

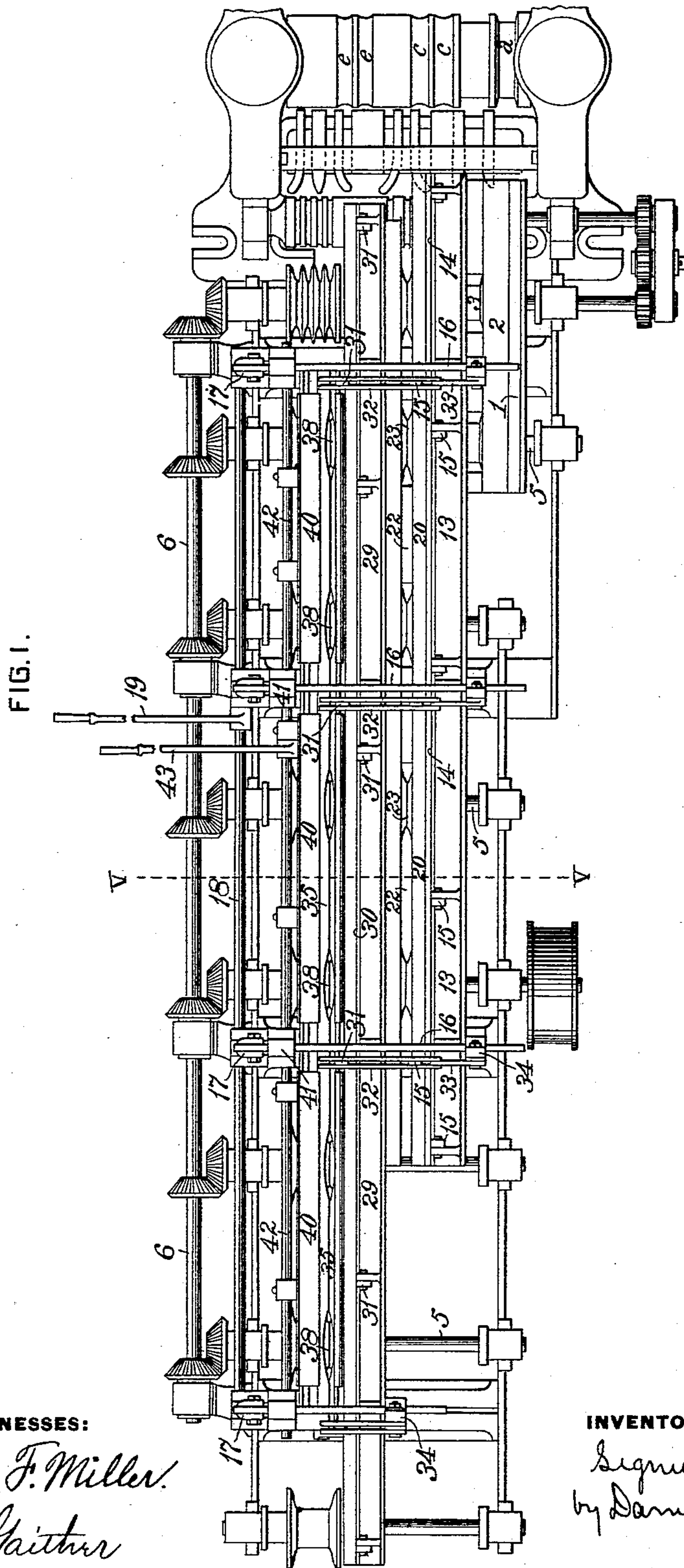
(No Model.)

4 Sheets—Sheet 1.

S. V. HUBER.
FEED TABLE FOR ROLLING MILLS.

No. 572,168.

Patented Dec. 1, 1896.



WITNESSES:

Chas. F. Miller.
J. E. Gaither

INVENTOR,

Sigmund U. Huber
by Darius S. Wolcott

Att'y.

(No Model.)

