

51. ABRADING.

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CRAFTSMAN.

No. 845,293.

PATENTED FEB. 26, 1907.

E. L. CRONMEYER.
PLATE FEEDING DEVICE.
APPLICATION FILED JUNE 1, 1905.

3 SHEETS—SHEET 1.

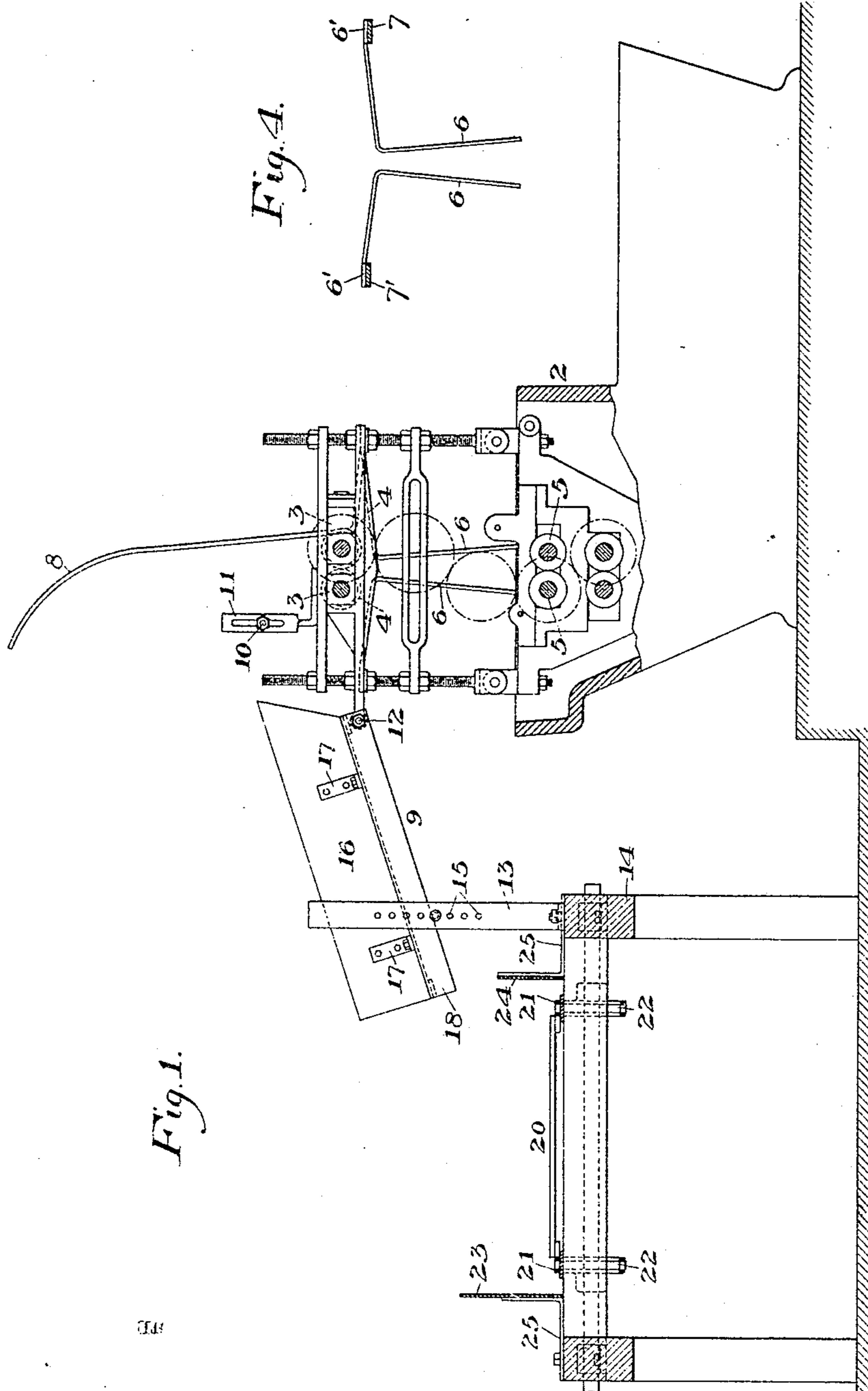


Fig. 1.

