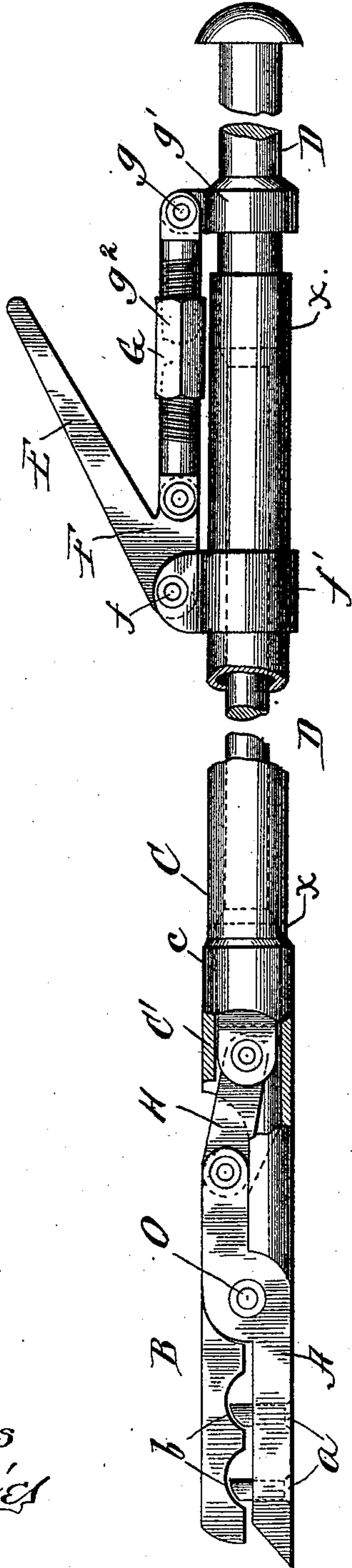


(No Model.)

H. KOESTER.
TONGS FOR DRAWING PIPES.

No. 582,293.

Patented May 11, 1897.



Witnesses
W. C. Corlies
C. A. Crawford

Inventor
Henry Koester
by atty
Paul Synnestvedt.

UNITED STATES PATENT OFFICE.

HENRY KOESTER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE CRANE
COMPANY, OF SAME PLACE.

TONGS FOR DRAWING PIPE.

SPECIFICATION forming part of Letters Patent No. 582,293, dated May 11, 1897.

Application filed February 19, 1894. Serial No. 500,778. (No model.)

To all whom it may concern:

Be it known that I, HENRY KOESTER, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tongs for Drawing Pipe, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawing.

10 This invention relates to tongs used in the manufacture of pipes or tubes which are formed by drawing long strips of metal through a bell-shaped ring. Heretofore the prevailing practice has been to weld a handle
15 onto the piece to be drawn, which practice is objectionable for several reasons. First, it is wasteful, as the tag at the end of the pipe to which the handle is attached must be cut off after the tube is drawn; second, the
20 use of a handle welded to the iron makes it necessary before drawing each tube to throw the bell or ring over the end of the handle and then slip it into a kind of fork or support, which holds it while the drawing is in
25 progress. When tongs are used, a fixed bell can be used, the tongs being put through the bell, and this effects a very large saving in time.

30 More specifically this invention has for its object the construction of a form of tongs which will be satisfactory as to grip or holding power and facility of operation and at the same time of simple and economical design.

35 Further objects of my invention will appear from the detailed description which I shall now give, and the means by which I attain such objects I shall distinctly point out in the accompanying claims.

40 In the drawing, A and B are the jaws of the tongs; C, the outer or sleeve part of the handle; D, the inner rod; E, the hand-lever, and F and G the two arms of a toggle that is used in tightening up the jaws. The jaw B is integral with the hollow cylindrical part
45 C', to which the sleeve part of the handle C is welded or fastened at c. The jaw A is pivoted to the jaw B at O, and is connected to the inner rod D by the link H in such a manner that any movement of the rod D away
50 from the pivot O tends to close the jaws A and B, and any movement of the rod D to-

ward the pivot tends to open the jaws. To secure a freer movement of the inner rod within the sleeve, it is provided with end bearings *x*, arranged as shown. These end
55 bearings hold the sleeve and rod in rigid alinement, and thus serve to minimize the ill effects (binding, springing, &c.) which might result from the action of the handle-toggle and the link H or the side strain which such
60 action necessarily causes.

