

No. 720,353.

PATENTED FEB. 10, 1903.

S. V. HUBER.

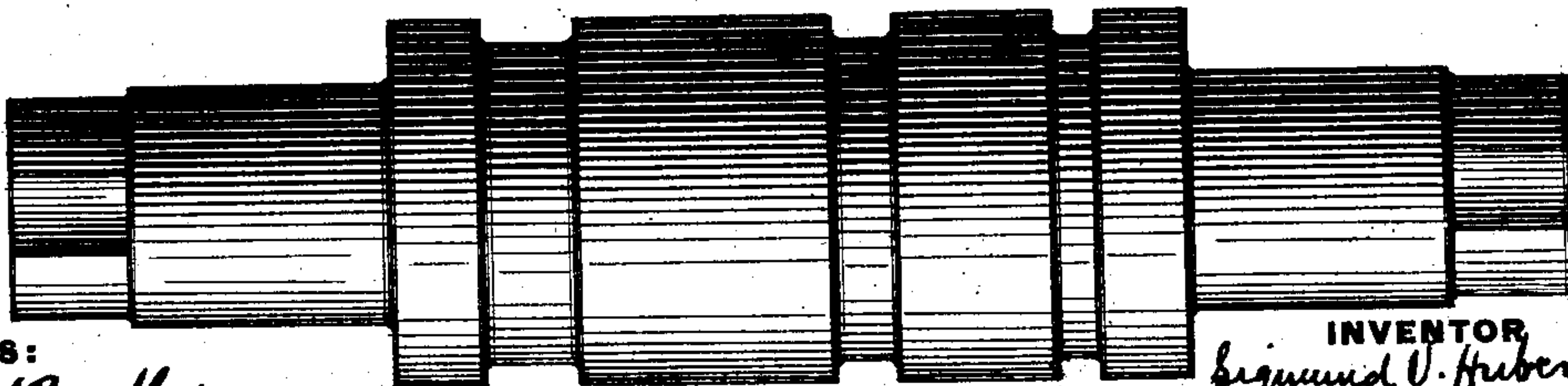
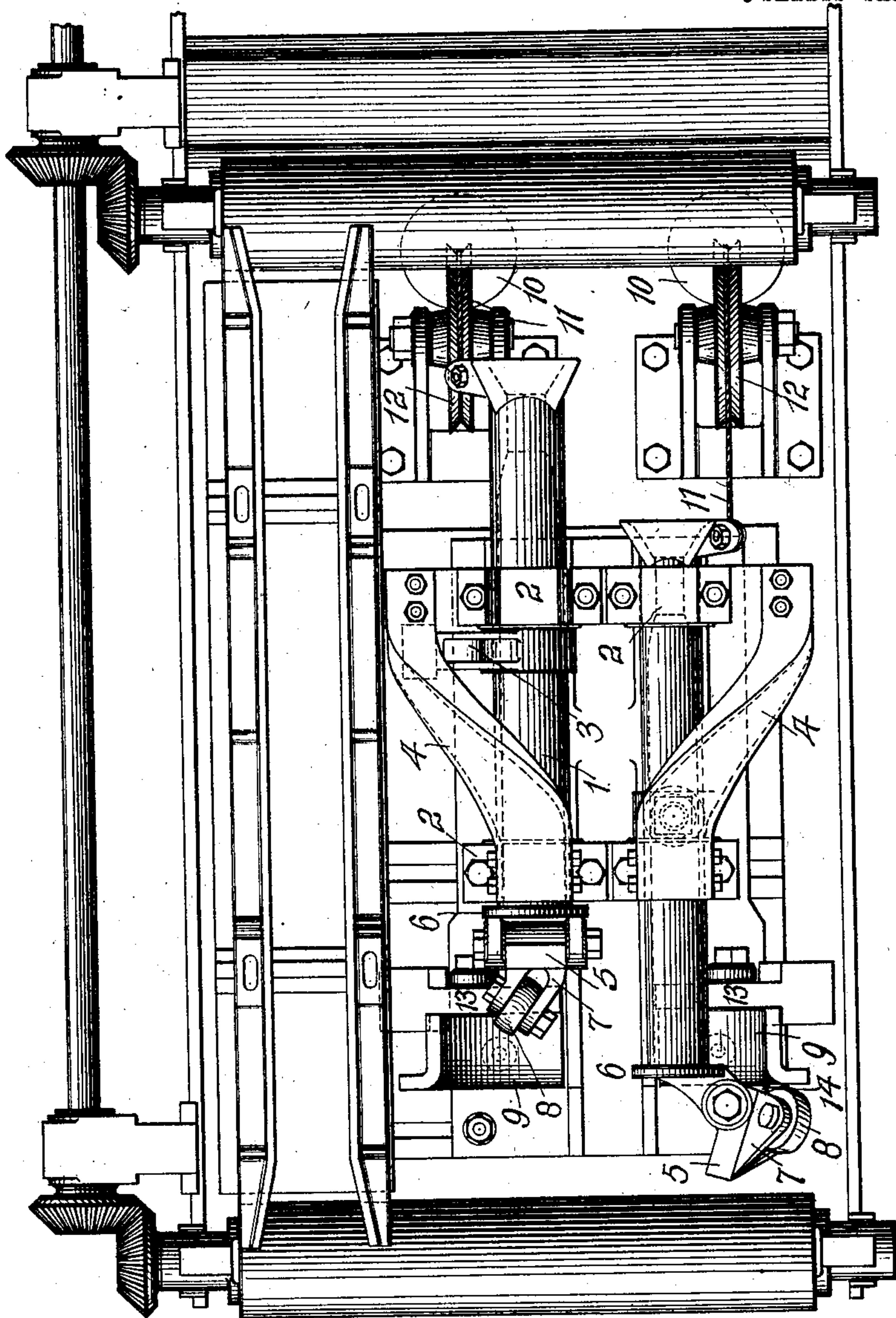
FEED MECHANISM FOR ROLLING MILLS.

