

No. 679,413.

Patented July 30, 1901.

T. BUNKER.  
ROLLING MILL.

(Application filed Sept. 18, 1900.)

(No Model.)

FIG. 1.

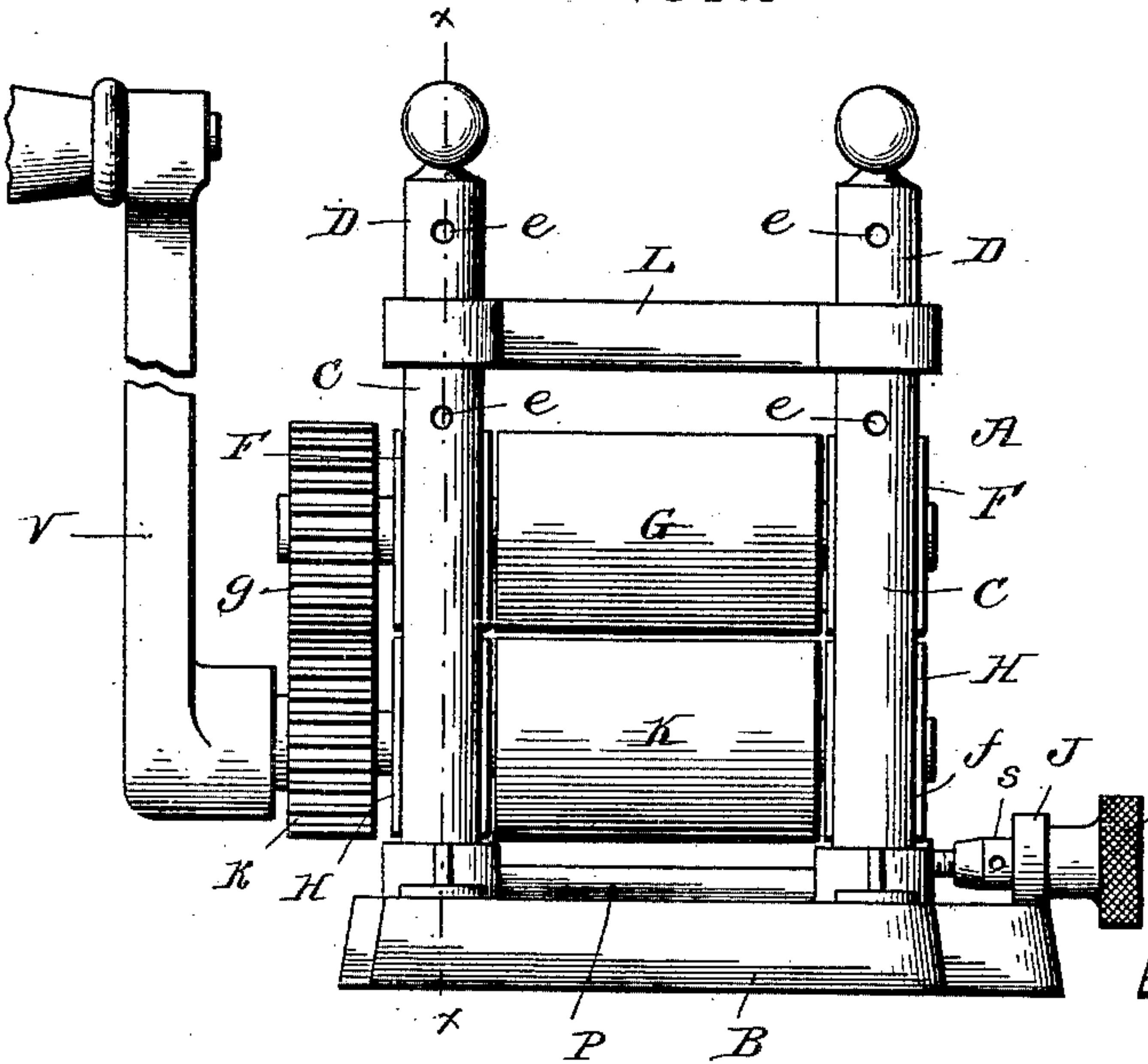


FIG. 2.

