

No. 661,823.

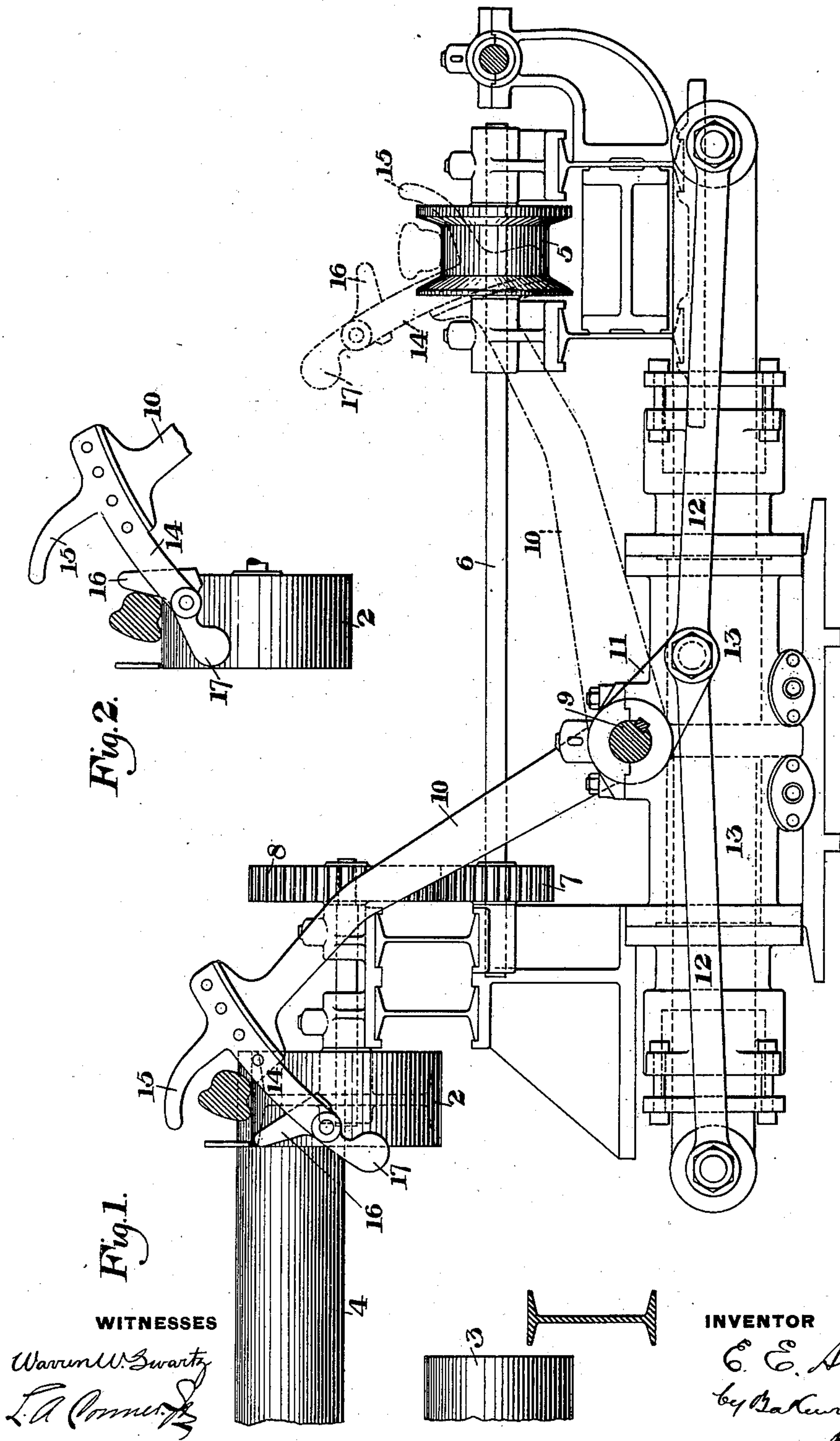
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E. E. SLICK.

TRANSFER MECHANISM.

(Application filed Aug. 2, 1900.)