APPLICATION FILED MAR. 12, 1902,

NO MODEL.

3 SHEETS—SHEET 1

FIG. 1.



WITNESSES:
Herbert Bradley.
J. E. Gaither.

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Sigmund V. Huber
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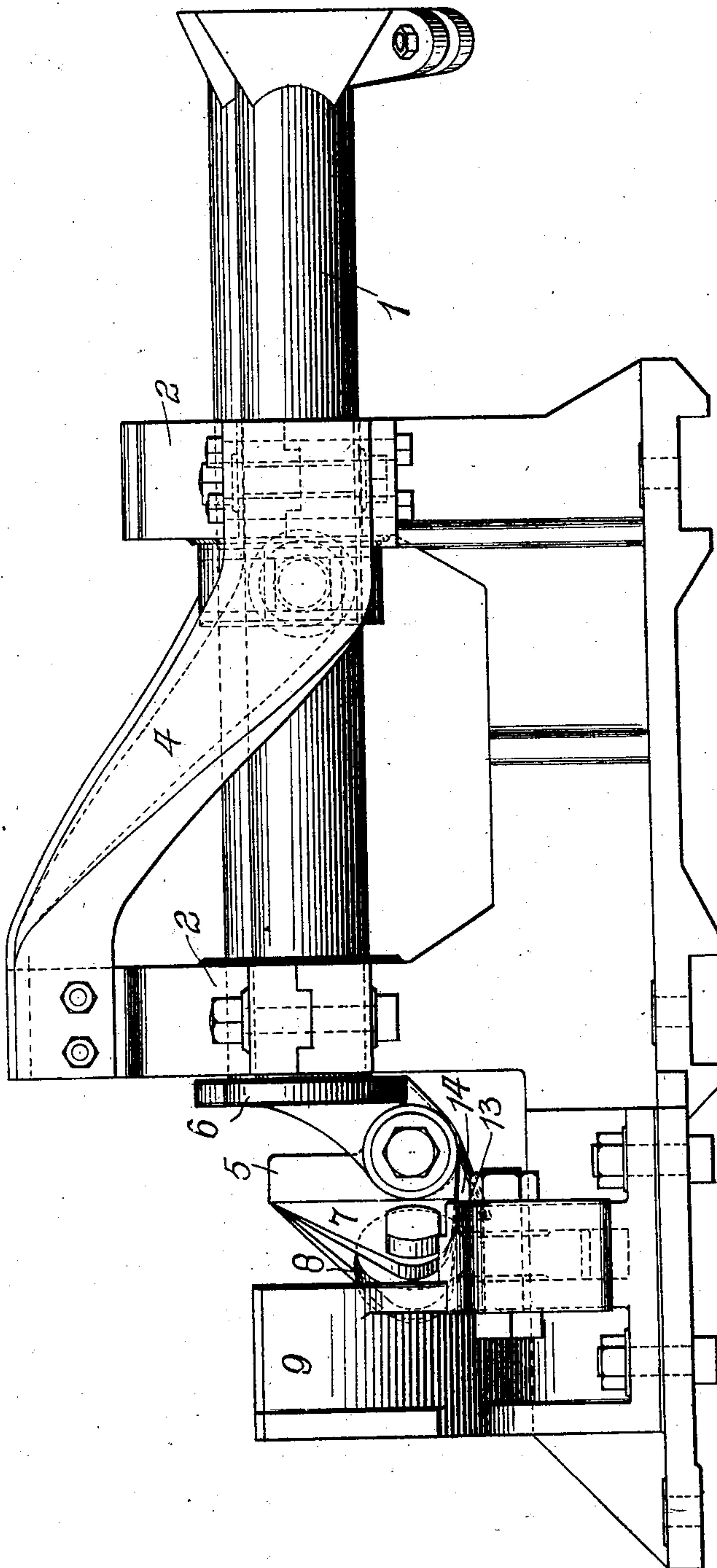
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FEED MECHANISM FOR ROLLING MILLS.

