

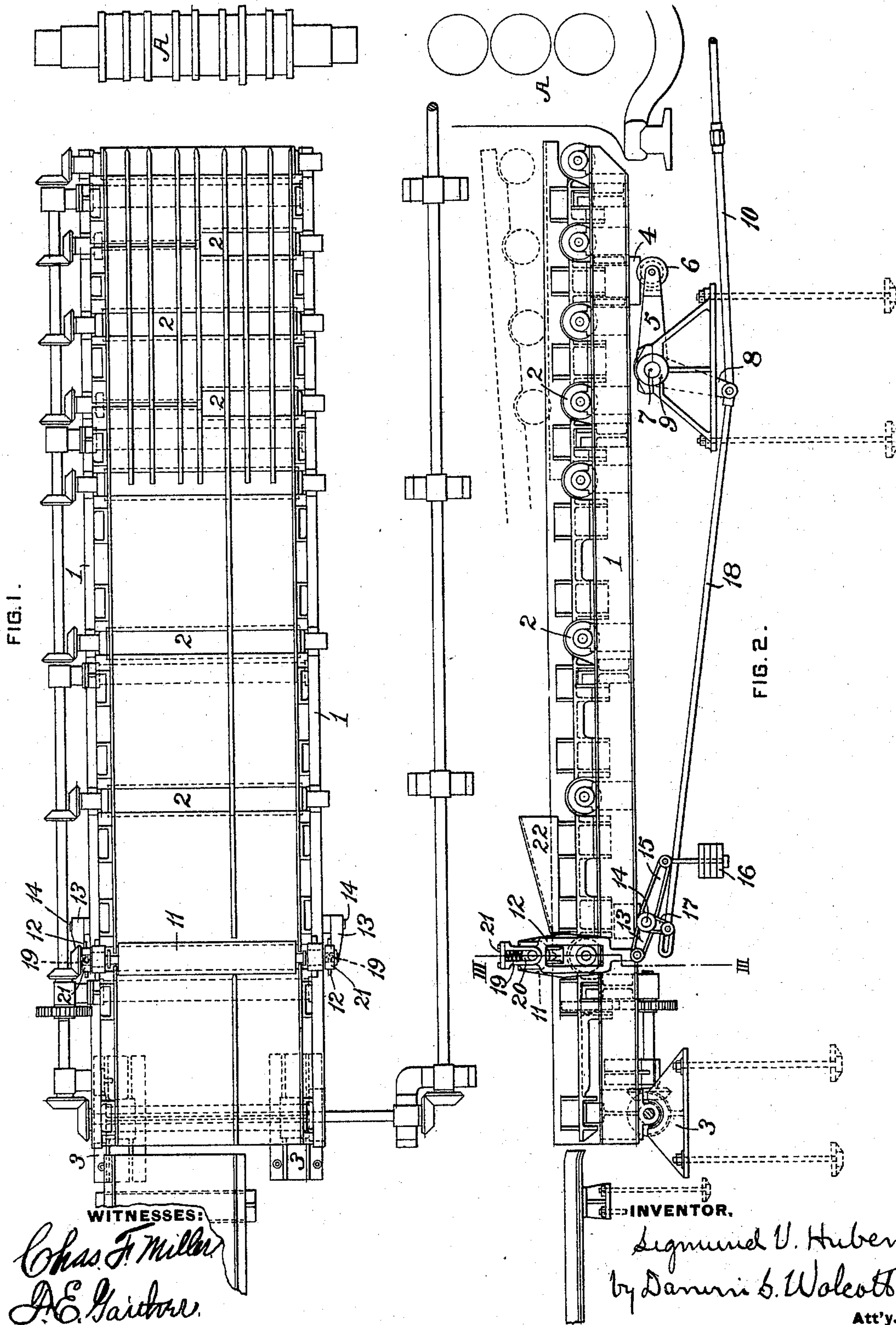
(No Model.)

2 Sheets—Sheet 1.

S. V. HUBER.
CATCHER'S TABLE FOR ROLLING MILLS.

No. 585,869.

Patented July 6, 1897.



