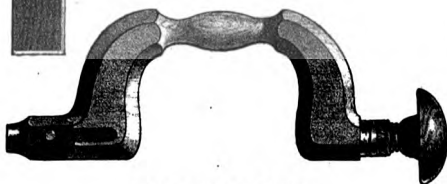
RAG STONE



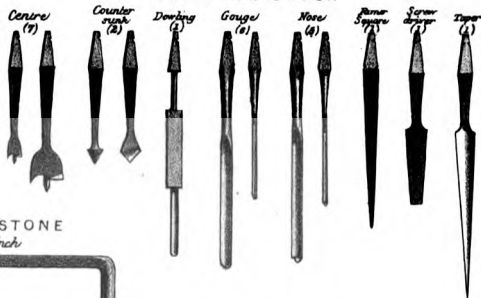
SQUARE, (Steel Blade)



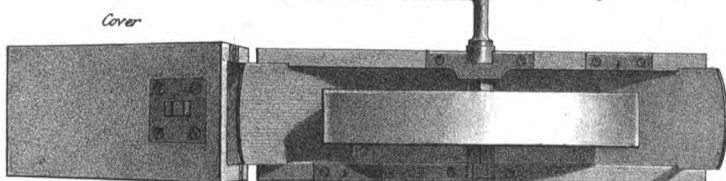
STOCK



BITS FOR STOCK



GRINDSTONE 10 Inch

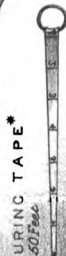


Cover

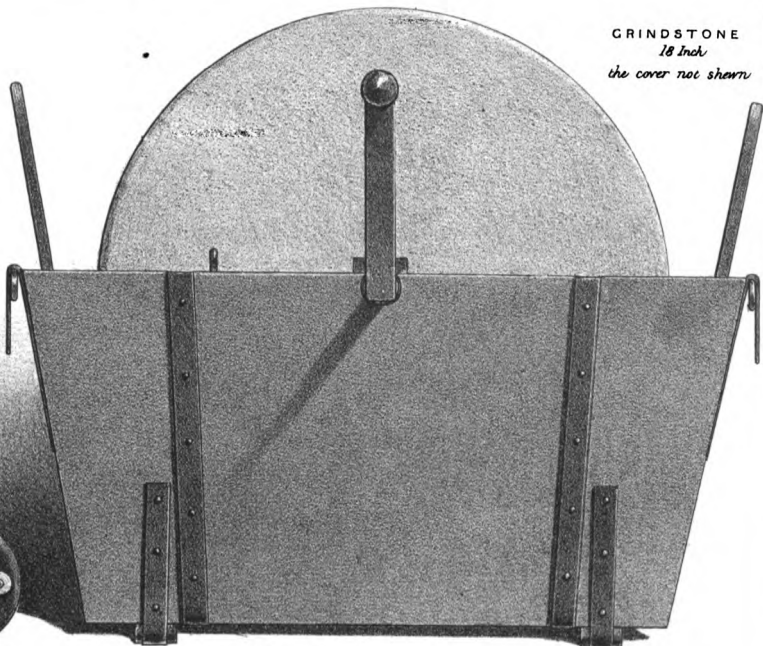
GRINDSTONE 18 Inch
the cover not shown



SPANNER (Not Machine)



MEASURING TAPE
50 Feet

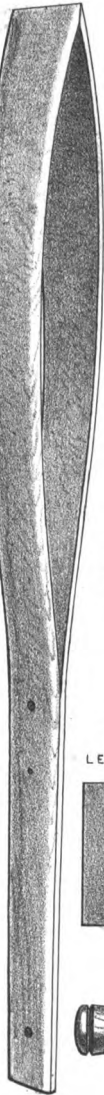


SCALE 1/2

2 FEET

COLLAR MAKERS' TOOLS

CLAMS



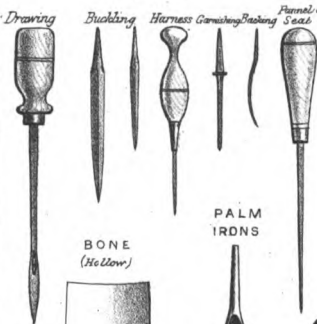
2 FT
RULE



EDGE
TOOL



AWLS



PRICKING
IRONS

PALM
IRONS



PUNCHES



LEAD (to punch on)



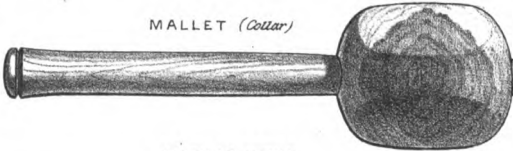
MALLET (Tavernant)



NAIL CLAW



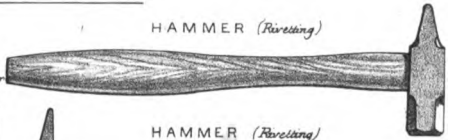
MALLET (Collar)



MARLIN SPIKE



HAMMER (Revesting)



HAMMER (Revesting)



HAMMER (Saddler's)



COLD CHISEL



COMPASS (Common Ven)



CREASE (Screen)



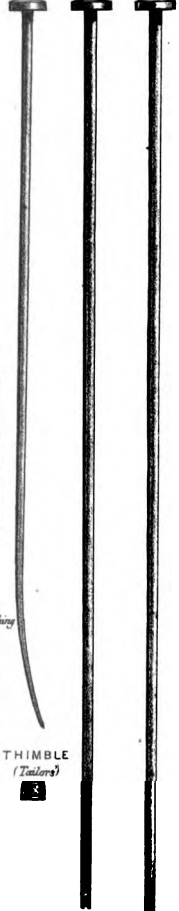
CREASE (Single)



SEAT STUFFING IRON



COLLAR
IRONS



NEEDLES

Saddlers' Harness Skiving
Cutting Collar
Drawing

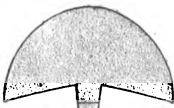


THIMBLE
(Tailors)

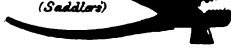


KNIVES

Collar, M Round



PINCERS
(Saddlers)



PLIERS
(Flat Nose)



SCISSORS
(Sine Tailors)



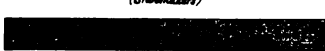
SCREWDRIVER



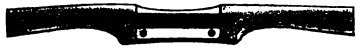
STEEL (Butlers)



