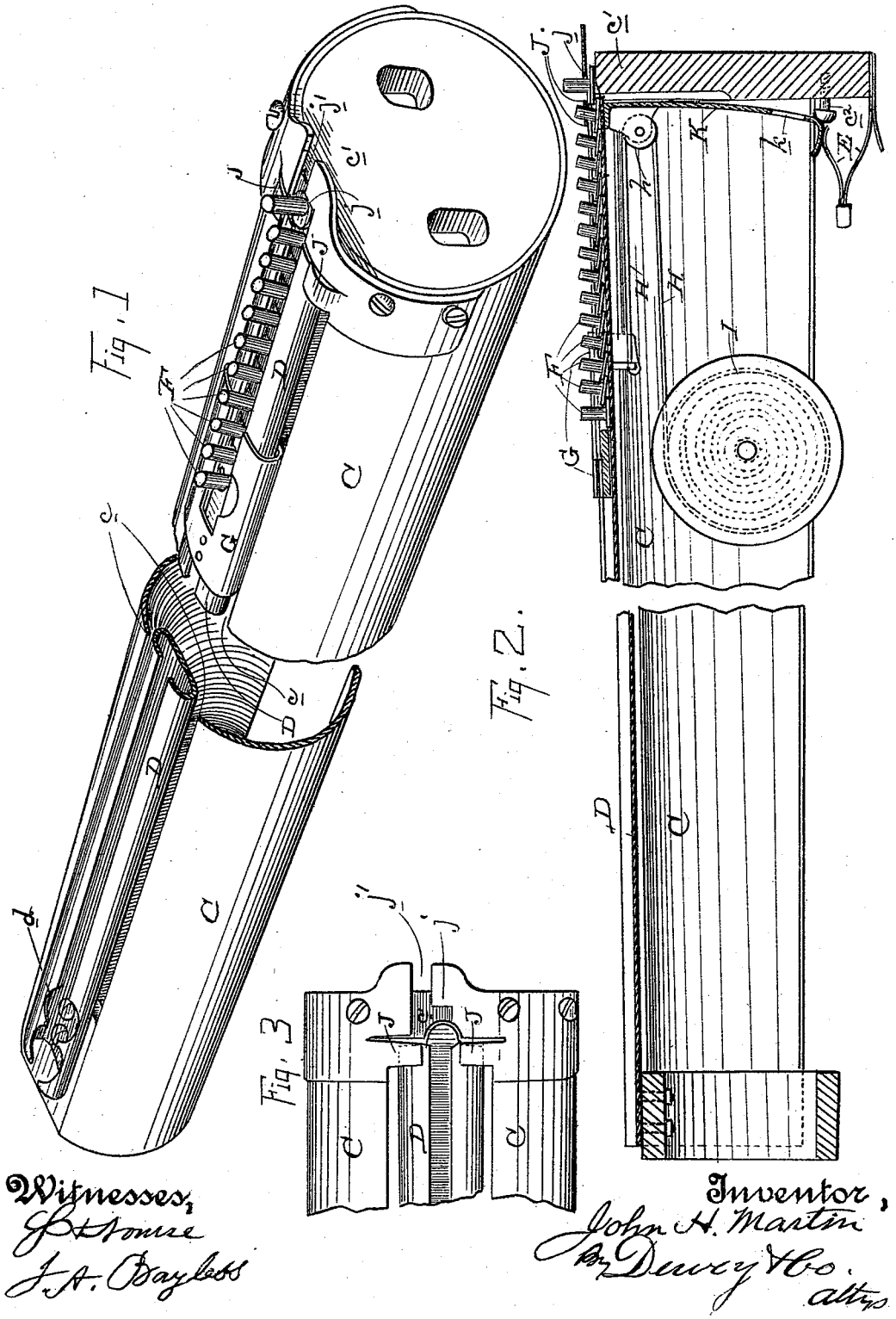
(No Model.) 2 Sheets—Sheet 1.

J. H. MARTIN.

RIVET FEEDING DEVICE.

