

No. 669,268.

Patented Mar. 5, 1901.

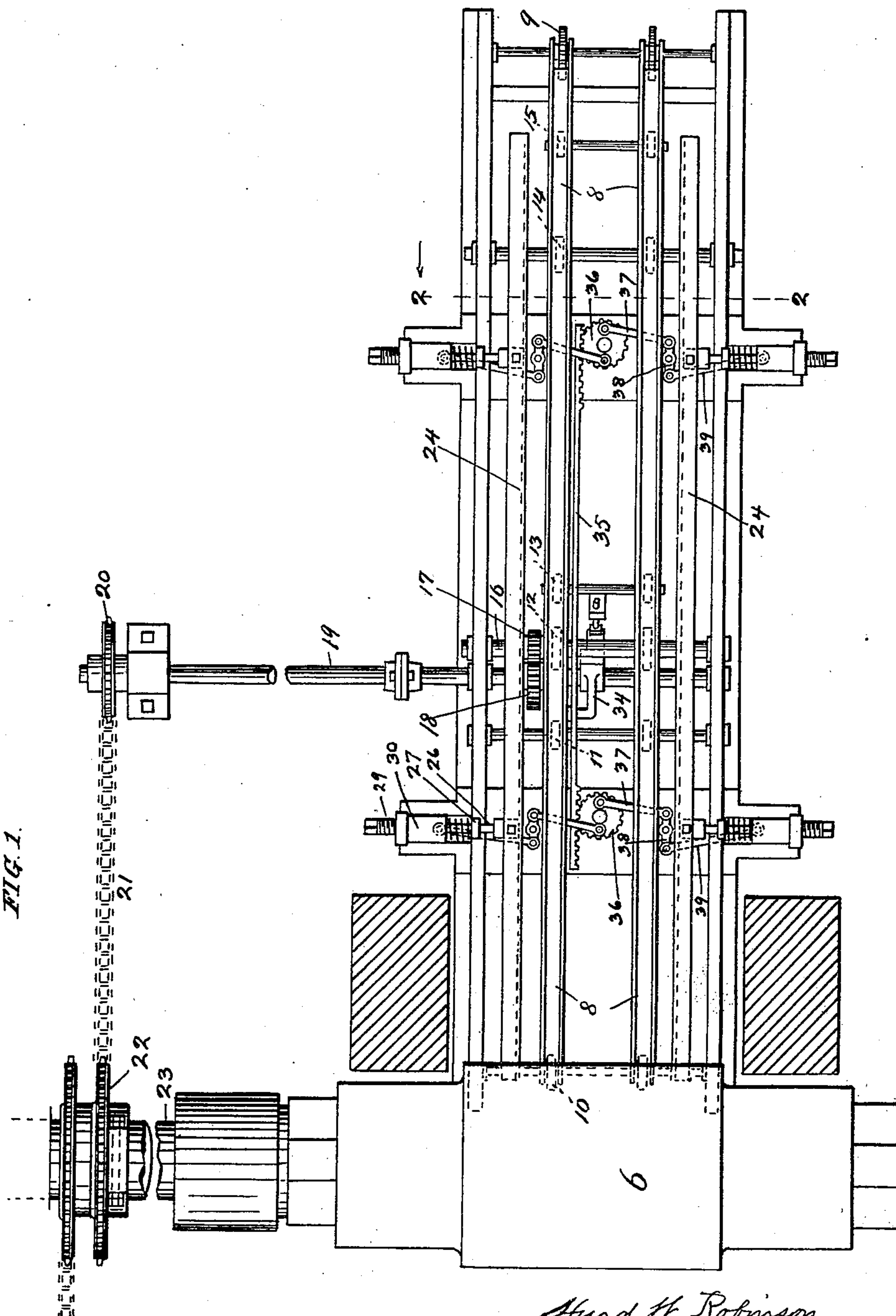
H. W. ROBINSON.

REVERSING ROLLING MILL FEED TABLE.