RASP
(Shoemakers)



SPOKESHAVE



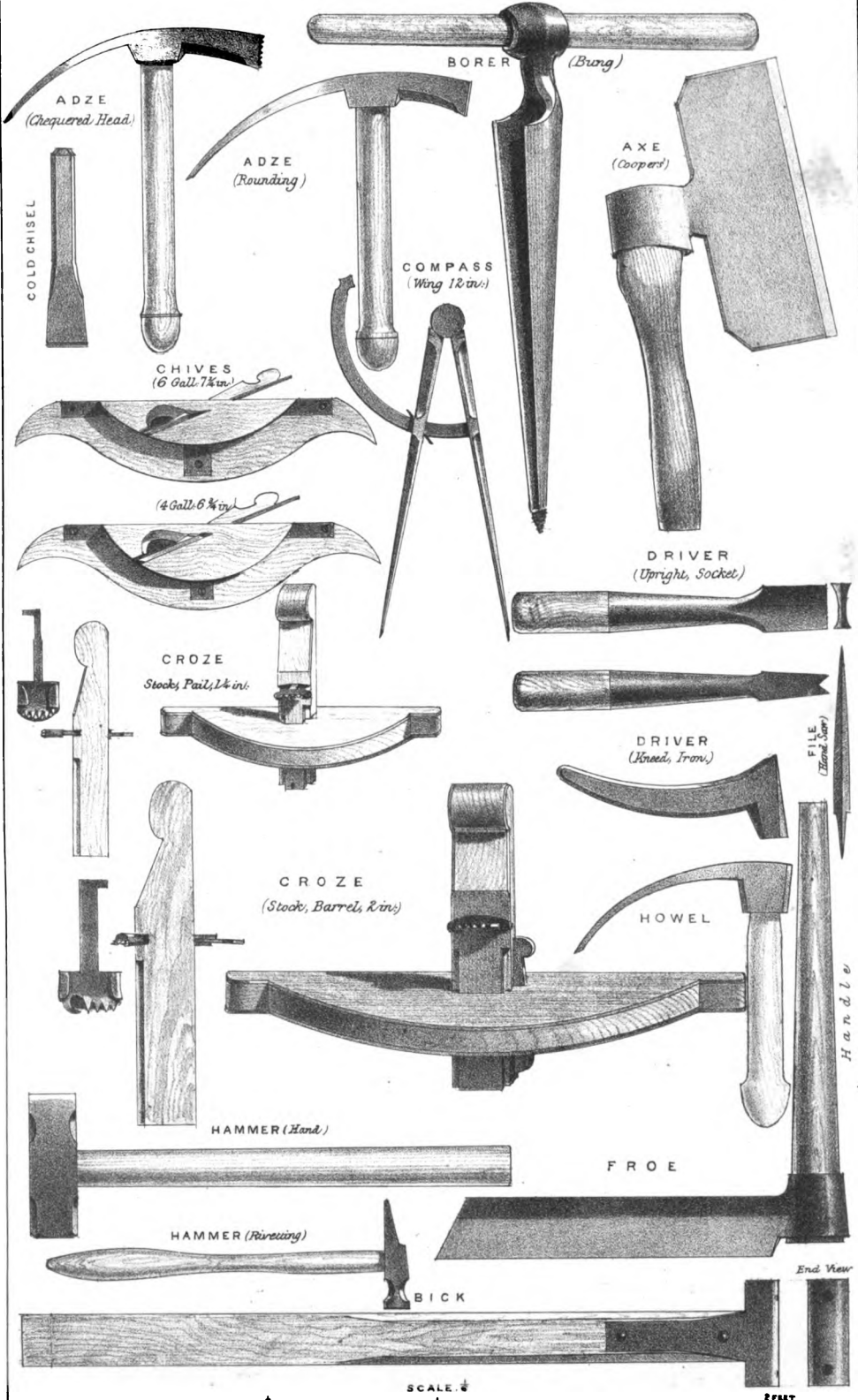
SCALE

2 FEET

Hand or Laboratory (Small)