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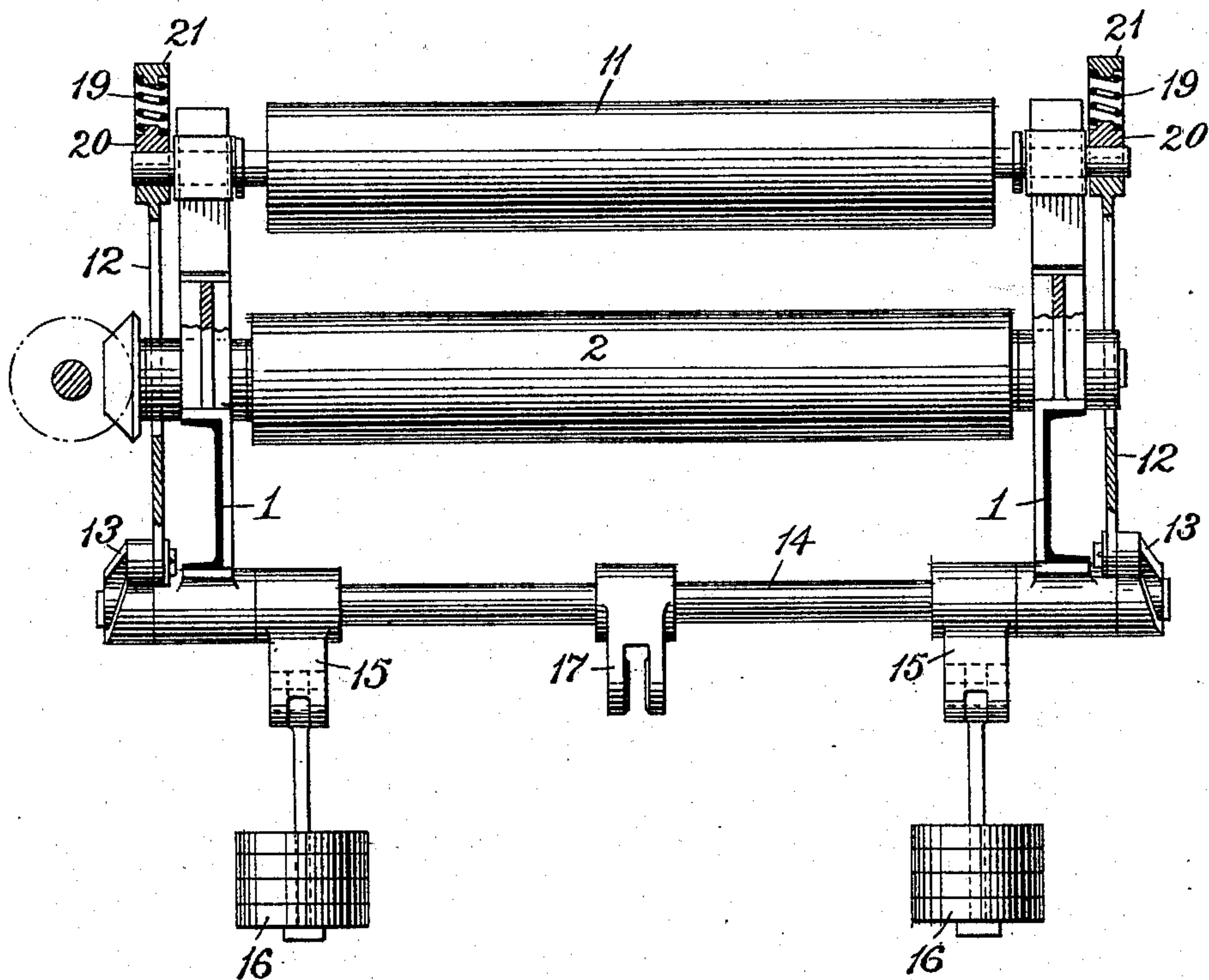
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FIG. 3.



WITNESSES:

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A. E. Gauthier

INVENTOR.

Samuel V. Huber
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UNITED STATES PATENT OFFICE.

SIGMUND V. HUBER, OF YOUNGSTOWN, OHIO.

CATCHER'S TABLE FOR ROLLING-MILLS.

SPECIFICATION forming part of Letters Patent No. 585,869, dated July 6, 1897.

Application filed January 21, 1897. Serial No. 620,039. (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 Catchers' Tables for Rolling-Mills, of which improvements the following is a specification.

The invention described herein relates to certain improvements in catchers' feed-tables for rolling-mills.

When articles have been reduced to comparatively small sectional areas and elongated to a considerable extent, difficulty is frequently experienced in feeding them into the rolls unless by an excessive multiplication of the positively-driven rollers of the feed-table. This difficulty arises from the fact that the weight of the article on each feed-roller, if the latter are spaced a considerable distance apart, is small compared to the weight resting upon the aprons interposed between the rollers. As above stated, this difficulty can be overcome by increasing the number of feed-rollers to such an extent that the portion of the article being rolled, resting upon the feed-rollers, will approximately equal or exceed such portions as will rest upon the aprons. Such multiplication of feed-rollers is undesirable on account of the expense involved in their manufacture and maintenance.

The object of the present invention is to provide for the feeding of such articles without employing a multiplicity of feed-rollers.

In general terms the invention consists in the construction and combination substantially as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of the specification, Figure 1 is a top plan view of my improved catcher's table. Fig. 2 is a side elevation of same; and Fig. 3 is a sectional elevation, the plane of section being indicated by the line III III, Fig. 2.