Fig. 4.

WITNESSES

Warren W. Swartz

R. A. Balderson

INVENTOR

E. L. Cronmeyer
by *Adams & Rymer*
his attys

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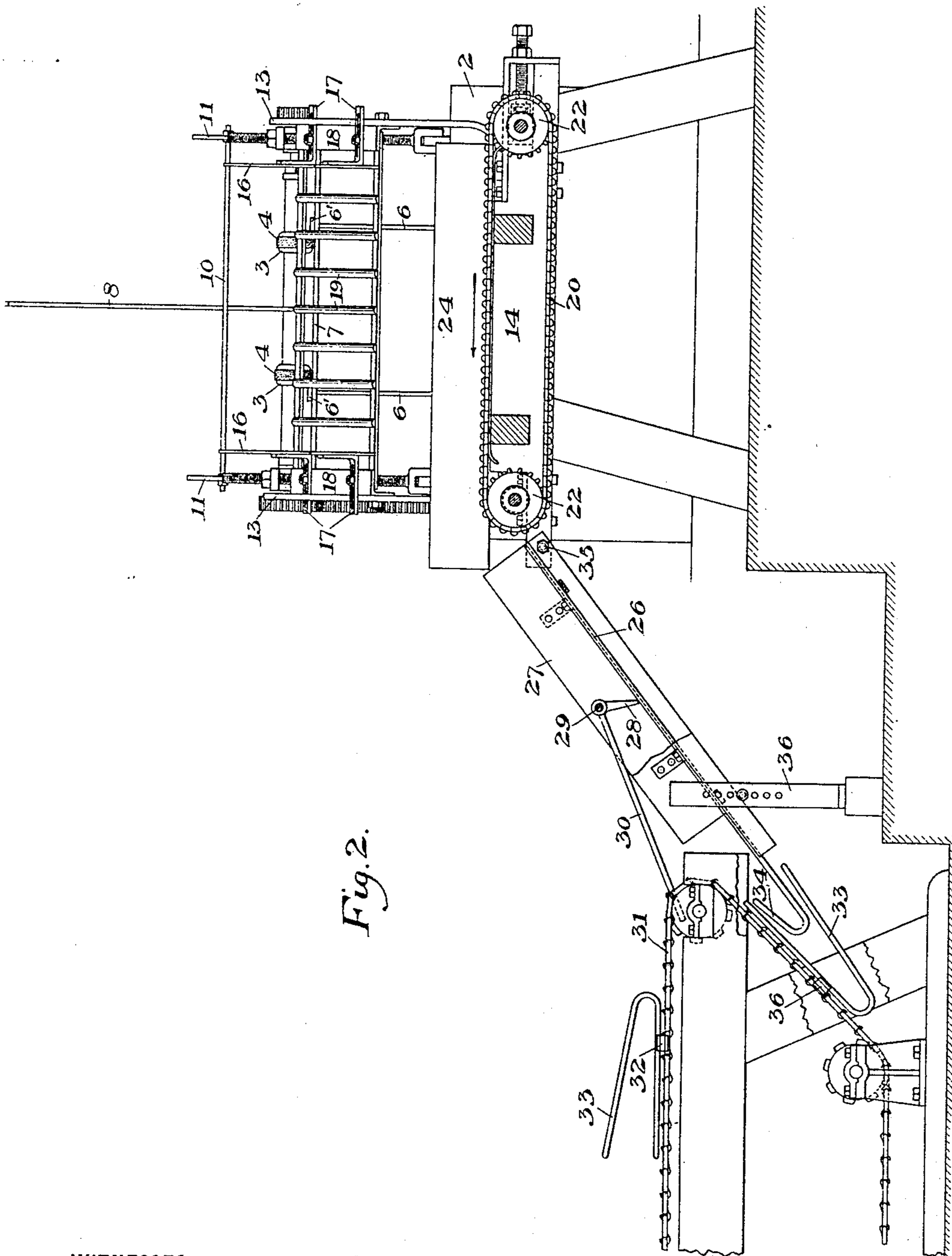


Fig. 2.