No. 490.609. Patented Jan. 24, 1893.



Witnesses,
J. L. Howse
J. A. Bayless

Inventor,
John H. Martin
By Dewey & Co.
attys

(No Model.) 2 Sheets—Sheet 2.

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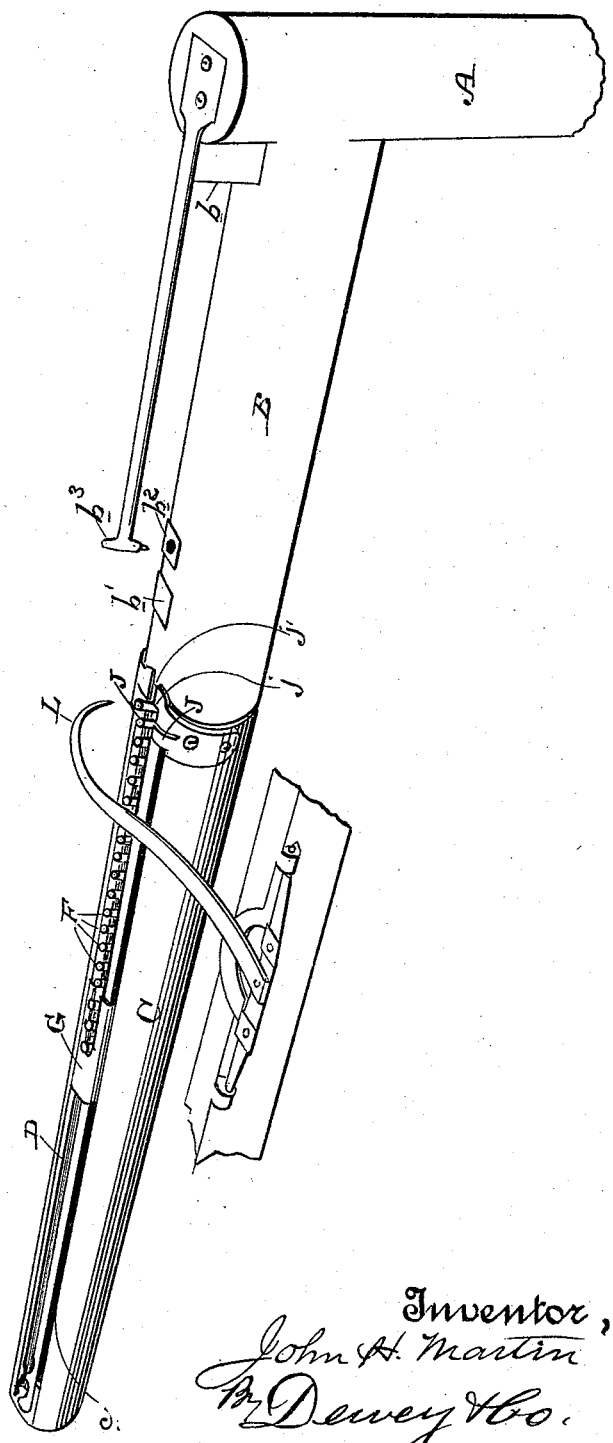
Fig. 4



Witnesses,
P. Browne
J. A. Bayless

Inventor,
John H. Martin
By Dewey & Co.
Attys

UNITED STATES PATENT OFFICE.

JOHN H. MARTIN, OF OROVILLE, CALIFORNIA.

RIVET-FEEDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 490,609, dated January 24, 1893.

Application filed March 24, 1892. Serial No. 426,295. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. MARTIN, a citizen of the United States, residing at Oroville, Butte county, State of California, have invented an Improvement in Rivet-Feeders; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of machinery for making sheet iron pipe, and particularly to those machines designed for facilitating the riveting of the pipe.

My invention consists in the novel construction and arrangement of parts hereinafter fully described and specifically pointed out in the claims, and constituting a device by which the rivets are placed in position automatically to be entered in the holes of the pipe successively.

