

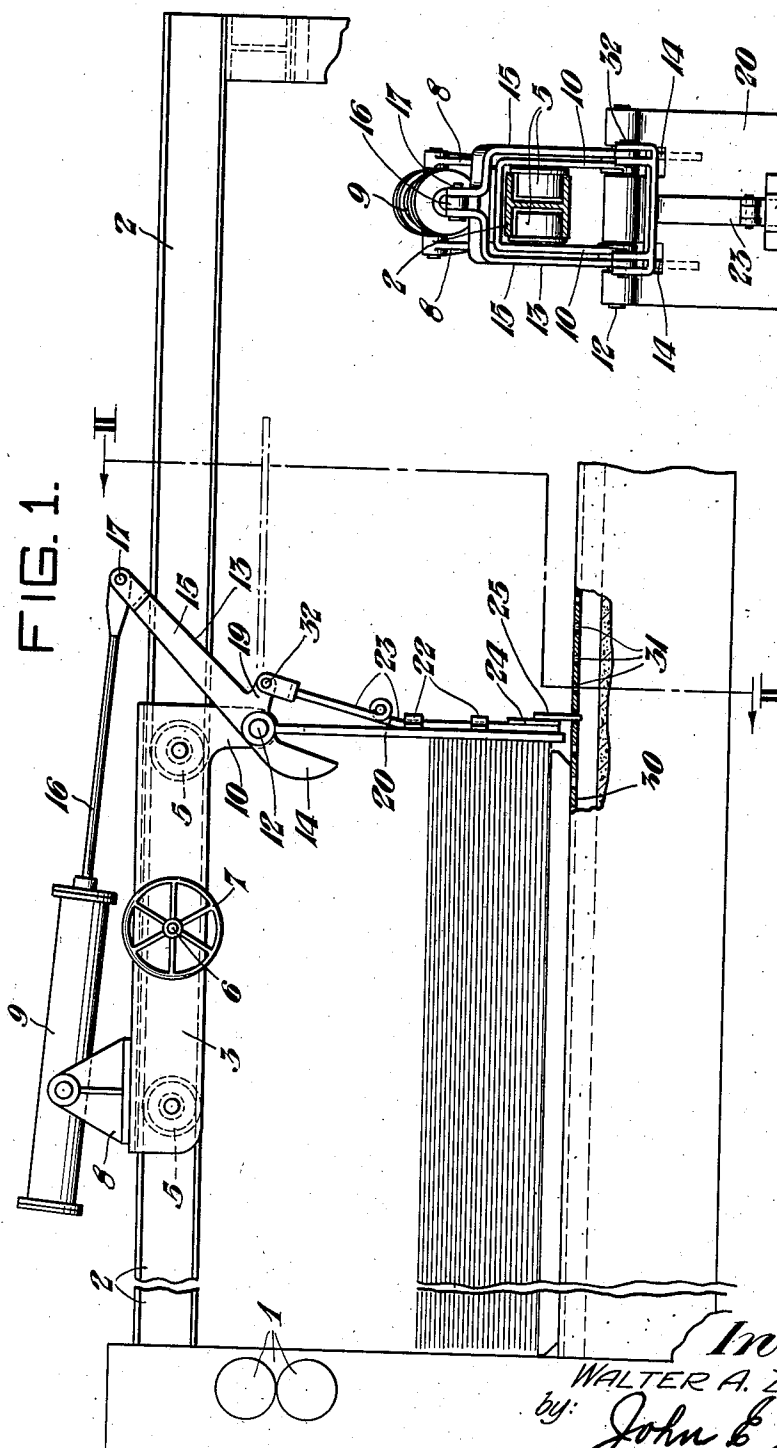
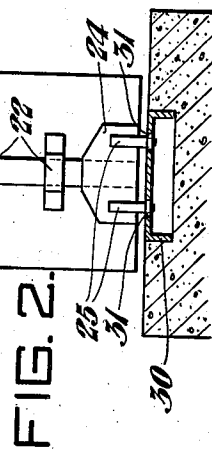
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PILER END STOP

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PILER END STOP

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2 Claims. (Cl. 271—86)

This invention relates to piler end stops, and more particularly to those devices which are used in combination with sheet feeding mechanism to enable the accurately aligned piling of the sheets fed thereby.

One of the objects of the present invention is to provide a piler end stop for use in combination with sheet feeding means which is labor saving in that it does not require any manual labor to operate the same.

Another object is the provision of a device of the class described which will operate in a rapid and efficient manner.

Still another object of the invention is the provision of a piler end stop for use in combination with sheet feeding means which eliminates danger to the operator.

Still another object is to provide a device of the class described which is cheap and easy to install, operate and maintain.

Other objects and advantages will become apparent as the description proceeds and reference is had to the accompanying drawing, in which:

Figure 1 is a side elevation of the apparatus of the present invention; and,

Figure 2 is a sectional view on the line II—II of Figure 1.