The above-mentioned movements of the rod D are secured through the instrumentality of the toggle F G, of which the arm F is pivoted at *f* to a collar *f'*, surrounding and fastened
65 to the sleeve of the handle C, while the arm G is pivoted at *g* to a collar *g'*, surrounding and fastened to the inner rod D. Integral with the arm F of this toggle is a hand-lever E, which serves for operating the toggle to
70 move the rod D and open and close the jaws A and B. To open the jaws preparatory to gripping the iron, the hand-lever E is pulled away from the handle C, which movement raises the center of the toggle F G, moves the
75 rod D inward, or toward the pivot O, and, through the link H, causes a downward movement of the jaw A. The reversal of this movement causes the jaws A and B to close, in which position they are firmly held or
80 locked after the arms of the toggle come to the same axial line.

The arm G of the toggle is provided with an adjusting-nut *g*² for taking up any slack that
85 may result from wear.

In the jaw A are inserted removable teeth *a*, which in conjunction with the recesses *b* in the jaw B serve to secure a firmer grip or hold on the metal without the danger of tearing
90 which would be incurred were the teeth allowed to penetrate entirely through the iron. These teeth are preferably made of hardened steel and are arranged as shown in order that they may be replaced when worn or broken.

Having thus described my invention, what
95 I claim as new, and desire to secure by Letters Patent, is—

1. In tongs for drawing pipe, the combination of two jaws pivotally connected together; a handle-sleeve rigidly attached to one of said
100 jaws; a rod movable endwise relative to said sleeve; a link connecting said rod with the

other of said jaws; a toggle having one arm connected with the sleeve, and the other arm attached to the rod; and a hand-lever; substantially as described.

5 2. In a pair of tongs, the combination with two jaws, a handle comprising two members movable endwise relative to each other, means of connection between said jaws and said handle members, and a toggle for securing said
10 endwise movement, of an adjusting device in connection with said toggle, substantially as described.

3. In tongs for drawing pipe, the combination of the jaws A and B: the handle-sleeve
15 C and rod D: the link H: the toggle F, G: and the hand-lever E: all arranged substantially as shown and for the purpose specified.

4. A pipe-drawing tool consisting of a fixed and a movable gripping-jaw pivotally connected, the fixed jaw having a slot in its handle, and a link in said slot connected to the handle of the movable jaw, in combination
20 with a rod connected to the opposite end of said link, and an operating-lever, substantially as described.

5. In a pair of tongs, a body having a jaw projecting therefrom, a second jaw pivoted thereto, a sliding link pivotally connected with said second jaw and an operating-rod
25 pivotally connected with said link, substantially as described.

6. In a pair of tongs, a body having a jaw projecting therefrom, a second jaw pivoted thereto, a sliding link connected with said

body, and an arm projecting from said second jaw and having a pivotal connection with said sliding link, and an operating-rod pivotally connected with said sliding link, substantially as described. 35

7. A pair of tongs comprising gripping-jaws combined with a lever which serves to open and close the jaws with equal force, a rod connected with the lever, and a pipe or tube in which the rod is incased, substantially as described. 40

8. A pipe-drawing tool consisting of two jaws which grip the skelp, a lever and a rod connecting the lever with one of the jaws for forcibly opening and closing the jaws, substantially as described. 45

9. In a pair of tongs, the combination with its jaws; of a handle comprising two members movable endwise of each other and operatively connected with said jaws, a hand-lever attached to one of said handle members, and
50 a toggle connecting said hand-lever with the other of said handle members, said toggle being constructed to lock the jaws in close position, substantially as described. 55

10. In a pair of tongs having a handle comprising a sleeve and a rod within said sleeve, the combination with said parts of end bearings between the sleeve and the rod, substantially as described. 60

HENRY KOESTER.

Witnesses:

F. N. WINNE,

T. B. SANBORN.