

HANDBOOK
FOR THE
CANADIAN SERVICE RIFLE
(STRIPPING, ASSEMBLING AND TOOLS)

ROSS, MARK III

1913

PART II

PART II.

HANDBOOK

FOR THE

CANADIAN SERVICE RIFLE

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ROSS MARK III.

TO REMOVE THE BOLT ACTION.

See that the Safety Catch is showing the word "READY," then place the Bolt Stop at the centre notch and remove the Bolt Action from the Receiver.

TO STRIP THE BOLT ACTION.

Hold the Sleeve in the left hand and turn the Bolt Head with the thumb, thereby releasing the Mainspring, Fig. 107.



Fig. 107.



Fig. 108.

Seize the Head of the Extractor with the thumb and finger of the right hand, or insert the head of a cartridge case under the Hook of the Extractor, and raise the Lug clear of the Groove in the Bolt Head and withdraw the Extractor from the Slot in the Sleeve, Fig. 108.

Place the thumb of the left hand on the Bent of the Cocking Piece, forcing it to the rear to enable a hook wire or piece of string to be passed through the Hole in rear of Firing Pin.

Then withdraw the Cocking Piece until the Pin is clear of the Bolt Sleeve holding it.

Then push the Pin out and withdraw the Cocking Piece and the Bolt.



Fig. 109.

Turn the Safety Catch to a perpendicular position and, striking the handle a light rap with a piece of wood, the Safety Catch is dismounted. Turn the Bolt Sleeve bottom upward, when the Safety Catch Plunger and Spring will drop out.

Take the Bolt in the left hand and with the Retainer Key remove the Mainspring Retainer. Care must be taken in remov-

ing Retainer to preserve the Washer and prevent the Mainspring from flying out. Fig. 109.

TO ASSEMBLE THE BOLT ACTION.

Insert the Firing Pin in the Bolt, holding the latter in the left hand. Place Mainspring over Firing Pin. Insert the Washer with the Indents pointing away from the Mainspring.

Place the Retainer over the Indents and, taking the key in the right hand, screw it home, care being taken that the Lug on the Washer enters the Slot in the Bolt.

Hold the Bolt Sleeve in the left hand, insert the Safety Catch Plunger Spring in the Plunger and place them in their seat. Then insert the Safety Catch in its hole with the handle up and force the Plunger down until the Safety Catch will pass it.

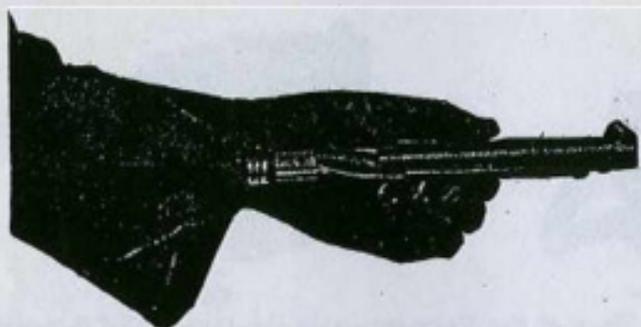


Fig. 110.

Take the Bolt in the right hand and enter it in the Sleeve with the gas hole in the Bolt downwards. Fig. 110. Enter the Spirals until the plain cylinder just enters the Sleeve. Then turn the Bolt Head to the right, when it will turn into its proper position. Fig. 111.



Fig. 111.



Fig. 112.

Turn the Sleeve in the hand so that the lower part is uppermost. See that the Cut on the Firing Pin is uppermost and can be seen through the Cocking Piece Slot of the Sleeve. Place Cocking Piece on Firing Pin, insert Hook in the hole through end of Firing Pin, withdrawing the Cocking Piece until the hole in the Cocking Piece and Cut in the Firing Pin are clear of the Bolt Sleeve, securing them in that position by turning the Safety Catch. Then insert the Pin, remove the Hook and release the Safety Catch.

Turn the Bolt and Sleeve in hand again so that the Head is to the front, then place the Extractor in the Slot of the Sleeve and press it home with the right thumb until the Lug snaps into the Slot in Bolt Head. Withdraw the Bolt as shown in Fig. 112 and replace same in Receiver.

TO STRIP RIFLE.

