

No. 734,058.

PATENTED JULY 21, 1903.

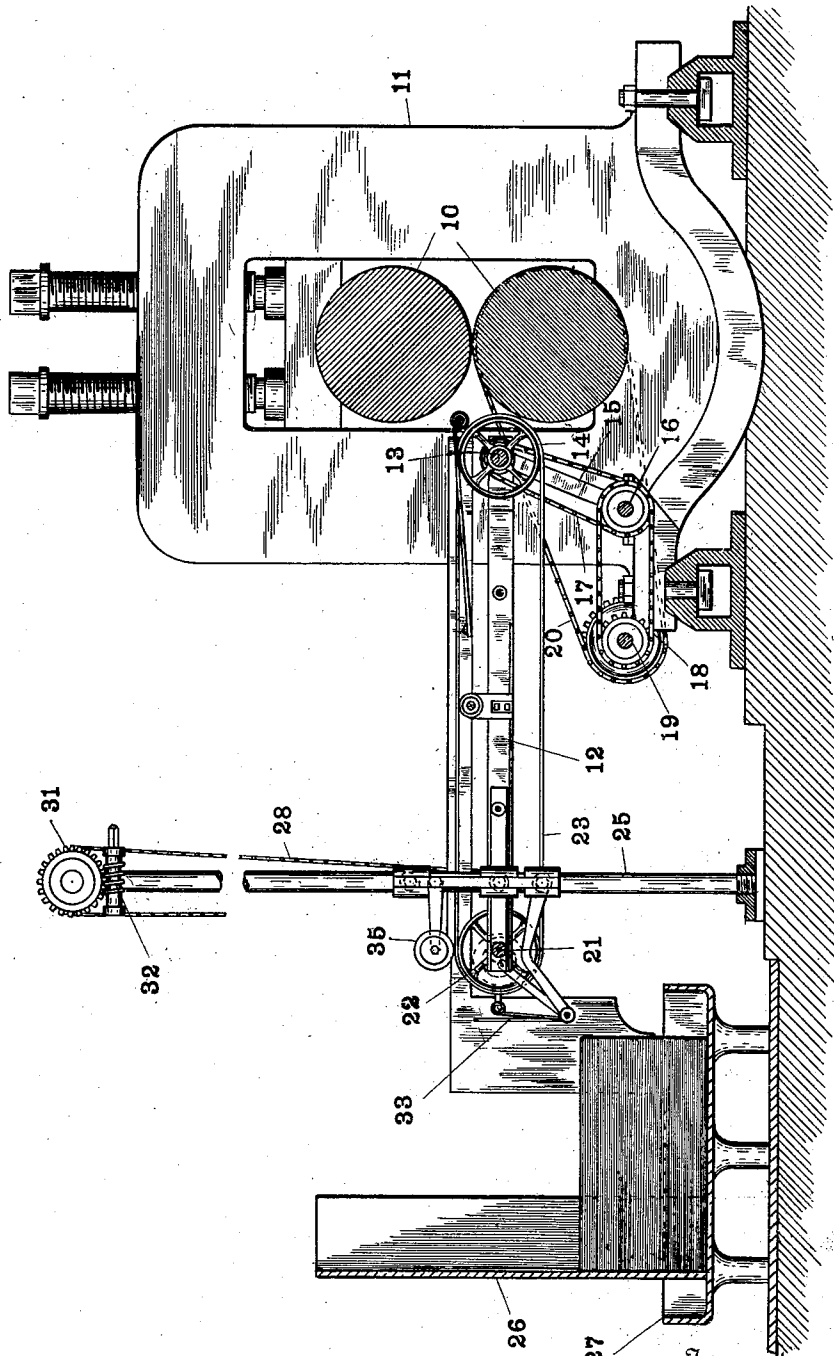
C. W. BENNETT & B. GOLDSMITH.  
MACHINE FOR PILING METAL SHEETS.

APPLICATION FILED JAN. 15, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses  
Cecilia Kearns.  
J. A. Walsh.