Referring more particularly to the drawing, the numeral 1 designates a machine which is constructed and arranged to feed sheets therefrom, for example, such as a machine for oiling metallic sheets. According to the prior art, sheets are fed from such machines up against the piler end stop and are subsequently removed when in piled condition by a suitable conveyor.

According to the teaching of the present invention, a support 2 is disposed adjacent to and longitudinally aligned with the delivery end of the sheet feeding mechanism generally indicated at 1. In the present instance, the support 2 comprises a single or monorail which is shown as being H-shaped in section with the flanges thereof extending horizontally. A carriage 3 is mounted for longitudinal movement on the support 2 and comprises an inverted U-shaped member having wheels 5 which are adapted to run on the upper surface of the lower flange of the H-shaped support 2. Thus, the carriage 3 is adapted for easy movement longitudinally of the support 2.

When in the desired position, the carriage 3 is locked by means of a screw threaded shaft 6, which extends through one of the sides of the

inverted U-shaped carriage 3 and bears against the adjacent face of the web of the H-shaped member comprising the support 2. The shaft 6 is suitably moved into such position that its inner end contacts the support 2 by means of a hand-wheel 7.

On its top, and at its end which is most adjacent the sheet feeding mechanism generally indicated at 1, the carriage 3 is provided with a pair of trunnion members 8 which support an air cylinder 9, the piston of which extends away from the sheet feeding mechanism 1. The end of the carriage 3 which is remote from the sheet feeding mechanism 1 is provided with a pair of downwardly extending members 10 between which there is disposed a pin 12. The pin 12 carries a bifurcated lever 13 having downwardly extending portions 14 and longer and upwardly extending portions 15 which are connected to the outer end of the piston rod 16, as shown at 17. This bifurcated lever 13 forms a bell-crank by way of being provided with short right angularly extending portions 19.

The pin 12 carries a pivotally mounted downwardly extending plate member 20 which forms the piler end stop, per se, of the present invention. It will be seen that when air is admitted to the inner side of the piston in the air cylinder 9, the piston rod 16 will be forced outwardly, whereby the short downward extensions 14 on the bifurcated lever 13 will permit the plate 20 to hang in true vertical position. When, on the other hand, air is admitted to the side of the piston in the air cylinder 9 which is remote from the sheet feeding mechanism 1, the piston rod 16 is moved within the air cylinder 9, whereby the bifurcated lever 13 is drawn in the same direction and the short downward extensions 14 thereof will raise the plate 20 to substantially true horizontal position. When in this position, the sheets previously piled may be readily withdrawn by a suitable conveyor while in their piled condition. In order to assure the vertical dependence of the plate 20, when in its capacity as piler end stop, the plate 20 carries a pair of aligned eye-members 22 within which there is disposed a reciprocable bar 23. The lower end of this bar 23 is provided with a plate member 24 to which there is connected a pair of downwardly extending pins 25. Beneath the support 2 and extending longitudinally thereof there is disposed a plate 30 which forms a base for the sheets being piled. This plate 30 is provided with a series of apertures 31 within which the pins 25 on the plate member 24 are adapted to fit, thus rigidly holding the plate 20 in its true vertical

position. To the short extensions 19 of the bifurcated lever 13 there is connected the upper end of the reciprocable bar 23 as shown at 32. The disposition of the downwardly extending short extensions 14 of the bifurcated lever 13 with respect to the plate 20 is such that the bifurcated lever 13 is permitted a short movement before they pick up plate 20 to move the same into horizontal position. This freedom of movement of the bifurcated lever 13 in advance of the contact of its extensions 14 with the plate 20 permits the short extensions 19 of the lever 13 to move the reciprocable bar 23 upwardly thereby disengaging the pins 25 from the apertures 31 in the plate 30.

15 From the foregoing, it will be seen how the control of air into the cylinder 9 on either side of the piston therewithin will quickly operate the piler end stop of my invention in such manner that the plate 20 occupies either a horizontal position whereby a pile of sheets may be quickly removed by a suitable conveyor; or a vertical position, wherein it is rigidly locked against displacement by movement of the sheets thereagainst.

While I have shown and described one specific embodiment of the present invention, it will be seen that I do not wish to be limited exactly thereto, since various modifications may be made without departing from the scope of the invention, as defined by the following claims.

I claim:

1. In combination with a sheet feeding mechanism, a piler end stop comprising a bed adjacent the delivery end of the sheet feeding mechanism, a carriage disposed above said bed, a vertically depending plate pivotally connected to said carriage, means carried by said plate and cooperating with said bed for locking said plate against pivotal movement, means mounted on said carriage for moving said plate into a substantially horizontal position, and means operated through said last named means for releasing said first named means.

2. In combination with a sheet feeding mechanism, a piler end stop comprising a bed adjacent the delivery end of the sheet feeding mechanism, a carriage disposed above said bed, a vertically depending plate pivotally connected to said carriage, slidable means carried by said plate and cooperating with said bed for locking said plate against pivotal movement, means mounted on said carriage for moving said plate into a substantially horizontal position, means operated through said last named means for releasing said first named means, and means for adjusting the position of said carriage with respect to said sheet feeding mechanism.

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