(Application filed Oct. 22, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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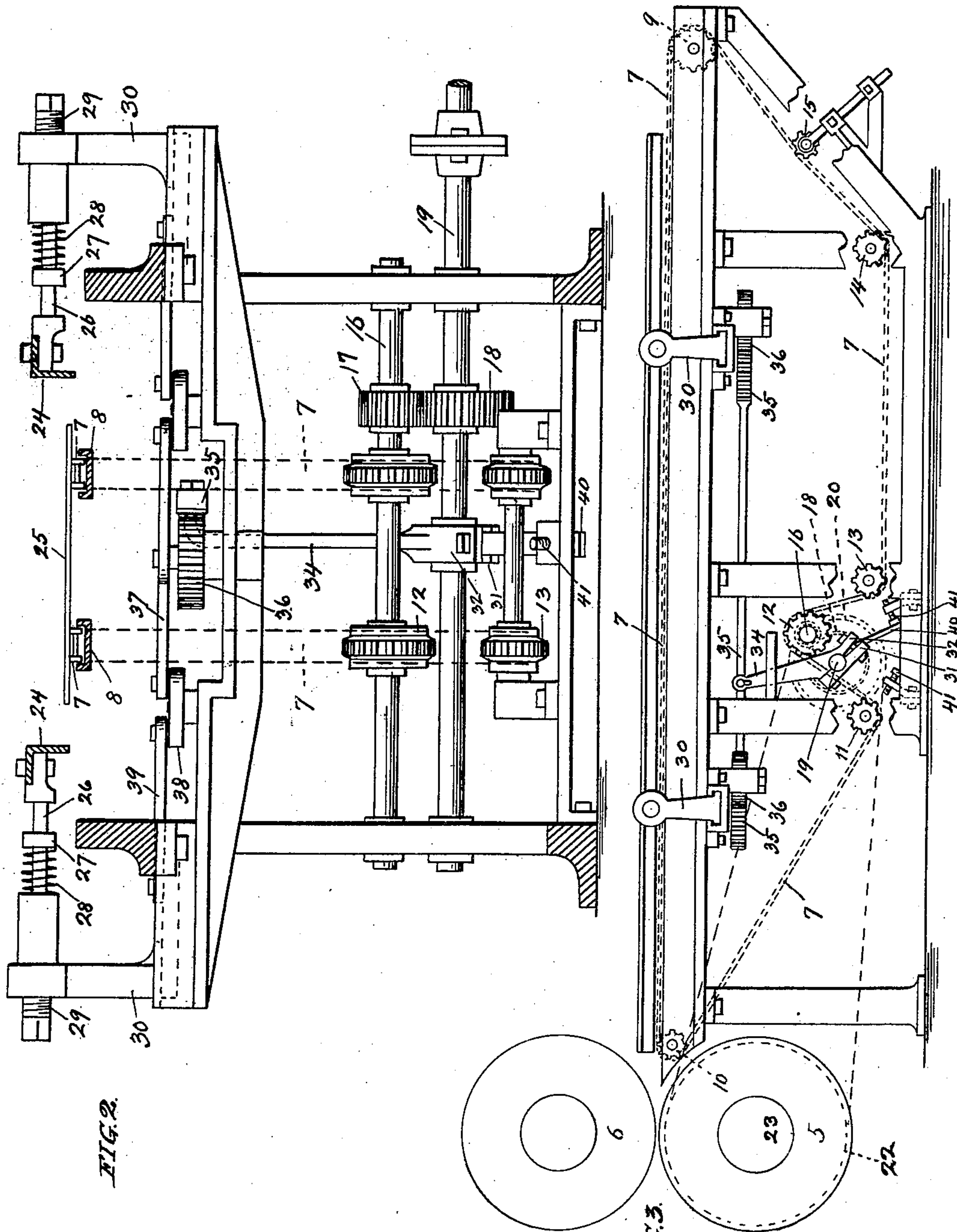


FIG. 2.

FIG. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

HURD W. ROBINSON, OF MAYWOOD, ILLINOIS, ASSIGNOR TO NORTON BROTHERS, OF CHICAGO, ILLINOIS.

REVERSING-ROLLING-MILL FEED-TABLE.

SPECIFICATION forming part of Letters Patent No. 669,268, dated March 5, 1901.

Application filed October 22, 1900. Serial No. 33,896. (No model.)

To all whom it may concern:

Be it known that I, HURD W. ROBINSON, a citizen of the United States, residing in Maywood, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Reversing-Rolling-Mill Feed-Tables, of which the following is a specification.

This invention relates to improvements in reversing-rolling-mill feed-tables.

It consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described, and specified in the claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a plan view of my invention. Fig. 2 is a vertical cross-section on line 2 2 of Fig. 1, and Fig. 3 is a side elevation.

In the drawings, 5 6 are the rolls of a reversing rolling-mill, the lower roll 5 being the driven roll and the same being driven or rotated first in one direction and then reversed and driven in the opposite direction by any suitable mechanism in order to pass the sheets back and forth between the rolls first in one direction and then in the opposite direction. In the drawings for sake of clearness I have only shown the feed-table on one side of the rolls, as the two feed-tables on the opposite sides of the rolls are exact duplicates. Each of the two feed-tables consists of a pair of endless feed-chains 7 7, each of which travels in a channel-bar 8, which serves as a guide and support for the feed-chain. Each of the feed-chains travels on or around sprocket wheels or gears 9 10 11 12 13 14, and each is also furnished with a wheel or pulley 15 for adjusting its tension or taking up its slack. The sprocket wheel or gear 12 is on a shaft 16, having a gear 17, which meshes with gear 18 on the shaft 19, having a sprocket wheel or pulley 20, connected by a belt or chain 21 with a sprocket wheel or pulley 22 on the shaft 23 of the driven roll 5 of the rolling-mill, so that the feed-table chains 7 are driven in unison with or in the same direction as the roll. The feed-table is thus reversed with the rolls.

