

No. 847,615.

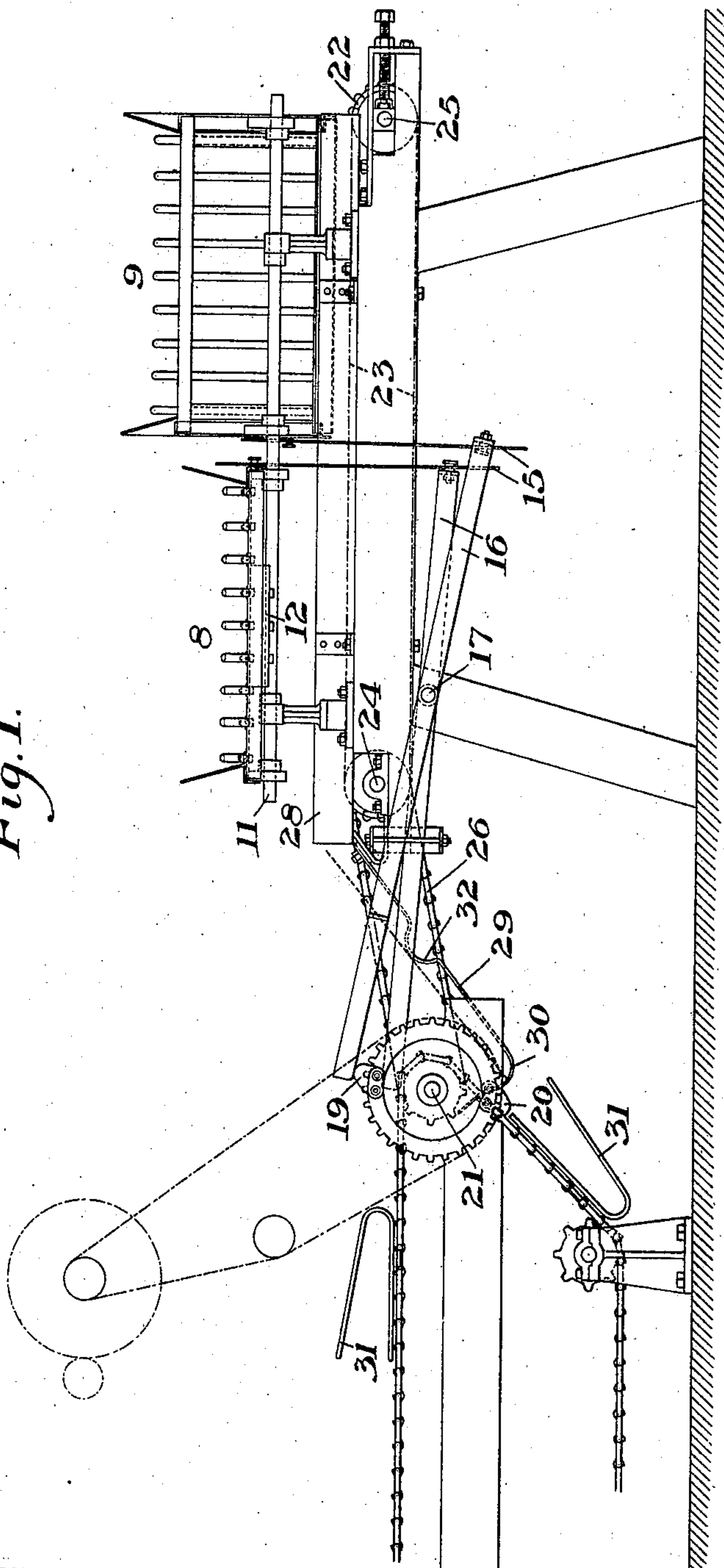
PATENTED MAR. 19, 1907.