The object of my invention is to provide a simple and effective attachment to a pipe-maker's stake, whereby the rivets are automatically supplied and forced successively to position to be readily introduced into the holes of the pipe, said attachment in no wise interfering with the operation of pipe making, or being in the way of the pipe-maker's stake.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is a perspective view of my rivet feeder. Fig. 2 is a vertical longitudinal section of same. Fig. 3 is a plan of the discharge end of the feeder. Fig. 4 is a perspective view showing its application to a pipe-maker's stake.

A is the usual pipe-maker's stake having projecting from it the arm B which has at its base the shoulder b, and at its outer end the steel or anvil b', and the punching die b^2, above which is the punch b^3. Firmly bolted to the outer end of the arm B is the frame or stock C of my feeder which extends out in line with said arm. In the top of this frame or stock is made an elongated slot or opening c its entire length, and in this opening is fitted and adapted to be depressed and elevated the guide D for the rivets. This guide is secured to the outer end of the frame or stock C, and its inner end is free, so that said end may be depressed below the level of the stock, and rise again to its level. It is held up normally, either by means of its own springy nature, or by means of an independent spring E, presently to be described. This guide consists of a hollow or channeled piece slotted on top and adapted to receive the rivets F, the heads of which lie within the channel of the guide, while their bodies project through its slot, as shown.

G is a follower mounted and adapted to slide upon the guide D, and bearing against the back end of the row of rivets. This follower is actuated by means of a cord H attached to it, and thence passing forwardly about a guide pulley h secured to the under side of the inner end of the guide and back to a spring actuated winding drum I located in the frame or stock C. This drum causes the follower to be constantly pulled toward the inner end of the guide, and thereby to force the rivets up continually to the inner end.

Upon the inner end of the stock C is a limiting stop J under which bears the free end of the guide D whereby its upward movement is limited and its base brought on a level with a fixed bearing or end c' of the stock whereby the head of the foremost rivet may be forced over on to said fixed bearing or end. The stop J has also a shoulder or offset j which limits the forward movement of the rivets, and beyond said shoulder and to one side thereof is an exit slot j' through which the foremost rivet may be removed.

Secured under the forward end of the movable guide D is an arm K under the lower end of which bears the spring E by which the guide is held in a normally raised position. The lower end of the arm K has an opening or slot k which is adapted to fit over a fixed pin c^2 in the end of the stock, whereby the arm may be held permanently down to keep the guide depressed, as I shall presently explain.

The rivets F are entered into the channeled guide by an enlarged opening d in its outer end, and their heads are made to overlap, the head of the forward rivet lying above the head of the succeeding rivet, so that the foremost rivet will be readily forced from the inner end of the guide on to the fixed bearing or end c' of the stock. To the side of the bench is hinged the pointer L, the end of which lies

directly in the vertical plane of the foremost rivet. The pointer being hinged can be readily turned out of the way when desired.

The operation of my feeder is as follows:— The follower G is drawn outwardly upon the guide to the outer end and there held temporarily. The rivets are then placed in the guide until the entire guide is full. The follower is then released and pressing upon the back end of the row of rivets forces said row forwardly. The foremost rivet is forced from the end of the guide upon the fixed bearing or end c' of the stock, and is there held by the shoulder or offset j. The pipe section, unnecessary herein to show, is now slipped over the stock C, and on to the arm B of the pipe-maker's stake. The end of the previously made pipe is also slipped over the stock and up to the new section which is, as usual, butted against the shoulder b of arm B to cause the two ends to lap properly. Then the overlapping ends of the sections are brought back again until their holes are over the foremost rivet, the position of which is easily ascertained by the pointer. The sections are then dropped so that the hole passes over the foremost rivet, and the weight of the pipe pressing down upon top of the rivets, back of the foremost rivet, will press the entire series, together with the guide D in which they are carried, downwardly, flush with the top of the stock; but the foremost rivet resting upon the fixed bearing c' of the stock, is not pressed down, but passes through the hole. While the pipe is still pressing down the row of rivets, it is turned axially so as to carry the foremost rivet which is now in the hole, over to one side in line with the exit slot j' and the pipe is then drawn inwardly, carrying the rivet with it through said slot on to the anvil or steel where a tap of the hammer will head it sufficiently to cause it to hold. Now, the pipe is lifted slightly so that it relieves the row of rivets and the guide, which latter, rising again, forces the now foremost rivet forwardly on to the fixed bearing c' and against the limiting shoulder j. The pipe is now brought back to this foremost rivet and turned so as to present another hole to said rivet, and the operation is thus repeated. Thus the entire round of rivets may be inserted in the holes of the pipe, the rivets being constantly and automatically fed forward to be received by said holes. When the round is complete, and in order to withdraw the pipe and to fit another section on to the feeder without disturbing the rivets, the arm K is drawn downwardly and hooked over the pin c^2 thereby holding the guide, with its rivets, down while this operation takes place.