1. Remove Band Screws and drive the Bands forward.
2. Remove Hand Guard. It may be necessary to tap gently on the Guard Clips to loosen the Guard in order to remove it.
3. Remove Rear and Front Receiver Screws.
4. Remove Barrel and Receiver from Stock, taking care not to lose the nuts for the Band Screws that lie in the Stock under the Bent.
5. Remove Magazine.
6. Unscrew Butt Swivel Screw.
7. Unscrew Butt Plate Screws and remove Butt Plate from Stock.
8. Unscrew Butt Plate Spring Screw and remove Butt Plate Spring and Trap.
9. Unscrew Stock Clamp Nut on right side and remove Stock Clamp Screw and Nut.
10. To remove the Sight Leaf, drive the Pin out with a drift.
11. Unscrew Charger Guide Sight Spring Screw and drive Spring to the rear to remove it.

(NOTE.—THE CHARGER-GUIDE SIGHT-BASE AND SPRING OR THE LEAF SHOULD NEVER BE REMOVED EXCEPT FOR THE PURPOSE OF MAKING REPAIRS.)

12. Remove the Bolt Stop by pressing the Hinge Pin to the rear as far as it will go and driving out the Retainer Pin with a drift inserted in the Hole for that purpose at the rear of the Retainer Pin. The Hinge Pin, Bolt Stop and Spring are then free for removal.
13. The Ejector is removed by compressing the Ejector in the hole for the Retainer Spring and removing the Pin by a tool inserted in the Groove cut for that purpose in the Pin. The Ejector and Spring are then free for removal.

14. Drive Sear Pin out from Lugs in Receiver, which releases Trigger Action. (Take care not to lose Sear Spring.)

15. To remove Trigger and Yoke Roll from Yoke, drive out Pins with drift.

Drive out Pin and remove Pawl from Sear Spring, taking care not to lose Pawl Spring.

16. To remove Bands and Foresight, drive out Cross Pin and the Foresight is removed by driving out the rear bevelled surface on the Sight Sleeve with a piece of brass or soft metal with the Muzzle of barrel placed on a block of hardwood.

17. To remove the Foresight Blade, drive out the Hood Hinge Pin and loosen the Sight Clamp Screw. To assemble this, follow the reverse order of Dismounting, but THE FORESIGHT AND SLEEVE IS NEVER TO BE REMOVED EXCEPT FOR REPAIRS TO THE SLEEVE OR BANDS.

THE BARREL SHOULD NEVER BE UNSCREWED FROM THE RECEIVERS BY ARMOURER.

TO ASSEMBLE AFTER DISMOUNTING.

First the Stock.

Assemble Stock Clamp Screw from left side; screw the Nut on the right side.

Assemble Butt Plate Trap and Spring, and with Butt Screws fasten to Butt of Stock.

Re-assemble Trigger Action in reverse order to Dismounting, care being taken that the Pins are re-staked in order to secure them firmly in position. *Place Sear Spring in Seat.* Hold Pawl and Yoke between thumb and forefinger of left hand, place them between the Lugs on the Receiver, compress Pawl and Yoke together and insert the Pin tapered end first, taking care that the location point of the Yoke bears against the bottom of the Receiver.

TO ASSEMBLE EJECTOR—Insert Ejector Spring in its seat, place the Ejector in its Slot, and force the Ejector to the rear until the Large Hole lines up with the Ejector Pin Hole, and then insert the Pin.

TO ASSEMBLE BOLT STOP—Place Bolt Stop Hinge Spring on Bolt Stop Hinge Pin. Place Bolt Stop in position. Insert Hinge Pin, compress until you can enter the Retainer Pin in Hole in Hinge and drive it into position.

Replace the Band Screw Nuts in Stock.

Place Magazine in the Magazine opening of Stock.

Assemble Barrel and Receiver to Stock and Trigger Guard.

Replace Front and Rear Receiver Screws. Replace Hand Guard; secure Band in place with Band Screws.

Replace Bolt Action in Receiver and turn Bolt Stop down.

CAUTION.—NEVER CLOSE THE BOLT WITH THE SAFETY CATCH SHOWING "SAFE."

TO STRIP LONG ROSS MARK II.

