(No Model.)

J. B. ROOT.

DEVICE FOR FEEDING RIVETS.

No. 280,404. Patented July 3, 1883.

fig. 1.

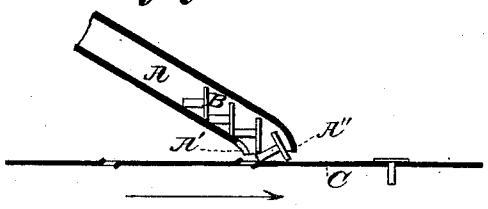


fig. 2.

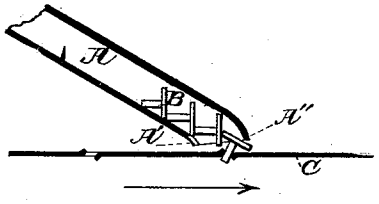


fig. 3.

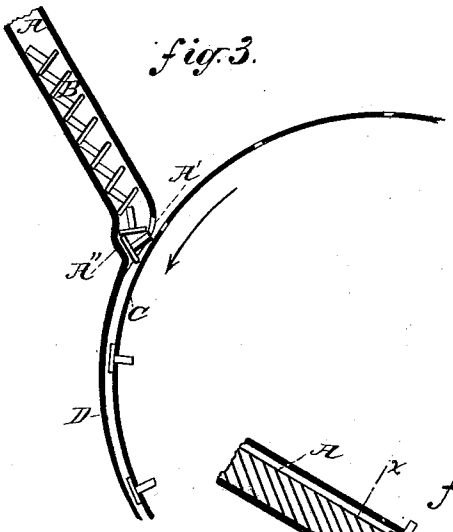


fig. 4.

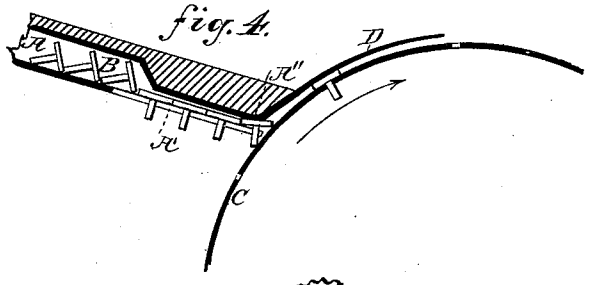


fig. 8.

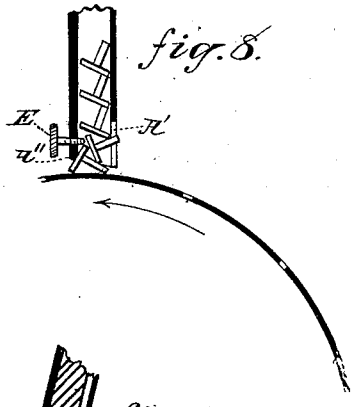


fig. 5.

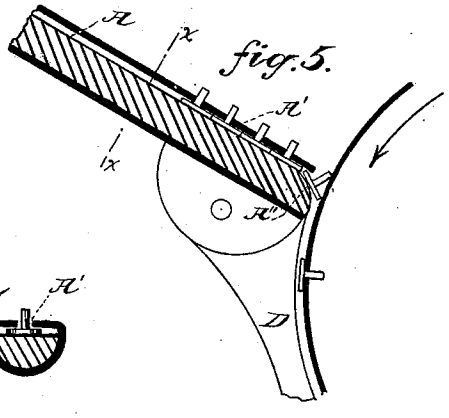


fig. 7.

fig. 6.

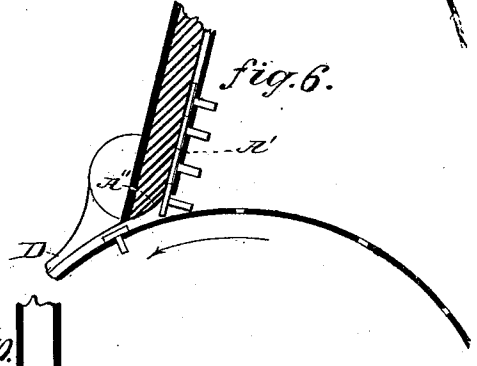


fig. 11.

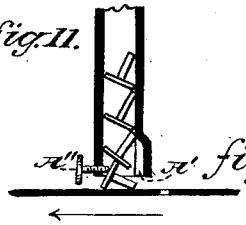


fig. 9.

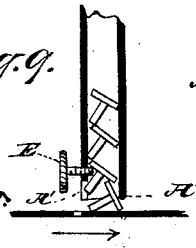
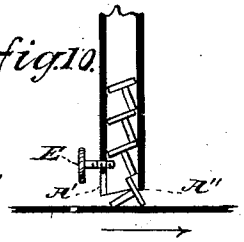


fig. 10.



Witnesses:
Henry Schling
R. D. Gaylord

Inventor
John B. Root

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN B. ROOT, OF PORT CHESTER, NEW YORK.

DEVICE FOR FEEDING RIVETS.

SPECIFICATION forming part of Letters Patent No. 280,404, dated July 3, 1883.