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

1. In a rivet feeder, the combination of the hollow or channeled guide adapted to receive a row of up-ended rivets and having a slot in its top through which the upper ends of the rivets project, a follower slidable on said guide in line with the row of rivets and means for actuating the follower to feed the rivets forward, substantially as herein described.

2. In a rivet feeder, the combination of a depressible and slotted guide adapted to receive a row of up-ended rivets a follower slidable on said guide in line with the row of rivets, and means for actuating the follower to cause it to feed the rivets forward, substantially as herein described.

3. In a rivet feeder, the combination of a depressible guide for carrying a row of up-ended rivets, a movable follower bearing against the back end of said row to force the foremost rivet to place, a fixed stop to limit the forward movement of said row and a fixed bearing at the end of the guide to receive and sustain the foremost rivet when the remainder of the row and the guide are depressed, substantially as herein described.

4. A rivet feeder consisting of a frame or stock, a spring-controlled depressible slotted guide mounted in the top thereof and adapted to receive a row of up-ended rivets, a follower acting on said row to force it forward continually, and a fixed bearing or support on the stock end upon which the foremost rivet is forced whereby it may pass through the hole in the pipe while the rest of the row with the guide are depressed by the weight of said pipe, substantially as herein described.

5. A rivet feeder consisting of a slotted frame or stock having at one end a fixed bearing, the shouldered stop with a discharge slot, secured to said end, a spring-controlled depressible guide mounted in said frame or stock and adapted to receive a row of up-ended rivets and a spring-controlled follower mounted upon said guide, to force the rivets forward whereby the foremost rivet is forced upon the fixed bearing of the frame or stock, and is limited by the stop, substantially as herein described.

6. A rivet feeder consisting of the frame or stock having the fixed bearing at one end, the shouldered stop with discharge slot, secured to said end, the depressible guide mounted in said frame or stock and adapted to receive a row of upended rivets, the spring controlled follower mounted upon said guide and acting on the row of rivets to force the foremost rivet on to the fixed bearing of the frame or stock, and the fastening arm of said guide whereby it is held down when necessary, substantially as herein described.

7. A rivet feeder consisting of the frame or stock having at one end the fixed bearing, the limiting stop on said end having the shoulder and discharge slot, the channeled guide mounted in the top of the frame or stock and adapted to be depressed therein, the fastening arm and controlling spring of said guide, the follower on said guide for forcing the row of rivets forward and the spring drum and the cord connecting said drum with the follower, substantially as herein described.

8. The rivet feeder consisting of the frame or stock, the depressible rivet guide, the spring-controlled follower and the support and stop for the forward rivet, in combination with the pointer, the end of which is in the vertical plane of said forward rivet to indicate its position, substantially as herein described.

9. In combination with the arm B of a pipe-maker's stake, the stock or frame C attached to the end of the arm and extending in line therewith, the depressible guide carried by the stock for carrying a row of up-ended rivets, the follower for bearing against the back end of the row of rivets, the fixed bearing or head to receive and support the foremost rivet, the stop shoulder and the slot to permit the removal of the rivet, substantially as herein described.

In witness whereof I have hereunto set my hand.

JOHN H. MARTIN.

Witnesses:
S. H. NOURSE,
J. A. BAYLESS.