

No. 685,673.

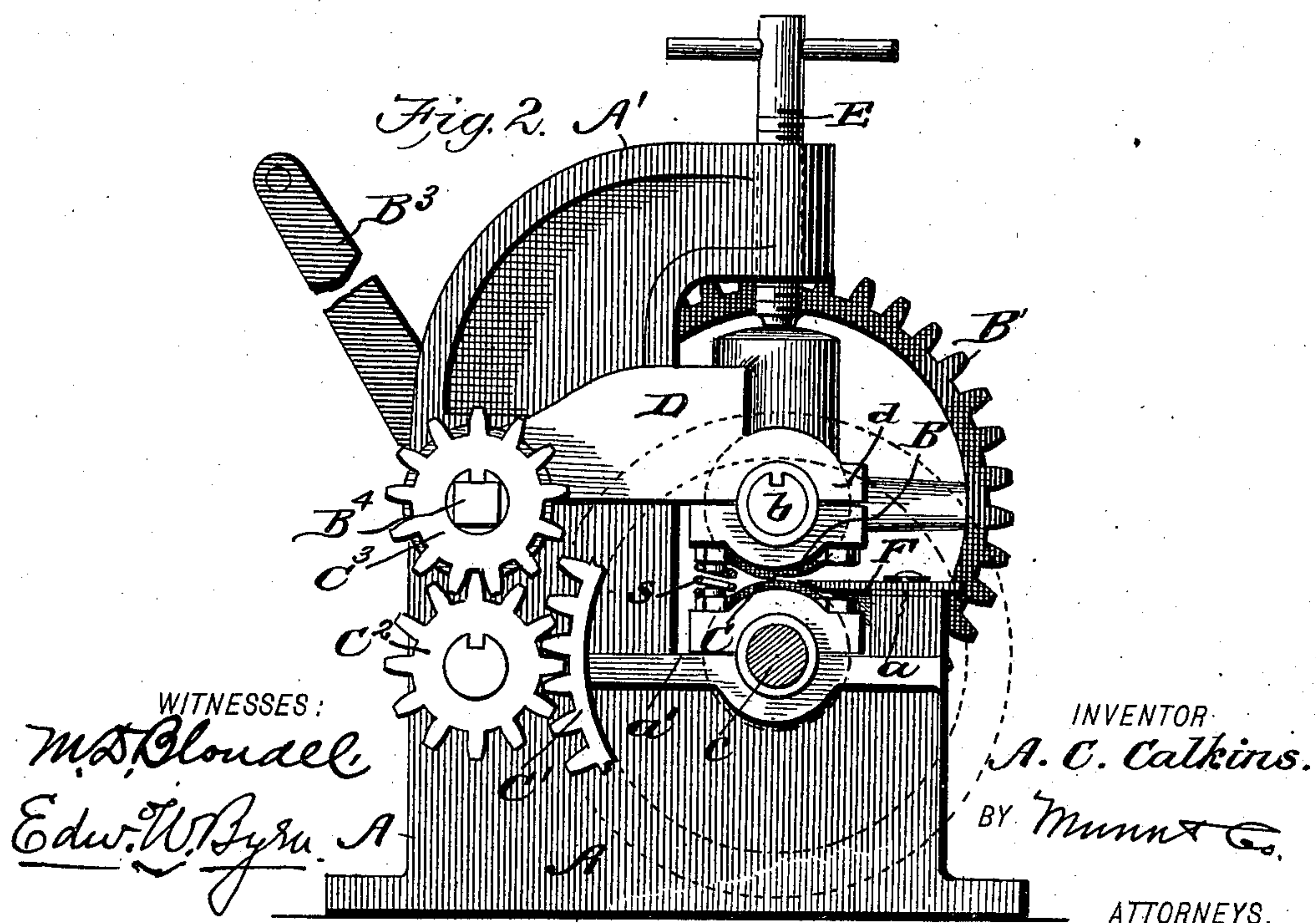
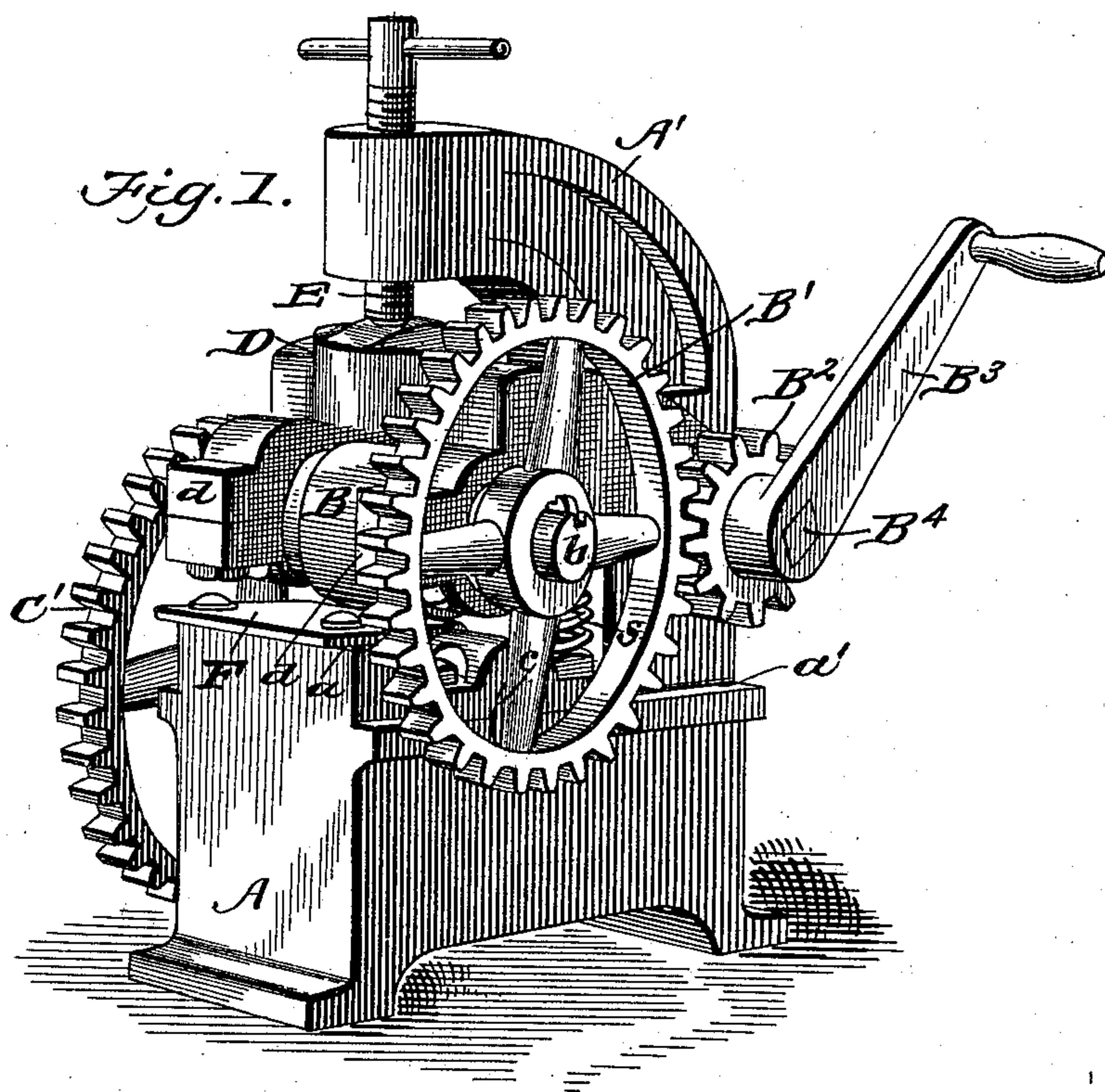
Patented Oct. 29, 1901.

