

No. 617,328.

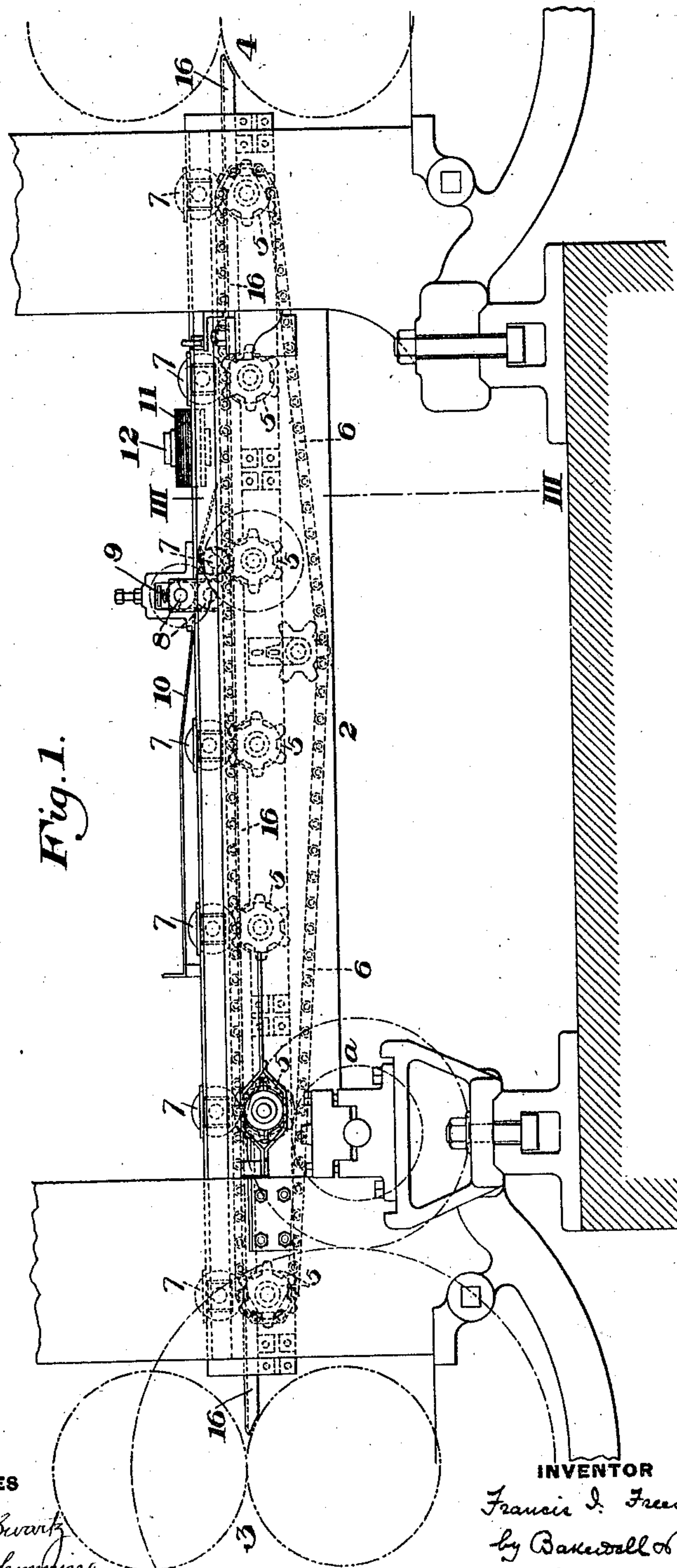
Patented Jan. 10, 1899.

F. I. FREEMAN.
ROLLING MILL FEED TABLE.

(Application filed Jan. 25, 1898.)

3 Sheets—Sheet 1.

(No Model.)



WITNESSES

Warren M. Swartz
George B. Blemming

INVENTOR

Francis I. Freeman
by Baxendall & Baxendall
his Attorneys.

No. 617,328.

Patented Jan. 10, 1899.

F. I. FREEMAN.
ROLLING MILL FEED TABLE.

(Application filed Jan. 25, 1898.)

(No Model.)