U. S. SMILEY.  
SHEET FEEDING MECHANISM.

APPLICATION FILED NOV. 21, 1906.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

*W. U. Swartz*  
*R. A. Balderson*

INVENTOR

*U. S. Smiley*  
*by Nathaniel Payne*  
*his atty.*

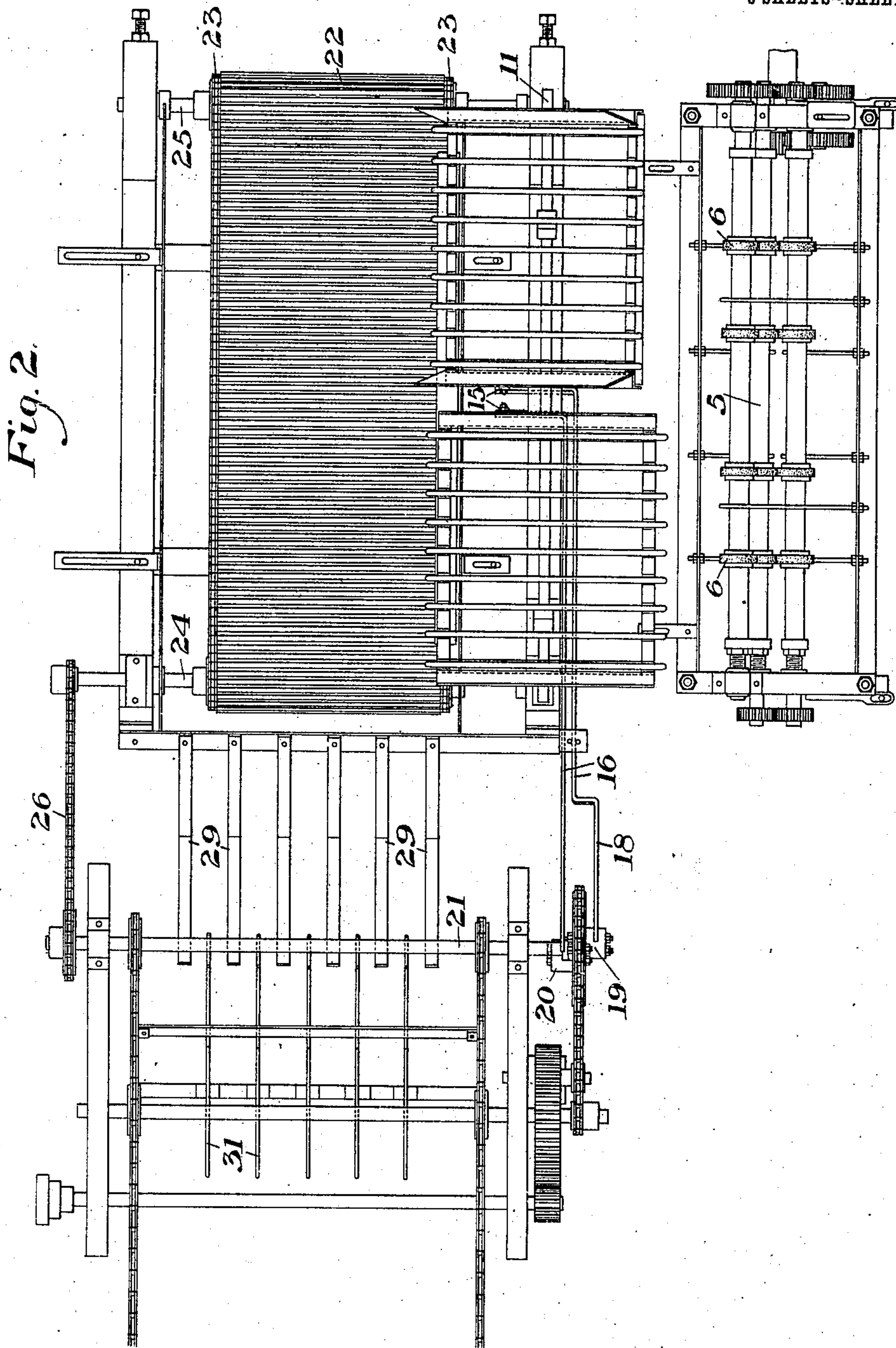
No. 847,615.

PATENTED MAR. 19, 1907.