A. C. CALKINS.  
CORONET ROLLS.

(Application filed Dec. 5, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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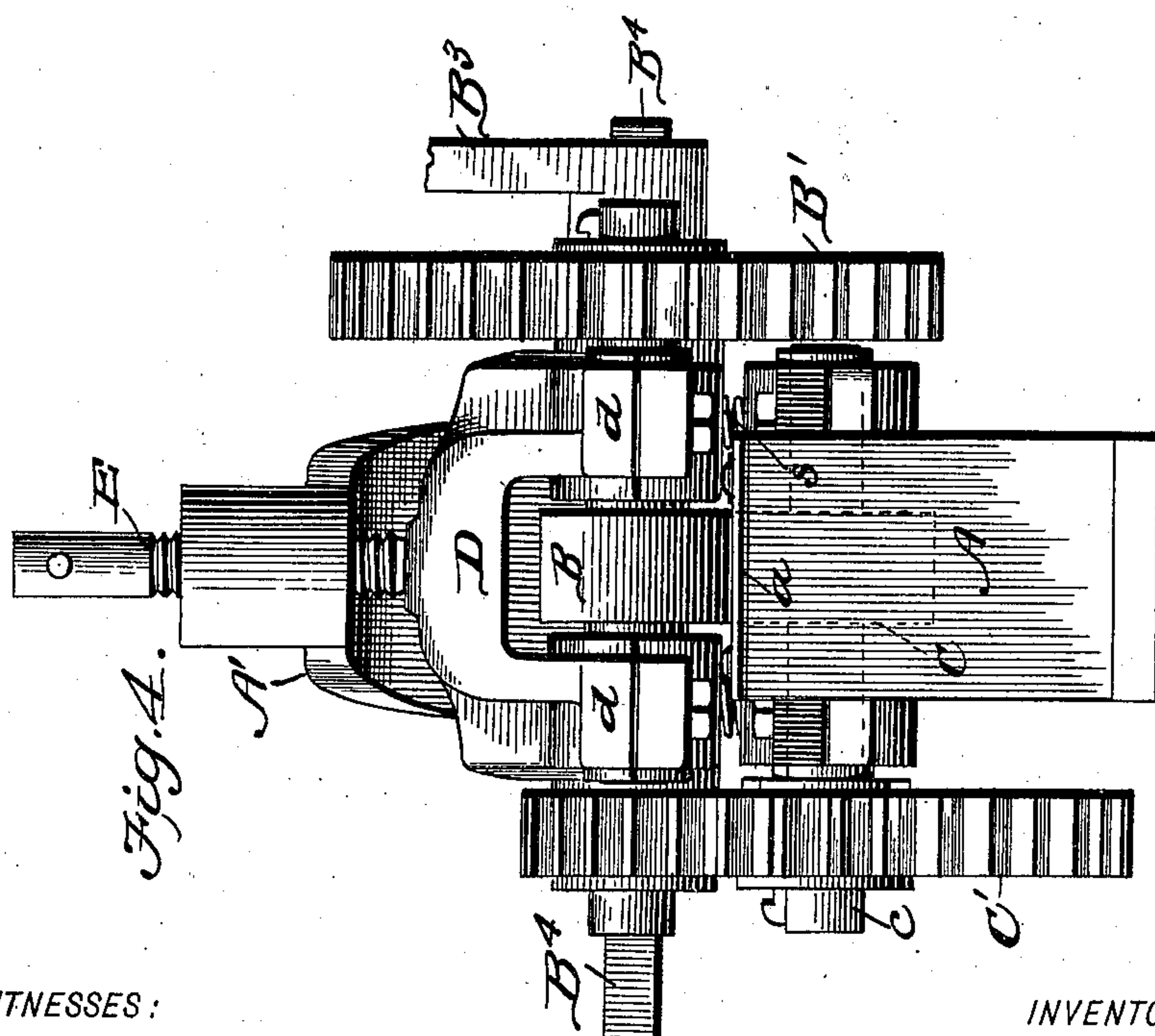
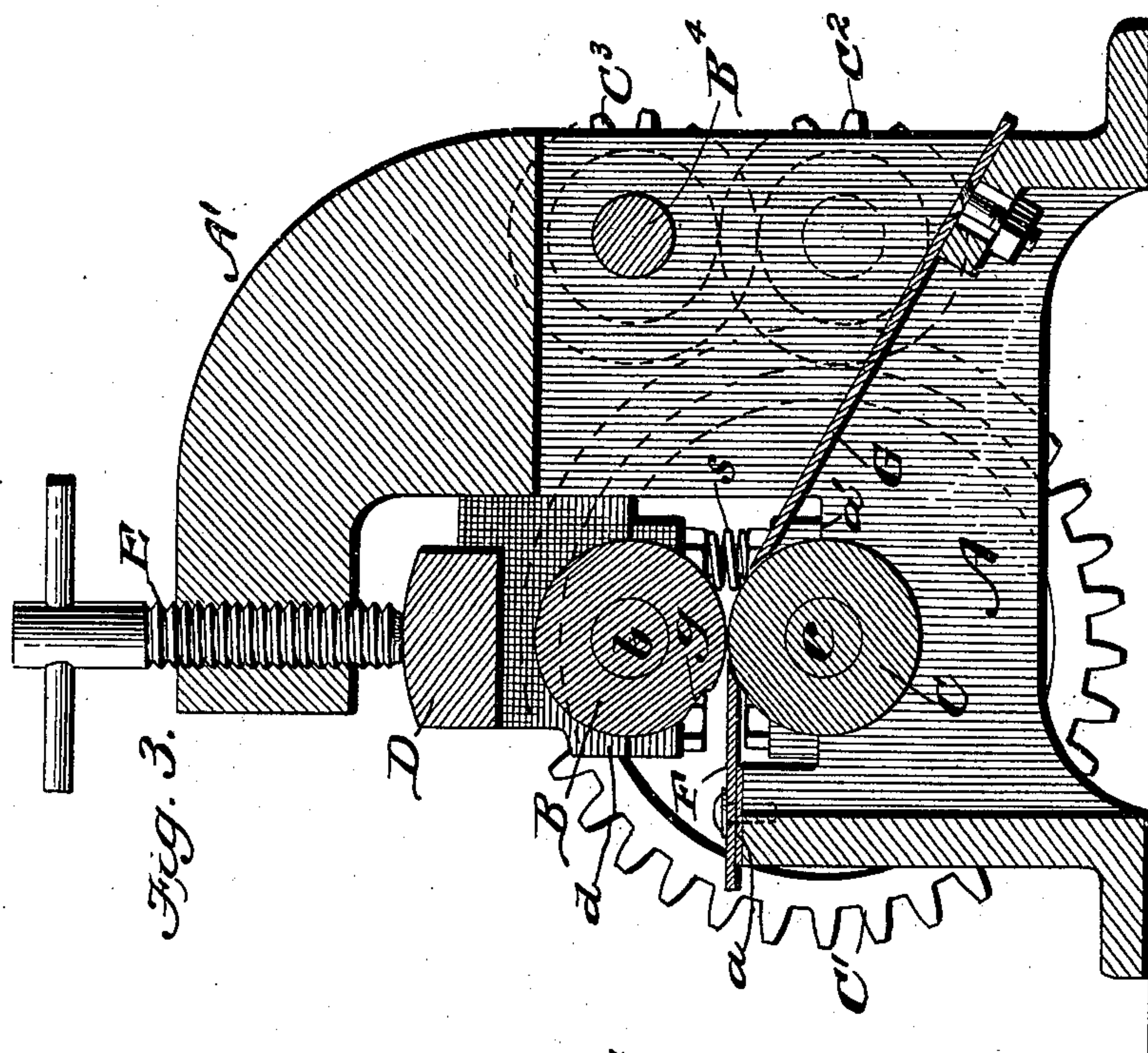
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**WITNESSES:**