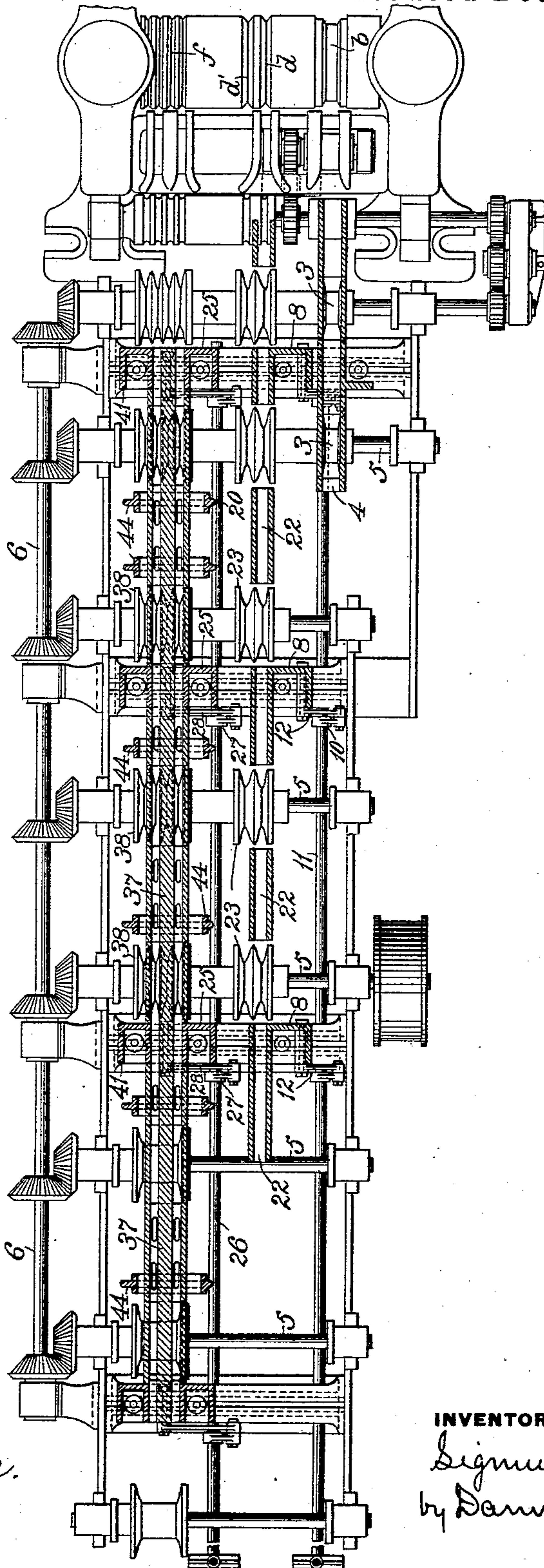
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FIG. 2.



