

No. 651,868.

Patented June 19, 1900.

O. F. LEIBERT.  
ROLLING MILL GUIDE.

(Application filed July 12, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1

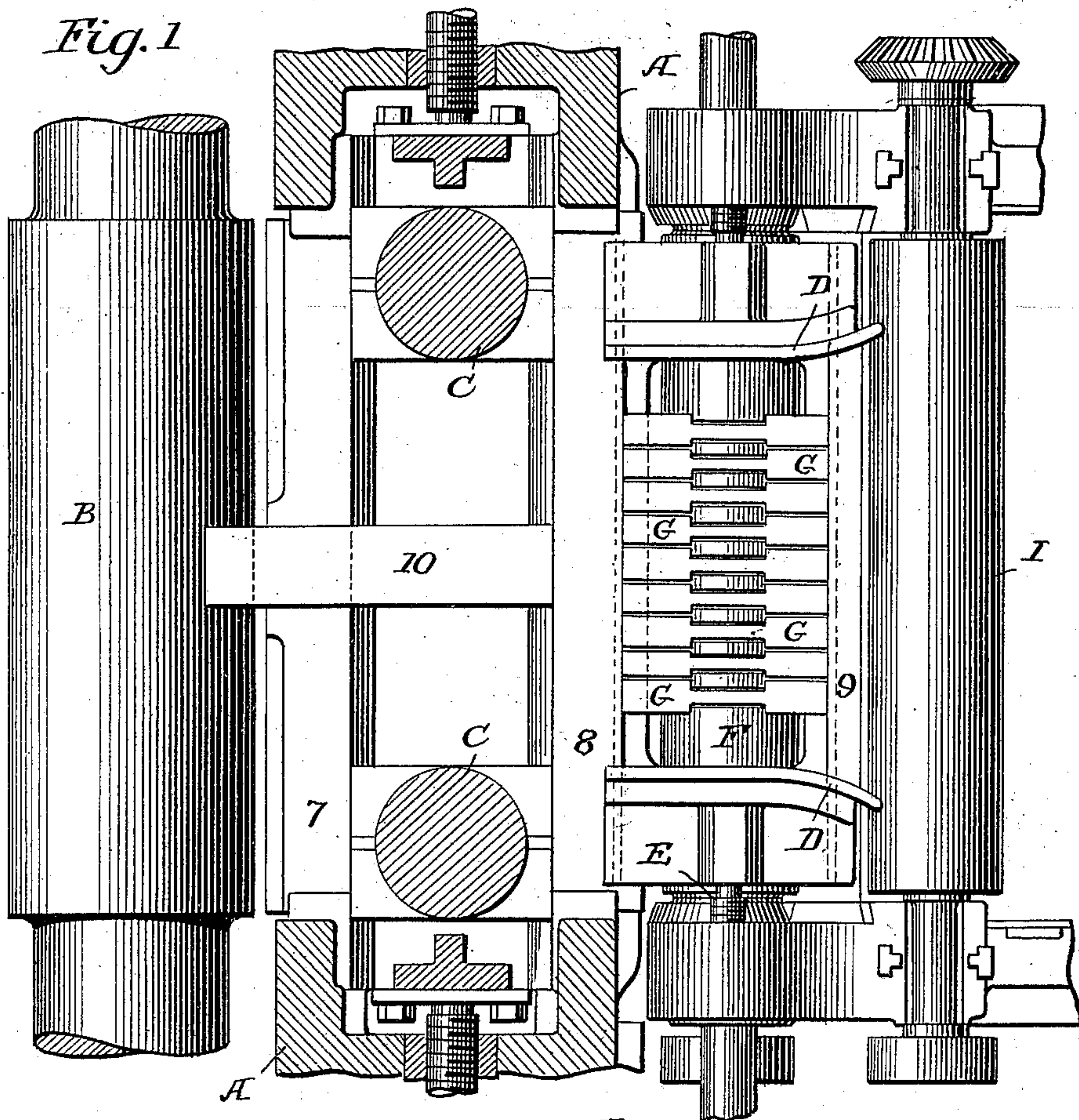
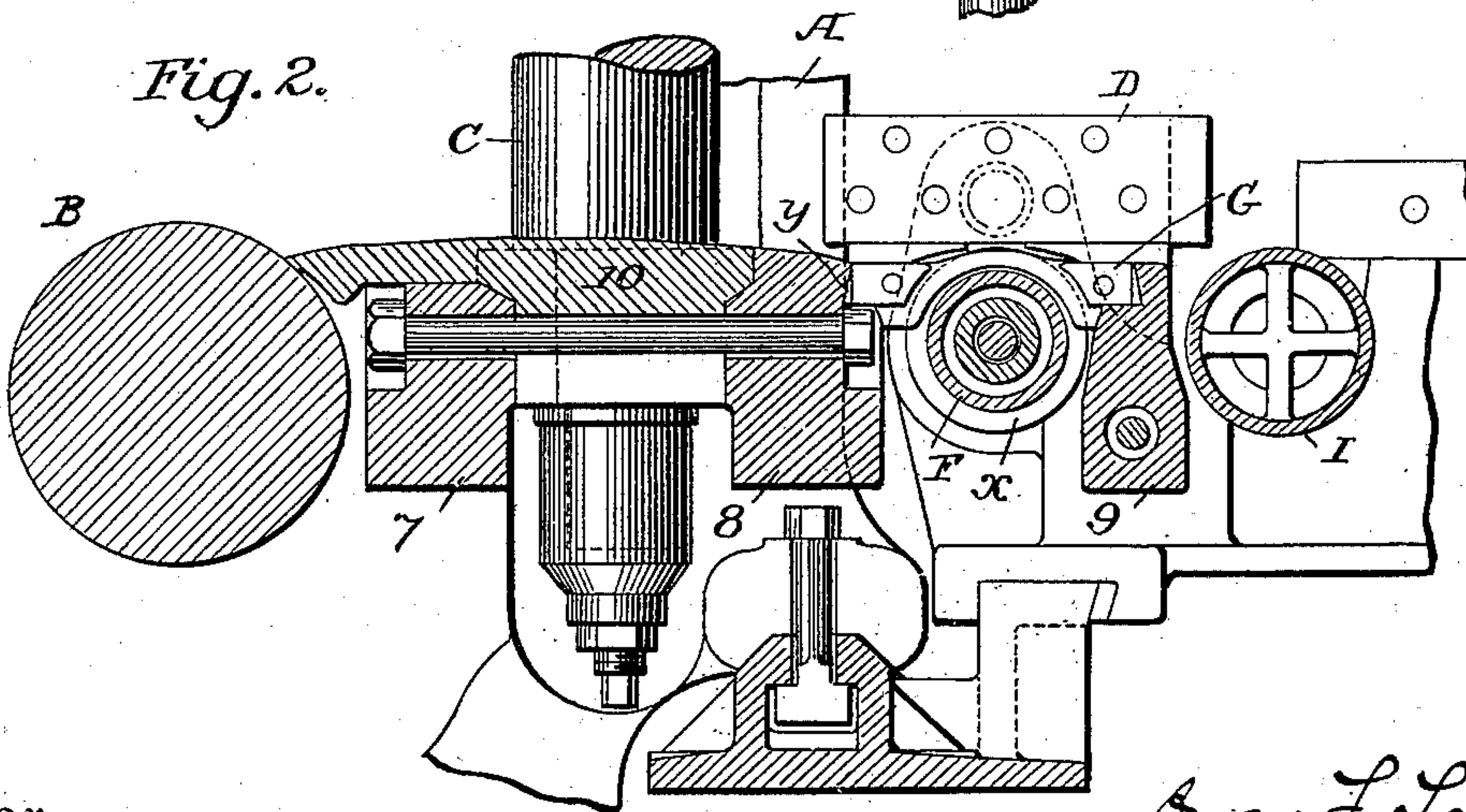


Fig. 2.