U. S. SMILEY.  
SHEET FEEDING MECHANISM.

APPLICATION FILED NOV. 21, 1906.

3 SHEETS—SHEET 2.



WITNESSES

W. W. Swartz  
R. A. Balderson

INVENTOR

U. S. Smiley  
by R. A. Balderson  
his atty

No. 847,615.

PATENTED MAR. 19, 1907.

U. S. SMILEY.  
SHEET FEEDING MECHANISM.

APPLICATION FILED NOV. 21, 1906.

3 SHEETS—SHEET 3.

Fig. 3.

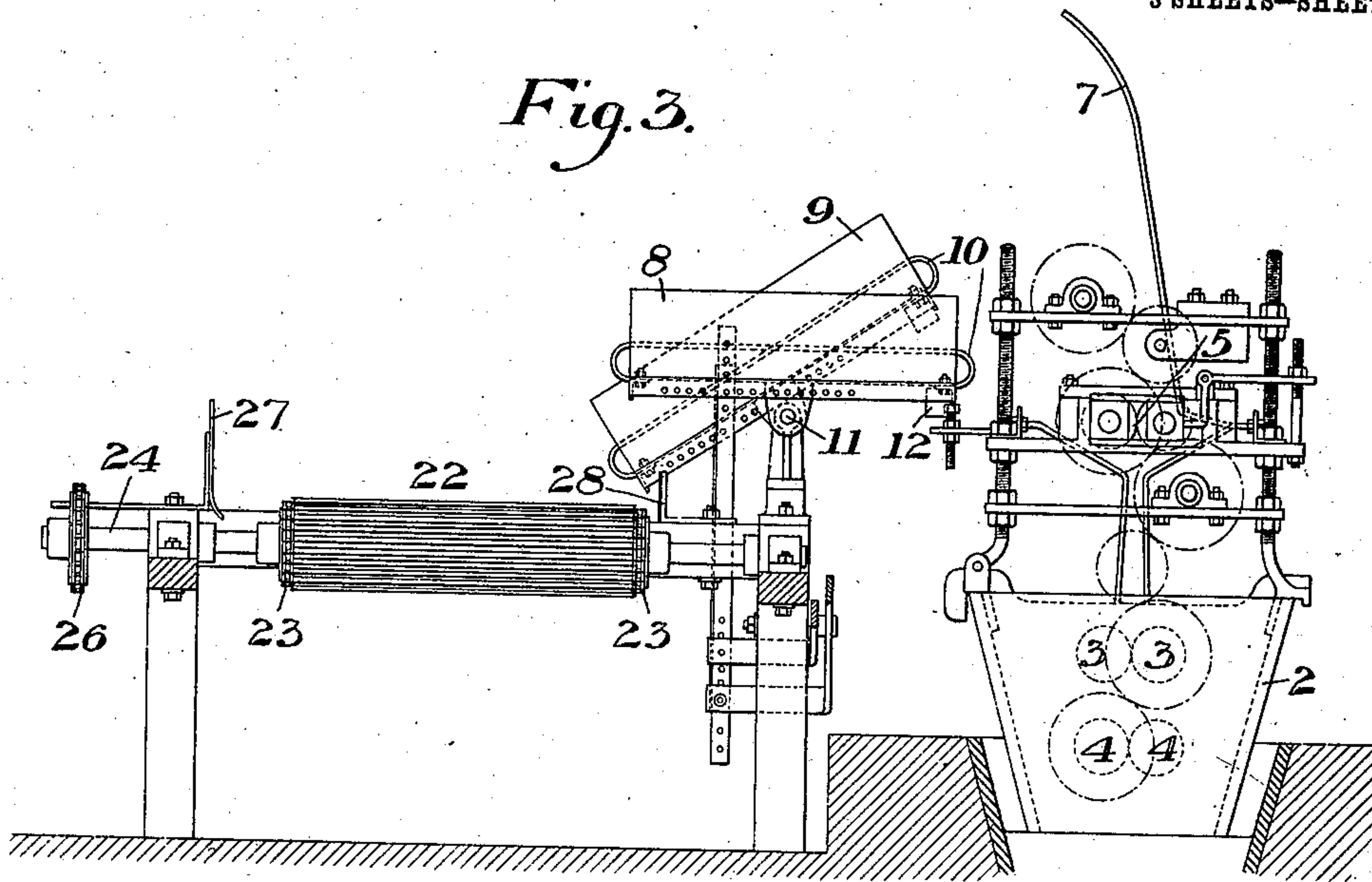
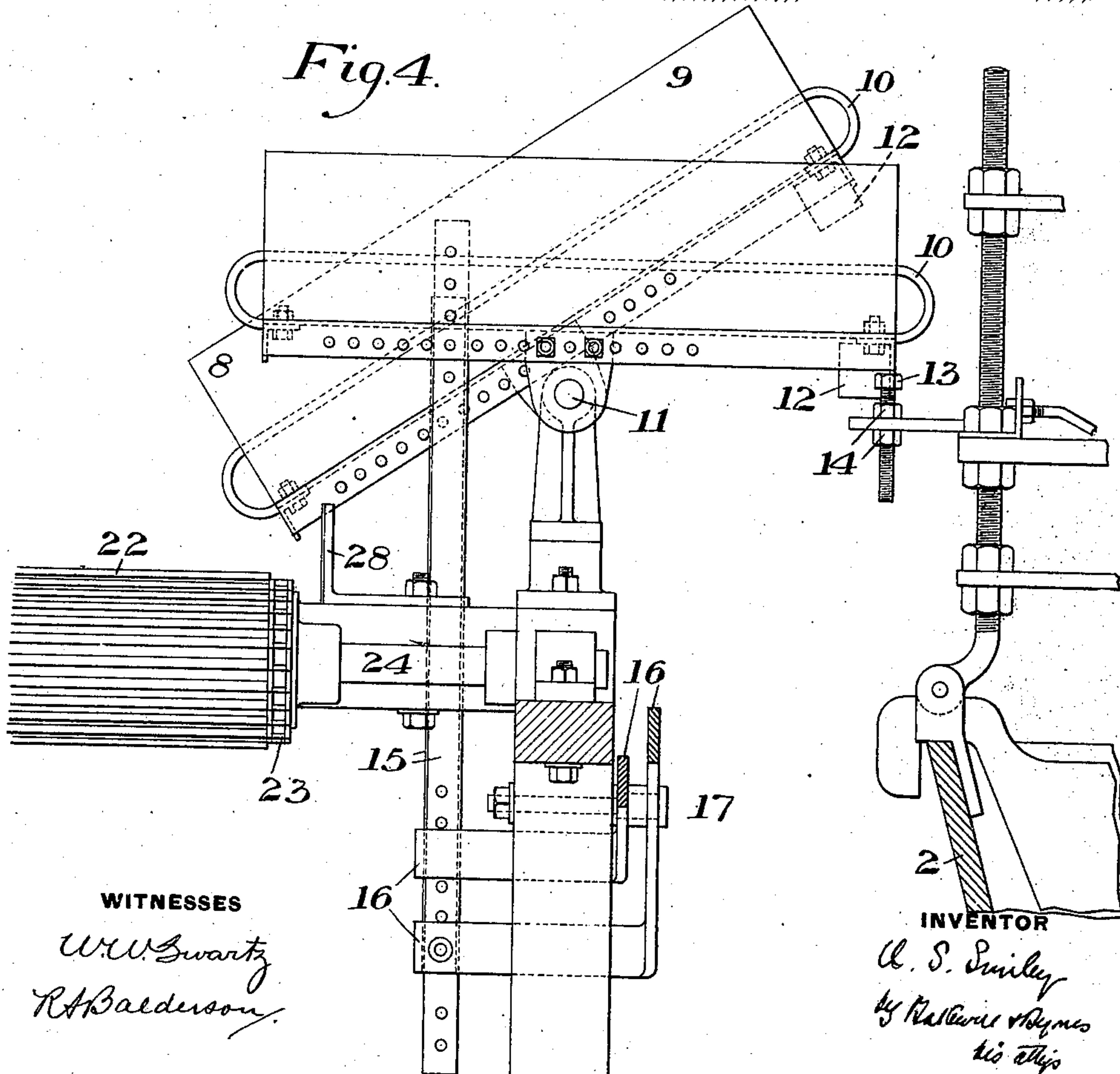


Fig. 4.