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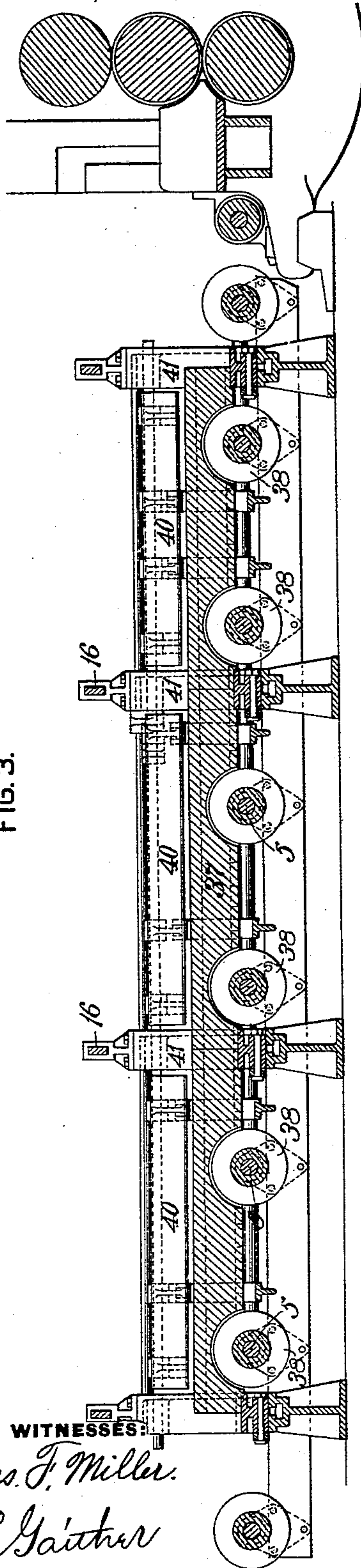
Sigmund V. Huber
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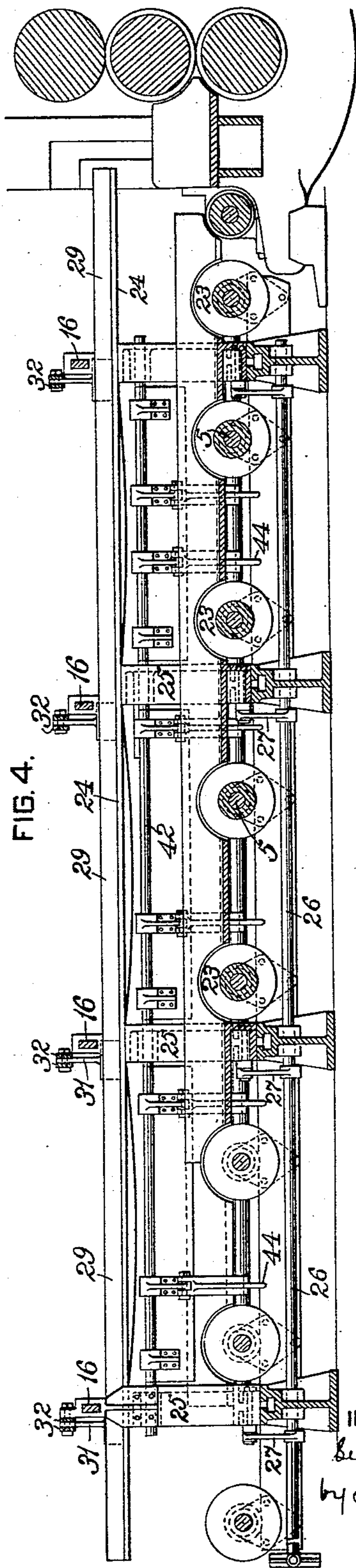
FIG. 3.



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FIG. 4.



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(No Model.)

