

No. 848,438.

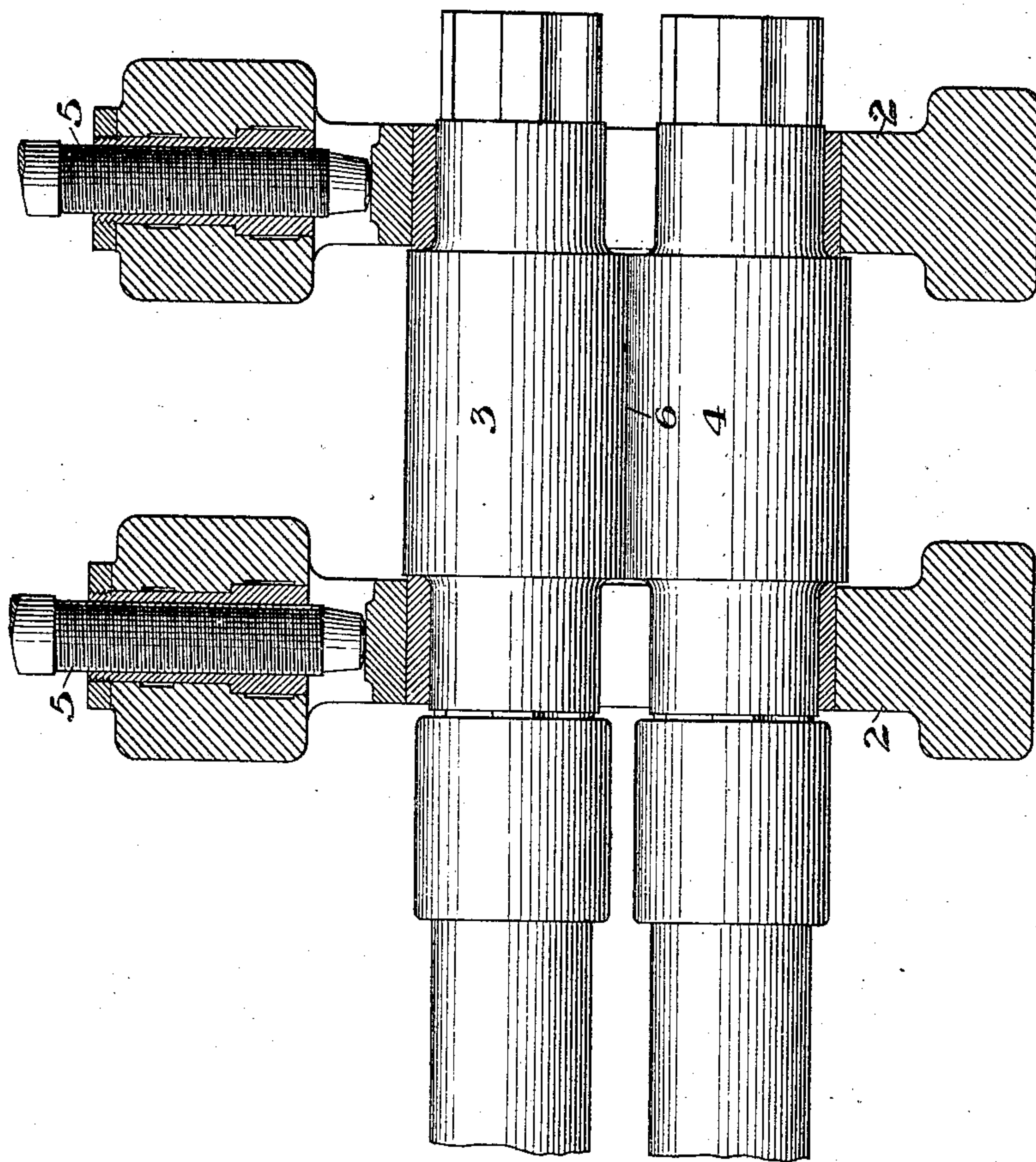
PATENTED MAR. 26, 1907.