3 Sheets—Sheet 2.

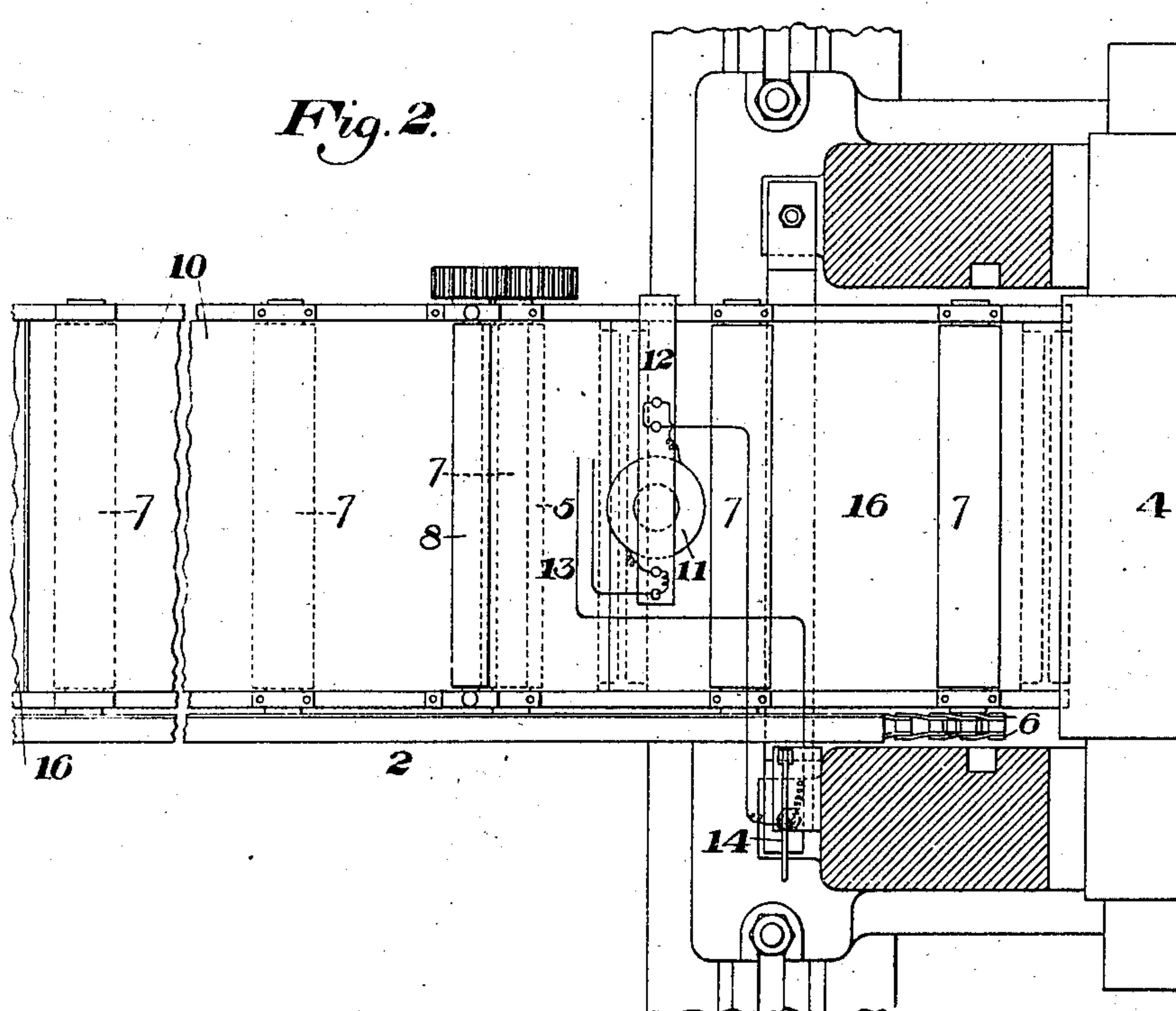
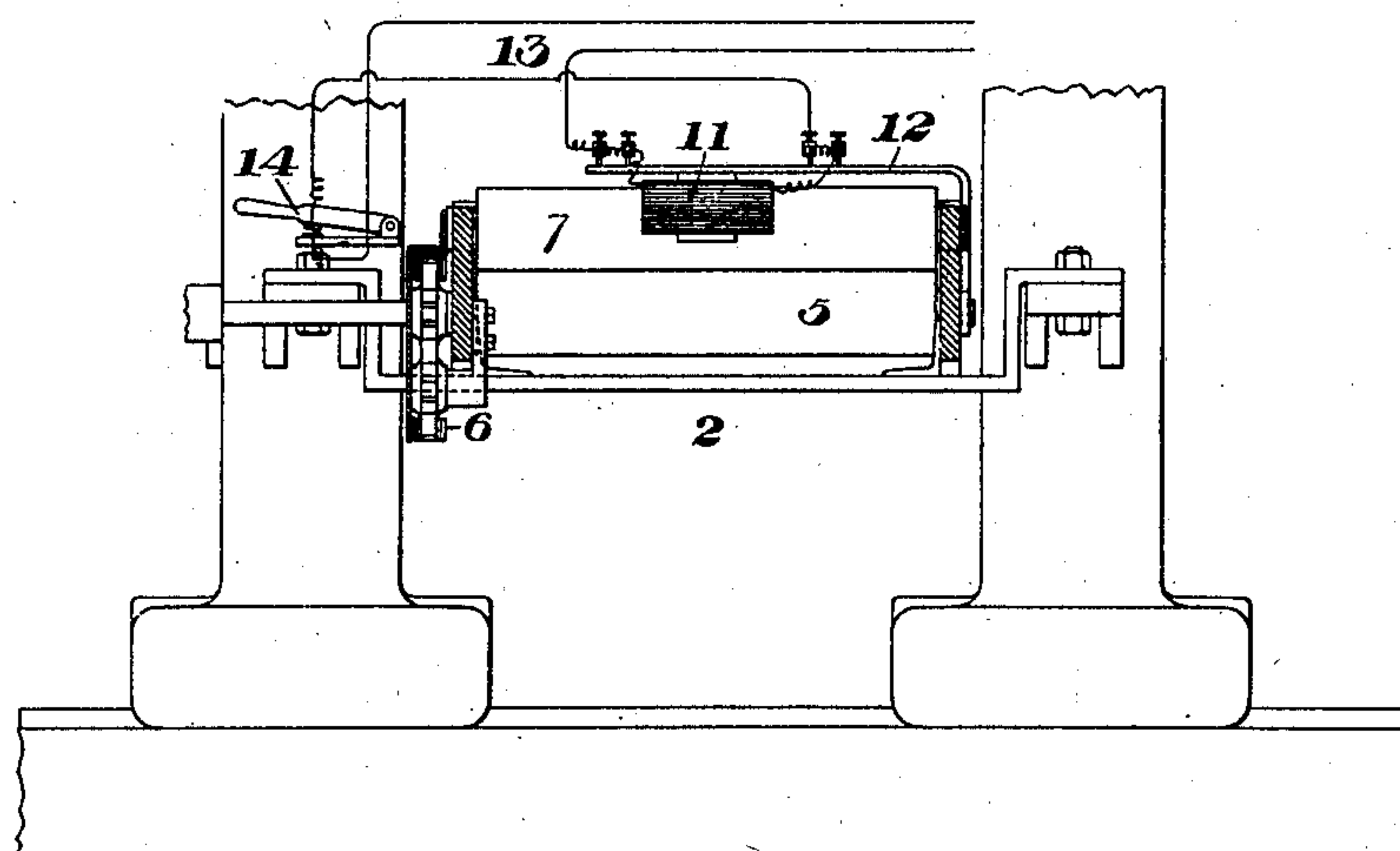


