

(No Model.)

2 Sheets—Sheet 1.

G. LEHBERGER.
ROD MILL FLOOR.

No. 602,021.

Patented Apr. 5, 1898.

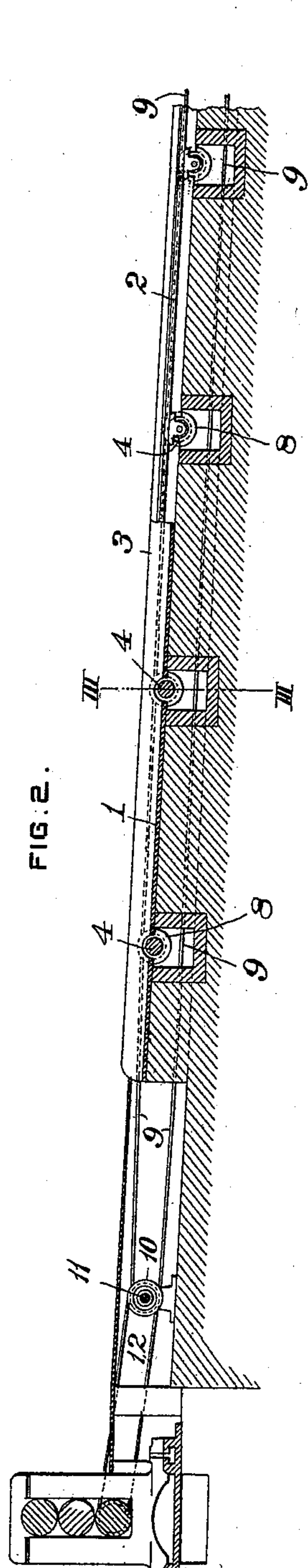


FIG. 2.