WITNESSES

Warren W. Swartz
R. A. Balderson.

INVENTOR

E. L. Cronmeyer
by Darius R. Dymes
his atty.

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3 SHEETS—SHEET 3.

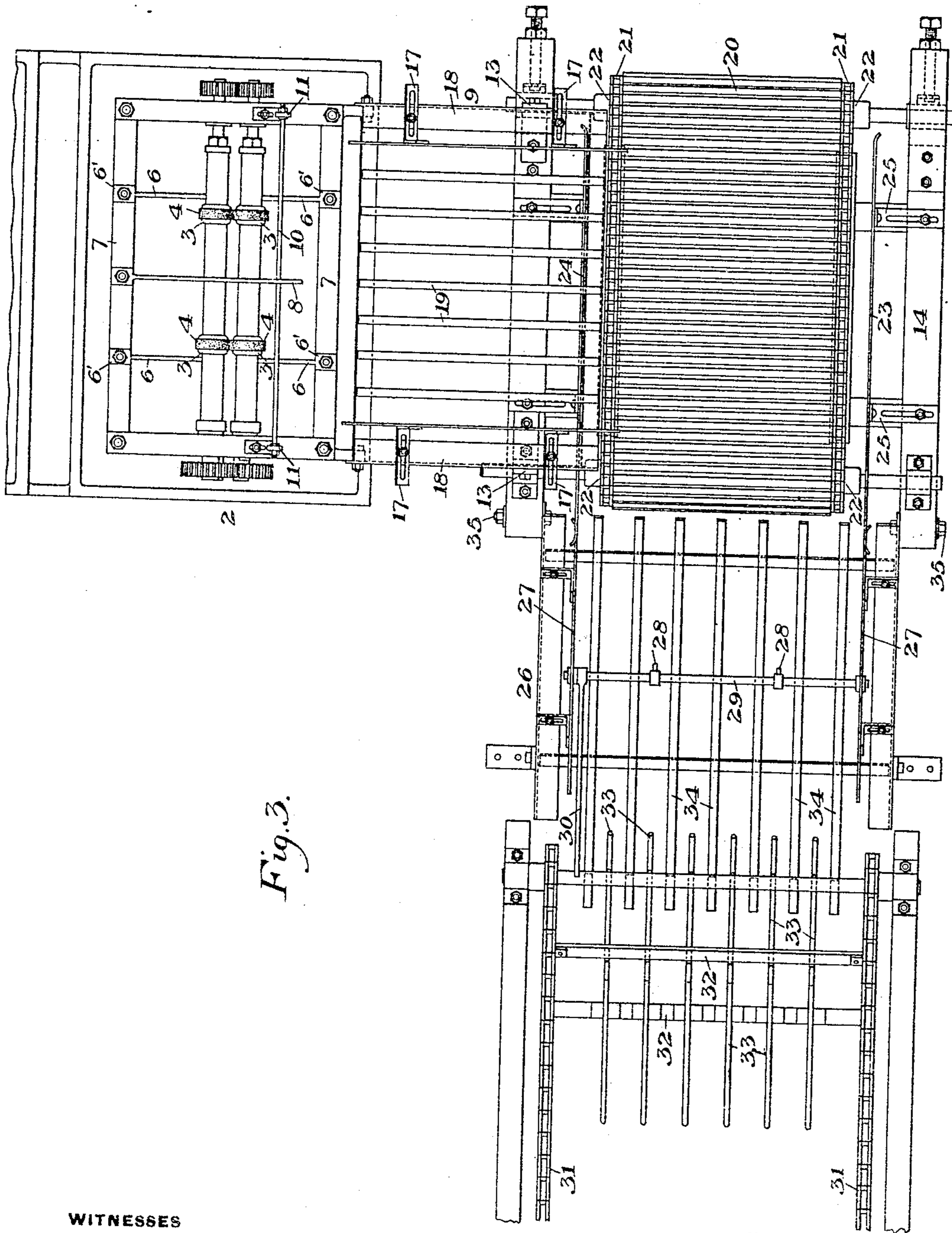


Fig. 3.