WITNESSES

W. W. Swartz  
R. A. Balderson

INVENTOR

U. S. Smiley  
by Matthew Holmes  
his atty



# UNITED STATES PATENT OFFICE.

URA S. SMILEY, OF MONESSEN, PENNSYLVANIA, ASSIGNOR TO AMERICAN SHEET & TIN PLATE COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

## SHEET-FEEDING MECHANISM.

No. 847,615.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed November 21, 1906. Serial No. 344,422.

*To all whom it may concern:*

Be it known that I, URA S. SMILEY, of Monessen, Westmoreland county, Pennsylvania, have invented a new and useful Sheet-Feeding 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—

Figure 1 is a side elevation of my improved feeding mechanism. Fig. 2 is a top plan view of the same. Fig. 3 is an end elevation, and Fig. 4 is a partial end elevation on a larger scale.

My invention relates to mechanism for feeding the sheets from a coating-machine of the "Jumbo" type, and especially for feeding the sheets therefrom to a branner.

The object of the invention is to prevent interference with each other of the sheets fed out from a coating-machine of double width—that is, the type of machine where sheets pass up alternately on opposite sides of the machine, which is of a width equal to or greater than the width of two sheets.

In the drawings, 2 represents a tinning-pot having the usual tinning-rolls, (indicated by dotted lines at 3 3 and 4 4.) On this pot I have shown a catcher of the type disclosed in United States Patent No. 752,016 granted on February 9, 1904, to E. L. Cronmeyer. In this roll-catcher the rolls 5 5, faced with soft material, preferably mounted on disks 6, as shown in Fig. 2, feed up the sheets which are deflected by the curved fingers 7. From the curved fingers the plates tilt over and drop upon one of two oscillating tables or chutes 8 and 9. Each of these chutes is preferably provided with flaring side plates and with a skeleton bottom, which may be formed of bars 10, with their ends bent around and secured to the end cross-bars of the chute. Each chute is provided with bearings which turn loosely upon a transverse shaft 11, common to both chutes, the chutes being held against endwise movement on the shaft by suitable collars. These chutes are normally held in horizontal position by weights 12 at their ends nearest the pot, these ends resting upon adjustable stops 13, which may be in the form of screws supported on the catcher and held in adjustable position by lock-nuts 14. The chutes are alternately rocked down

to discharge the plates by means of rods or links 15, having their ends pivoted to the adjacent sides of the chutes, while their lower ends are pivoted to the inwardly-bent arms of levers 16. These levers 16 are fulcrumed to the frame of the feeder at 17, and one of them is bent sidewise from the other, as shown at 18, these outer ends being arranged to contact with cams 19 and 20, mounted upon the shaft 21 of the branner-feed. The cams 19 and 20 are so positioned relative to each other that they will act alternately upon the chutes to draw them down into inclined position, the timing being such that one plate will not interfere with another upon the endless carrier 22. This endless carrier is mounted on sprocket-chains 23, carried on the shafts 24 and 25 of the feeder, one of these shafts having an extension provided with a sprocket-wheel connected by sprocket-chain 26 with a similar sprocket-wheel on shaft 21 of the branner-feed. At the outer side of the endless carrier 22 is an adjustable stop-plate 27, while at the inner side are provided adjustable gage-plates 28. The stop-plate 27 and the gage-plates 28 square up the sheets as they drop on the carrier, so that they are carried forward in proper position to drop down on the inclined fingers 29. The fingers 29 are formed in the shape of hooks 30 at their lower ends to receive and hold the sheets until they are engaged and carried into the branner by the usual branner-fingers 31, which pass between the bars or fingers 29. These fingers 29 are also preferably bent upwardly at an intermediate point, as shown at 32, in order to partially check the sheets in their descent and prevent marring or injuring them when they are stopped in position to be received by the branner-fingers.

