

BILL OF MATERIAL

| No. of Pieces | Material | Dimensions | Part Name |
|---------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1 1 2 2 2 2 1 | Cold-rolled steel rod Cold-rolled steel rod Flat iron Flat iron Soft iron Flat washer | 3/8" x 6" 1/2" x 1/2" x 1 1/4" 1/8" x 1/2" x 2" 1/8" x 1/2" x 1 3/4" 3/16" x 1" 5/16" | Handle Yoke Yoke bracket Jaw Rivets (round head) Flat washer |

CONSTRUCTION PROCEDURE

HANDLE:

Cut a 6" piece of 3/8" cold-rolled steel rod.

Thread the first 2" on one end with a 3/8" - 16 N.C. die.

Cut this piece evenly in half and form a T by welding the non-threaded 3. piece to the non-threaded end of the other piece.

YOKE:

Cut a 1 1/4" piece of 1/2" x 1/2" cold-rolled flat iron.

Drill a 5/16" hole in the center and thread this hole with a 3/8" -5. 16 N.C. tap.

Drill two holes 3/16" diameter, perpendicular to the 5/16" hole, 1/4" from each end and centered.

Grind the ends to a 1/4" radius. 7.

YOKE BRACKETS:

8. Cut two pieces of 1/8" x 1/2" flat iron 2" long.

Place the yoke in the center of this piece and bend cold around the yoke to make a 90° bend on each side.

Drill a 3/16" hole on each end of these two pieces 1/2" from the outside 10.

Round all front edges on these brackets. 11.

JAWS:

- 12.
- Cut two pieces of $1/8" \times 1/2"$ flat iron 1 3/4" long. Make a 90° bend 3/8" from one end of each piece. File a 30° notch in the end closest to the bend.

ASSEMBLING THE PARTS:

Weld the jaws to the yoke brackets.

Attach the jaw and bracket pieces to yoke with two 3/16" x 1" rivets. 16.

Screw the T-handle into the yoke. 17.

Grind a 5/16" washer down to a 1/2" outside diameter and weld on the 18. end of the threaded part of the handle.

Remove all slag and clean properly with a grease and oil remover if 19. needed. Prime with a rust-inhibiting paint.

After primer coat of paint has dried, paint with a suitable metal enamel 20. paint.

AVAILABLE FROM: Instructional Materials Laboratory, 10 Ind. Ed. Bldg., University of Missouri, Columbia, Missouri 65201.