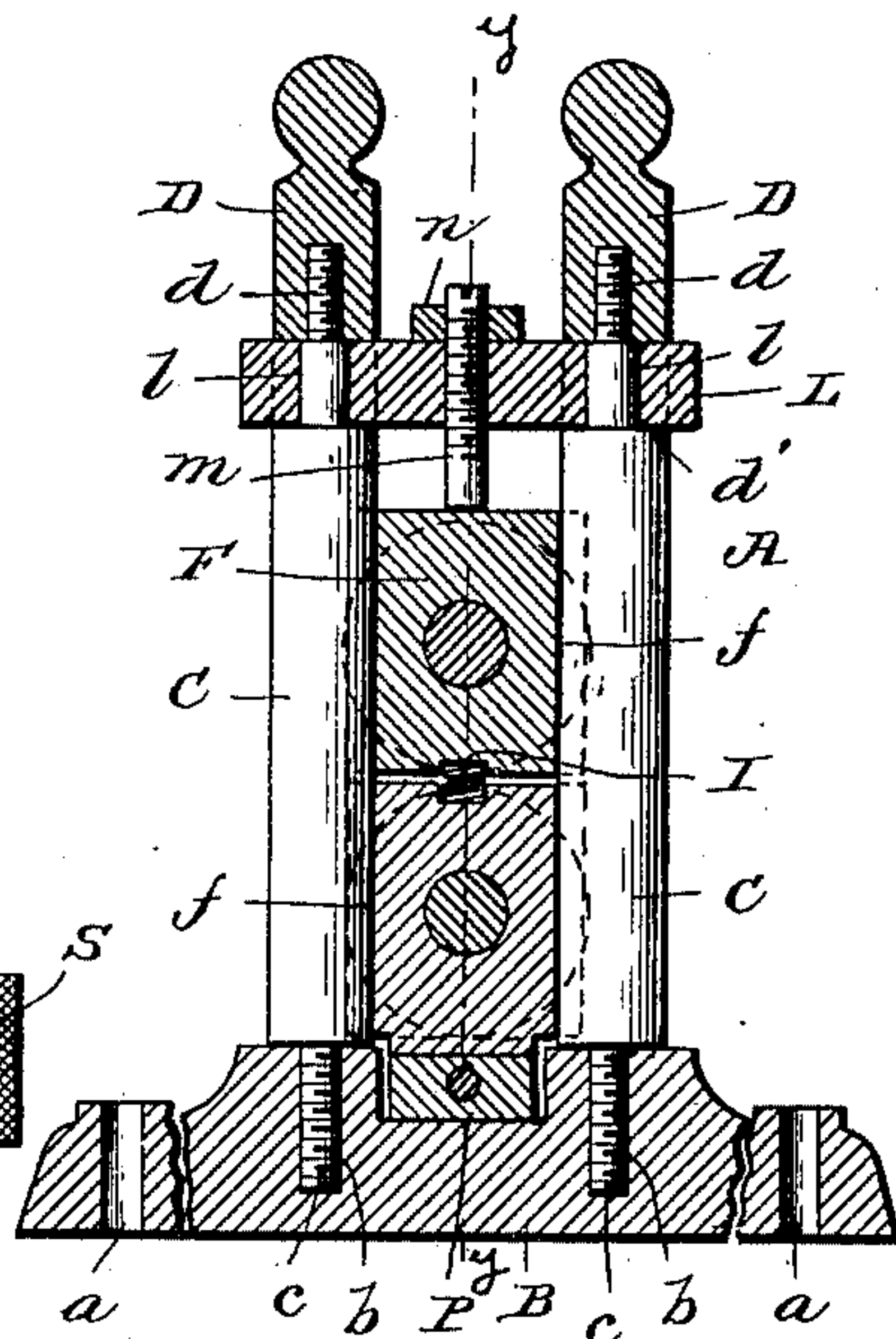


FIG. 3.