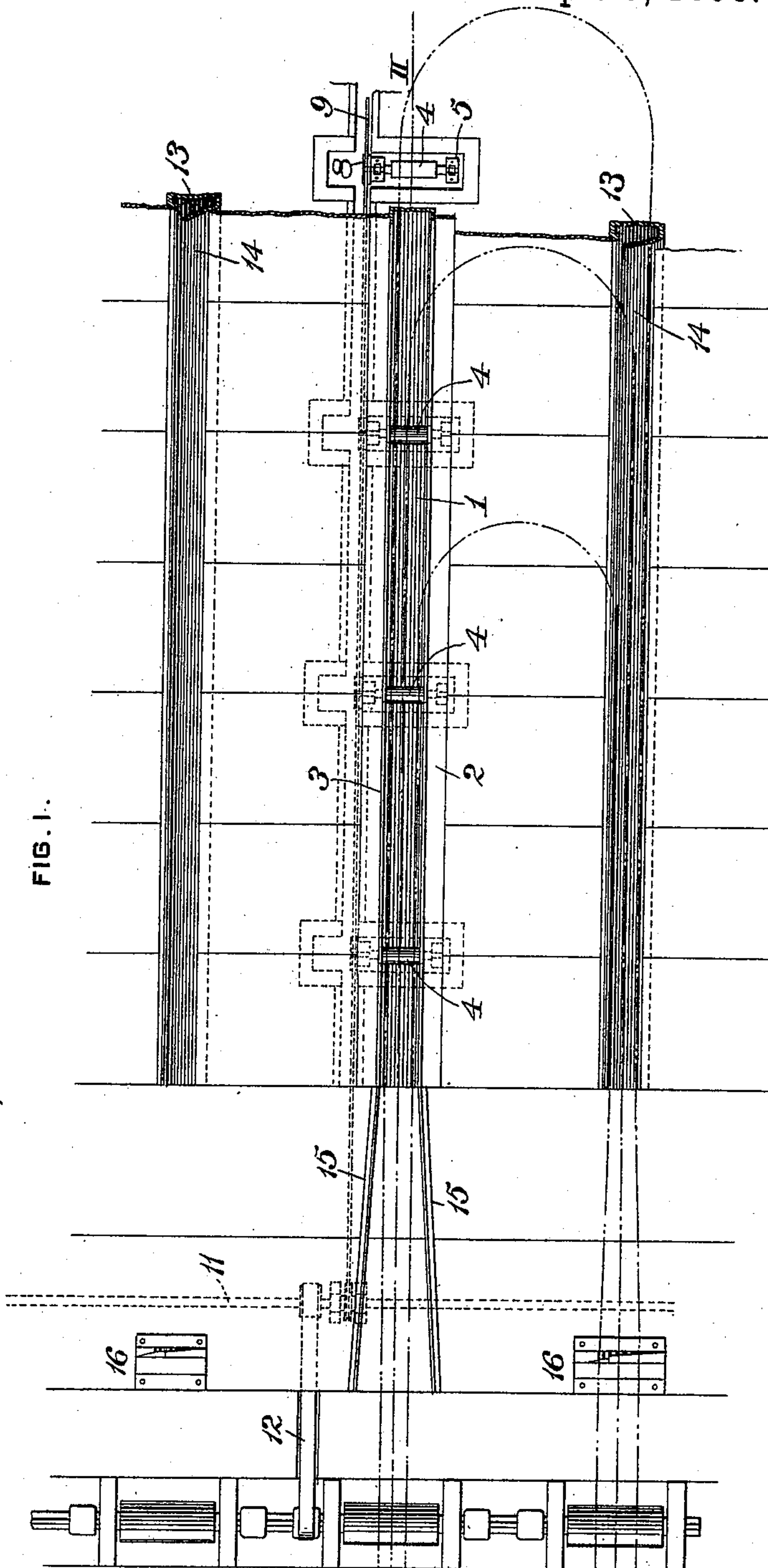


FIG. 1.

WITNESSES:

Chas. F. Miller.
A. E. Gaitner.

INVENTOR.

George Lehberger
by Daniel S. Wolcott

Att'y.

(No Model.)

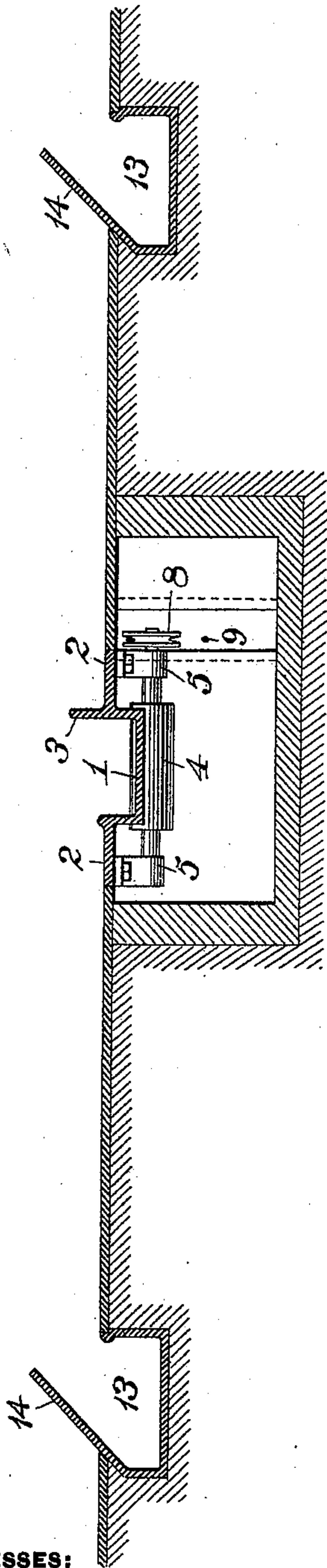
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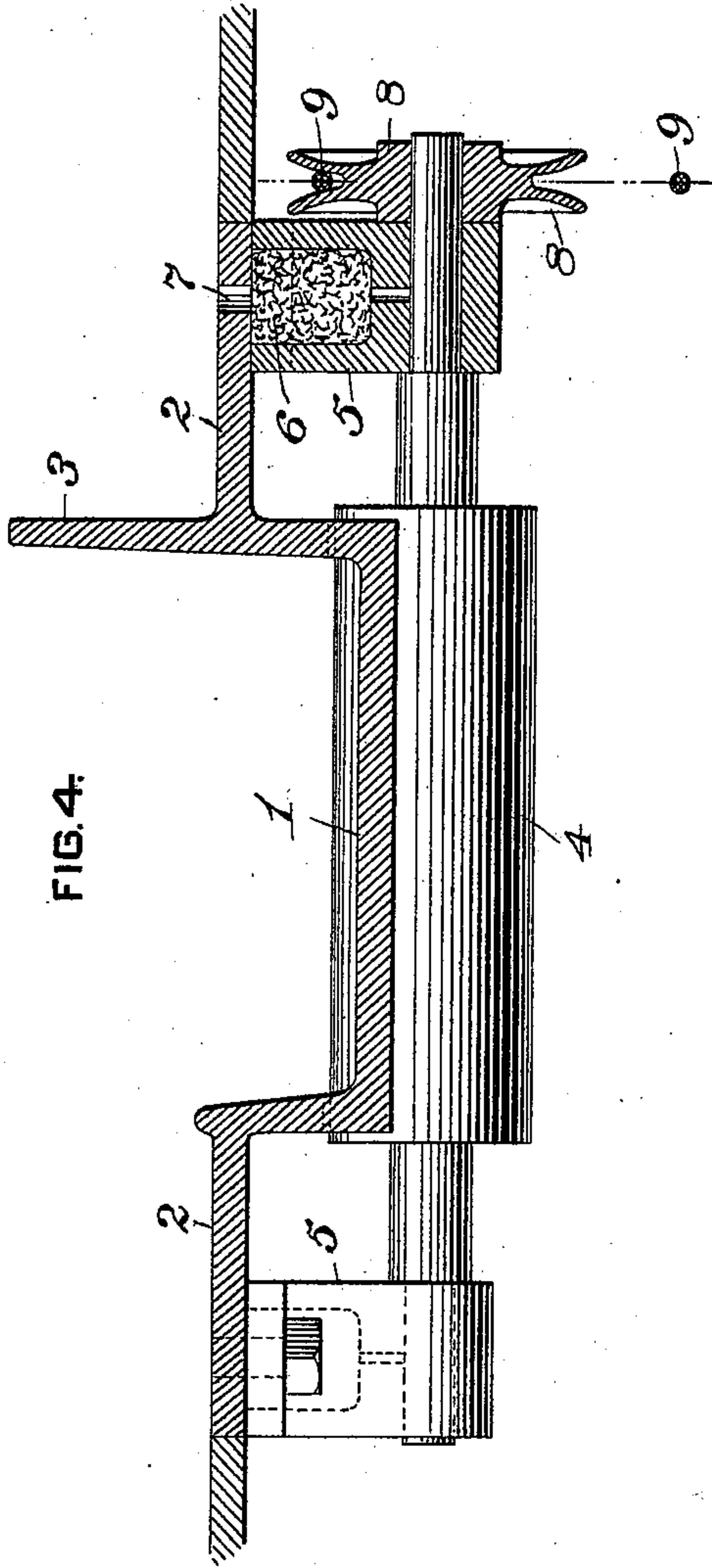
FIG. 3.