APPLICATION FILED MAR. 12, 1902.

NO MODEL.

3 SHEETS—SHEET 2.

FIG. 2.



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3 SHEETS—SHEET 3.

FIG. 3.

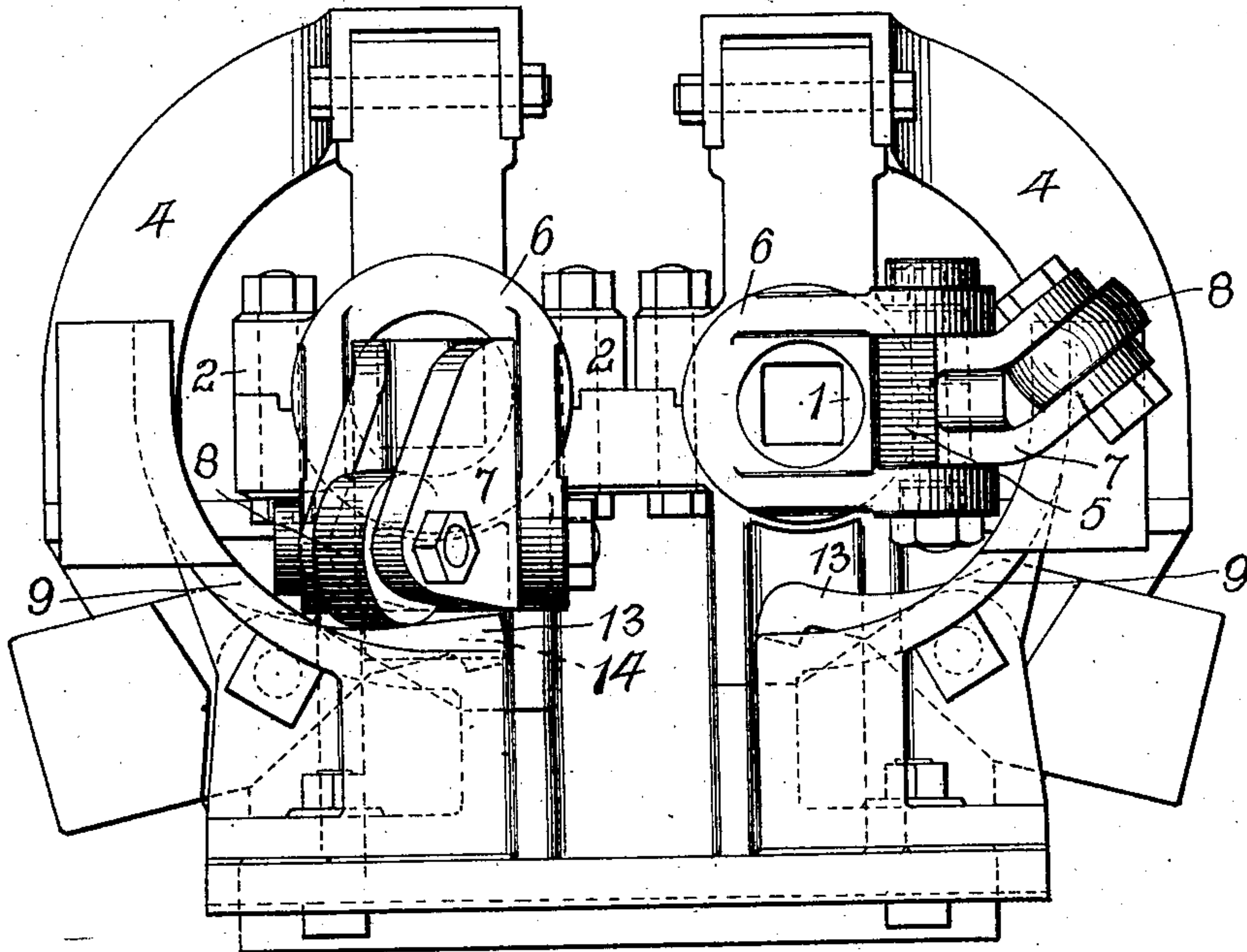
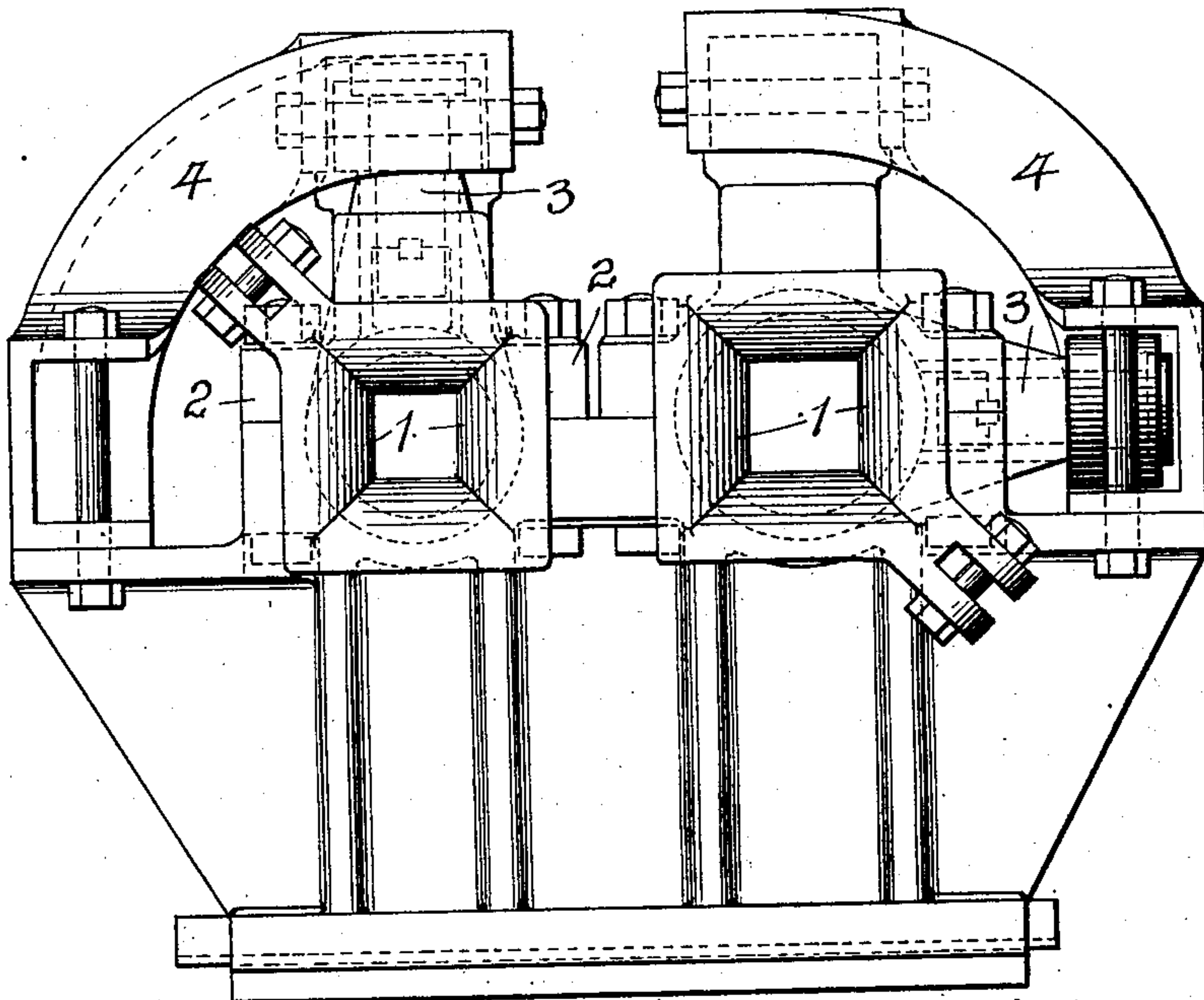