W. H. BROWN.  
ROLLING MILL.

APPLICATION FILED MAR. 19, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

Warren W. Swartz  
R. A. Baldwin.

INVENTOR

Wm H. Brown,  
By Bakewell & Byrnes,  
his Attys.

No. 848,438.

PATENTED MAR. 26, 1907.

W. H. BROWN.  
ROLLING MILL.

APPLICATION FILED MAR. 19, 1906.

2 SHEETS—SHEET 2.

Fig. 2.

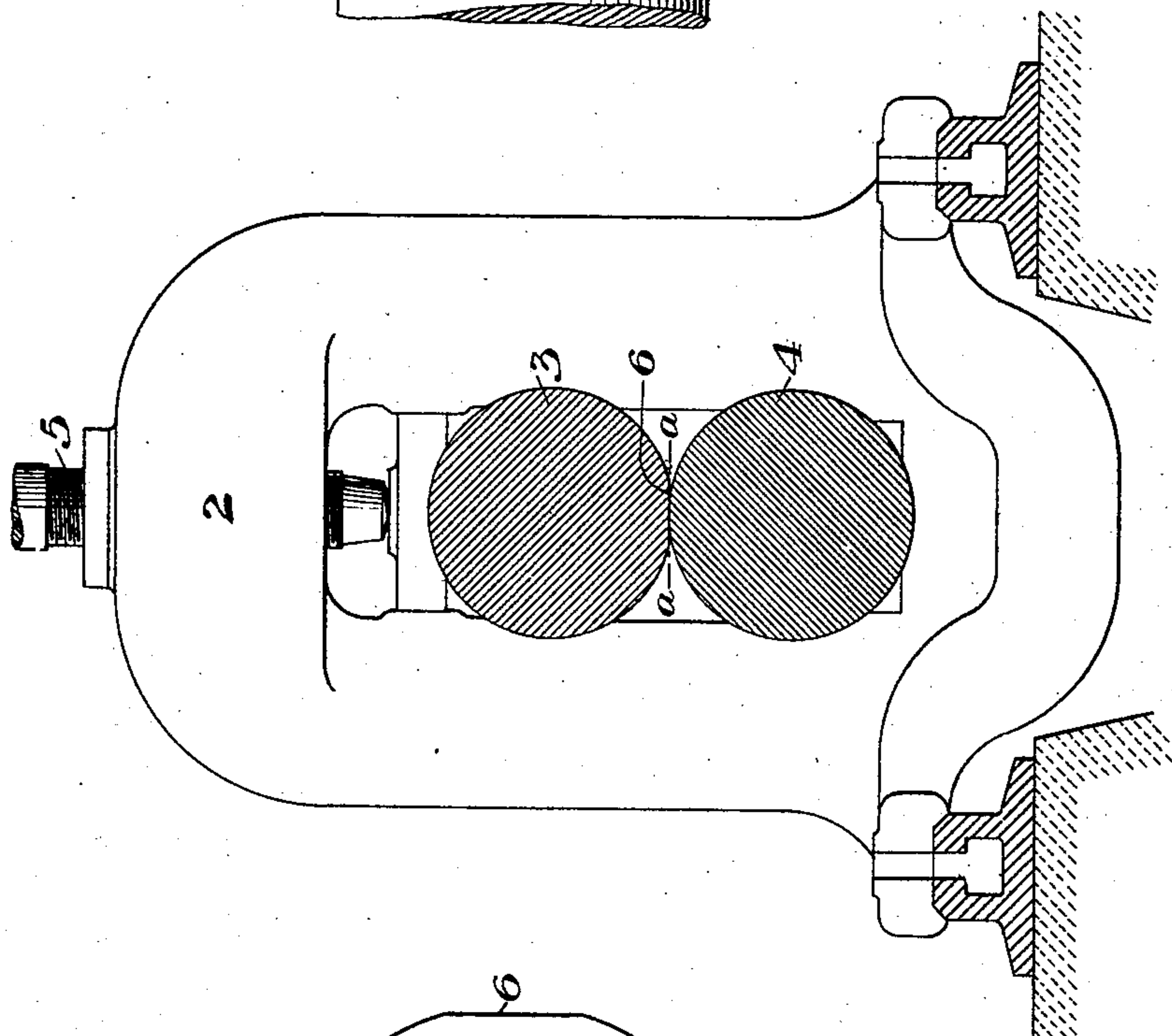
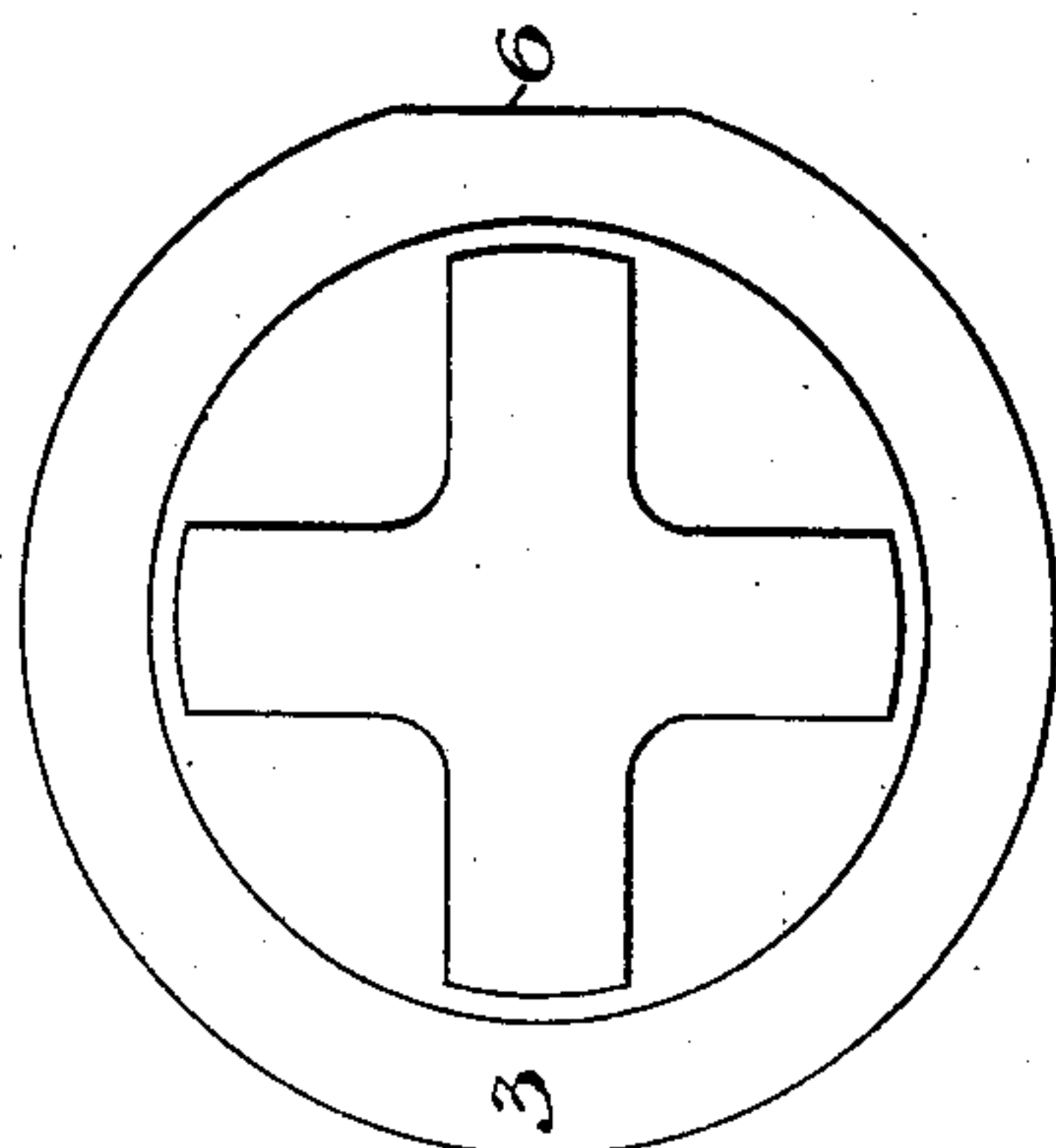