Fig. 3.



WITNESSES

Warren W. Swartz
George B. Blumling

INVENTOR

Francis J. Freeman
by Baxendell & Baxendell
his Attorneys.

No. 617,328.

Patented Jan. 10, 1899.

F. I. FREEMAN.
ROLLING MILL FEED TABLE.

(Application filed Jan. 25, 1898.)

(No Model.)

3 Sheets—Sheet 3.

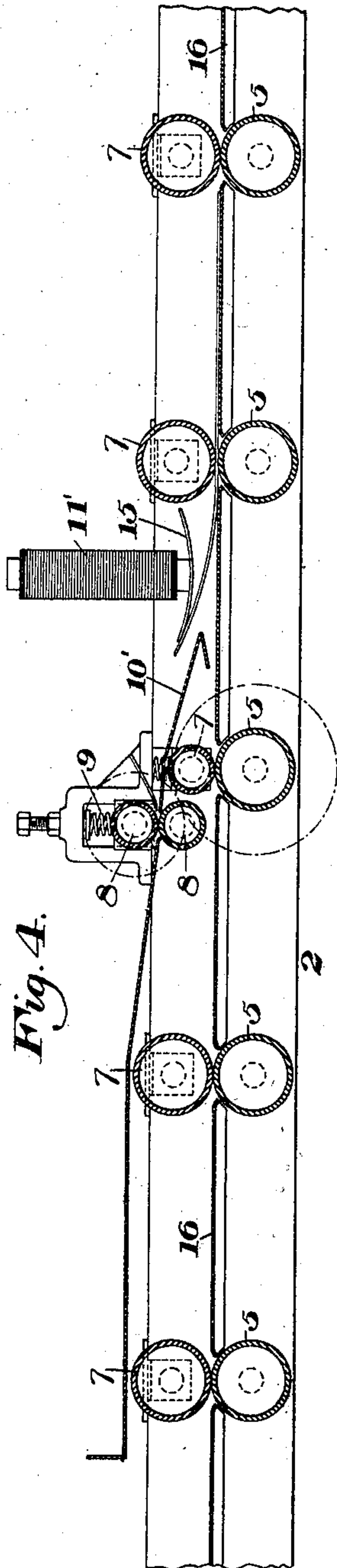


Fig. 4.