WITNESSES

Warren W. Swartz

R. A. Balderson

INVENTOR

E. L. Cronmeyer
by D. A. G. & D. G. M.
his attys

UNITED STATES PATENT OFFICE.

ERNEST L. CRONEMEYER, OF MONESSEN, PENNSYLVANIA, ASSIGNOR TO
AMERICAN SHEET & TIN PLATE COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

PLATE-FEEDING DEVICE.

No. 845,293.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed June 1, 1905. Serial No. 263,297.

To all whom it may concern:

Be it known that I, ERNEST L. CRONEMEYER, of Monessen, Westmoreland county, Pennsylvania, have invented a new and useful Plate-Feeding Device, 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, partly broken away, showing my improved apparatus in connection with a tinning-pot. Fig. 2 is an end elevation, partly in section. Fig. 3 is a top plan view, and Fig. 4 is a detail view, of the guide-fingers.

My invention relates to the feeding of sheets from a coating-bath into a branner or cleaning apparatus; and the object of the invention is to provide automatic feeding mechanism which will square up the sheets and feed them in proper position into the branning device without the use of hand-labor.

In the drawings, in which I show my invention as applied to a branner in which the sheets are carried through by branner-fingers mounted on carrier-chains, 2 represents the tinning-pot, and 3 3 the feed-out rollers, which are preferably provided with disks 4 4, of soft material, in accordance with my Patent No. 752,016, dated February 9, 1904. The form and arrangement of these feed-out rollers may, however, be changed without departing from my present invention.

In connection with the feed-out rollers I provide between the upper tinning-rolls 5 and the feed-out rollers a series of guide-fingers 6 6. These guide-fingers are preferably inclined, so that the space between them converges upwardly to direct the upper end of the rising sheet into the nip of the catcher-rolls 3. I have shown the guide-fingers 6 as consisting of separate rods or bars having flattened outer ends 6', secured to cross-bars 7, fastened to the frame of the hinge device. The form and arrangement of these guide-fingers may, however, be varied without departing from this portion of my invention.

Above the catcher-rolls is arranged a curved deflector or deflectors 8, which deflect the upper end of the sheet and cause it to drop over into a chute 9. An adjustable rest-bar 10 is preferably provided below the

deflector and to one side of the catcher-rolls, this being shown as adjustably supported in perforated brackets 11. This rest-bar serves to prevent bending or kinking of the sheets as they drop over into the inclined chute. I have shown the chute-frame as pivoted to the catcher-frame at 12 and supported on uprights 13 on the conveyer-frame 14, these uprights having a series of holes 15 to receive pins, which hold the lower end of the chute. The chute may thus be adjusted to different inclined positions. The chute is preferably provided with adjustable side plates 16, having brackets 17, provided with slots, through which they are bolted to the bottom frame members 18, as shown in Fig. 3. The sides may thus be adjusted toward or from each other to suit the different widths of sheets. I have shown the bottom of the chute as provided with separated longitudinal bars 19, along which the sheet slides down. The sheets drop from the chute upon an endless conveyer 20, which in the form shown moves at right angles to the chute and consists of bars connecting sprocket-chains 21, moving over sprocket-wheels 22. This conveyer may be driven through any suitable connections.