In the practice of my invention the feed-table consists of a rectangular frame formed of suitably-shaped metal beams and provided with suitable bearings secured on the side beams 1 for the feed-rollers 2. This frame is pivotally supported at or near its rear end upon blocks 3, which are suitably

anchored on the foundation of the table. At or near its front end the table is provided on its under side with a block 4, adapted to form a bearing for the outer ends of arms 5, which are preferably provided with friction-rollers 6. These arms are secured to a shaft 7, which also has an arm 8 keyed thereto, and is mounted in suitable bearings 9, as clearly shown in Fig. 2. The arm 8 is connected by a rod 10 to a suitable operating mechanism, preferably to one employed for raising and lowering the roller's table on the opposite side of the reducing-rolls A, as clearly shown in an application filed by me December 28, 1896, Serial No. 617,176. As the arm 8 is shifted to the right in Fig. 2 the table will be raised to the position shown in dotted lines for the purpose of feeding an article between the upper and middle rolls. This position will be hereinafter termed the "feed" position, and the position shown in full lines will be termed the "receiving" position.

It will be observed that the feed-rollers 2 are arranged in comparatively close proximity at the front end of the table, but that two or more of such rollers do not extend across the table beyond the fourth feed-pass of the table. During the first three or four passes of the article through the rolls it will have sufficient size in cross-section compared to its length that its weight will cause the feed-rollers to take a sufficient bite to feed it into the reducing-rolls. After the fourth or fifth pass its elongation and consequent transverse reduction will be such that the grip of the rollers, being due entirely to the weight of the article thereon, will not be sufficient to move the article longitudinally. In order to effect a prompt longitudinal movement of the article under such conditions, provision is made for increasing the bite of one or more of the rollers on the article. This increased bite is effected by means of a loosely-running roller 11, mounted in suitable bearings in yokes 12, arranged in guides formed in the side bars 1 of the table. These yokes are so arranged with relation to one of the feed-rollers 2 of the table that the idler 11 will have its axis in, or approximately in, the same vertical plane as that of the feed-roller, so that when the yokes are depressed the idler 11 will press the article with considerable force against the

feed-roller. The lower ends of the yokes 12 are connected to arms 13, secured to the shaft 14, mounted in bearings secured to the frame of the feed-table and having arms 15, also secured thereto, but extended in the opposite direction from the arms 13. To the outer ends of these arms are attached weights 16, whereby the yokes are held up, supporting the idler out of operative position.

Any suitable means may be employed for pulling the yokes and the idler-roller to operative position, but it is preferred to employ the table-lifting mechanism for that purpose, and, further, it is desirable to so proportion the connections between the yokes and their operating mechanism that a quick movement will be imparted to the yokes and idler as the table reaches feed position. To this end the arm 8 of shaft 7 is connected to a short arm 17 on the shaft 14 by a rod 18. As with such a construction a comparatively short movement of the arm 17 is required to shift the idler, and as it is desirable, as above stated, not to shift the idler until the table is at or nearly at feed position, a slotted connection is formed between the arm 17 and rod 18, which will permit of the preliminary movement of the table without affecting the idler.

In order to compensate for differences of thickness of the articles being rolled, the bearings for the idler 11 in the yokes 12 are elongated and the journals of the idler are held against the lower end of such elongated bearings, but with a freedom of upward movement by springs 19, interposed between the journal-blocks 20 and the caps 21. It frequently happens in rolling long bars that the forward end thereof will curl or bend up to a greater or less extent, and in order to insure the entrance of the forward end of the bar between the idler and the feed-roller a hood or deflecting-shield 22 is arranged across the feed-table in front of the feed mechanism, as clearly shown in Fig. 2.

It will be readily understood by those skilled in the art that comparatively few positively-driven feed-rollers need be employed between my improved feed mechanism and the front end of the table, for the reason that as soon as an article has been forced by such feed

mechanism between the reducing-rolls and as soon as the latter have taken a bite they will draw the article along without any assistance from the rollers of the feed-table.

It will be observed that as the shaft carrying the arms which operate the yokes 12 is mounted on the feed-table the vertical movements of the latter will not affect the position of the idler-roller carried by the yokes.

I claim herein as my invention—

1. In a rolling-mill, the combination of a feed-table having one or more positively-driven feed-rollers, an idler-roller mounted in movable bearings above the feed-table, a hood or deflecting-shield arranged transversely of the table in front of the idler, and means for moving the idler toward and from the feed-table, substantially as set forth.

2. In a rolling-mill, the combination of a feed-table having one or more positively-driven feed-rollers, means for raising and lowering the feed-table, an idler-roller mounted in movable bearings above the feed-table, a hood or deflecting-shield arranged transversely of the table in front of the idler, and means for moving the idler toward and from the feed-table, substantially as set forth.

3. In a rolling-mill, the combination of a feed-table having one or more positively-driven feed-rollers, an idler-roller mounted in movable bearings above the feed-table, and means operative both for raising and lowering the feed-table and for moving the idler toward and from the feed-table, substantially as set forth.

4. In a rolling-mill, the combination of a feed-table having one or more positively-driven feed-rollers, an idler-roller yieldingly mounted in movable bearings normally supporting the idler in inoperative position above the feed-table, and means for moving the idler toward the feed-table, substantially as set forth.

In testimony whereof I have hereunto set my hand.

SIGMUND V. HUBER.

Witnesses:

DARWIN S. WOLCOTT,
F. E. GAITHER.