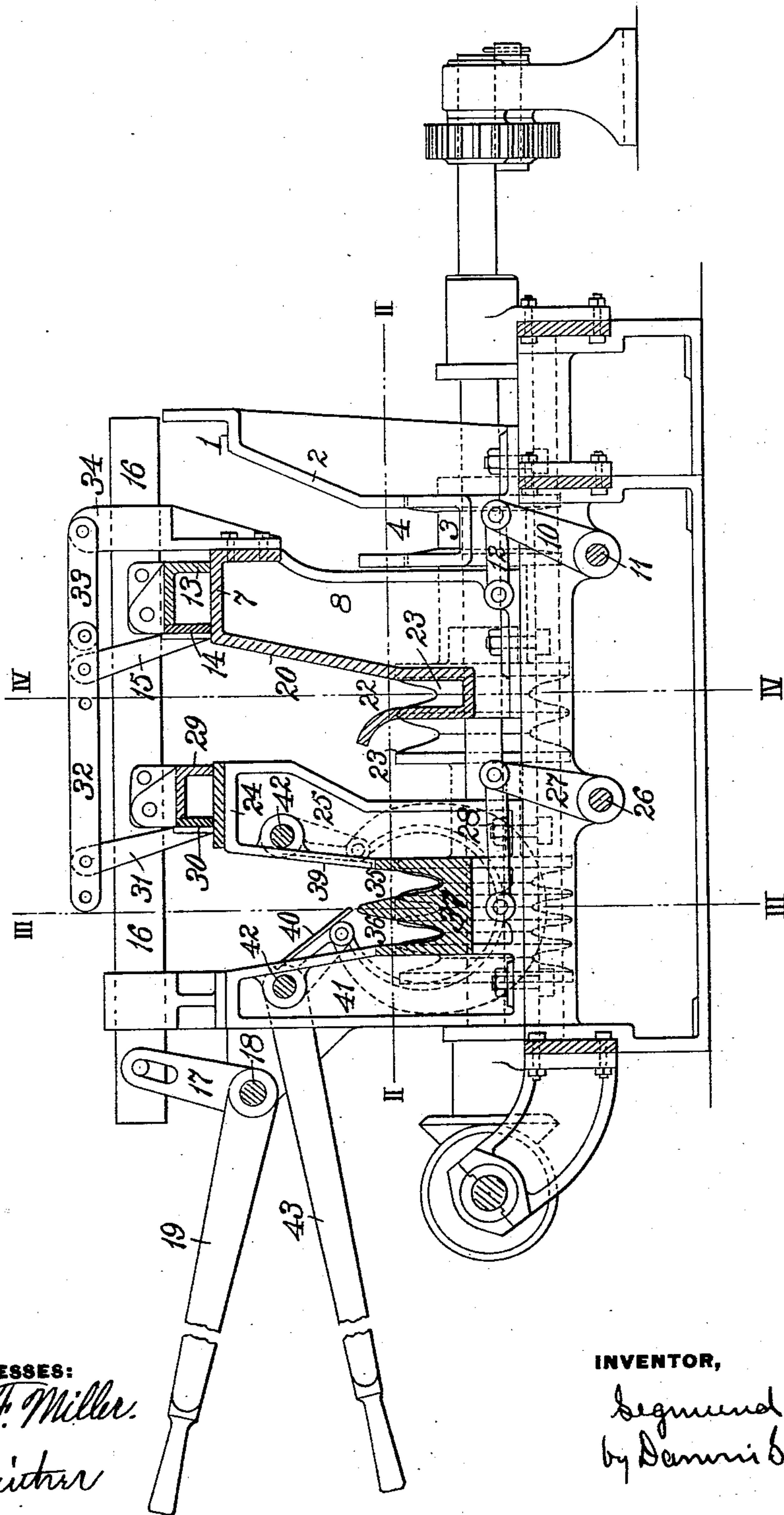
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FIG. 5.



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UNITED STATES PATENT OFFICE.

SIGMUND V. HUBER, OF YOUNGSTOWN, OHIO.

FEED-TABLE FOR ROLLING-MILLS.

SPECIFICATION forming part of Letters Patent No. 572,168, dated December 1, 1896.

Application filed June 6, 1896. Serial No. 594,477. (No model.)

To all whom it may concern:

Be it known that I, SIGMUND V. HUBER, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented or discovered certain new and useful Improvements in Feed-Tables for Rolling-Mills, of which improvements the following is a specification.

The invention described herein has for its object a construction of feed-table for rolling-mills designed to be used by preference in connection with a feed-table described and shown in an application of even date herewith.

In general terms the invention consists in a construction and arrangement of mechanism and devices for receiving an article from the rolls, shifting it vertically and laterally, and returning it to the rolls, all as more fully hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a top plan view of my improved receiving and delivery table. Fig. 2 is a sectional plan of the same, the plane of section being indicated by the line of section II II, Fig. 5. Figs. 3 and 4 are sectional elevations longitudinal of the feed-table, the planes of section being indicated by the lines III III and IV IV of Fig. 5, respectively; and Fig. 5 is a sectional elevation transverse of the feed-table, the plane of section being indicated by the line V V, Figs. 1 and 2.