WITNESSES

Warren W. Seavart
George D. Blumming

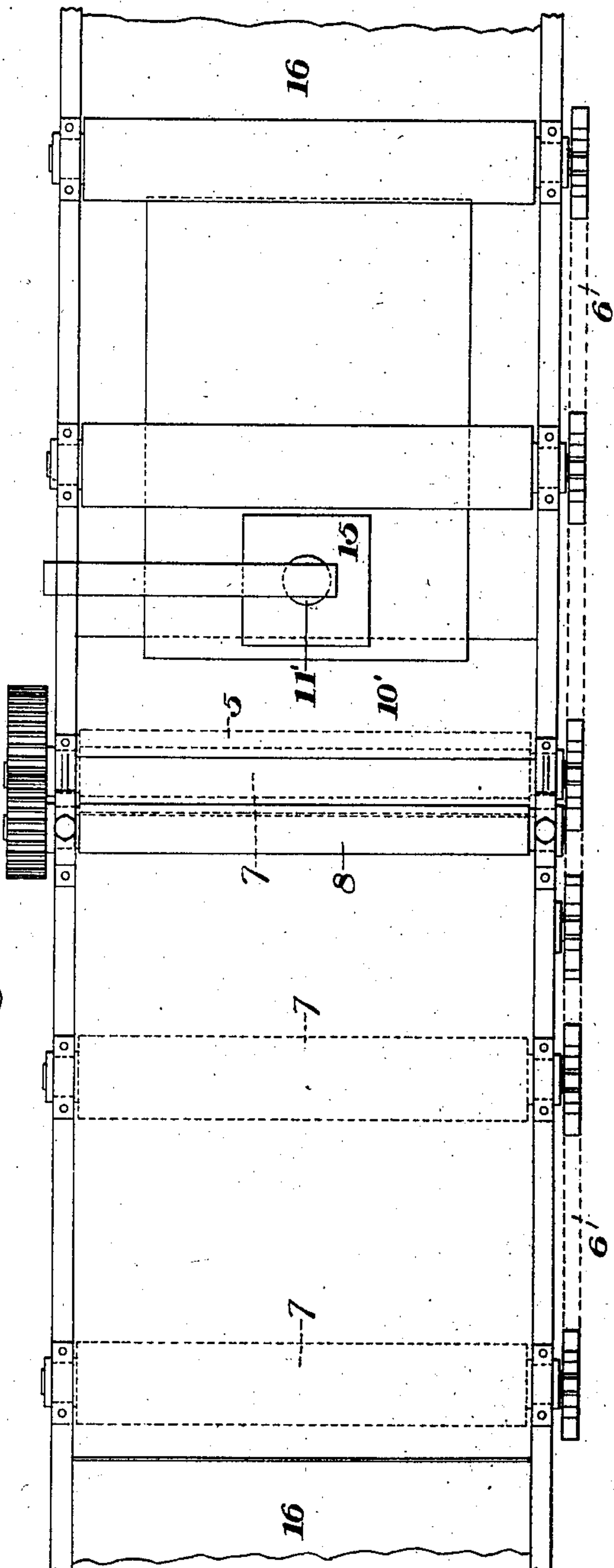


Fig. 5.

INVENTOR

Francis I. Freeman
by Baxendell & Baxendell
his Attorneys.

UNITED STATES PATENT OFFICE.

FRANCIS I. FREEMAN, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO THE
TOTTEN & HOGG IRON AND STEEL FOUNDRY COMPANY, OF SAME PLACE.

ROLLING-MILL FEED-TABLE.

SPECIFICATION forming part of Letters Patent No. 617,328, dated January 10, 1899.

Application filed January 25, 1898. Serial No. 667,903. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS I. FREEMAN, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Rolling-Mill Feed-Tables, 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 feed-table in position between two stands of rolls. Fig. 2 is a partial plan view of the same, partly broken away. Fig. 3 is a vertical cross-section on the line III III of Fig. 1. Fig. 4 is an enlarged partial longitudinal section showing another form of electromagnet, and Fig. 5 is a partial plan view of the form of Fig. 4.