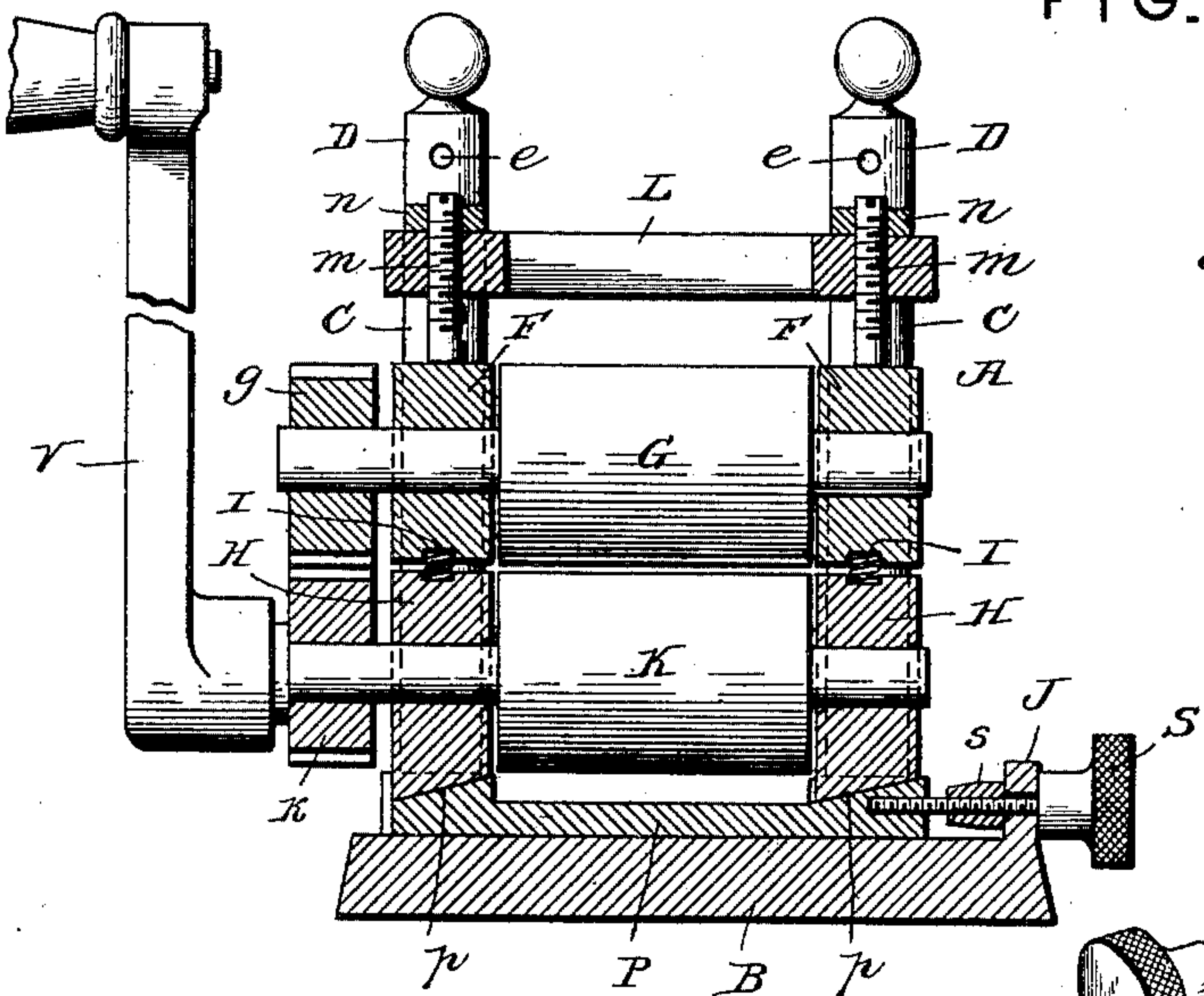


FIG. 4.