Fig. 3.



WITNESSES

Warren W. Swartz  
R. A. Baldwin

INVENTOR

Wm H Brown.  
By Robert L. Byrnes,  
his Attys.



# UNITED STATES PATENT OFFICE.

WILLIAM H. BROWN, OF PITTSBURG, PENNSYLVANIA.

## ROLLING-MILL.

No. 848,438.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed March 19, 1906. Serial No. 306,758.

*To all whom it may concern:*

Be it known that I, WILLIAM H. BROWN, of Pittsburg, Allegheny county, Pennsylvania, have invented a new and useful Rolling-Mill, 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 sectional side elevation. Fig. 2 is a central vertical section of a mill constructed in accordance with my invention; and Figs. 3 and 4 are detail views.

My invention relates to rolling-mills for rolling sheet metal. Heretofore it has been necessary to pile the plates or sheets together, reducing the same to thin gages, for the reason that the rolls cannot be forced together by sufficient pressure to reduce the metal to the desired gage in a single thickness.

My invention is designed to provide for reducing the metal to a thinner gage than has heretofore been possible without piling or forming packs, and consists in providing at least one of the rolls with a cut-away portion at one side extending, preferably, through its entire length. The true circle of the roll will be flattened slightly along one side, thus allowing the rolls to be brought close together by the adjusting mechanism.

In the drawings, in which I show the invention as applied to a two-high mill, 2 2 represents the housings, and 3 and 4 the rolls of the mill.

5 are the ordinary adjusting-screws, which may be arranged in any desirable manner.

The upper roll is flattened at one point in its circumference and throughout its length, as shown at 6. This may be done by planing away the metal at this point to the desired depth to form a flat or curved face. For example, the metal may be cut away to about the depth of an eighth of an inch to form a flat face.

In using the mill the rolling action will take place between that portion of the circumference of the upper roll which lies between the edges *a a* of the flattened portion.

In reducing the metal to thin gages the operator will screw down the upper roll when the flattened portion is in the position shown in Fig. 1, and upon rotation of the rolls their pressure will be increased by reason of this further screwing down, which may be carried out by reason of the flattening. The metal being rolled is preferably not longer than that part of the circumference of the upper roll between the lines *a a*. By this cutting away the rolls may be brought so closely together that the sheet or plate may be reduced much thinner than was heretofore possible without piling. The invention may also be used to reduce a pile or pack and avoid the necessity for repiling or re-forming of the packs.

The advantages of my invention will be apparent to those skilled in the art. Thin gages of metal may be obtained by rolling single sheets, thus avoiding the necessity for repiling, or, if still thinner gages are employed, the piling may be reduced as to the number of plies or as to the number of repilings, or both.

The invention may be applied to a three-high mill. The shape and depth of the flattened portion may be varied, one or more of the rolls may be positively driven, and many other changes may be made in the form and arrangement of the parts without departing from my invention.

I claim—

A mill having rolls provided with plain faces throughout their working length and arranged to feed through and roll sheet metal at right angles to their axes, one of said rolls being reduced in diameter for its entire working length on one side thereof, said mill having roll-adjusting mechanism; substantially as described.

In testimony whereof I have hereunto set my hand.

WILLIAM H. BROWN.

Witnesses:

GEO. B. BLEMING,  
H. M. CORWIN.