1. Remove the Bolt.
2. Unscrew the *Front and Rear Band Screw* and slide Bands to the Muzzle and remove Hand Guards.
3. Take out Lock Nut Screw and remove Lock Nut from Trigger Guard.
4. Take out the two (2) front Receiver Screws.
5. Take out Rear Receiver Screws; the Trigger Guard is then loose and can easily be removed.
6. Remove Barrel and Receiver from Stock, taking care that the Nuts of the Band Screws do not fall out.
7. Remove Bolt Stop from Receiver. It is unnecessary to remove the Bolt Stop Spring and Plunger from the Stock except for repairs.
8. To remove the Lifter, unscrew the Lifter Bearing Clamp Screw and Nut.
9. Remove the Lifter Bearing Screw and the Lifter is then free, but it is unnecessary to remove the latter, except for repairs.

10. To remove the Butt Plate, take out the two Butt Plate Screws, care being taken not to lose the Butt Trap.

11. The Charger-Guide Sight Base can be removed, if necessary for repairs, by taking out the four Screws. In reassembling, these screws should be staked with a prick punch in order to firmly secure them.

12. The Front Sight Hood can be removed by taking out the four Screws.

13. To remove the Front Sight, loosen the Front Sight Clamp Screw and drive the Sight from either side.

14. The Front Sight Sleeve is removed by driving out the Cross Pin and striking the Sleeve a sharp rap with a wooden mallet on the rear face. Except for repairs to Bands or the Sleeve itself, it is unnecessary to remove this piece.

15. Drive Sear Pin out from Lugs in Receiver, which releases Trigger Action. Take care not to lose Sear Spring, which is loose.

16. Press down the Ejector Pin and remove the Ejector and Ejector Spring. The Ejector Pin can then be removed by being pushed upwards out of its seating.

17. To remove Trigger and Yoke Roll from Yoke, drive out Pins with drift.

Drive out Pin and remove Pawl from Sear Spring, taking care not to lose Pawl Spring.

TO STRIP THE BOLT.

18. (a) Pull the Bolt Head forward.

(b) Spring the Lug on the Extractor over the Bolt Head and remove the Extractor.

(c) Return the Bolt Head to ease the Mainspring.

19. Pull back Cocking Piece until it is clear of the Bolt Sleeve, securing it in that position by giving it a quarter turn right or left. Drive out Cross Pin, care being taken not to lose it.

20. Remove the Bolt from the Bolt Sleeve.

21. With a Retainer Wrench unscrew the Mainspring Retainer, when the Firing Pin Washer, Mainspring and Firing Pin can be removed. Care must be taken in this operation not to lose the components by the sudden releasing of the Mainspring.

22. To remove the Safety Catch, turn the Handle upright and hit it a slight rap and it will come out.

23. To remove the Safety Catch Plunger and Spring, turn the Bolt Sleeve bottom upwards, when they will drop from their seat.

TO ASSEMBLE THE BOLT ACTION.

1. Insert the Firing Pin in the Bolt, holding the latter in the left hand. Place Mainspring over Firing Pin. Insert the Washer with the Indents pointing away from the Mainspring. Place the Retainer over the Indents and, taking the key in the right hand, screw it home, care being taken that the Lug on the Washer enters the Slot in the Bolt.

2. (a) Enter the Bolt into the front of the Bolt Sleeve with the largest Lug on the same side as the handle.

(b) Push the Bolt in as far as possible, then continuing the pressure give the Bolt a right-handed twist until the Spirals on the Bolt take the corresponding Grooves in the Bolt Sleeve and the Bolt Head comes against the Front End of the Sleeve.

(c) Pull the Bolt Head slowly forward and at the same time give the Bolt a right-handed twist.

(d) As soon as the Bolt turns slightly, push the Bolt Head back against the end of the sleeve (when correctly assembled, the gas escape hole in the Bolt Head should be underneath.)

3. Place the Cocking Piece over the Firing Pin. Insert a hook in the hole at the end of the Firing Pin. Withdraw Firing Pin and Cocking Piece clear of the Slot on the Bolt Sleeve, when the Cross Pin can be easily inserted in its proper position.

4. (a) Pull the Bolt Head forward only just sufficiently to retain the Lugs in a vertical position.

(b) Insert the Extractor in the Extractor Grooves of the Bolt Sleeve, springing the Lug on the Extractor over the Bolt Head.

5. Assemble the Safety Catch Spring and Safety Catch Plunger to the Bolt Sleeve (Plunger uppermost).

6. Insert the Safety Catch from the right into the Bolt Sleeve, taking care that the point of the Plunger engages firmly in the Grooves of the Safety Catch.