WITNESSES:

Chas. F. Miller.
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FIG. 4.



INVENTOR.

George Lehberger
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UNITED STATES PATENT OFFICE.

GEORGE LEHBERGER, OF BRADDOCK, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO PETER McILVRIED, OF SAME PLACE.

ROD-MILL FLOOR.

SPECIFICATION forming part of Letters Patent No. 602,021, dated April 5, 1898.

Application filed June 26, 1897. Serial No. 642,388. (No model.)

To all whom it may concern:

Be it known that I, GEORGE LEHBERGER, a citizen of the United States, residing at Braddock, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Rod-Mill Floors, of which improvements the following is a specification.

The invention described herein relates to certain improvements in rod-mill floors, and has for its object a construction of apparatus whereby the rods as they come from the mill may be distributed or arranged in suitable loops in or approximately in line with the delivery and receiving rolls and whereby the movement of the rods along the floor is facilitated and any lateral spreading prevented.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a top plan view of a rod-mill floor embodying my invention. Fig. 2 is a sectional elevation of the same, the plane of section being indicated by the line II II, Fig. 1. Fig. 3 is a transverse section, the plane of section being indicated by the line III III, Fig. 2; and Fig. 4 is a sectional elevation, on an enlarged scale, showing the trough and roller for guiding and facilitating the movement of the outcoming rod.

In the practice of my invention the rod-mill, consisting of a series of rolls A B C, &c., is constructed and arranged in any suitable manner in accordance with well-known practices in the art. In front of the mill is arranged a floor whose surface is preferably composed of or formed by a series of metal plates, as is the general practice. In line with the delivery-rolls or rolls which would feed the rod out onto the floor is arranged a trough 1, provided with lateral flanges 2, preferably formed integral therewith and adapted to form portions of the floor. One of the sides is approximately flush with the floor, while the opposite side is extended vertically, forming a shield or guard 3 above the plane of the floor to prevent the spreading of the rod toward the line of feed of an adjacent stand of rolls. At suitable intervals along its length the bottom of the trough is notched to permit