At each side of the conveyer are mounted side guides 23 and 24, the guide 23 being of sufficient height to insure the front end of the sheet striking it as it drops on the conveyer. The front end of the sheet will strike this guide, and the opposite guide 24 together with it will then hold and square up the sheet on the conveyer. These guides 23 and 24 are preferably supported on adjustable brackets 25, which are slotted and bolted to the frame of the conveyer-support. They may thus be adjusted toward and from each other. The length of these guides 23 and 24 for the conveyer may be varied; but they should extend, preferably, the entire length of the conveyer-table, or at least be of a length as long as the width of the dropping sheet or sheets. The sheets carried forward by the conveyer in the direction of the arrow, Fig. 2, drop down into an inclined chute 26, which is also preferably provided with side guides 27. These guides act to hold the sheet in proper squared-up position, and the front end of the sheet sliding down the chute strikes and is stopped by the stop-fingers 28, secured to the rock-shaft 29. A

lever-arm 30 extends from the rock-shaft into the path of actuators or bars on the branner-chain 31. In the form shown the actuators or bars consist of the cross-bars 32, to which the hook-shaped branner-fingers 33 are secured. As one of these bars strikes the lever 30 it will rock the shaft 29, lift the stops 28, and allow the sheet contacting with these stops to slide down into the stationary fingers 34 at the lower end of the chute. This chute also preferably has a grated bottom, and is pivoted to the conveyer-frame at 35, being adjustable on its lower supports 36 to change the inclination. The branner-fingers 33 are staggered relatively to the stationary fingers 34, so that they successively engage the successive sheets which slide into the stationary fingers.

In the operation of the device the sheets pass up through the tinning-rolls, and their upper ends are guided into the catching-rolls. The catcher-rolls then feed the sheets upwardly against the deflector, by which they are turned over and drop onto the chute, along which they slide, and thence drop onto the conveyer. As the sheets drop successively upon the conveyer they are squared up and held in proper position by the conveyer side guides and then slide down into the branner-chute, being held in proper position by the side guides of the chute. As each successive sheet slides onto the branner-chute it is stopped by the fingers, which thus act to prevent a sheet entering the stationary fingers before the preceding sheet leaves them. As one set of branner-fingers carries out the one sheet from the stationary fingers the stops are lifted and the next sheet is allowed to slide down into the stationary fingers in proper position for the next set of branner-fingers. The branner-fingers carry the successive sheets through the branner in the ordinary manner.

The advantages of my invention result from the use of the guide-fingers in combination with the catcher-rolls, these fingers preventing the rising sheet from striking the catcher-rolls or tipping sidewise out of proper feeding position. Also from the automatic

mechanism for squaring up and holding the sheets in proper position for feeding into the branner the use of hand-labor is avoided, and each of the sheets is carried into the branner in the proper position.

Within the scope of my broader claims the branner may be of any desirable type, whether branner-fingers are employed or not, since I consider myself the first to provide opposite squaring-up devices or guides in connection with the automatic feeding device carrying the sheets to the branner. Where the tinning-pot is in endwise alinement with the branner, the conveyer may be done away with and the second chute formed as an extension of the first chute, the sheet sliding down from the chute of the tinning-machine into the branner-chute. In this case the chutes become practically one.

I claim—

1. In branner-feeding mechanism, the combination with a branner having a chain provided with feed-in fingers, of a chute having its delivery end extending below the receiving end of the chain, and having at its lower end a series of stationary stop-fingers, and a series of movable stop-fingers located at an intermediate portion of the chute and having extended arms, and actuating devices carried by and moving with the branner-chain and arranged to engage and operate the said arms, substantially as described.

2. In branner-feeding mechanism, the combination with a branner having feed-in fingers, a chute arranged to deliver the sheets to the fingers, stop mechanism for controlling such delivery, a conveyer arranged to deliver the sheets to the upper portion of the chute, and a second chute arranged to receive the sheets from a tinning-pot and deliver them to the conveyer, said chutes and conveyer having adjustable guide devices for squaring up the sheets; substantially as described.

In testimony whereof I have hereunto set my hand.

ERNEST L. CRONEMEYER.

Witnesses:

J. E. NEWCOMER,

G. C. KRUITALL.