FIG. 4.



WITNESSES:
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UNITED STATES PATENT OFFICE.

SIGMUND V. HUBER, OF PITTSBURG, PENNSYLVANIA.

FEED MECHANISM FOR ROLLING-MILLS.

SPECIFICATION forming part of Letters Patent No. 720,353, dated February 10, 1903.

Application filed March 12, 1902. Serial No. 97,828. (No model.)

To all whom it may concern:

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

The invention described herein relates to certain improvements for turning articles while being fed to rolling-mills or other reducing mechanism, and is especially applicable to articles of large section; and in general terms the invention consists in a mechanism for engaging the article being fed and adapted to be shifted longitudinally by the article being fed and in mechanism for turning the engaging mechanism during such longitudinal movement.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a portion of this specification, Figure 1 is a plan view showing my improved mechanism and its position relative to the feed-table and the reducing-rolls. Fig. 2 is a side elevation, on an enlarged scale, of the turning mechanism. Fig. 3 is a front elevation of the same, and Fig. 4 is a rear elevation.

In the practice of my invention I employ a suitable mechanism for engaging or gripping the article being fed, such mechanism being preferably arranged along the line of a feed-table and preferably in the rear of the last rollers of such table, so as to be closely adjacent to the rolls or other mechanism operating on the article. In connection with such gripping or engaging mechanism, which is adapted to be shifted by the article being fed, I employ suitable means for turning the gripping mechanism, the turning means being operative on the shifting of the gripping mechanism. A convenient construction to this end consists of a trough or tube 1 of an internal cross-section corresponding to that of the article to be fed to the rolls and having a circular periphery, or at least such portions as are within the bearings 2 circular in cross-section, so that the trough or tube can rotate freely in said bearings. An arm 3 is secured to the tube or trough, preferably

between the bearings 2, and extends into a curved guideway 4, so constructed that as the arm 3 passes from one end to the other of such guideway on the longitudinal movement of the tube or trough said arm and the tube or trough will be turned through an arc of ninety degrees. It will be understood by those skilled in the art that although the turning mechanism shown is constructed to rotate the tube through an arc of ninety degrees by suitably constructing and arranging the guideways 4 a rotation of the tube through any desired length of arc may be attained. A gate or door 5 is so mounted on the front end of the tube that when the tube or trough is in its rear position or moving to and from such position the door or gate will prevent any article from passing out of the tube. It will form an abutment against which the article will bear and prevent its further movement through the tube or trough, so that the motion of the article will be transmitted to the tube until the latter reaches a predetermined position. Any suitable form or construction of mechanism may be employed for holding the gate or door in operative position in front of the tube while the latter is being shifted longitudinally and turned through the desired arc and for permitting the door to move out of the path of movement of such article as soon as the desired angular movement of the tube or trough has been attained. A desirable construction to this end consists of a head 6, secured to the end of the tube 1 and provided with brackets, to which the door 5 is pivotally connected. This door 5 is provided with a front extension 7, made in the form of brackets, between which is mounted a friction-roller 8. This friction-roller bears upon a curved supporting-plate 9 when the tube or trough is in its rear position and also during the forward traverse of the tube and its rotation. This supporting or cam plate is so proportioned that as soon as the tube or trough has rotated through the desired arc the friction-roller 8 will drop off the end of the supporting or cam plate and permit the door to swing open sufficiently far to allow a free passage of the article out of the tube or trough. As the friction-roller 8 has a double movement during the longitudinal movement of

the tube or trough—*i. e.*, transverse of the supporting cam-plate and also up along the curved portion thereof—it should be set at an angle to the door, as clearly shown in Figs. 1 and 3.