TO ASSEMBLE THE RIFLE.

7. Replace Butt Plate and Trap and screw home.

8. Put in the Lifter, insert the Lifter Bearing Screw and Nut from either side; see that the Lifter works freely, locking them in position by the Lifter Bearing Clamp Screw.

9. Put the Ejector Pin (point upwards) in its recess in the Receiver.

10. Put in the Ejector Spring.

11. Put the Ejector into its Slot in the Receiver, securing it against the Ejector Spring by the point of the Ejector Pin. See that it works freely.

12. Reassemble Trigger Action in reverse order to Dismounting, care being taken that the Pins are restaked in order to secure them firmly in position. *Place Sear Spring in seat. Hold Pawl and Yoke between the thumb and forefinger of left hand, and place them between the Lugs on the Receiver; compress Pawl and Yoke together and insert the Pin tapered end first, taking care that the location point of the Yoke bears against the bottom of the Receiver.*

13. Assemble the Trigger Guard. See that the Strap Link revolves freely round the Strap Link Stud on the Trigger Guard.

14. Put in the Lifter Spring with its coil towards the Muzzle and square end downwards.

15. Insert the Bolt Stop in the Receiver, thumb piece upwards.

16. Assemble the Barrel and Receiver to the Stock, taking care that the Band Screw Nuts are in place.

17. Insert the Receiver Rear Screw and Front Screws (2) with Lock Nut and Screw.

18. Assemble the Hand Guards (front and rear), being careful that the recessed ends are properly fitted.

19. Assemble the Rear Band, inserting the screw from the bottom.

20. Assemble the Front Band with Piling Swivel assembled, inserting the Screw from the bottom.

21. Assemble the Front Sight to the Front Sight Sleeve (slope towards Muzzle).

22. Screw in the Front Sight Clamp Screw.

23. Screw the Front Sight Hood to the Front Sight Sleeve (slope towards Muzzle).

24. Pull out Bolt Head sufficiently to retain the Lugs in a vertical position. Replace Bolt Action in Receiver and release Bolt Stop.

AMMUNITION.

| | Mark VI. | Mark VII. |
|------------------------|--|--|
| Charge..... | 31 grs. Cordite..... | 38 grs. Cordite M. D. T. |
| Bullet..... | 215 grs..... | 174 grs. |
| Total weight..... | 415 grs..... | 382 grs. |
| Shape..... | Blunt nose..... | Pointed. |
| Cartridges issued..... | In boxes of 1,000, containing packages of 10 rounds. | In boxes of 1,000 containing 20 bandoliers holding 10 chargers (each with 5 rounds). |

TOOLS ISSUED TO ARMOURERS.

| Description. | Quantity allowed. | Remarks. |
|---|-------------------|-------------------------------|
| <i>Small Arm Section.</i> | | |
| Boxes:— | | |
| Tool, empty, regimental armourers'..... | 1 | |
| Oilstone, dust, Mark II (containing 6 oz.)..... | 1 | |
| Anvil, stock, butt, M. E..... | 1 | Gunmetal for attaching butts. |
| Awls, blades, armourers'..... | 2 | |
| Bracca, armourers'..... | 1 | |
| Bracca, armourers', bits— | | |
| Countersunk, rose..... | 1 | |
| Rimer— | | |
| Half-round..... | 1 | |
| 4-square..... | 1 | |
| 5-square..... | 1 | |
| Screw-driver— | | |
| Butt plate, screw..... | 1 | |
| Stick, cleaning chamber .303-in. arms; also for cutter, countersunk cartridge head, M. M. & M. E. | 1 | |
| Stock bolt, M. L. M. rifle..... | 1 | |
| Spoon (with washer)..... | 1 | |