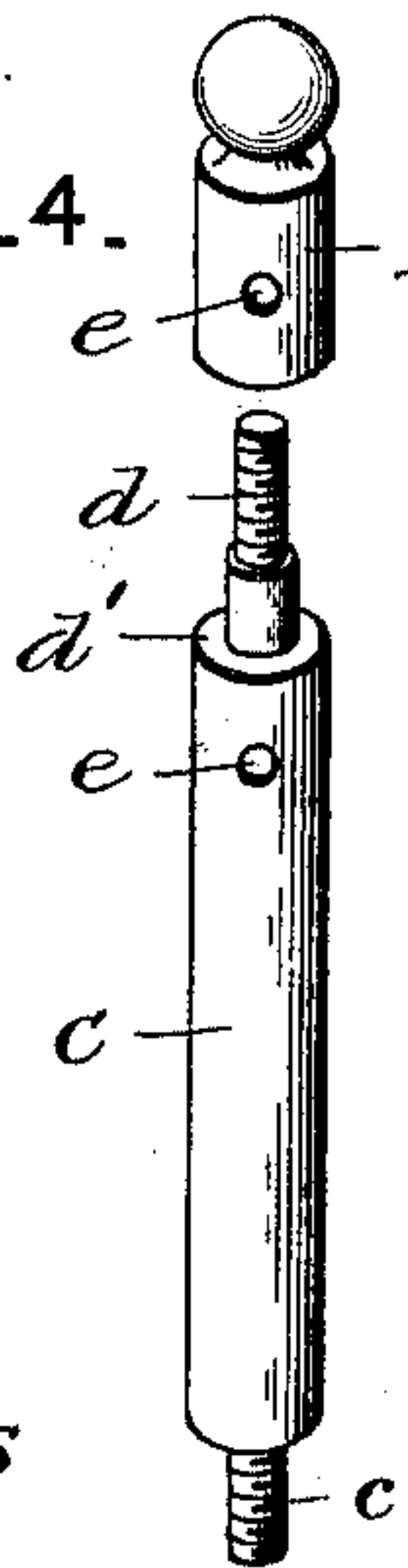


FIG. 5.