(No Model.)



THE NORRIS PETERS CO, PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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TRANSFER MECHANISM.

SPECIFICATION forming part of Letters Patent No. 661,823, dated November 13, 1900.

Application filed August 2, 1900 Serial No. 25,635. (No model.)

To all whom it may concern:

Be it known that I, EDWIN E. SLICK, of Braddock, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Transfer Mechanism, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

10 Figure 1 is a front elevation of my improved mechanism applied to rolling-mill feed-tables, and Fig. 2 is a detail view showing an arm in position to engage the metal.

15 My invention relates to the transfer mechanism employed in rolling-mills for carrying a piece of metal laterally from one pass to another in the same or another set of rolls, which later may be at the same or another level than the first pass.

20 Heretofore the arms used for the purpose have been provided with rigid fingers on each side which hold the metal in place and prevent its accidental displacement, and with this type of arms it was necessary to have the path of the arm clear when moving it into position to receive the piece. The mill could not therefore be fed uniformly and regularly, as is desirable, but the metal must be held back from the transfer-pass until the transfer-arms were in position to receive the metal as it emerged from the rolls.

30 My invention overcomes this difficulty and allows the mill to be fed regularly, as desired, and independently of the position of the transfer-arms; and it consists in providing upon one side of the transfer-arm a movable finger or detent which will be moved aside as the arm is swung out to receive the piece and will automatically resume its normal position as soon as it passes the piece to hold the metal in place during transfer.

40 In the drawings, 2 represents one of a set of feed-rolls extending from the roll-pass, in this case the last upper pass of a three-high mill, 3 being one of the rollers leading to a lower pass, and 4 one of the vertically-movable rollers employed to transfer the metal from the lower to the upper passes of this mill.

50 5 is one of the rollers on a feed-table leading to the pass of another mill at a lower level. I have shown these rollers as mounted

on shafts 6, carrying pinions engaging toothed wheels 8 on the extended shafts of rollers 2. Between the two feed-tables is mounted a longitudinal rock-shaft 9, carrying upwardly-extending transfer-arms 10 and having a lever-arm 11, connected by links 12 to the plungers of single-acting cylinders 13. The arms 10 are provided with upper supports or rests 14, having at one side a rigid finger 15 and at the other a hinged detent 16, provided with a counterweight 17, which normally holds the detent in vertical position, as shown in full lines in Fig. 1. In operating the arms the shaft 9 is rocked by admitting fluid to one of the cylinders to swing the arms into the position shown in Fig. 1. If there is no metal on the rollers 2 during this movement, the detent has no action beyond that of any rigid finger. If the metal is lying on the rollers, however, the detent engages the metal, as shown in Fig. 2, and as this part of the rest passes the metal in the last portion of the swing the detent is released and the counterweight immediately returns it to normal position. The arms are then swung to the position shown in dotted lines and deposit the metal on the rollers 3, by which it is carried forward to the next pass.

The advantages of my invention result from the use of the movable detent, since this enables the transfer-arms to operate whether the metal is in the path of the arms or not, thus allowing the metal to be fed independently of the position of the arms. The arms may be used to transfer metal to another pass in the same mill or to a pass of another mill, and only part of its arms may be provided with the detents, the others being open on the detent side, and many other changes may be made within the scope of my invention.

I claim—

1. A swinging transfer device having a movable detent arranged to automatically move to pass the metal, and means for automatically moving the detent to hold the metal on the transfer device; substantially as described.

2. A swinging transfer device having a counterweighted freely-swinging detent arranged to swing to allow entrance of a metal bar and then automatically return to its nor-

mal position to hold the bar in place; substantially as described.

3. A rolling-mill having transfer-arms arranged to carry the metal laterally from one
5 pass to another, at least part of said arms having a fixed finger at one side and at the other side a yielding detent arranged to allow entrance of the metal and then automatically

return to its normal position; substantially as described. 10

In testimony whereof I have hereunto set my hand.

EDWIN E. SLICK.

Witnesses:

E. H. HUTZEN,
C. A. STOKES.