| Description. | Quantity allowed. | Remarks. |
|--|-------------------|--|
| Cans, oil, lubricating, armourers'..... | 1 | |
| Chisels, hand, cold— | | |
| ½-inch x 7-inch..... | 1 | |
| ¾-inch x 7-inch..... | 1 | |
| Clams, regimental armourers'— | | |
| Parallel vice— | | |
| Wood, buff-lined.....prs. | 1 | |
| " cork-lined....." | 1 | |
| Corks, clam (single)..... | 4 | |
| Drifts, fore-end, Mark II..... | 1 | |
| Drifts— | | |
| Magazine, catch-pin, M. L. M..... | 1 | |
| Sight, axis pin, M. L. M..... | 1 | |
| Wire, small..... | 1 | |
| Screw-driver, armourers'— | | |
| Large..... | 2 | |
| Small..... | 1 | |
| Extractor, axis, M. L. M..... | 1 | |
| Fork, screw— | | |
| Dial sight, M. L. M..... | 1 | |
| Nut, screw, grip-sword-bayonet, '88, Mk. III..... | 1 | |
| Plats, fore-end, M. L. M..... | 1 | |
| No. 1 (large)..... | 1 | |
| No. 2 (medium)..... | 1 | |
| Gauges, armourers'— | | |
| Distance of bolt from end of chamber, M. L. M.— | | |
| .004-in..... | 1 | This also serves as a gauge, cartridge, dummy, M.M. for testing, loading and firing positions of M.M. and M.E. arms. |
| .074-in..... | 1 | |
| Pistol, Webley— | | |
| Hammer projection and radius of point..... | 1 | |
| Distance of cylinder from face to body, .052in. rejecting..... | 1 | |
| Striker point— | | |
| Pattern "C"..... | 1 | |
| Projection of stock bolt through body, rifle short, M. L. E..... | 1 | For all magazine arms fitted with stock-bolt keeper plate. |
| Implements, action— | | |
| M. L. M., pattern D..... | 1 | |
| Mandrels— | | |
| Scabbard— | | |
| Sword-bayonet, patt. '88, Mark I, blocking leather..... | 1 | |
| Locket..... | 1 | |
| Tip (or chape)..... | 1 | |
| Sight protector, M. L. M., pattern B..... | 1 | |
| Guides, muzzle— | | |
| No. 1..... | 1 | Remove the nose cap before attaching the muzzle guide. |
| No. 2..... | 1 | |
| Placers, armourers'.....prs. | 1 | |
| Planes, smoothing, armourers'..... | 1 | |
| Plates, screw..... | | |
| 20 taps, 20-hole.....sets | 1 | |
| Plugs, clearing— | | |
| Plain— | | |
| .303-inch arms..... | 1 | Tapped at end to fit on rod. |
| Split, M. L. M. rifle..... | 1 | |
| Pots, glue, ½-pint..... | 1 | |

| Description. | Quantity allowed. | Remarks. |
|---|-------------------|---|
| Pressers, extractors, spring, M. L. M. rifle..... | 1 | To be replaced by "tool extractor spring" when store is exhausted. |
| Rods, cleaning cylinder, pistol, Webley..... | 1 | |
| Rods, cleaning, .303-inch— | | |
| No. 1..... | 1 | For jute. Suitable for rifle and carbine. |
| No. 2..... | 1 | For use with brass wire rifle. Can be used for M. L. E. short rifles only when fitted with "Push stop rod No. 2." |
| No. 3..... | 1 | For use with brass wire carbine |
| Saws, slitting, 7 $\frac{1}{2}$ -inch..... | 1 | |
| Scriber tool, sight-line rifle..... | — | This should be made by Armourer. |
| Sticks— | | |
| Buff..... | 3 | |
| Cleaning chamber, .303-in. arms..... | 1 | |
| Gauze wire..... | 1 | pieces |
| Stones, oil— | | |
| Armourers'..... | 1 | |
| Slip, arkansas, large..... | 1 | |
| Testers, trigger pull, M. L. M. rifle, Mk. II..... | 1 | |
| Tools, extractor spring, Mk. II..... | 1 | To replace "presser extractor spring" when the store of the latter is used up. |
| Tools, clearing, .303-inch, arms— | | |
| Bits— | | |
| Spoons..... | 1 | |
| Screw..... | 1 | |
| Bushes, bit, screw..... | 1 | |
| Rods, No. 2..... | 1 | Screwed at end to take clearing bits and plugs. |
| Tools, removing and replacing protectors, front sight, Nos. 1 and 2..... | 1 | |
| Tool, removing— | | |
| Handguard No. 2..... | 1 | |
| Striker, pattern A or B..... | 1 | |
| Wad, stock bolt..... | 1 | |
| Tools, sight line— | | |
| Rifle..... | 1 | |
| .03-inch, left..... | 1 | For rifles M. L. E., Marks I and I* and rifles M. L. M., Marks II and II* fitted with barrels having Enfield rifling with foresight .05-inch left leaf marked with A* on right bottom corner. |
| Vices, parallel, regtl. armourers', with spanners.. | 1 | |
| Wrenches, removing screws, bolt-head, rifle, M. L. M. Mark I*, with 3 spare screwdrivers... | 2 | To be obtained on loan from C. O. C. if required. |
| <i>Section No. 7.</i> | | |
| Awls, handles, brad, small..... | 2 | |
| Chisels, firmer— | | |
| 1-inch..... | 1 | |
| 1-inch..... | 1 | |
| 1-inch..... | 1 | |
| Files, bastard— | | |
| Flat 6-inch..... | 2 | |
| Half-round, 10-inch..... | 2 | |
| " 8-inch..... | 1 | |
| " 6-inch..... | 2 | |
| " 4-inch..... | 2 | |

