

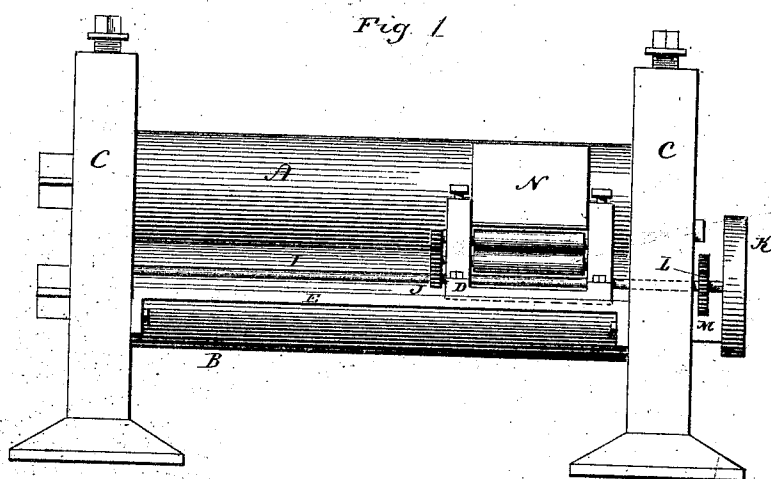
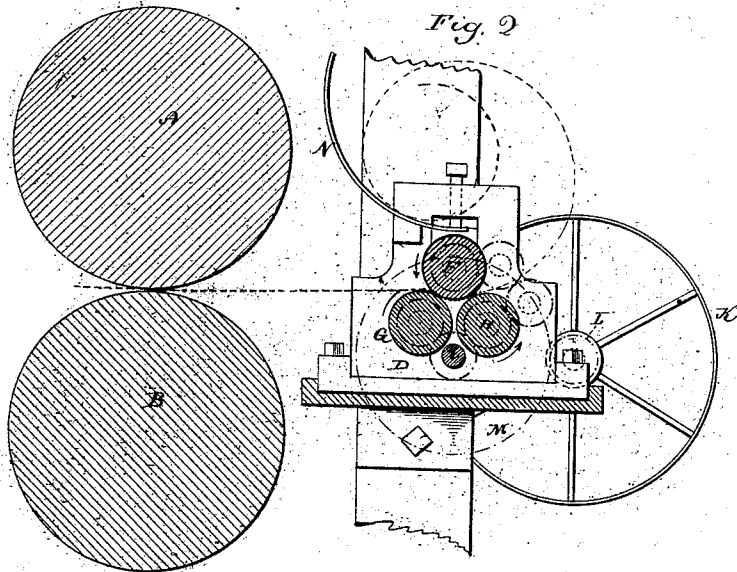
(No Model.)

A. P. HINE.

COILING ATTACHMENT FOR ROLLS OR SLITTERS.

No. 357,082.

Patented Feb. 1, 1887.



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COILING ATTACHMENT FOR ROLLS OR SLITTERS.

SPECIFICATION forming part of Letters Patent No. 357,082, dated February 1, 1887.

Application filed November 4, 1886. Serial No. 217,937. (No model.)

To all whom it may concern:

Be it known that I, ADELBERT P. HINE, of Torrington, in the county of Litchfield and State of Connecticut, have invented new Improvements in Coiling Attachments for Rolls and Slitters; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a front view of a pair of rolls, showing the coiling apparatus upon the delivery side of said rolls; Fig. 2, a vertical transverse section cutting through the carriage, bending-rollers, and rolls, enlarged.

This invention relates to an attachment to be applied to sheet-metal rolling and slitting apparatus, having for its object to coil the sheet or strips as they pass from the machine.

In slitting sheet metal—that is, cutting it into narrow strips for various purposes—the strips have been wound upon a drum usually by an attendant turning the drum as fast as the strips are delivered. The sheet itself, when not slit, is also wound in the same manner, it being understood that this invention applies particularly to that class of metal which is rolled in long continuous sheets or strips.