The return movement of the tube or trough can be effected by any suitable form or construction of mechanism—such, for example, as that shown—consisting of a weight 10, connected by a cord 11 to the rear end of the tube and passing over a guide-pulley 12. This weight or other returning mechanism should be so proportioned that it will not overcome the friction of the article with the sides of the trough while the article is passing through the latter, but will be sufficient to effect a prompt return as soon as the article has left the tube or trough.

In order that the turning tube or trough may have a good grip or bearing on the article before the longitudinal and rotating movement is imparted to such tube or trough, suitable means are provided whereby a longitudinal movement of the trough is prevented until the article strikes against the gate or door 5 and will be shifted by a slight movement of such gate or door when struck by the article and permit the free operation of the turning mechanism. A convenient device for this purpose consists of a finger or dog 13, having its outer end weighted and adapted to be held by such weight in front of a projection 14 on the door when the latter is in its rearward or normal position. This dog is made sufficiently wide or is so located that the friction-roller 8 or other projection from the door will bear upon the finger or dog, so that when the door is struck the friction-roller or projection will force the finger down out of the path of movement of the lug on the tube and permit the latter to move forward, as described.

Although I have shown two turning devices, it will be understood by those skilled in the art that the invention is not limited to any particular number of such devices; but one, two, three, or more may be used, as required.

It is characteristic of my improvement that the article being fed is engaged by suitable mechanism which is caused to rotate by the article in its forward movement and impart such rotation to the article. Hence as regards the broad claims herein made I do not confine myself to the specific construction shown and described, but include as a part of the invention such modifications or changes as will readily suggest themselves to those skilled in the art.

I claim herein as my invention—

60 1. A feed-table for rolling-mills having in combination therewith means for engaging the article being fed and mechanism operative by the article in its forward travel with

reference to turning the article, substantially as set forth.

2. A feed-table for rolling-mills, &c., having in combination therewith means for engaging an article being fed and adapted to be shifted by such article in its longitudinal movement, and mechanism for turning said means when shifted by the article, substantially as set forth.

3. A feed-table for rolling-mills, &c., having in combination therewith a longitudinally-movable trough or tube, means operative by the article being rolled for causing the tube or trough to move therewith during a portion of the movement of the latter, and means for turning the trough or tube axially during its longitudinal movement, substantially as set forth.

4. A feed-table for rolling-mills, &c., having in combination therewith a longitudinally-movable tube or trough, a gate or door pivotally connected to the tube or trough, means for normally holding the door in closed position, and means for turning the tube or trough during its longitudinal movement, substantially as set forth.

5. A feed-table for rolling-mills, &c., having in combination therewith a longitudinally-movable trough or tube, a door or gate pivotally connected to the tube or trough, a cam-plate for holding the door or gate in closed position during its longitudinal movement, and means for turning the tube or trough during its longitudinal movement, substantially as set forth.

6. A feed-table for rolling-mills, &c., having in combination therewith a longitudinally-movable tube or trough provided with lug projection and a curved guide for the reception of the lug or projection, substantially as set forth.

7. A feed-table for rolling-mills, &c., having in combination therewith a tube or trough movable longitudinally by the article being rolled with means for turning the tube or trough during its longitudinal movement, and means for returning the tube or trough to normal position, substantially as set forth.

8. A feed-table for rolling-mills, &c., having in combination therewith a longitudinally-movable tube or trough, means for turning the tube or trough during its longitudinal movement, a lock for preventing the longitudinal movement of the tube or trough and means for shifting said lock on a predetermined movement of the article being fed into the tube or trough, substantially as set forth.

In testimony whereof I have hereunto set my hand.

SIGMUND V. HUBER.

Witnesses:

DARWIN S. WOLCOTT,
F. E. GAITHER.