Aug. 23, 1938. T. BACKUS, JR 2,127,670

DELIVERY SKID FOR PILING

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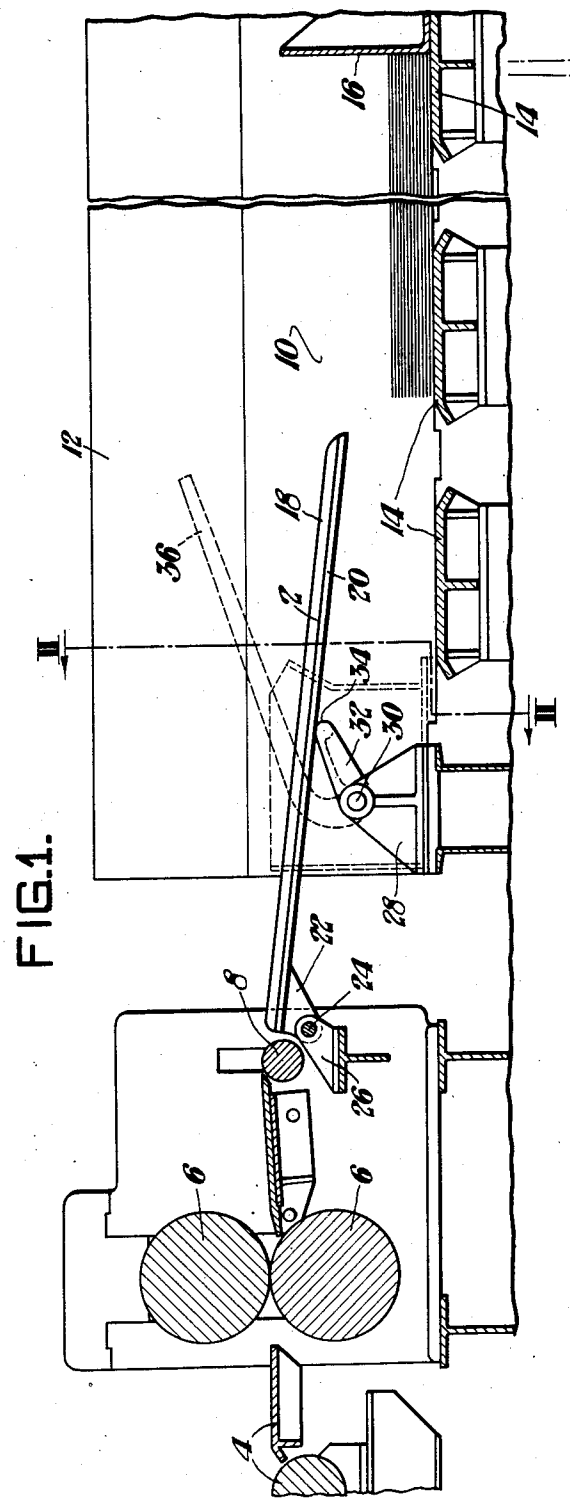

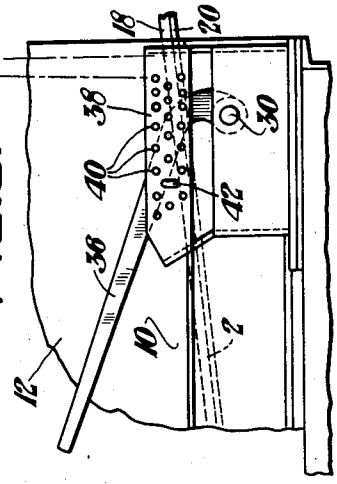

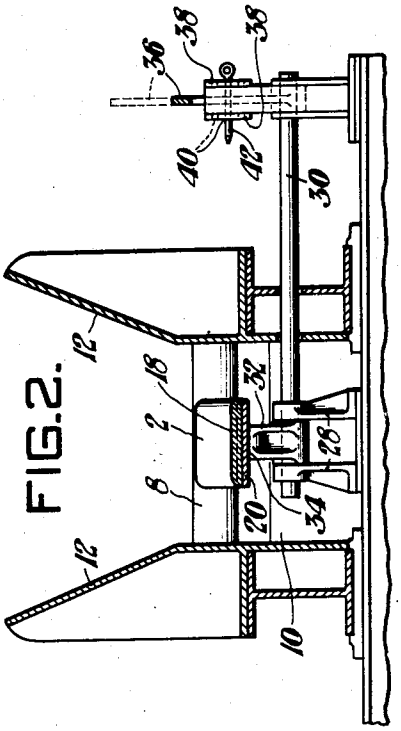

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DELIVERY SKID FOR PILING

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4 Claims. (Cl. 214—6)

This invention particularly relates to delivery skids adapted to be used in piling long thin sheets or strips of material such as metal.

Some of the steel rolled by a strip mill is cut to specified lengths and then delivered to a piler to be piled in packs. When the pack is evenly piled, and none of the ends of the strips protrude therefrom the strips cool gradually and anneal evenly. The finished strips then have the desired physical characteristics. However, in practice, the strips are often piled irregularly so that the ends of some of the strips protrude and thereby quickly cool. The rapid cooling of the ends hardens them and causes the rejection of a considerable number of the strips from irregularly piled packs.

The object of this invention is to provide a novel delivery skid which aids in uniformly piling long sheets or strips of metal.

The above and further objects will be made apparent by referring to the following description and the accompanying drawing in which:

Figure 1 is an elevation of one embodiment of my invention;

Figure 2 is a transverse sectional elevation on line II—II of Figure 1; and,

Figure 3 is a side elevation, partly broken away, of Figure 2.