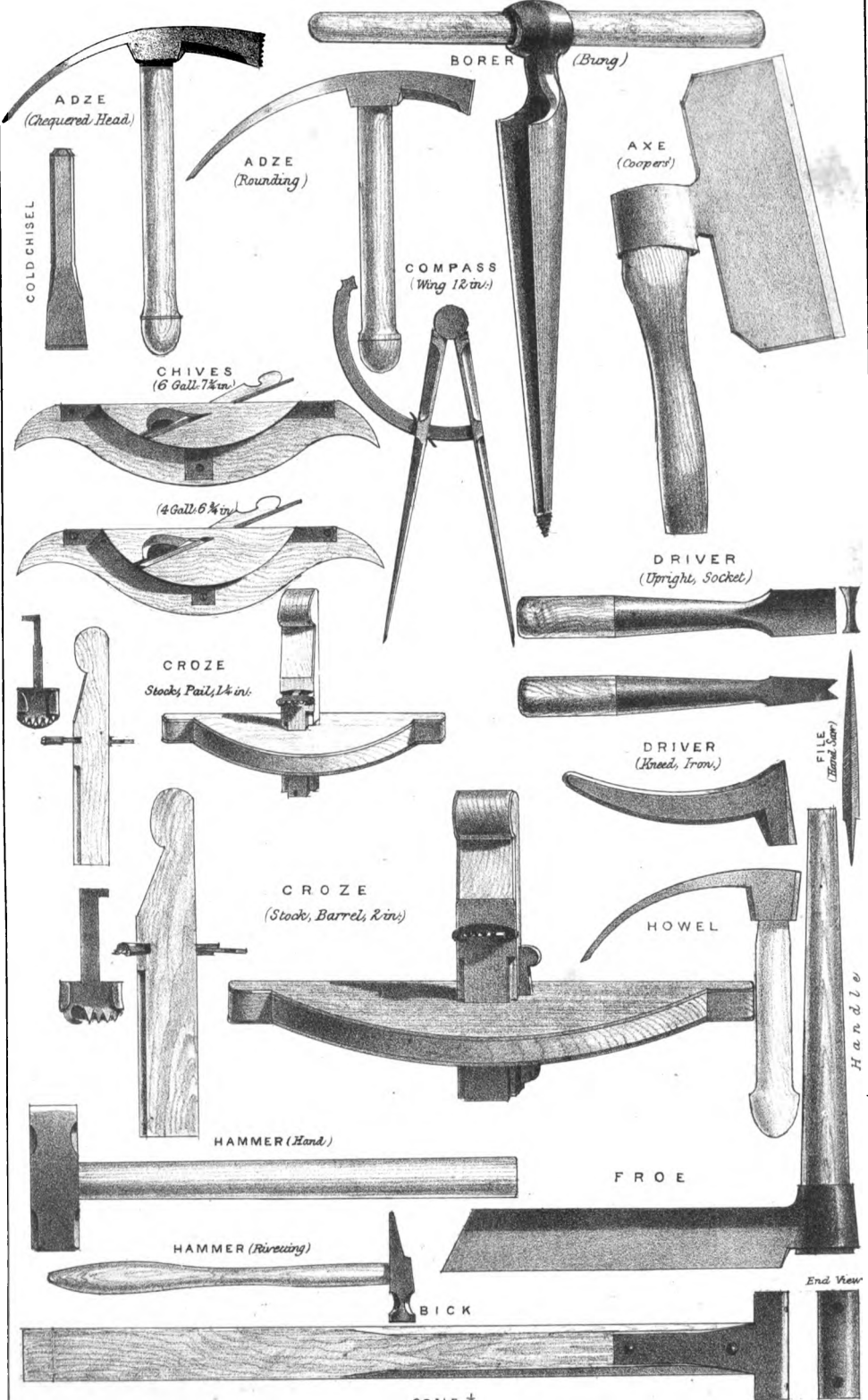
Hand

COOPERS' TOOLS

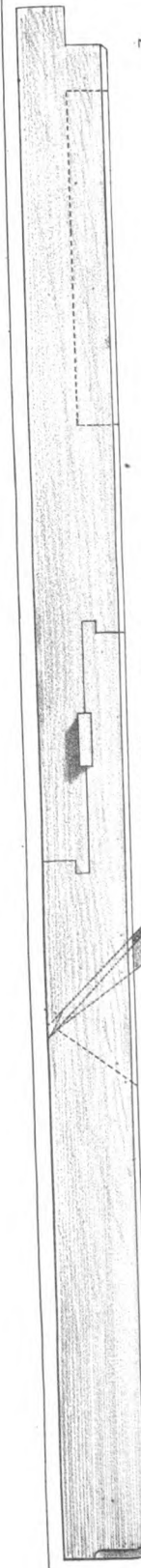


SCALE 1/2

2 PART



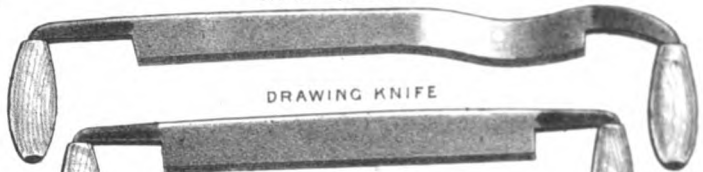
COOPERS' TOOLS



NOTCHING KNIFE



CRAMMING KNIFE



DRAWING KNIFE



JIGGER



PINCERS



PUNCHES

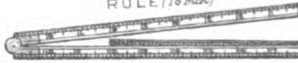
(10 Inch)



(6 Inch)



RULE (18 Inch)



SHAVES

(outside for Casks)



(inside for Casks)



(inside for Pails)

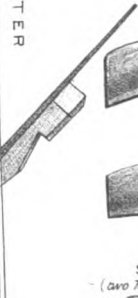


SHAVE

(avo handed, round)



JOINTER



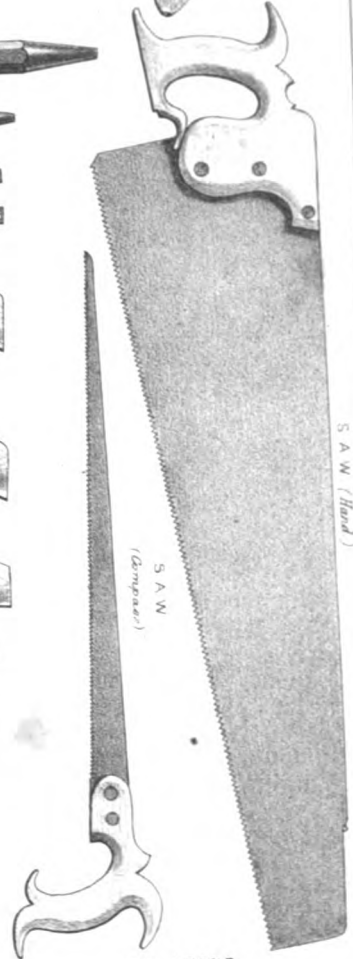
SCREW VICE



JAW for Bits



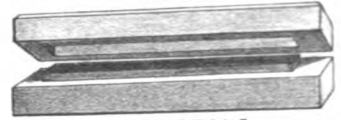
STOCK



S A W (Hand)

S A W (Diameter)

OIL STONE (in box)



RAG STONE



SCALE

2 FEET

COOPERS' TOOLS



HARRIERS' & SHOEING SMITHS' TOOLS

FORCE TOOLS

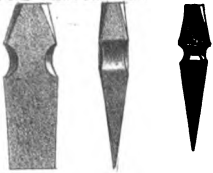
SLEDGE HAMMER (length 2 ft. 9 in.)