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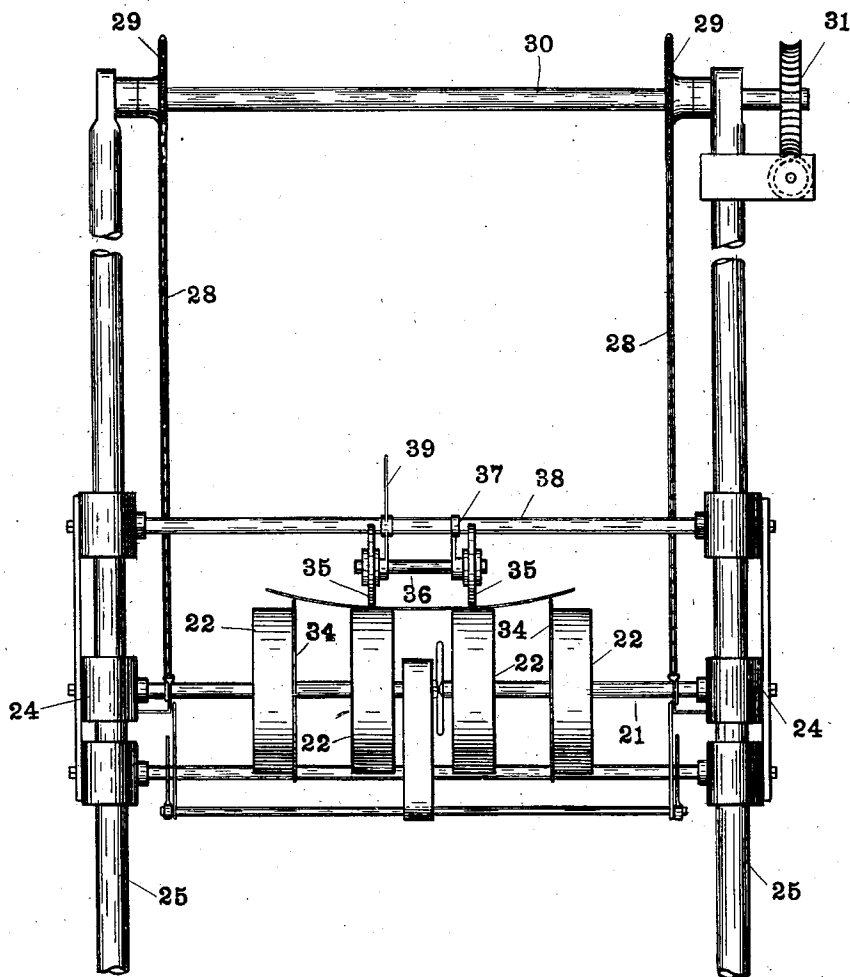
C. W. BENNETT & B. GOLDSMITH.  
MACHINE FOR PILING METAL SHEETS.

APPLICATION FILED JAN. 15, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

*Fig. 2.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

CHARLES W. BENNETT, OF ELWOOD, INDIANA, AND BERTHOLD GOLDSMITH, OF PITTSBURG, PENNSYLVANIA, ASSIGNORS TO AMERICAN TIN PLATE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

## MACHINE FOR PILING METAL SHEETS.

**SPECIFICATION** forming part of Letters Patent No. 734,058, dated July 21, 1903.

Application filed January 15, 1903. Serial No. 139,099. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES W. BENNETT, residing at Elwood, in the county of Madison and State of Indiana, and BERTHOLD GOLDSMITH, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, citizens of the United States, have invented certain new and useful Improvements in Machines for Piling Metal Sheets, of which the following is a specification.

Our invention relates to an improvement in that class of machines for piling sheets of metal particularly described and claimed in our pending application, Serial No. 84,665.

The object of our present invention is to provide means for more certainly delivering the sheets from the endless carrier to the piling mechanism in such condition that there is no tendency for a sheet to double upon itself or become overturned.

The accompanying drawings illustrate our invention.

Figure 1 is a side elevation, and Fig. 2 an end elevation.