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Fig. 3.

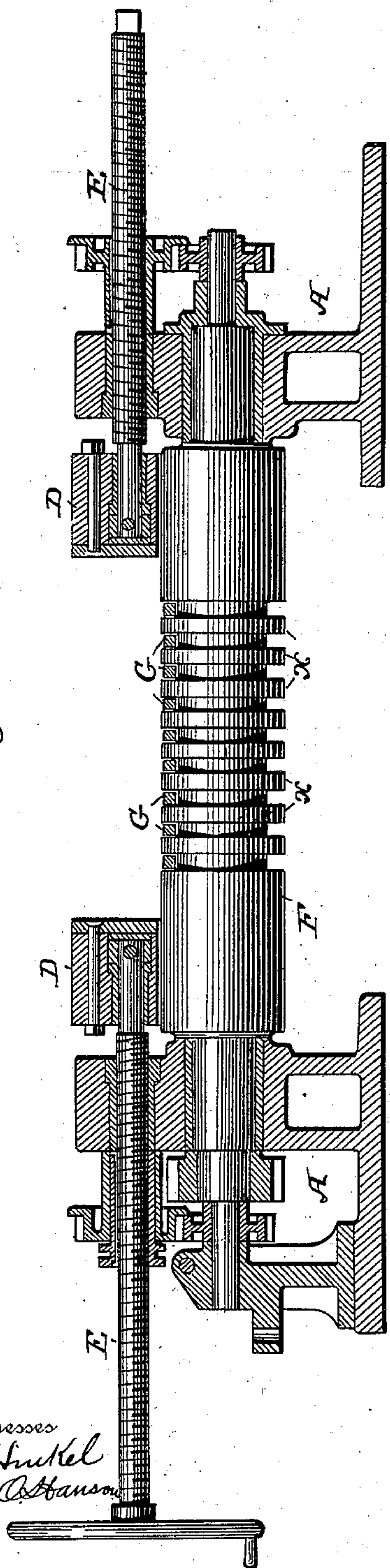


Fig. 4.

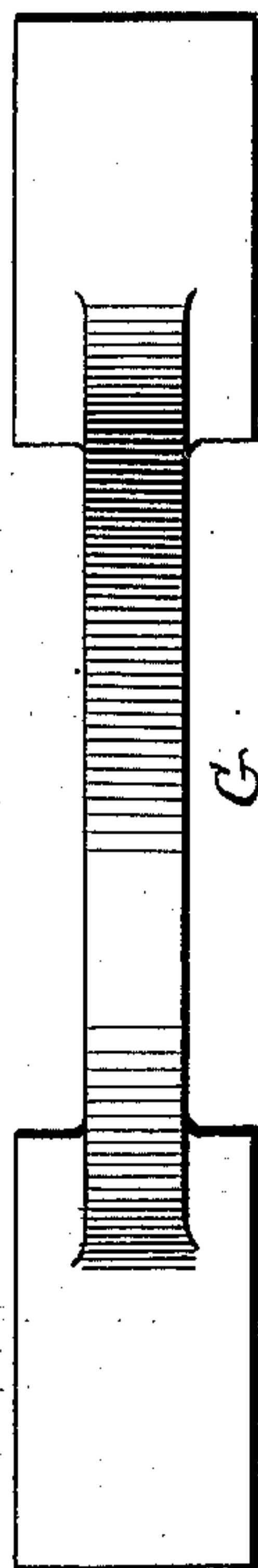


Fig. 5.