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# UNITED STATES PATENT OFFICE.

ALBERT C. CALKINS, OF LOS ANGELES, CALIFORNIA, ASSIGNOR TO  
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## CORONET-ROLLS.

SPECIFICATION forming part of Letters Patent No. 685,673, dated October 29, 1901.

Application filed December 5, 1900. Serial No. 38,756. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT C. CALKINS, of Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Coronet-Rolls, of which the following is a specification.

My invention is in the nature of a metal-rolling machine of the form known as "coronet-rolls" or rolls for the use of assayers and jewelers.

In the assay-laboratory considerable difficulty has been experienced in inserting the bullion button between the rolls.

My invention is in the nature of a simple, compact, and powerful little machine designed to insure the positive feed of any bullion button inserted between the rollers and which machine is conveniently manipulated and quickly rolls the bullion button or other piece of metal into foil or strips of the desired thickness.

It consists in the peculiar construction and arrangement of parts which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the machine. Fig. 2 is a side elevation from the opposite side. Fig. 3 is a vertical central section taken transversely through the rolls, and Fig. 4 is a front elevation.

In the drawings, A represents a massive metal stand or base which has a bearing-face  $a'$ , with a higher table-surface  $a$  in front. From the back of the stand there rises a standard  $A'$ , preferably cast in one piece with the stand or base A. This standard curves over toward the front at the top and terminates in a hub which is interiorly screw-threaded to receive and mesh with a vertical screw-stem E, provided at its upper end with a suitable turning-handle. In a box on the surface  $a'$  there is journaled a shaft  $c$ , having rigidly attached to it in the middle of the machine one of the rolls C, while on one end of the shaft  $c$  is the large gear-wheel  $C'$ . In the standard  $A'$  there is also journaled the horizontal shaft  $B^4$ , which has a small gear-wheel  $B^2$  keyed to it on one side of the machine and a similar-sized gear-wheel  $C^3$  rigidly keyed on the other end.