Referring more particularly to the accompanying drawing, the numeral 2 indicates generally a delivery skid which is normally at a slight angle with the horizontal and adapted to receive metallic sheets or strips.

Means are provided to give the sheets motion or place the sheets upon the delivery skid 2 and these means may include a roller table 4 which carries the sheets to a pair of pinch-rolls 6 that are suitably housed and driven. The sheets are forced from the pinch-rolls 6 to a suitably journalled and driven deflector roll 8 which is adapted to be moved vertically. The delivery skid 2 is so positioned that it receives the sheets after they have been driven over the deflector roll 8, and transports them to a piler 10. The piler 10 is preferably composed of a pair of side walls 12 and a series of apron plates 14 that are used to form the bottom of the piler 10. The piler 10 is also provided with an end-stop 16 which is in the end thereof opposite that adjacent the delivery skid 2. All of the elements comprising the piler 10 are adjustable so that various widths and lengths of sheet can be received therein.

The top surface of the skid 2 is made from a long flat plate 18 that has bevelled upper edges so that the metal sheets are not scratched or otherwise marked by the plate 18 as they move over the edges thereof. The composition of the plate 18 is such that sheets lighting thereon are not marked by the plate 18. The plate 18 is preferably secured to a strengthening or supporting plate 20 of substantially the same length of the plate 18.

Wings 22 are secured to or formed integral with the supporting plate 20 at one end thereof, to provide means for pivotally mounting the supporting plate 20. The wings 22 are at the end of the supporting plate 20 adjacent the deflector roll 8. The supporting plate 20 is mounted by the wings 22 engaging with any suitable means, such as a shaft 24 journalled in a housing 26. The housing 26 may be associated with the means supporting the deflector roll 8 so that the housing 26 and the deflector roll 8 move as a unit.

Means are provided to control the position of the plate 18 in relation to the piler 10. These means may include a housing 28 which is secured intermediate the ends of and below the supporting plate 20. A shaft 30 is journalled in the housing 28 and preferably extends a distance from one end thereof. An arm 32 having a rounded end 34 is carried by the shaft 30 and the rounded end 34 slidably bears upon the under surface of the supporting plate 20. The arm 32 is so positioned that arcuate movement given to it by moving the shaft 30 varies the position of the supporting plate 20.

In order to readily control the position of the shaft 30 and thereby that of the supporting plate 20, a lever 36 is carried by the projecting end of the shaft 30. The lever 36 preferably extends far enough from the shaft 30 that one workman can easily change the position of the supporting plate 20. Means comprising two spaced plates 38 which receive the lever 36 therebetween and have several rows of staggered holes 40 therein, are provided to positively position the lever 36 at a plurality of positions along a predetermined arc. The lever 36 is held in any desired position by placing a pin 42 through the proper pair of aligned holes in the plates 38. The lever 36 is forced against the pin 42 by gravity, thereby being held in the desired position. Thus a ready adjustment for the angular relation between the skid 2 and the piler 10 is provided.

The sheets must be moving fast enough over the delivery skid 2 that their inertia will carry them to the end of the piler 10. The end-stop 16 will then prevent further movement of the sheets

and the motion of the sheets will be uniformly terminated. Therefore the pile resulting from such sheets will not have any sheets protruding therefrom.

It will be evident that the delivery skid **2** can be used with any means that will move sheets or the like onto the delivery skid and that the delivery skid can pile the sheets with the aid of any piling apparatus similar to the piler **10**.

If difficulty is encountered in properly delivering the sheets to the piler **10**, the delivery skid **2** can be provided with means, such as longitudinal flanges, to properly position the sheets on the delivery skid.

While I have shown and described one specific embodiment of my invention, it will be understood 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. A delivery skid for piling metallic sheets including a flat plate positioned to receive said sheets and adapted to permit said sheets to slide thereover, said plate extending substantially to the place where said sheets are to be piled and being provided with bevelled upper edges, a supporting plate secured to said plate, said supporting plate being pivotally mounted adjacent the portion of said plate first receiving said sheets, a housing positioned intermediate the ends of and below said supporting plate, a shaft journalled in said housing, an arm having a rounded end carried by said shaft and bearing upon the under surface of said supporting plate, the position of said arm determining the position of said plate, a lever associated with said shaft for controlling the position of said arm, and means for positively supporting said lever at a plurality of places along a predetermined arc.

2. Apparatus for piling metallic sheets or plates including, in combination, a delivery skid, means for delivering said sheets to said skid, and a piler having upwardly extending sides positioned at the outer end of said skid, said skid adapted to extend between said sides and cooperating therewith to position the sheets or plates on said piler.

3. Apparatus for piling metallic sheets or plates including, in combination, a delivery skid, means for delivering said sheets to said skid, a piler having upwardly extending side walls positioned at the outer end of said skid, said skid adapted to extend between said side walls and cooperating therewith to position the sheets or plates on said piler, and means for adjusting the vertical position of at least the outer end of said skid between said side walls.

4. Apparatus for piling metallic sheets or plates including, in combination, a delivery skid having one end pivotally supported, an adjustable deflecting means adjacent said pivoted end, means for delivering said sheets to and over said deflecting means to said skid, a piler having upwardly extending diverging side walls positioned at the opposite outer end of said skid, said skid adapted to extend between said side walls and cooperating therewith to position the sheets or plates on said piler, and means for adjusting the vertical position of at least the outer end of said skid between said side walls.

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