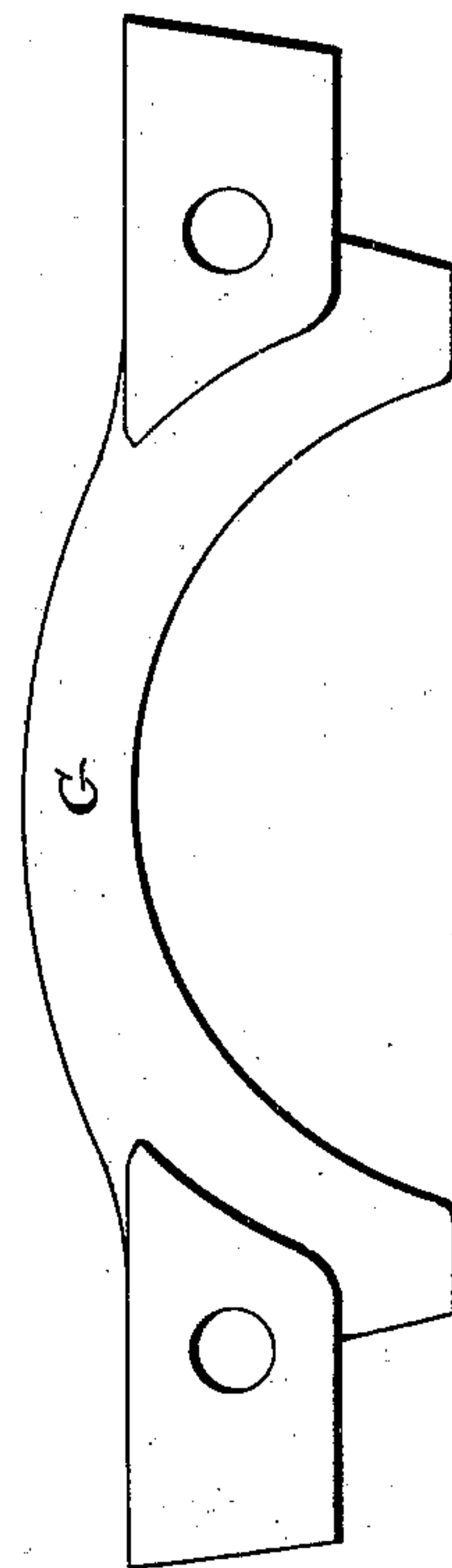
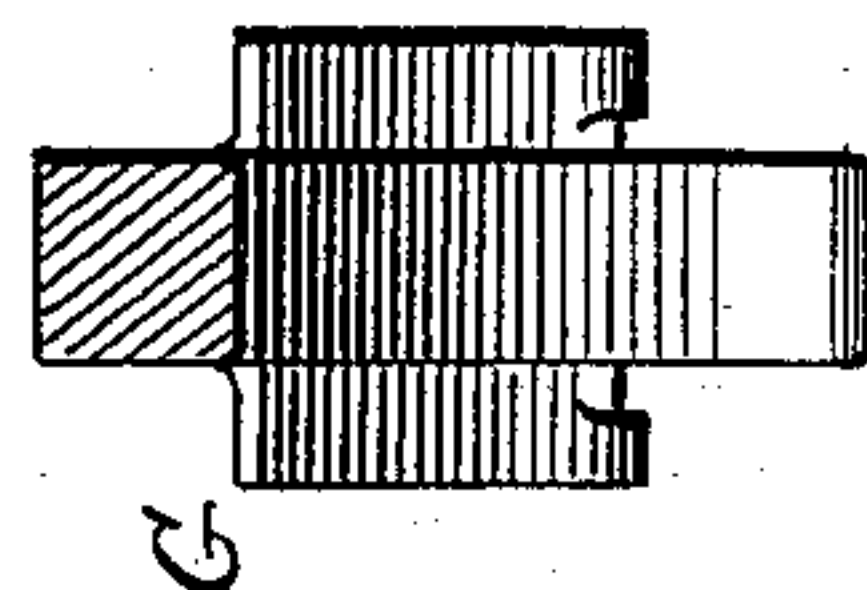


Fig. 6.



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# UNITED STATES PATENT OFFICE.

OWEN FRANKLIN LEIBERT, OF BETHLEHEM, PENNSYLVANIA.

## ROLLING-MILL GUIDE.

SPECIFICATION forming part of Letters Patent No. 651,868, dated June 19, 1900.