D is a double-forked frame whose rear fork straddles the standard  $A'$  and is pivoted or

hinged upon the shaft  $B^4$  and whose front fork depends in the shape of short thick legs that carry bearings for a horizontal shaft  $b$ , to which between the legs  $d d$ , Fig. 4, is rigidly keyed the upper roll B, which rests directly above and is tangent to the lower roll. On the upper surface of the frame D there is formed a step-bearing for the lower end of the screw E, by which the pressure of the upper roll upon the lower one may be regulated. For driving the rolls a crank  $B^3$  on shaft  $B^4$  turns the small gear-wheel  $B^2$ , and this engages a large gear-wheel  $B'$  on the shaft of the upper roll B, and for driving the lower roll the small gear-wheel  $C^3$  on shaft  $B^4$  meshes with a gear-wheel  $C^2$  of the same size immediately below it, and this in turn meshes with the large gear-wheel  $C'$  on the shaft of the lower roll C. This causes the two rolls to rotate together, which rolls are in general shape straight smooth true cylinders.

To cause the bullion button to be fed up to the tangent point of the two rolls, so that it will be drawn in between them, the upper roll B is formed on its face with a shallow groove  $g$ , Fig. 3, running parallel with the axis across the face of the roll. This gives when the groove is directly above the lower roll the necessary bite to draw the button in. This groove is of uniform depth and width and extends entirely across the face of the roll and is for the purpose of engaging the metal fed and insuring positive feed without readjusting the rolls for each successive feed of the same metal or bullion button. To prevent the edge of the groove from cutting the metal being rolled, said groove has its edge which bites the metal made of a decreasing depth, running gradually into the surface of the cylinder. To facilitate the insertion of the button or piece of metal to be rolled, a detachable feed-plate F is adjustably screwed to the table-surface  $a$ , and its edge adjacent to the rolls is chisel-shaped, so that it may feed the metal piece to be rolled close up to the tangential point of the rolls. To receive the foil, sheet, or plate after it has been rolled and to conduct it away without allowing it to drop onto the floor, an inclined chute-plate G is arranged at the rear. To cause the rolls to separate when the pressure of the top screw is re-



moved, a helical spring *s* is arranged between the bearings of the upper and lower roll, and to hold said spring in place it is made to embrace or receive a projection or extension 5 formed on the heads of the screws which retain the boxes of the rolls. There is a spring of this sort on each side of each roll and extending from the bolt-head or screw of the journal of one roll to the bolt-head or screw 10 of the journal of the other roll, which bolt-heads or screws thus form seats for the retention of the springs.

Having thus described my invention, what I claim as new, and desire to secure by Letters 15 Patent, is—

1. A pair of cylindrical metal-rolling rolls, one of which has a shallow groove of uniform depth from end to end of the roll, with the side of the groove which bites the metal made 20 of a decreasing depth running gradually into the surface of the cylinder, and means for rotating the rolls substantially as and for the purpose described.

2. The combination with a base or stand 25 having bearings carrying a metal-roll, and an elevated standard behind said roll; of a bifurcated frame jointed to the said standard and having depending legs in front carrying an upper roll, a superposed screw tapped in 30 the upper end of the standard and bearing down upon the bifurcated frame, and gears for connecting and driving the said rolls substantially as described.

3. The combination of a base or stand having bearings carrying a metal-roll and an elevated standard behind said roll, a bifurcated 35 frame jointed to the said standard and having

depending legs in front carrying an upper roll, means for forcing said frame downwardly, a spring for raising said frame and lifting its 40 roll, and gears for connecting and driving the rolls substantially as described.

4. A pair of metal-rolls having the upper one journaled in a movable frame, boxes and bolts for inclosing the bearings of said jour- 45 nals, said bolts being formed with extensions, and a helical spring seated upon said extensions of the bolts on each side of each roll and between the two rolls to effect their separation substantially as described. 50

5. A set of rolls comprising a stand or base having in front an elevated table-surface and at the rear a standard extended forwardly at its upper end, a metal-roll journaled in bearings on the base between the elevated table 55 and standard and having a large gear-wheel on one end, a horizontal shaft extending through the standard and having a gear-wheel on each end and also a turning crank-handle, a bifurcated frame hung upon said shaft, an 60 upper roll having its shaft journaled in the bifurcated frame and bearing a large gear-wheel at one end connecting with the gear of the crank-shaft, an idler-gear connecting the other gear of the crank-shaft with the large 65 gear of the lower roll, and a regulating-screw tapped in the overhanging end of the standard and bearing down upon the movable frame of the upper roll substantially as described.

ALBERT C. CALKINS.

Witnesses:

J. R. SMITH,  
R. M. WEED.