of the projection of rollers 4 a short distance above the bottom of the trough, as clearly shown in Figs. 2, 3, and 4. The journals of these rollers are mounted in suitable bearings 5, preferably secured by bolts or other suitable means on the under sides of the flanges 2, so as to hold the rollers and trough in proper relation to each other. The blocks forming the bearings for the rollers are provided with recesses for the reception of a suitable packing 6, adapted to retain oil, which is fed into the recesses through oil-openings 7 in the flanges 2, as clearly shown in Fig. 4, thereby insuring the constant and uniform lubrication of the rollers in their bearings. As clearly shown in Figs. 1, 3, and 4, one of the journals of each roller is extended beyond its bearing 5 for the reception of a grooved wheel 8, around which passes a driving rope or belt 9, which is operated by a correspondingly-shaped wheel 10 on a shaft 11. This shaft is mounted in suitable bearings below the mill-floor and extends along in front of the rod-train and is driven by a belt 12 or other suitable means from the rolls, as clearly shown in Figs. 1 and 2.

It will be readily understood by those skilled in the art that the feed-rollers 4 may be driven by any suitable construction of mechanism from the rod-train or other source of power.

In line with the stand of rolls which draw the rod from the floor is arranged a trough 13, sunk below the general level of the floor, but provided on the side distant from the trough 1 with an inclined hood 14, projecting up above the level of the floor and adapted to guide the rod into the trough and prevent its spreading beyond the line of the trough.

As shown in Fig. 1, the troughs 1 and 13 are preferably located a short distance from the rolls, and the rod from the delivery-stand of rolls B is guided into the trough 1 by guide ribs or plates 15, projecting up above the general level of the floor. Immediately in front of the receiving-stand of rolls C is arranged a chopping-block 16, as is customary, so that the rod will pass over the said block into the rolls C and afford an opportunity for the severing of any one of the rods when desired.

The rods are fed from the left, in Figs. 1 and 2, into the rolls B, and as the front ends

emerge therefrom they are either guided by a suitable repeating mechanism into the rolls C or the ends are caught by a catcher stationed in the rear of the train and by him directed into the proper pass in the rolls C. As the rolls B and C are driven at the same speed and as the rod is considerably reduced by the rolls C, it follows that the rod will loop out onto the floor of the mill. As the rod loops out, that part coming from the rolls B will be directed by the guides 15 into the trough 1 over the rollers 4. These rollers are driven at a speed equal to or greater than the peripheral speed of the rolls of the rod-train and will by their action draw the rod down along the trough 1. The loop between the portion of the rod emerging from the rolls B and that entering the rolls C will be located between the troughs 1 and 13, as clearly shown in Fig. 1. The vertical extension 3 on the side of the trough 1 will prevent the portion of the rod coming from the rolls B from spreading laterally toward the line of feed of the rolls A, and the hood 14 of the trough 13 will prevent the portion of the rod entering the rolls C from spreading in a direction toward the next stand of rolls and will also prevent the whipping around of the rear end of the rod as it is drawn into line with the rolls C after passing out of the rolls B.

While I have shown my improved feed mechanism on one side of a train, it will be understood by those skilled in the art that such a guide and feed mechanism may be arranged on both sides of the rod-train, if desired.

I claim herein as my invention—

1. In a rod-mill the combination of a pair of rolls, a floor extending in front of the rolls and a feed mechanism consisting of a series of positively-driven rollers arranged in the line of feed of the rods as they come from the rolls and with their upper surfaces approximately on a level with the floor, substantially as set forth.

2. In a rod-mill the combination of a pair of rolls, a floor extending in front of the rolls, a trough below the level of the floor and arranged in the line of movement of rods coming from said rolls and a series of positively-driven rollers arranged along said trough, substantially as set forth.

3. In a rod-mill the combination of a pair of rolls, a trough arranged below the floor and in the line of movement of rods coming from said rolls, a vertical shield or guide along one side of the trough, and a series of positively-driven feed-rollers arranged along said trough, substantially as set forth.

4. In a rod-mill, the combination of two pairs of rolls, troughs arranged below the floor-level and in the line of movement of rods coming from one pair of rolls and going to the other pair of rolls, vertical guards or shields arranged along the outer sides of said troughs, and a series of positively-driven feed-rollers, arranged in the trough in line with the delivery-rolls, substantially as set forth.

In testimony whereof I have hereunto set my hand.

GEORGE LEHBERGER.

Witnesses:

DARWIN S. WOLCOTT,
F. E. GAITHER.