Application filed July 12, 1899. Serial No. 723,522. (No model.)

*To all whom it may concern:*

Be it known that I, OWEN FRANKLIN LEIBERT, a citizen of the United States, residing at Bethlehem, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Rolling-Mill Guides, of which the following is a specification.

My invention relates to improvements in rolling-mills; and it consists of means whereby to prevent any doubling of the ends of the material after passing between the rolls, as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of sufficient of a universal rolling-mill to illustrate my improvement. Fig. 2 is a sectional elevation of parts shown in Fig. 1. Fig. 3 is a transverse section. Fig. 4 is a top view of one of the bridge-bars. Fig. 5 is a side view of said bar, and Fig. 6 is a cross-section of said bar.

The frame A of the mill supports the bearings of the ordinary horizontal rolls, of which the main roll B is shown, and of the vertical rolls C C, together with means for adjusting the bearings 10 of the latter between the cross-piece bars 7 8. Side guards D D slide between the cross-pieces 8 9 and are adjusted by means of hand-screws E, and beyond the guards D D is the usual feed-table, of which one roller I is shown. All of these parts may be constructed in any usual or suitable manner, and their operation is too well known to require detail description. In using this class of mills there is danger of the ends of the bars being doubled by contact with the corners of the transverse cross-piece after passing from between the vertical rolls, and in order to avoid this result I bridge the space between the cross-pieces 8 and 9 in such manner that the material that has been rolled cannot sink below the level of the tops of these cross-pieces in passing to the feed-table. This bridging may be effected in different ways; but preferably I make use of a series of parallel bars G, fitted at their ends to the dovetailed or undercut recesses y in the cross-pieces 8 9, which serve to retain and guide the guards D D, the bars G having thickened ends also fitting said recesses and together constituting a

bridge consisting of parallel separated bars. This bridge may be made to conform to the width of the material rolled. As shown, it is of maximum extent embracing nine bars; but when the material is of less width the side rolls C C are brought closer together and one or more bars G at each end are removed, permitting the guards D D to be brought closer together, so that the space between them may be made to correspond to that between the rolls C C. Other means of spacing and arranging the bars may, however, be employed—as, for instance, two or more bars may be united in one piece to be inserted or removed together and then may be supported otherwise than as described.

While the bars may be used alone, as above described, it is desirable in many instances to reduce friction in passing over the bridge, and I therefore in this case provide a roller F, having a series of peripheral collars x so arranged as to project upward between and slightly above the faces of the bar. This roll may be driven by suitable gearing, or it may turn simply by frictional contact with the material passing over the bridge.

Without limiting myself to the precise construction shown and described, I claim as my invention—

1. The combination with the rolls of a rolling-mill, of a feed-table and cross-bars arranged at the delivery side of the rolls, side guards on the cross-bars, and a bridge between the cross-bars arranged with its upper face flush with the upper faces of the said bars to prevent the material that has been acted on by the rolls from descending below the upper faces and contacting with the sides of the cross-bars, substantially as set forth.

2. The combination with the rolls and side guides of a rolling-mill, of a bridge intermediate the guides consisting of a series of removable bars, substantially as set forth.

3. The combination in a rolling-mill having rolls, adjustable side guides and cross-pieces recessed to guide said guides, of a series of removable parallel bars with ends fitting the recesses in the cross-pieces, substantially as set forth.

4. The combination with the rolls and side

guides of a rolling-mill, of a bridge consisting of separated parallel bars, and a roll below said bridge having peripheral collars extending upward between the bars, substantially  
5 as set forth.

5. The combination in a rolling-mill, of the rolls, cross-pieces 8, 9, with recesses *y*, guides D, fitting and guided by said recesses and means for moving said guides, bridge-bars  
10 with ends fitted to said recesses and a roll F,

having collars projecting upward between the bridge-bars, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OWEN FRANKLIN LEIBERT.

Witnesses:

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RAYMOND W. MCINTOSH.