CHISEL

(Hot)

Front View Side View



STAMP



TURNING OR HAND HAMMER



PRITCHEL



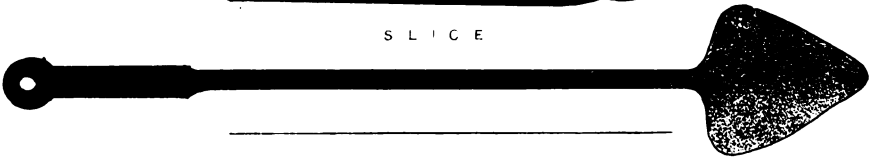
POKER



TONCS



SLICE

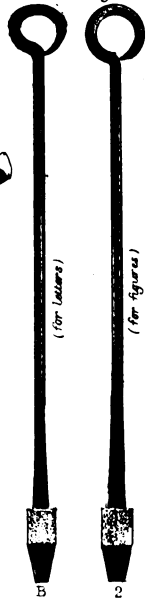


SHOEING TOOLS

BAG
(Tool, Leather)



IRONS
(Branding)



BUFFER



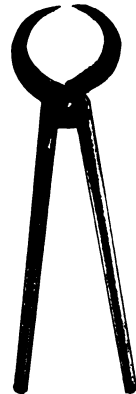
DRAWING KNIFE



SEARCHING KNIFE



PINCERS



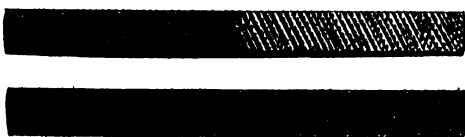
STAKE
(Pointing)



(Pointing)
HAMMERS
(Shoeing)



RASPS



SCALE 1/2

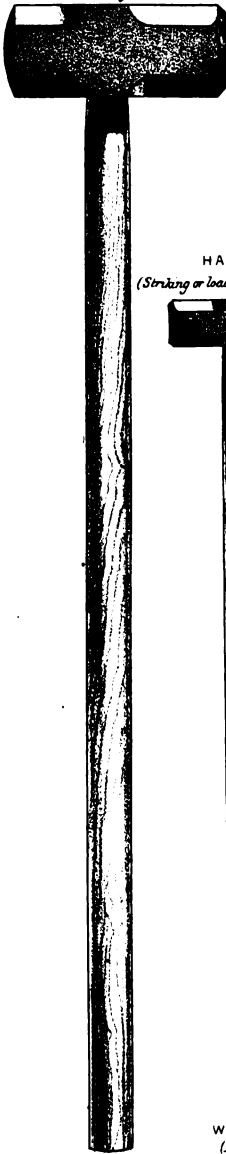
0

1/2

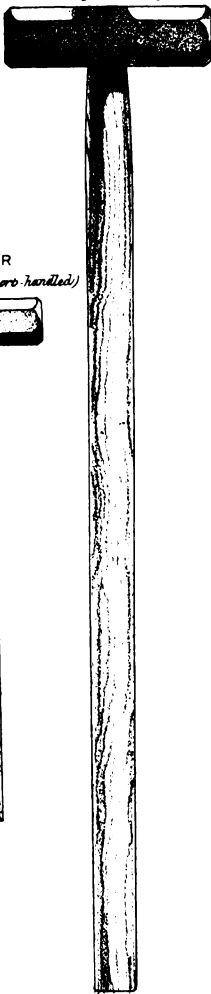
2 FEET

MINERS' TOOLS

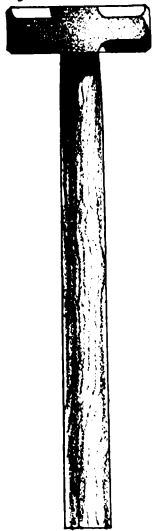
HAMMER
(Sledge)



HAMMER
(Striking or boring)



HAMMER
(Striking or loading, Short-handled)



BAR
(boring, 2' long, 3/4 inch dia)



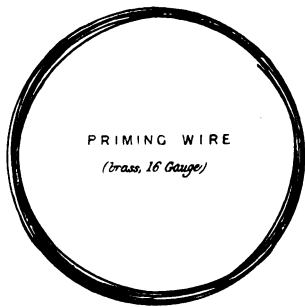
BAR
(boring, 2' long, 1/2 inch dia)



WEDGE
(Iron, 6")



PRIMING WIRE
(brass, 16 Gauge)



POWDER HORN



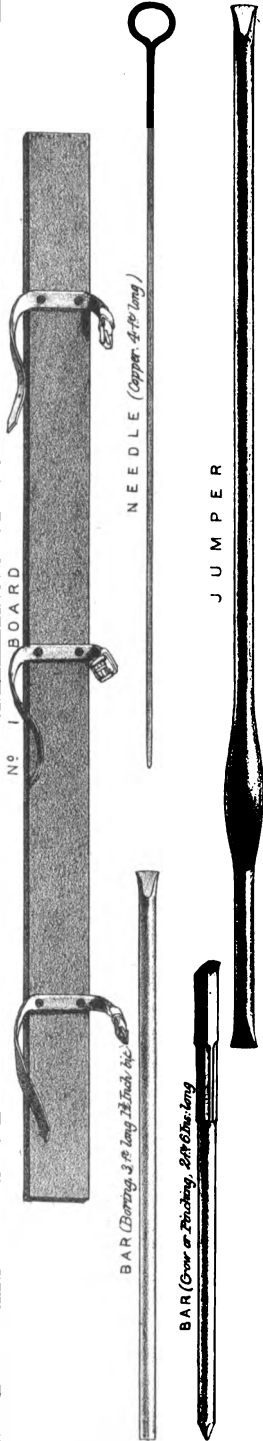
SCALE 1/4

2 FEET

MINERS' TOOLS

N° 1 BOARD

with the Tools that are strapped to it.



NEEDLE (Copper, 4 ft long)

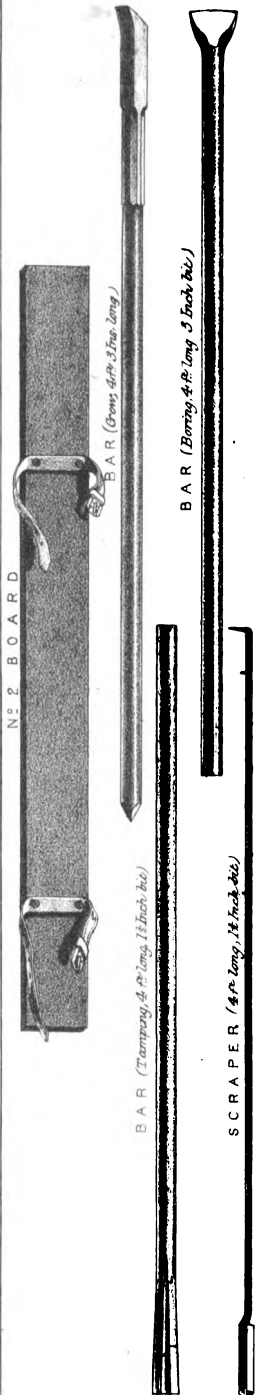
JUMPER

BAR (Boring, 3 ft long, 1 1/2 inch dia)