In the operation of the device the sheets are fed alternately into opposite sides of the tinning-pot, so that one sheet emerges and is dropped upon one chute, while the next sheet is passing through the tinning-pot on the other side. As soon as one sheet is dropped upon one of the chutes the chute is tilted to discharge it upon the endless carrier, which carries it forward and causes it to slide down the inclined bars or fingers 29. After this sheet has passed beyond the tilting chutes the second chute which has received the next plate will be tilted down, the first



one having in the meantime been released by the cam and allowed to drop back to its normal horizontal position by gravity. The action of the chutes is thus made alternate, the timing being such that one sheet will not interfere with another in the feed device. The danger of two sheets passing into the branner together is thus avoided and the operation of the machine is positive and automatic.

The apparatus may be employed for a duplex tinning-machine in which one sheet is fed out at a higher level than the other by superimposing the chutes. It may also be employed for a Jumbo duplex machine by duplicating the pair of chutes at a higher level. Instead of tilting the chutes they may be raised and lowered in parallel planes, suitable fingers being used to tilt out the plates on the descent of each chute. The chutes may be in the form of stationary tables with positive ejecting mechanism for each chute. The chutes may discharge the plates directly into the branner-feed, and many other variations may be made without departing from my invention.

I claim—

1. In sheet-feeding apparatus, the combination with a coating apparatus and feed-out mechanism, of a plurality of receiving-tables arranged to receive the sheets from the feed-out mechanism, and mechanism for discharging the sheets successively from said tables; substantially as described.

2. In sheet-feeding apparatus, the combination with a coating apparatus and feed-out mechanism therefor, of a plurality of receiving-tables arranged to receive successive sheets from the feed-out mechanism, and a branner-feed mechanism controlled by the movement of the branner-feed for discharging the sheets successively from said tables; substantially as described.

3. In sheet-feeding apparatus, the combination with a coating apparatus and feed-out mechanism therefor, of a plurality of movable receiving-tables arranged to receive the sheets from the feed-out mechanism, and connections arranged to move the tables alternately to discharge the sheets successively from said tables; substantially as described.

4. The combination with a coating apparatus, of a feed-out device therefor, a plurality of tilting tables or chutes arranged to receive the sheets from the feed-out device, and connections arranged to tilt said chutes alternately; substantially as described.

5. In sheet-feeding apparatus, the combination with a coating apparatus and feed-out mechanism, of a pair of chutes arranged side by side to receive the sheets from the coating apparatus, and a transfer device to which the chutes lead; substantially as described.

6. The combination with a coating apparatus of a feed-out device therefor, a pair of tilting chutes arranged side by side, a conveyer to which the chutes lead, and mechanism for tilting said chutes alternately; substantially as described.

7. In branner-feeding apparatus, the combination with a coating pot or apparatus, of feed-out mechanism therefor, a pair of chutes arranged side by side, a common transfer system to which the chutes lead, and mechanism for causing said chutes to alternately discharge the sheets; substantially as described.

8. The combination with a branner-feeding device, of a pair of tilting chutes arranged side by side, and mechanism driven by the branner-feed device arranged to alternately tilt said chutes to discharge the sheets; substantially as described.

9. In sheet-feeding apparatus, a tinning-pot of double width, a feed-out device therefor, a pair of chutes arranged side by side to receive the sheets, and mechanism for discharging the sheets from said chutes alternately; substantially as described.

10. In sheet-feeding apparatus, a tinning-pot of double width, a feed-out device therefor, a pair of chutes arranged side by side to receive the sheets, mechanism for discharging the sheets from said chutes alternately, and a conveyer upon which both chutes discharge; substantially as described.

In testimony whereof I have hereunto set my hand.

U. S. SMILEY.

Witnesses:

WM. H. ZELLERS, Jr.,  
JAMES M. HILSON, Jr.