On each side of the feed-table are a pair of movable side gages 24 24, which serve to center, straighten, and square on the feed-table

the sheets or bars 25 being rolled, so that the same will pass centrally and squarely between the rolls 5 and 6. Each of these movable gages or guides 24 is secured by adjustable rods 26, having collars 27 and springs 28 and screw-threads 29, to a movable slide 30 on the frame of the machine, so that the guides 24 may be moved to and from each other, as required. The movable guides 24 24 are closed together against the ends of the sheet or bar on the feed-table at each movement of the mill and of the feed-table driven therefrom by means of a spring-clutch or friction-clamp 31 32 on the shaft 19, through which motion is communicated to the feed-table. One of the jaws 32 of the friction-clamp is furnished with an arm 34, connected to a rack-bar 35, the teeth of which mesh with gears 36 36, having links 37, connecting the levers 38, which are connected by links 39 with the slides 30, upon which the guides 24 are carried. The jaws of the friction-clamp 31 32 are opened or released by an arm 40 striking against adjustable stops 41 41 after the guide-operating arm 34 has been vibrated far enough to properly operate the guides at the beginning of each reversal of the mill. As the guides 24 24 are thus operated at the beginning of the movement of the feed-table toward the rolls at each reversal of the mill, the sheets or bars on the feed-table are always properly adjusted upon the feed-table before the same enter the rolls. As soon as the jaws of the friction-clamp are open by the arm 40 striking against one of the stops 41 the closing pressure upon the guides 24 is released.

I claim—

1. In a rolling-mill the combination with a feed-table comprising a pair of feed-chains, guides for the feed-chains, and sprocket-wheels therefor, of a driving-shaft for the feed-table, movable side guides for the feed-table, a friction-clamp on the driving-shaft of the feed-table, and connecting mechanism between said friction-clamp and said movable side guides for operating the same, substantially as specified.

2. In a reversing rolling-mill, the combination with the reversible driven roll, of a reversing feed-table comprising a pair of feed-chains, guides for the feed-chains, sprocket-

wheels therefor, one of said sprocket-wheels being furnished with a driving-shaft connected directly to the driven roll of the mill, movable guides or gages for the feed-table, a friction-clamp on the driving-shaft of the feed-table, and connecting mechanism between the same and said movable side guides for operating said guides at each reversal of the rolls and feed-table, substantially as specified.

3. In a reversing rolling-mill, the combination with the driven roll, of a reversing feed-table comprising a pair of feed-chains, and guides for the feed-chains, sprocket-wheels for the feed-chains, a driving-shaft for said sprocket-wheels connected to the shaft of the driven roll, movable side guides for the feed-table, slides for operating the same, connecting links, levers and gears between said slides, a rack-bar meshing with said connecting-gears, a friction-clamp on the driving-shaft of the feed-table, having an arm connected to said rack, substantially as specified.

4. In a reversing rolling-mill, the combination with the driven roll, of a reversing feed-table comprising a pair of feed-chains, and channel-bar guides for the feed-chains, sprocket-wheels for the feed-chains, a driving-shaft for said sprocket-wheels connected to the shaft of the driven roll, movable side guides for the feed-table, slides for operating the same, connecting links, levers and gears between said slides, a rack-bar meshing with said connecting-gears, a friction-clamp on the driving-shaft of the feed-table having an arm connected to said rack, stops, and an arm engaging said stops for opening said friction-clamp, substantially as specified.

5. In a reversing rolling-mill, the combination with the reversible driven roll, of a reversing feed-table comprising a pair of feed-

chains, channel-bar guides for the feed-chains, sprocket-wheels therefor, one of said sprocket-wheels being furnished with a driving-shaft connected directly to the driven roll of the mill, movable guides or gages for the feed-table, a friction-clamp on the driving-shaft of the feed-table, connecting mechanism between the same and said movable side guides for operating said guides at each reversal of the rolls and feed-table, stops and an arm for engaging said stops for opening said friction-clamp, substantially as specified.

6. In a reversing rolling-mill, the combination with the shaft 23 of the driven roll furnished with a sprocket-wheel 22, of chain 21, sprocket-wheel 20, shaft 19, feed-table chains and mechanism for driving the same from said shaft 19, movable side guides for the feed-table, a friction-clamp on said shaft 19, and connecting mechanism for operating said movable side guides from said friction-clamp at the reversal of the mill, substantially as specified.

7. In a reversing rolling-mill, the combination with the shaft 23 of the driven roll furnished with a sprocket-wheel 22, of a chain 21, sprocket-wheel 20, shaft 19, feed-table chains and mechanism for driving the same from said shaft 19, movable side guides for the feed-table, a friction-clamp on said shaft 19, connecting mechanism for operating said movable side guides from said friction-clamp at the reversal of the mill, and means for opening or releasing said clamp when said side guides have been operated or closed toward each other, substantially as specified.

HURD W. ROBINSON.

Witnesses:

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