BAR (Cover or Finishing, 2 ft 6 in long)

N° 2 BOARD

with the Tools that are strapped to it



BAR (Covers 4 ft x 3 in long)

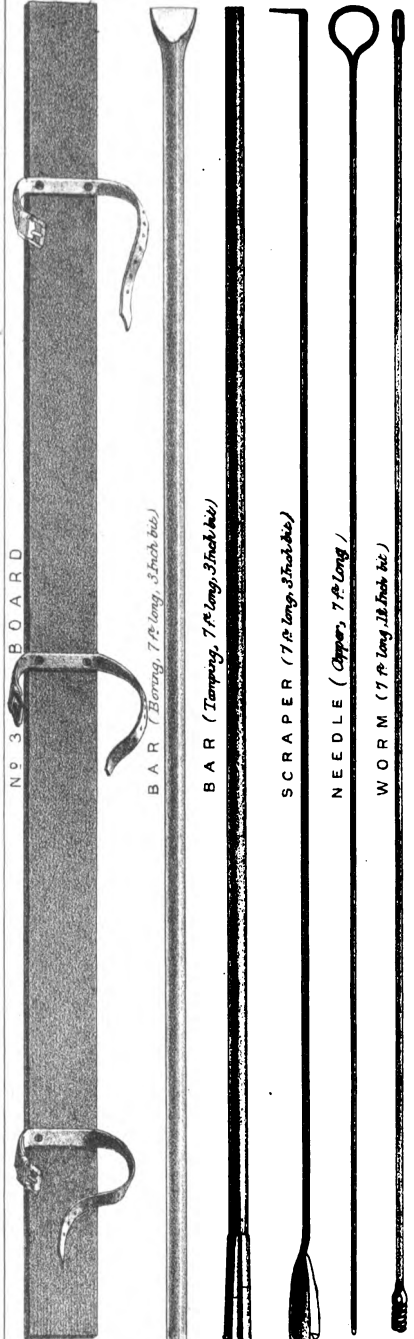
BAR (Boring, 4 ft long, 3 inch dia)

BAR (Tamping, 4 ft long, 1 1/2 inch dia)

SCRAPER (4 ft long, 1 1/2 inch dia)

N° 3 BOARD

with the Tools that are strapped to it



BAR (Boring, 7 ft long, 3 inch dia)

BAR (Tamping, 7 ft long, 3 inch dia)

SCRAPER (7 ft long, 3 inch dia)

NEEDLE (Copper, 7 ft long)

WORM (7 ft long, 1 1/2 inch dia)

SCALE 1/4

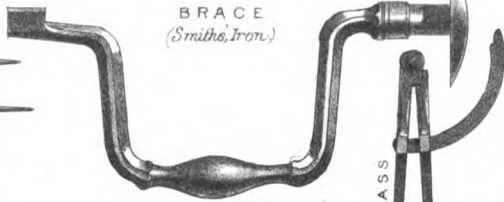
4 FEET



BITS
Riner
(half round)

(Square)

Countersunk, Rose



BRACE
(Smiths, Iron.)

CHISELS

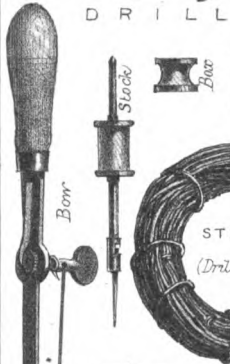
Cold
(Front View)

(Side View)

Hot
(Front View)

(Side View)

Hand



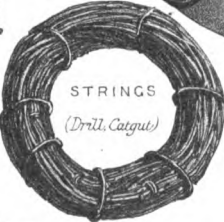
DRILL

Stock
Bow

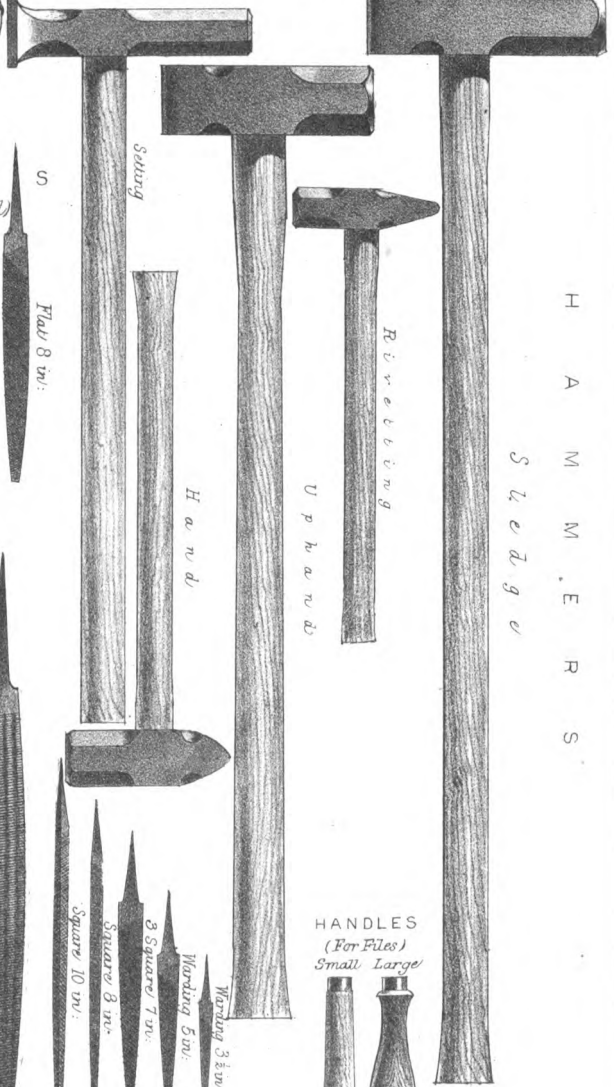


CALLIPERS

COMPASS



STRINGS
(Drill, Catgut)