As the article to be reduced emerges from the pass *a* of the rolls it is received upon a ledge 1 of the feed-table, arranged in line with said pass and of such width relative to the cross-sectional dimensions of the article as it comes from the rolls that the former will drop off of the ledge as soon as it is free of the reducing-rolls and slide down an inclined apron 2 onto feed-rollers 3, which project up through notches or recesses in the walls of the groove 4 at the lower edge of the apron. These feed-rollers 3 are secured on shafts 5, which are rotated by means of a suitable power-shaft 6 in such direction as to feed the article into the pass *b*, between the middle and lower reducing-rolls, as shown in Fig. 2. By a suitable feed-table on the opposite side of the reducing-rolls the article is raised and

shifted laterally, so as to be fed into one or the other of the passes *c c'*, between the middle and upper reducing-rolls. As the article emerges from these passes it is received upon a plate or bed 7, supported by standards 8, having the feet at their lower ends arranged in suitable guides transverse of the table, so that the standard and the bed or plate 7 may be shifted into line with one or the other of the passes *c c'*. To effect the lateral adjustment of the standards 8, an arm 10 on the shaft 11 is connected by a link 12 to the standards, so that by the rotation of said shaft by any suitable mechanism, such, for example, as will be hereinafter described, the standard may be shifted as desired.

On top of the plate or bed 7 is arranged an inverted trough consisting of the L-shaped piece 13 and the side 14, which is hinged to the L-shaped piece, and provided with upwardly-extending arms 15. As hereinafter stated, the upper ends of these arms 15 are held from movement transversely of the feed-table, so that when the trough is shifted, across the plate or bed 7 the side 14 will be turned on its hinge, so as to permit of the discharge of an article lying on the plate or bed. The L-shaped portion of the trough is attached to slides 16, which are connected at one end to arms 17 on a shaft 18, said shaft being provided with an operating-handle 19. By depressing this handle the slides 16, and with them the box or trough, will be shifted to the left in Fig. 5, so that the article resting on the plate or bed 7 will be pushed laterally to the edge of such plate, and, as the side 14 is at the same time opened, the article will drop down the apron 20 into the trough 22 at the lower end of said apron and into grooves in the rollers 23, projecting up through notches in the walls of the trough 22. These rollers 23 are provided with two grooves, and by the adjustment of the standards 8, which, as hereinbefore stated, carry the bed or plate 7 and apron 22, with its groove, the article can be dropped into one or the other of the grooves of the rollers 23, dependent upon which one of the passes *d d'* the article is to be fed through to the front of the mill. The rollers 23 are mounted on the shafts 5, which are rotated, as hereinbefore stated, by

the power-shaft 6 in such direction as to feed an article resting in the grooves of said rollers into the reducing-rolls.

On the opposite side of the reducing-rollers 5 suitable mechanism is employed for lifting the article and shifting the same laterally, so that it can be fed into one or the other of the grooves *e e'* in the upper and middle reducing-rolls. As the article comes from these passes 10 it is received upon a plate or bed 24, arranged upon standards 25, having their feet arranged in guide-grooves transverse of the feed-table and adapted to be shifted along said grooves by shaft 26, having arms 27, connected by 15 links to the standards 25. Upon the plate or bed 24 is arranged an inverted trough consisting of an angular strip 29 and a side 30, hinged to the angular strip, and provided with arms 31, having their upper ends connected 20 to suitable mechanism, whereby it is held as against movement transversely of the feed-table when the inverted trough is shifted laterally, as hereinafter described. This trough is also connected to the slides 16, so that it 25 can be shifted by the movement of the lever 19, in the manner hereinbefore described, in connection with a trough on the plate or bed 7.

In order to hold the upper ends of the arms 15 and 31 stationary, as against transverse 30 movement, they are connected to links 32, which in turn are connected by links 33 to posts 34, attached to the standards 8. As the boxes or troughs are shifted by the slides 16 to the left of Fig. 5 the upper ends of the arms 35 15 and 31 will be held as against such movement, so that the doors 14 and 30 will be turned outwardly, the loose joint between the links 32 and 33 permitting of the vertical movement of the sides and the arms attached 40 thereto.