In the drawings, 10 indicates the usual finishing-rolls, supported in a suitable frame 11. Located adjacent the delivery side of the finishing-rolls is a carrying-off table 12, provided at that end adjacent the finishing-rolls with a driving-shaft 13, carrying a plurality of pulleys 14. Shaft 13 is supported at the upper end of two links 15, which are pivotally supported at their lower ends by a shaft 16, journaled on the frame 11. Shaft 16 carries suitable pulleys, over one of which is passed a belt 17, leading to a suitable pulley on shaft 13. Shaft 16 is driven by belt 18 from a counter-shaft 19, which is driven by any suitable means—such, for instance, as a belt 20, driven by one of the finishing-rolls. Located at the forward end of the carrying-off table 12, parallel with the shaft 13, is a shaft 21, which carries a plurality of pulleys 22, corresponding in number and arrangement to pulleys 14. Running over each pair of pulleys 14 and 22 is an endless belt or carrier 23. The forward end of the carrying-off table is pivotally connected to collars 24, slidably mounted upon posts 25, which are parallel with the upright gage-face 26, carried by the annealing-box 27. The construction thus far

described is substantially identical with the construction shown in the pending application already mentioned.

The forward end of the carrying-off table 55 is supported, so as to be vertically adjustable upon posts 25, by chains 28, which are passed up over sprocket-wheels 29, carried by a shaft 30, supported in suitable bearings at the upper ends of posts 25. Shaft 30 carries at one end a worm-wheel 31, which meshes with and is held by a worm 32, journaled in a suitable bracket at the upper end of one of the posts 25. Mounted at the forward end of the carrying-off table 12, in front of the pulleys 22, 65 are suitable evener devices 33 similar in arrangement and operation to those described in our pending application.

In the pending application before mentioned each metal sheet as it passes forward 70 over the pulleys at the forward end of the carrying-off table is grasped between the endless carrier and friction-rolls which lie immediately above the pulleys at the forward end of the carrying-off table, and all of these 75 pulleys are shown as of the same diameter, the belt being maintained flat. It has been found, especially with light sheets, that there is a tendency for the forward or projecting end of the sheet as it nears the time of discharge from between the endless carrier and friction-rolls referred to to drop below the rear end. In our present construction the two outer pulleys 22 are either increased in diameter or preferably are provided with radially-projecting flanges 34, which are of a greater diameter than the diameter of the pulleys 22. Friction-rollers 35 are provided to coöperate with the intermediate pulleys 22, said friction-rollers being carried by a shaft 36, journaled in arms 37, carried by a shaft 38, the arrangement being such that shaft 38 may be swung by lever 39, so as to throw rollers 35 into and out of coacting position. In operation, therefore, a sheet of 95 metal as it is carried along by the movement of the belts 23 will come between the intermediate pulleys 22 and the coacting friction-rollers 35 and at the same time will have its edges brought into engagement with the 100 flanges 34, so that these edges will be thrown up out of the general plane of the sheet, so

as to thus slightly concave the sheet. This concavity of the sheet is maintained until the rear end of the sheet passes from between the intermediate pulleys 22 and friction-wheels 5 35, and as a consequence the forward or projecting end of the sheet is maintained in the same plane as the rear end, so that the sheet is expelled from the carrying-off table with all of its portions substantially in the same horizontal plane, and the sheet falls flat upon the pile. A single roller may be substituted for the pulleys 14 or 22, if desired.

We claim as our invention—

1. In a carrying-off table for metal sheets, 15 a rotary discharger therefor varying in diameter at different points in its length, and means for holding a sheet in engagement therewith whereby portions of the sheet in the line of travel are temporarily distorted 20 from the general plane of the sheet.

2. In a carrying-off table for metal sheets, a rotary discharger therefor consisting of a series of pulleys the outer ones of which are 25 of different diameter than the intermediate ones, and means for holding a sheet in engagement with said pulleys whereby the edges of the sheet are thrown out of the plane of the middle thereof, for the purpose set forth.

3. The combination, in a carrying-off table 30 for metal sheets, of two series of pulleys, one

at each end of the table and the outer pulleys of the forward series having portions of greater diameter than the intermediate pulleys of said series, an endless carrier mounted upon said pulleys, and means for holding 35 each sheet down upon the forward series of pulleys whereby the edges of the sheet are thrown out of the plane of the middle thereof, for the purpose described.

4. The combination, in a carrying-off table 40 for metal sheets, of two series of pulleys mounted one at each end thereof and the outer pulleys of the forward series being of a diameter different from that of the intermediate pulleys, and means for holding each 45 sheet in engagement with said forward series of pulleys, whereby the edges of the sheet are thrown out of the plane of the middle thereof, for the purpose set forth.

In witness whereof we have hereunto set 50 our hands and seals.

CHARLES W. BENNETT. [L. s.]

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