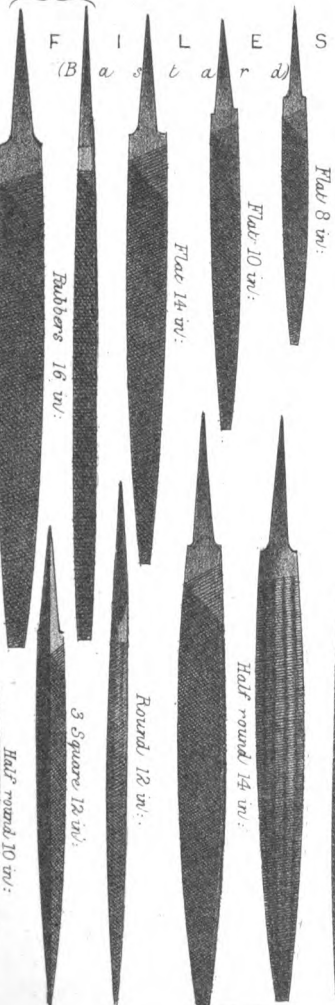


Sledge

Uphand

Reverb

HAMMERS
Sledge



FILES
(Ba s t a r d)

Rubbers 16 in.

Flat 14 in.

Flat 10 in.

Flat 8 in.

Half round 10 in.

3 Square 12 in.

Round 12 in.

Half round 14 in.

Square 10 in.

Square 8 in.

3 Square 7 in.

Warding 5 in.

Warding 3 1/2 in.

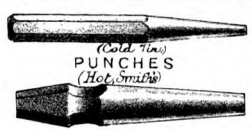
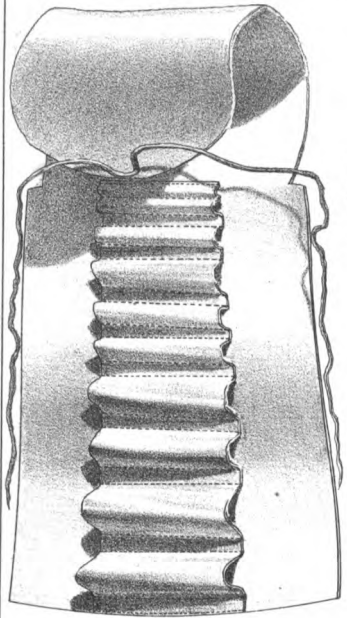
HANDLES
(For Files)
Small Large

SCALE

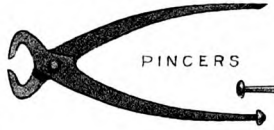
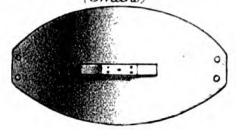
2 FEET

SMITHS' TOOLS

HOLDALL



BREAST PLATE (Smiths)



PINCERS

SCREW PLATE

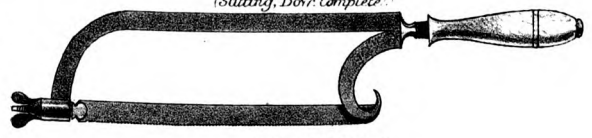


RULE (2 ft)



S A W

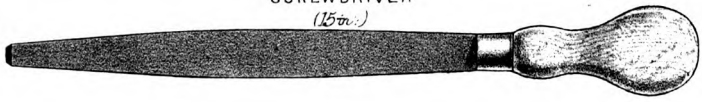
(Sitting, Box, Complete)



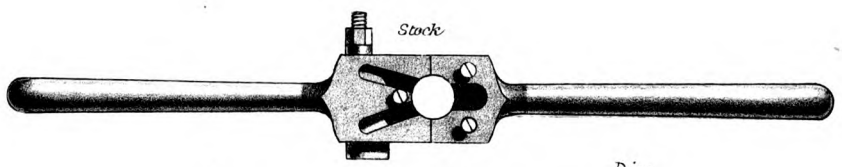
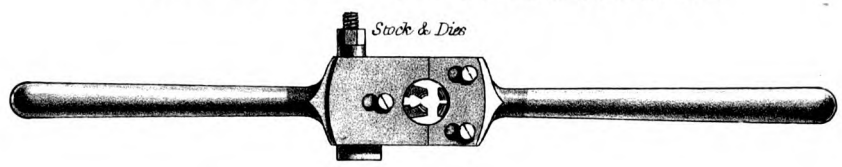
SCREWDRIVER (6 in)



SCREWDRIVER (15 in)