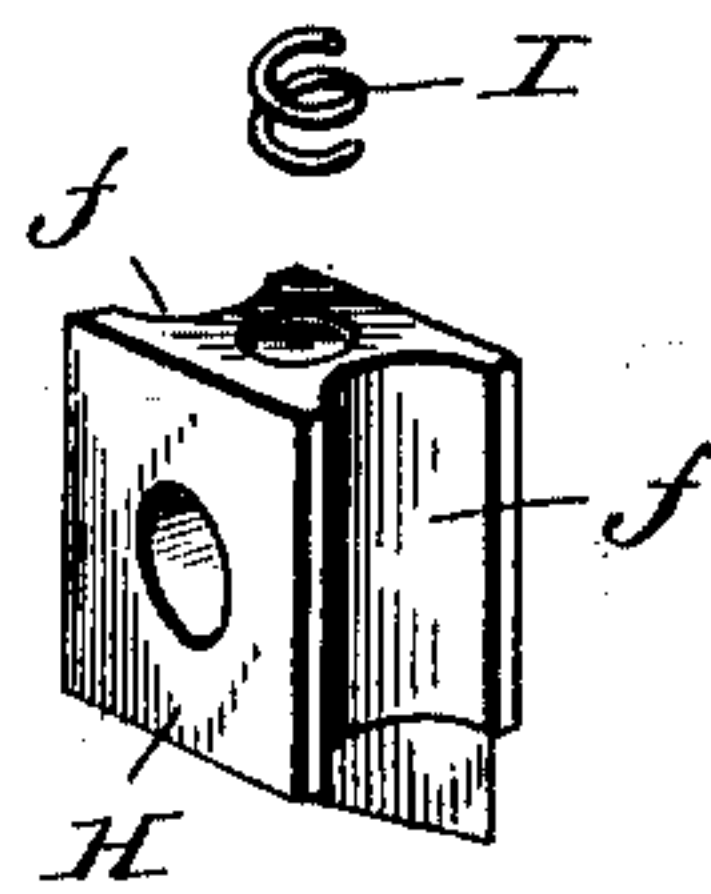
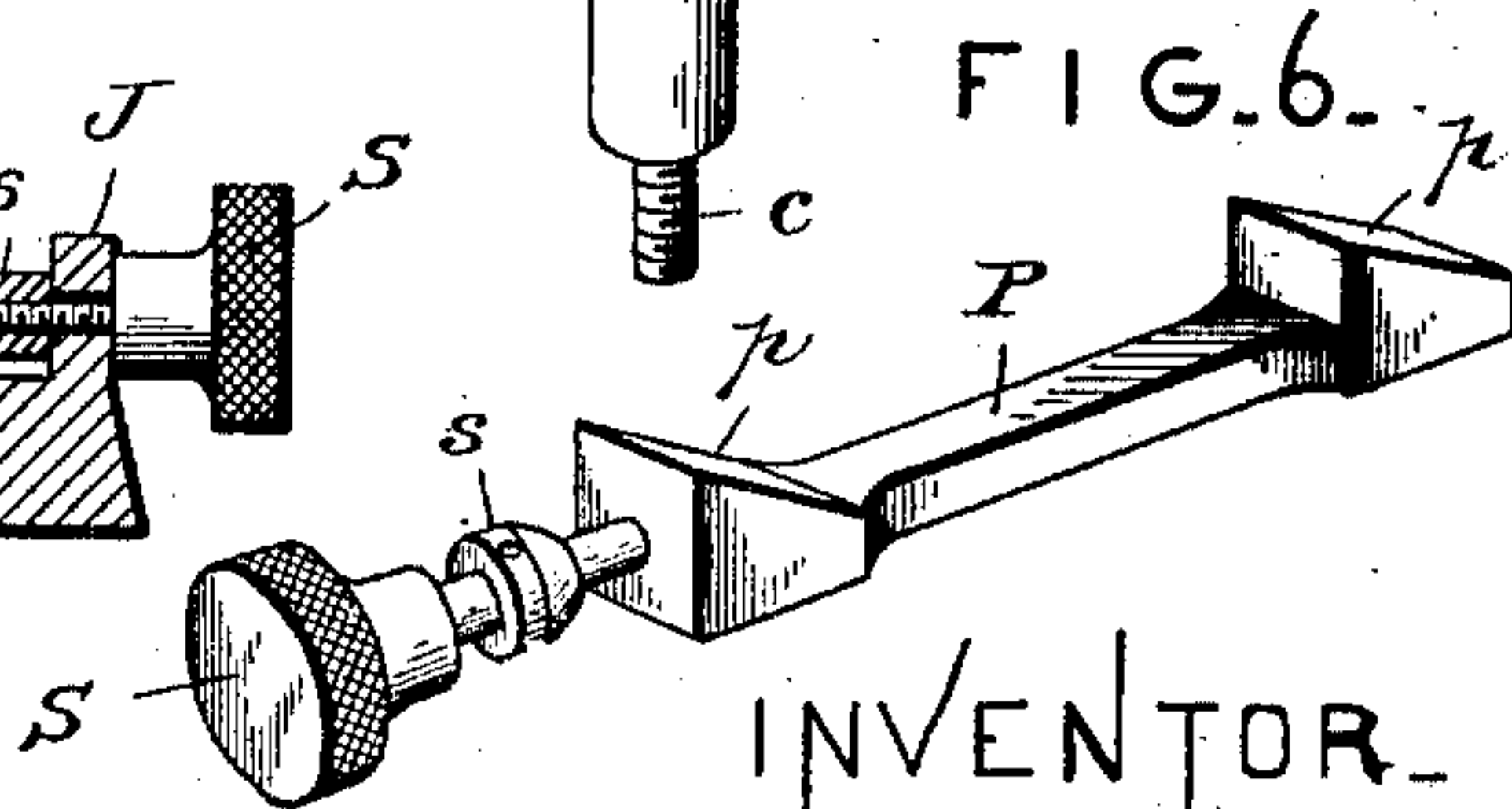