The prime object of my invention is to avoid the drum hitherto used and make the winding automatic.

In illustrating the invention I show a single pair of rolls, A B, arranged in uprights C C in the usual manner, and so that power is applied thereto to act upon the sheet as it passes between the two rolls, the method of driving the rolls and their arrangement being too well known to require detailed description. Upon the delivery side of the rolls I arrange a carriage, D, in a guideway, E, the said guideway being parallel with the rolls A B and extending from one upright to the other, and so that the carriage may be moved to any point between the uprights and in a plane parallel with the rolls. In the carriage D three rollers, F, G, and H, are arranged, their axes being parallel with the axes of the rolls A B, and the several rolls geared together, as indicated in Fig. 1, so that revolution is imparted to the

rolls in the direction indicated by the arrows, Fig. 2. The two rollers G H are best arranged in the same plane and the roller F above, but in a plane between the two rollers G H, so that the roller F may be depressed to some extent between the two rollers G H in the usual manner for bending-rollers, the extent of the bend imparted by the rollers F G H depending upon the extent to which the roller F is depressed between the two rollers G H, this being a common arrangement of rollers for bending purposes.

Longitudinally through the carriage is a shaft, I, taking its bearings in uprights, but so as to permit the carriage to be moved longitudinally thereon. The shaft I carries a pinion, J, which gears into the pinions on the respective rollers, and so that the revolution of the shaft I will impart corresponding revolution to the rollers F G H.

The pinion J is splined to the shaft I, so as to partake of its revolution, but yet so that it may be moved with the carriage longitudinally, and so that the carriage may be set at any desired position between the uprights and yet the rollers be in connection with the shaft I.

Revolution is imparted to the shaft I through a driven pulley, K, carrying a pinion, L, which works into a gear, M, on the shaft I. Fixed to the carriage D above the rollers is a curved receiver, N, the curve being backward and upward from the rollers, so as to present a concave surface forward.

As the sheet or strips, as the case may be, passes through the rolls A B it enters between the rollers F G H, and by those rollers F G H is given a curve, turning the sheet or strips upward and backward, according to the curve, and carrying the strips or sheet onto the receiver N, and because of the curve given to the sheet or strips the constant advance of the sheet or strips onto the curved receiver N causes the sheet or strips so on the receiver to constantly revolve, and thus coils the sheet or strips on the receiver as fast as it is delivered through the bending-rollers F G H, the coiled metal resting and rolling on the receiver so long as it shall continue to be delivered from the bending-rollers.

It will be understood that if the metal be slit, that such slitting is performed before it arrives

- at the bending-rollers, and as the strips are delivered side by side through the rollers they thus pass onto the receiver N and will be accordingly coiled thereon, and whenever the whole strip or sheet has been thus delivered upon the receiver, or at any time during the coiling operation, the coiled portion may be removed by severing it from the advancing portion.
- 10 The object of arranging the carriage to slide longitudinally is that the principal rollers may be used at different points on their length—that is, after having rolled for a time at one point the carriage may be moved and set at
- 15 another point, so that the coiling will be produced at that point; but in case the coiling apparatus corresponds to the length of the rolls then the coiling apparatus may be a fixture.
- I claim—
- 20 1. The herein-described coiling attachment for sheet-metal rolls and slitters, consisting in the revolving bending-rollers F G H, adapted to receive the metal to be coiled and impart to it the coiling bend, combined with a curved receiver, N, fixed in the described relation to the bending-rollers, substantially as described, and whereby as the sheet or strips come through the rollers they will be delivered upon said receiver and coiled thereon under the delivering action of the rollers.
2. The combination of the rolls A B, the carriage D, arranged on a guide parallel with and upon the delivery side of said rolls A B, revolving bending-rollers F G H, arranged in said carriage, their axes parallel with the axes of the rolls A B, and curved receiver N, fixed to said carriage and upon the delivery side of said rollers F G H, substantially as and for the purpose described.
- ADELBERT P. HINE.
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