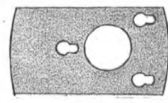
WHITWORTH'S STOCKS, DIES, & WRENCHES



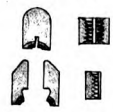
Spanner



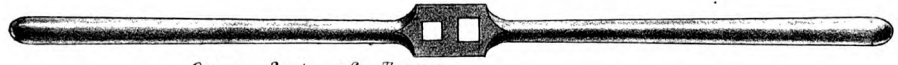
Plate



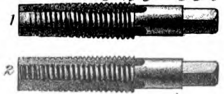
Dies, One Set



Wrench

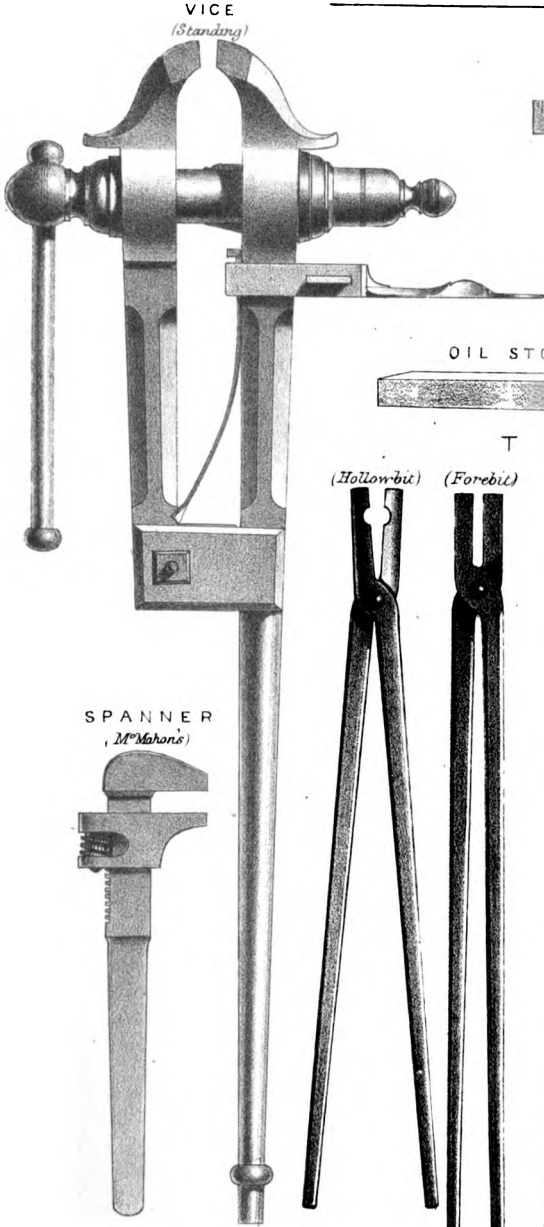


One Set of Taps

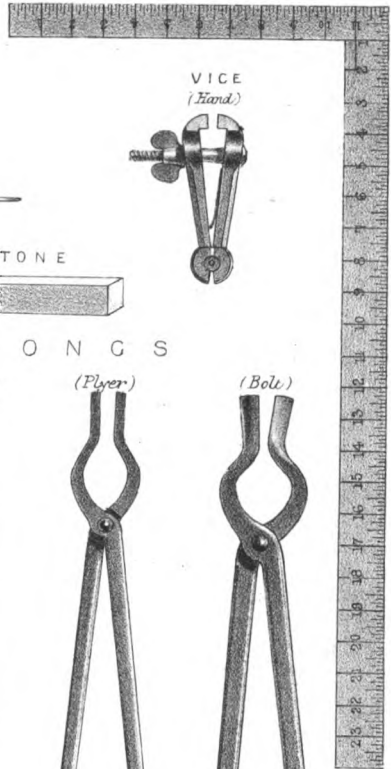


SCALE 1/4

2 FEET

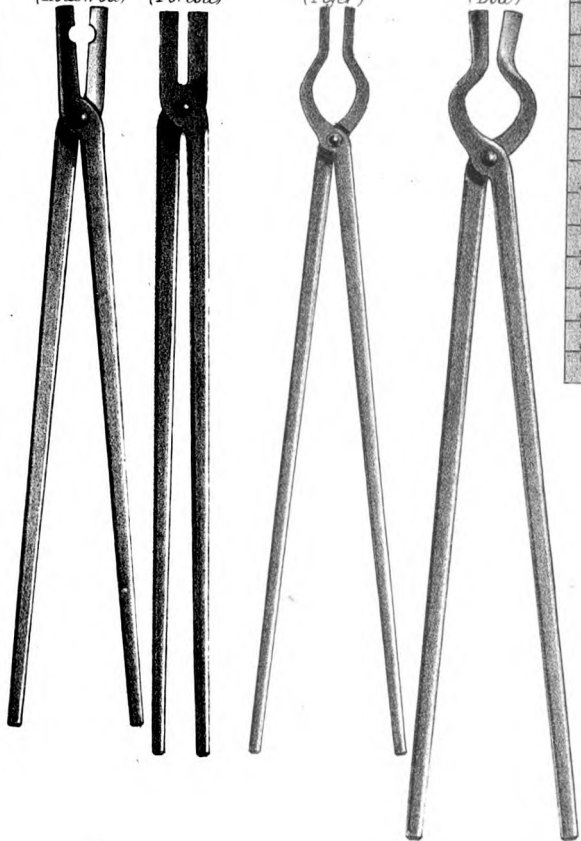


IRON SQUARE
(Figured)



TONGS

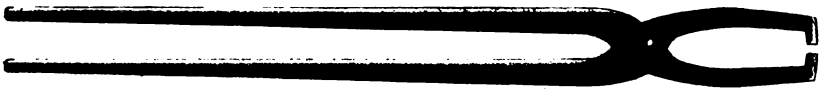
(Hollow-bit) *(Forebit)* *(Plyer)* *(Bolt)*



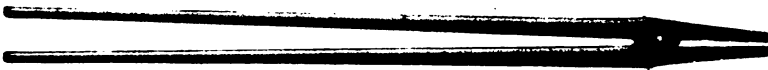
SPANNER
(M^o Mahone)



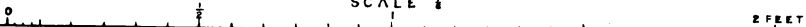
(Hammer)



(Close)



SCALE



TINMANS' TOOLS

AWL (Scoring)



CHISELS

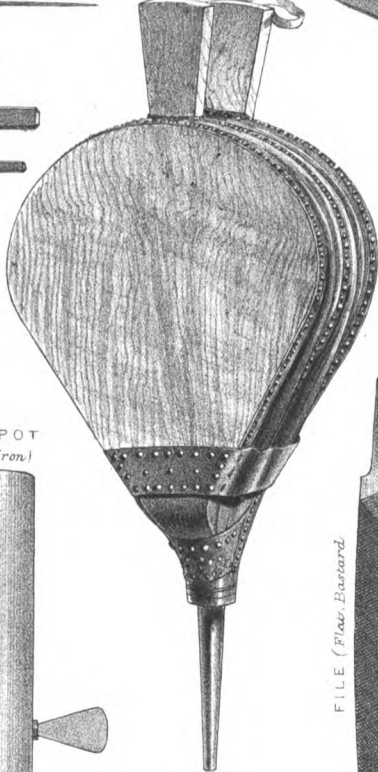
(Cold)



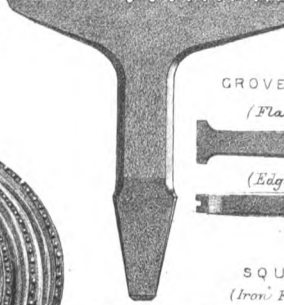
COMPASS



BELLOWS (Double Blast)



IRON (Creasing)



GROVER (Hand) (Flat View)



(Edge View)