Application filed June 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. ROOT, of Port Chester, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Mechanism for Feeding and Inserting Rivets, which are explained in the following description in such full, clear, and exact terms as will enable a person skilled in the art to make and use the same.

My invention relates to devices for feeding rivets to and inserting them in a punched blank or plate.

It consists of a pipe or carrier constructed to contain the rivets and convey them to the blank to be riveted, which carrier is provided at its delivery end with a slot or other equivalent means arranged to direct the points of the contained rivets to engagement with the holes in the blank; and it is also constructed so that its delivery end constitutes a shoulder or abutment, against which the heads of the rivets can bear as they are being carried forward after engaging with the blank, and be thereby inserted in the blank. These features of invention are fully illustrated in the views of the accompanying drawings, which views represent various modified forms of carriers embodying my improvements, the like parts of these modifications being indicated by the same letters of reference.

Referring to these views, and particularly to Figure 1, A represents a rivet-carrier; B, the rivets contained therein, and C the blank to be riveted, which, for this purpose, is punched with holes *c*, of a shape especially adapted to catch the points of the rivets, as shown, and is moved just below the end of the rivet-carrier in the direction of the underlying arrow. At A′, on the side next the advancing blank, the rivet-carrier is cut away or slotted, or enlarged, as hereinafter described, so that the points of the contained rivets may be freed for the purpose of engaging with the holes in the advancing blank. This slot in the walls of the rivet-carrier is, however, only large enough to permit the points of the rivets to escape, their heads being held within the carrier until after their points have engaged with the holes in the blank intended to receive them.

A″ is a shoulder arranged on the delivery end of the carrier, on the side next the receding blank. In this view it is shown as an integral part of the walls of the carrier. Its office is to force the shanks of the rivets into the holes which catch their points. As the rivets successively reach the blank they assume an inclined position thereon, with their heads bearing against the shoulder A″ and their points in the line of the rivet-holes in the blank, being directed to such position by their shanks following the slot A′, so that as the blank advances the point of the rivet resting upon the blank is caught in one of the holes *c*, and by the conjoint action of the advancing blank and the fixed shoulder the rivet-shank is gradually forced into the hole with which its point engaged. As one rivet is thus inserted and carried on by the blank another feeds forward by the action of gravity in time to fill the next rivet-hole.

Fig. 2 shows the same arrangement as Fig. 1, except that the rivet is shown as partly inserted.

Fig. 3 shows how these features of invention may be applied to carriers which are used to rivet curved blanks—such as spirally-seamed pipe, or pipe having longitudinal and transverse seams, are made from. Here, also, the advanced rivet is shown in the proper position for its point to drop into a hole in the downwardly-feeding blank. This carrier is turned or bent, so as to insert the rivets in the side of the pipe-blank, and after being inserted the rivets are held in place by an apron or shield, D, until they reach the heading mechanism, and in this and the following views the holes in the blank are plain rivet-holes, as the special shape shown in the first two figures, though preferable, is not essential.

Fig. 4 shows a carrier having the opening A′ extending along its length for a greater distance than in the carriers of the first three views. The action upon the rivet is the same here as in the other cases, only the points of the rivets are directed toward the blank somewhat sooner, and hence two or more rivets are in position to arrive upon the blank, so as to engage with the rivet-holes, and the certainty of all the rivet-holes being filled is insured, for if any binding occurs where the rivets turn to project their points from the carrier and a momentary interruption in the feed is produced, these advanced rivets suffice to supply a number of rivet-holes until the weight of the col-

umn of rivets is thrown entirely upon the obstructing rivet and its resistance overcome. The walls of the carrier may be contracted, as shown; but this is not necessary to its successful operation.

Figs. 5 and 6 are similar views to the one last described. They show blanks traveling in a direction opposite to that of the blank in the last figure, and the carriers are placed at different inclinations. The cross-section of Fig. 5 on plane *x x* is shown in Fig. 7.

Figs. 8, 9, and 10 show rivet-carriers in a perpendicular position. In these the opening A′ is a short slot capable of guiding but a single rivet at a time, and an adjustable screw-stop, E, is employed to tip the rivets, so that their shanks will fall into such opening. In Fig. 11 the same form of perpendicular carrier is shown; but the opening in this case is made by extending or grooving its walls, where in the preceding figures they have been shown as slotted or cut away. In this view, also, the shoulder A″ is shown as adjustable, and is arranged to both turn the points of the rivets toward the advancing rivet-holes and act as a means to insert them. The extent of the opening A′, so that it allows the point of at least one rivet to be free to engage with the blank, is not material. It may extend but a short distance from the end of the carrier, or it might extend its whole length. This opening may also be of different shapes than those shown and described. It might consist of a long oval, such as would be produced by cutting the carrier on a plane at an acute angle to its axis; but such changes do not alter the function of this feature of the invention, so long as the carrier can retain the rivets after their points have been freed.

What I claim as new is—

A rivet-carrier the delivery end of which is provided with a slot arranged to direct the points of the rivets to engagement with the rivet-holes, and is constructed to act as a shoulder for the rivet-heads to bear against, as and for the purpose described.

JOHN B. ROOT.

Witnesses:
R. F. GAYLORD,
H. F. NEWBURY.