My invention relates to the feed-tables employed for transferring metal to and from rolls and is designed to provide an improved means for removing an article from the table without interfering with the movements of other articles passing over this table.

To that end it consists in the combination, with a feed-table, of an electromagnet so arranged that when energized it will, either alone or in connection with other devices, deflect and remove an article passing thereover. It also consists in the construction and arrangement of the parts, as hereinafter more fully described, and set forth in the claims.

In the drawings, referring to the form of Figs. 1, 2, and 3, 2 represents a feed-table located between two stands of rolls 3 and 4 and in line with their passes. Upon the table is mounted a series of lower feed-rollers 5, which are positively driven by means of a sprocket-chain 6, passing over sprocket-wheels upon the protruding ends of their shafts. Motion being communicated to one of these shafts, as shown at *a* in Fig. 1, will thus positively drive the entire lower series. As the table which I have shown is particularly designed for carrying sheets I, provide thereon an upper series of idle-rollers 7, which are preferably mounted in slotted bearings, as shown, and are driven by frictional contact with the lower rollers or with the sheets passing between the two series. One of these upper rollers 7 is reduced in diameter, and adjacent thereto is

placed a pair of rollers 8, the upper of which is pressed against the lower by suitable springs 9. The rollers 8 are driven by gear connections with one of the rollers 5, as shown, or otherwise, as desired. An inclined shield 10 leads from a point between two sets of the coacting driven and feed rollers over the reduced roller 7 to the pass between the rollers 8 and is extended beyond them for some distance to act as a support for the removed sheets. Near the lower end of this apron or shield I place an electromagnet 11, carried on a standard 12 and having suitable electric connections 13, leading through a switch 14, by which the same may be energized. The handle of this switch is in convenient proximity to one of the stands of rolls, so that the attendant can readily control the magnet.

The operation is as follows: When a defective sheet passes from the stand of rolls and enters upon the feed-table, the attendant by means of the switch energizes the magnet, and as the sheet comes beneath it the magnet will draw its front end upwardly, so that the rollers 5 will force the sheet up along the apron until it is engaged by the rollers 8, and these rollers will complete the removal of the sheet from the table and force it along the apron extension.

In the form of Figs. 4 and 5 I show the magnet 11' as provided with a shield 15, which is curved and acts as a guide for the sheet passing up onto the apron 10'. In both forms I have shown the usual supporting-plates between the pairs of rollers of the table; but these may or may not be used, as desired.

The advantages of my invention result from the use of an electromagnet, which does away with the necessity of moving mechanism to engage and remove a sheet from the table and which is instantaneous in operation and easily and cheaply applied. Moreover, its use enables the operator to stand at any desired point and operate the switch which controls this magnet. Two or more magnets may be used, and the magnet may be arranged to move with the sheet, if desired, and many other changes in the form and arrangement of the feed-table and of the magnet may be made without departing from my invention, since

What I claim is—

1. The combination with a rolling-mill feed-table, of an electromagnet arranged to attract and thus deflect one end of an article passing thereover, and means for energizing and deenergizing said magnet.

2. A rolling-mill feed-table having positively-driven rollers, and an electromagnet located over the table and arranged to attract and thus deflect one end of articles carried by the rollers.

3. The combination with a rolling-mill feed-table, of an apron above the same, and an electromagnet arranged to attract and thus deflect one end of the articles passing over the table and cause them to pass upon the apron.

4. A rolling-mill feed-table having positively-driven rollers thereon, an inclined shield or apron located above the rollers, an electromagnet arranged to attract and thus deflect the end of a sheet or article and cause it to pass upon the apron, and means for controlling the current passing to the magnet.

5. A rolling-mill feed-table having positively-driven rollers, an electromagnet arranged to attract and thus deflect an article passing over the table, and a pair of driven

feed-rollers arranged to seize the article thus deflected and remove it from the table.

6. A rolling-mill feed-table having an apron above the same, a pair of driven feed-rollers to which the apron leads, and an electromagnet arranged to attract and thus deflect one end of articles upwardly and cause them to enter upon the apron.

7. A feed-table having a lower series of positively-driven rollers, an upper series of idle-rollers coacting therewith, an inclined apron extending upwardly over one of the idle-rollers, a pair of driven feed-rollers to which the apron leads, and an electromagnet arranged to attract and thus deflect the ends of articles upon the apron.

8. The combination with two stands of rolls arranged in tandem, of a feed-table located between and in line with their passes, and an electromagnet arranged to attract and deflect one end of an article passing over said feed-table.

In testimony whereof I have hereunto set my hand.

FRANCIS I. FREEMAN.

Witnesses:

C. BYRNES,

G. I. HOLDSHIP.