| Description. | Quantity allowed. | Remarks. |
|--|-------------------|----------|
| Files, bastard— | | |
| Pillar 6-inch..... | 1 | |
| Round, 8-inch..... | 1 | |
| " 4-inch..... | 2 | |
| " 3-inch..... | 2 | |
| Hand safe edge, 10-inch..... | 2 | |
| " 8-inch..... | 2 | |
| 3-square, 6-inch..... | 2 | |
| Files, dead smooth, 3-square, 6-inch..... | 1 | |
| Files, smooth— | | |
| Flat, 6-inch..... | 1 | |
| Half-round, 8-inch..... | 1 | |
| " 6-inch..... | 2 | |
| " 4-inch..... | 1 | |
| Pillar, 6-inch..... | 2 | |
| " 3-inch..... | 1 | |
| Hand safe edge, 8-inch..... | 2 | |
| " 6-inch..... | 1 | |
| 3-square, 5-inch..... | 1 | |
| " 4-inch..... | 2 | |
| Gimlets, common, Nos. 2, 3 and 5..... | 3 | |
| Gouges, handles firmer— | | |
| 1-inch..... | 1 | |
| 1-inch..... | 1 | |
| 1-inch..... | 1 | |
| Hammer, riveting— | | |
| 24-oz..... | 1 | |
| 4-oz..... | 1 | |
| Handles, file— | | |
| Large..... | 6 | |
| Small..... | 6 | |
| Irons, soldering, tinman's.....small. | 1 | |
| Pliers, flat nose, pairs..... | 1 | |
| Rasps, second cut, half-round, 9-inch..... | 1 | |
| Saws, hand, 23½-inch..... | 1 | |
| Stock drill hand, Mark II..... | 1 | |
| Vices, hand, 15-oz..... | 1 | |

TOOLS FOR CIRCUIT ARMOURERS.

The following additional tools will be supplied to Armourers when they become Circuit Armourers:—

Small Arm Section.

| Description. | Quantity allowed. | Remarks. |
|---|-------------------|---|
| <i>Small Arms Section.</i> | | |
| Boxes, component, empty circuit, Armourers'.... | 1 | |
| Braces armourers bits screw-drivers, stop sut.... | 1 | |
| Gauges, armourer:— | | |
| Plugs— | | |
| .303-inch..... | 1 | } To be obtained from C.O.C. when required by circuit, district and departmental armourers. |
| .307-inch Mark I..... | 1 | |
| .308-inch..... | 1 | |
| .310-inch Mark I..... | 1 | |
| Lead No. 2, Mark I..... | 1 | |
| Rods, plug..... | 1 | |
| Mallets, scabbard sword, cavalry..... | 1 | |
| Mandrels, scabbard sword:— | | |
| Staff Sergeants'— | | |
| Patt. '69..... | 1 | |
| Patt. '67 and '68..... | 1 | |
| Cavalry, Patt. '85— | | |
| Mark II (also for patt. '69 and household cavalry patt. '92)..... | 1 | |
| Mandrels, scabbard sword, cavalry, patt. '68..... | 1 | |
| Punches, depressing lever..... | 1 | |
| Rasps, fine, half-round, 9-inch..... | 1 | |
| Stones, oil, slips, arkansas small..... | 1 | |
| Stamps, steel, for metal— | | |
| $\frac{1}{16}$ -inch figures 0 to 8, set..... | 1 | |
| $\frac{1}{16}$ -inch letter, set..... | 1 | |
| Dash lines, $\frac{1}{16}$ -inch..... | 1 | |