After the article has passed entirely out of the groove *e* or *e'* onto the plate or bed 24 the box or trough resting thereon is shifted to the left in Fig. 5, thereby opening the side 45 30 and moving the article transversely of the plate or bed 24, so that it will drop off of said bed into one or the other of grooves 35 and 36 in the block 37 and onto rollers 38, provided with suitable grooves and projecting up 50 through recesses or slots in the block 37, as clearly shown in Figs. 2, 3, and 5. The rollers 38 are secured on the shafts 5, which are rotated by the power-shaft 6 in such direction as to feed the article or articles into one or 55 the other of the series of grooves *f*, between the middle and lower reducing-rolls.

It will be found in practice that a mill of the character described is of such capacity that the articles can be reduced with sufficient 60 rapidity in the prior passes to present a second bar or rod for reduction before the preceding bar has passed out of one of the passes *f*, so that it is necessary to be able to direct the second article as it comes from the 65 bed or plate 24 into different grooves in the block 37. This is effected by means of aprons 39 and 40, one hinged to the standards 25 and

the other to standards 41, formed integral with or connected to the standards 25 at their lower ends. These aprons are secured on 70 shafts 42, one of which is rotated by means of a lever 43, attached to the shaft, thereby shifting its apron in or out. The aprons are connected at their lower edges by yokes 44, passing under the block 37, and so constructed that when one apron is moved out 75 over one of the grooves in the block 37 the other apron will be thrown back, so as to permit the article to drop freely into the other groove in said block. As shown in Figs. 2 80 and 5, the grooves in the block 37 are arranged in line with alternate passes *f* in the reducing-rolls, while the grooves in the feed-rollers 38 are in line respectively with the several passes *f* in the reducing-rolls. When 85 the several parts are in the position shown in Fig. 5, the articles, when they are discharged from the plate or bed 24, will drop into the first or third groove in the feed-rollers, dependent upon the position of the adjustable 90 aprons.

If the standards 25 and 41 be shifted, as hereinbefore described, so that the trough or box on table 24 will be in line with the pass 95 *e'* of the reducing-rollers, (see Fig. 1,) the article, when discharged from the plate or bed 24, will drop into the second or fourth groove of the feed-rollers, dependent upon the adjustment of the apron.

I claim herein as my invention-- 100

1. A feed-table for rolling-mills having in combination a series of two or more plates or beds for receiving articles as they come from the reducing-rolls, two or more inverted boxes or troughs arranged upon the plates or beds, 105 means for simultaneously moving said boxes or troughs to shift the articles laterally off of said beds, and two or more series of feed-rollers for receiving the articles as they drop from the receiving-beds and feeding them to 110 the reducing-rolls, substantially as set forth.

2. A feed-table for rolling-mills, having in combination a series of two or more plates or beds for receiving articles as they come from the reducing-rolls, means for simultaneously 115 shifting the articles laterally off of both beds, two or more series of feed-rollers for receiving the articles as they drop from the beds, and returning them to the reducing-rolls, and aprons provided with grooves at their lower 120 edges for directing the articles as they drop from the beds, and guiding them while being fed into the reducing-rolls, substantially as set forth.

3. A feed-table for rolling-mills, having in 125 combination a plate or bed for receiving articles as they come from the rolls, an inverted box or trough arranged on the plate or bed, and provided with a movable side, means for shifting the box or trough laterally, arms 130 connected to the movable side, and means for holding the ends of said arms from lateral movement, substantially as set forth.

4. A feed-table for rolling-mills, having in

combination a plate or bed for receiving articles from the reducing-rolls, means for shifting the articles off of the plate or bed, guide-grooves for receiving the articles as they drop
5 from the bed or plate, two hinged aprons for directing the articles into the guide-grooves, and manually-controlled means for shifting both aprons simultaneously, substantially as set forth.

10 5. A feed-table for rolling-mills, having in combination a plate or bed for receiving articles from the reducing-rolls, means for shifting the articles laterally off of said plate or

bed, guide-grooves for receiving the articles as they drop from the plate or bed, hinged 15 aprons for directing the articles into said grooves, yokes connected to the free edges of the aprons and means for shifting one of the aprons, substantially as set forth.

In testimony whereof I have hereunto set 20 my hand.

SIGMUND V. HUBER.

Witnesses:

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