FIG. 6.



ATTEST.

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# UNITED STATES PATENT OFFICE.

THOMAS BUNKER, OF REDOAK, IOWA.

## ROLLING-MILL.

SPECIFICATION forming part of Letters Patent No. 679,413, dated July 30, 1901.

Application filed September 18, 1900. Serial No. 30,429. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS BUNKER, a citizen of the United States, and a resident of Redoak, in the county of Montgomery and State of Iowa, have made a certain new and useful invention in Rolling-Mills; and I declare the following to be a full, clear, and exact description of the invention, such as it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side elevation of my machine. Fig. 2 is a section on the line  $xx$ , Fig. 1. Fig. 3 is a section on the line  $yy$ , Fig. 2. Fig. 4 is a detail view of one of posts  $C$  and its cap. Fig. 5 is a detail view of one of boxes  $H$ . Fig. 6 is a detail view of adjusting wedge piece or slide  $P$ .

The invention has relation to machines for rolling gold into sheet form, and is designed for the use of dentists and others to enable them to readily connect small pieces of gold into sheets.

The invention consists in the novel construction and combination of parts, as hereinafter set forth.

In the accompanying drawings the letter  $A$  designates the frame of the mill or machine, consisting of a strong metal base  $B$ , which may be provided with apertures or bearings  $a$  at its edges for the passage of fastening-screws designed to secure the machine to a table or work-bench. Threaded seats  $b$  are also provided for the four cylindrical steel posts  $C$ , each of which is provided with a reduced threaded lower end  $c$  to engage the seat  $b$  and with a reduced threaded upper end  $d$  to engage the threaded perforation of the cap  $D$ , said posts having also upper cylindrical reduced extensions. The posts have also a plane-surface engagement with the base-piece  $B$ . Suitable aperture-bearings  $e$  are provided in said posts and caps for the purpose of facilitating their adjustment by turning with a suitable leverage instrument.

$F F$  indicate the upper pair of boxes for the journals of the upper roll  $G$ , and  $H H$  indicate the lower pair of boxes for the lower

roll  $K$ . These boxes are all formed with concave or cylindrically-grooved sides  $f$  to receive or engage the round posts  $C$ . Between the upper and lower boxes at each side is placed a spring  $I$ , which is designed to hold the upper roller away from the lower roller when the pressure is relieved.

$L$  indicates the upper portion of the frame, which is provided with perforations  $l$ , which receive the upper cylindrical extensions of the posts and has a plane-surface engagement with the upper shoulders  $d'$  of the same. The threaded ends  $d$  project upward through said perforations and receive the caps  $D$ , which are screwed thereon. In this upper frame  $L$ , between each two of perforations  $l$ , at its end is made a perforation for the adjusting-screw  $m$ , which is threaded and is provided with a nut  $n$ .

The base  $B$  is provided at one end with an upward bearing lug or projection  $J$ , which is provided with a seat for the neck of the adjusting-screw  $S$ , which engages a threaded bearing in the end of the adjusting wedge piece or slide  $P$ , which has throughout the extent of its lower surface a plane-surface engagement with base  $B$ . This wedge-piece is formed with the two inclined planes  $p p$ , one at each end, said planes having parallel inclinations and being designed to engage the reversed inclined plane projections on the bottoms of the lower boxes  $H H'$ . A collar  $s$  is keyed on the stem of the adjusting-screw  $S$  to fix its position with relation to the lug or projection  $J$  of the base.

The rolls  $G$  and  $K$  are provided with journals which engage the boxes and with communicating gear  $g$  and  $k$ , and a long lever or crank-handle  $V$  is keyed on a projection of the journal portion of the lower roll and serves to enable the operator to turn the rolls with sufficient power to accomplish the reduction of the metal to sheet form.

The parts of this machine are detachable and are strong and simple in form. The leveling adjustment is rendered very accurate by means of the turning posts and caps of the adjustable frame and by means of the median bearing-pieces of the upper frame. The adjustment for pressure is quickly effected by means of the parallel wedge-piece,



which is seated on the base-plate, and therefore is supported in a powerful manner quite sufficient for the purposes of the machine.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In a rolling-mill, the base-piece, the four cylindrical posts or standards, having upper and lower reduced screw-threaded extensions, 10 the base-piece having a screw engagement with said lower post extensions, and a plane-surface engagement with said posts, the top piece connecting said posts, and having a plane-surface engagement therewith, the 15 screw-caps engaging said upper post extensions, and having a plane-surface engagement with said top piece, the boxes having lateral cylindrical bearing-recesses engaging said posts, the rollers having bearings in said 20 boxes, means for turning said rollers, and means for adjusting said boxes, substantially as specified.

2. In a rolling-mill, the base-piece, the four cylindrical posts or standards having upper 25 and lower reduced screw-threaded extensions, and upper reduced cylindrical extensions, the

base-piece having a screw engagement with said lower post extensions, and a plane-surface engagement with said posts, the top piece having cylindrical apertures engaging said 30 upper cylindrical post extensions, and having a plane-surface engagement with said posts, the screw-caps engaging said upper-threaded post extensions, and having a plane-surface engagement with said top piece, the upper 35 and lower boxes having lateral cylindrical bearing-recesses engaging said posts, said lower boxes having inclined plane projections, the wedge-piece having throughout the extent of its lower surface a plane-surface 40 engagement with said base, and having wedge portions engaging said inclined plane-box projections, the rollers having bearings in said boxes, means for adjusting said wedge-piece, and means for turning said rollers, substantially as specified. 45

In testimony whereof I affix my signature in presence of two witnesses.

THOS. BUNKER.

Witnesses:

P. P. CLARK,  
GILBERT I. HOUGH.