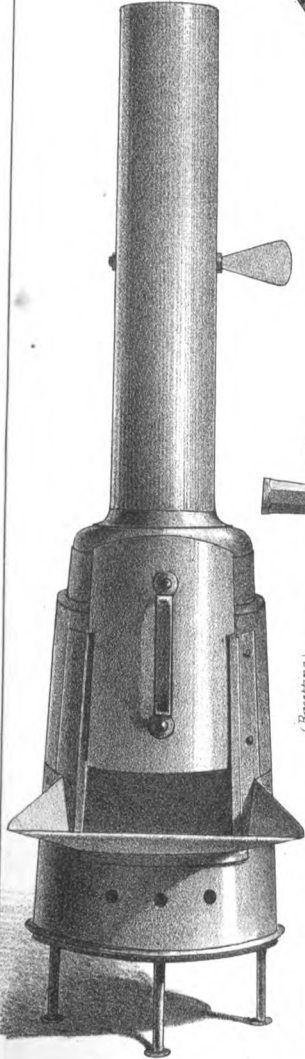
SQUARE (Iron) Figured



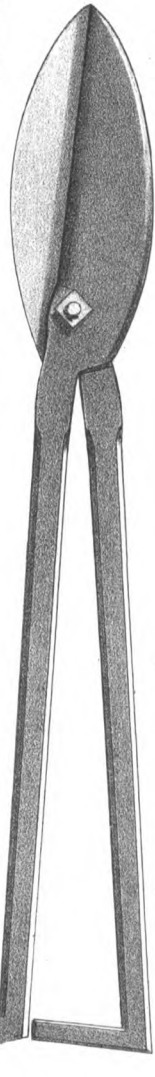
KNIFE (Carpenter's)



FIRE POT (Wrought Iron)



SHEARS (Stock)



FILE (Flax Barcard)



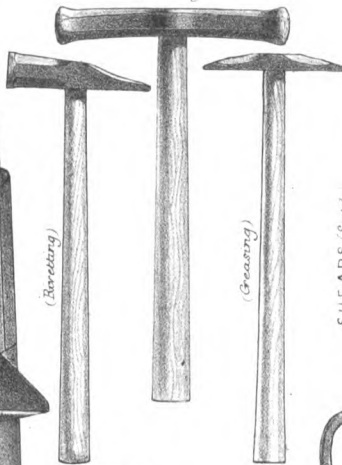
RASP



IRON (Soldering)



HAMMERS (Hollowing)



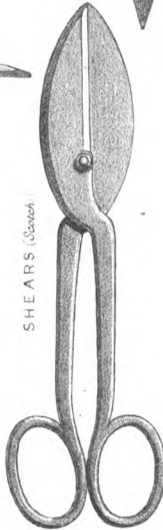
(Riveting)



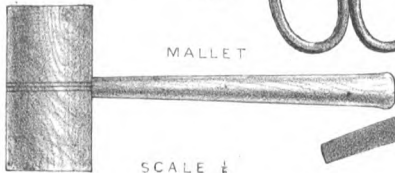
(Creasing)



SHEARS (Snatch)



MALLET



SCALE

SCRAPER (Plumber's)



OR HOOK SHAVE

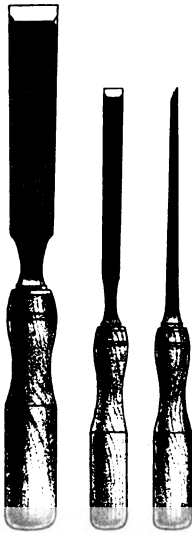
0

2 FEET

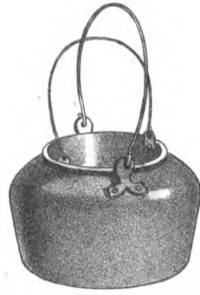
WHEELERS' & SADDLETREE MAKERS' TOOLS
(in addition to those in plates for Carpenters' and Wheelers')



CHISELS
(Beaving)



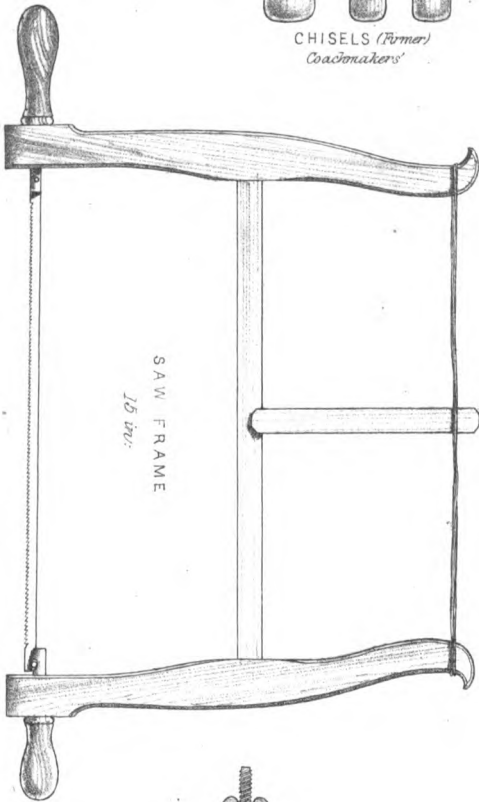
CHISELS (Firmer)
Coactionmakers'



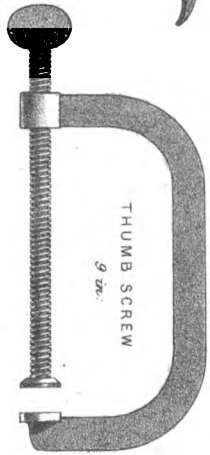
POT (Blue)
Copper



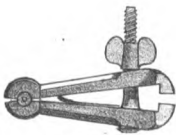
SAW (Dovetail)
9 in.



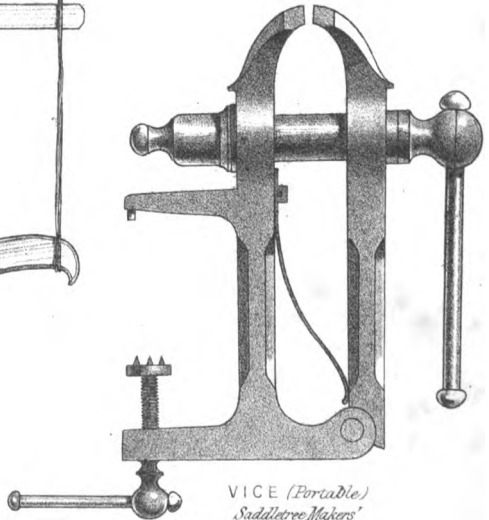
SAW FRAME
18 in.



THUMB SCREW
9 in.



VICE (Hand)
16 oz.



VICE (Portable)
Saddletree Makers'

SCALE †

2 FEET

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