

(No Model.)

A. FLATOW.  
JEWELERS' ROLLS.

No. 316,135.

Patented Apr. 21, 1885.

Fig. 1.

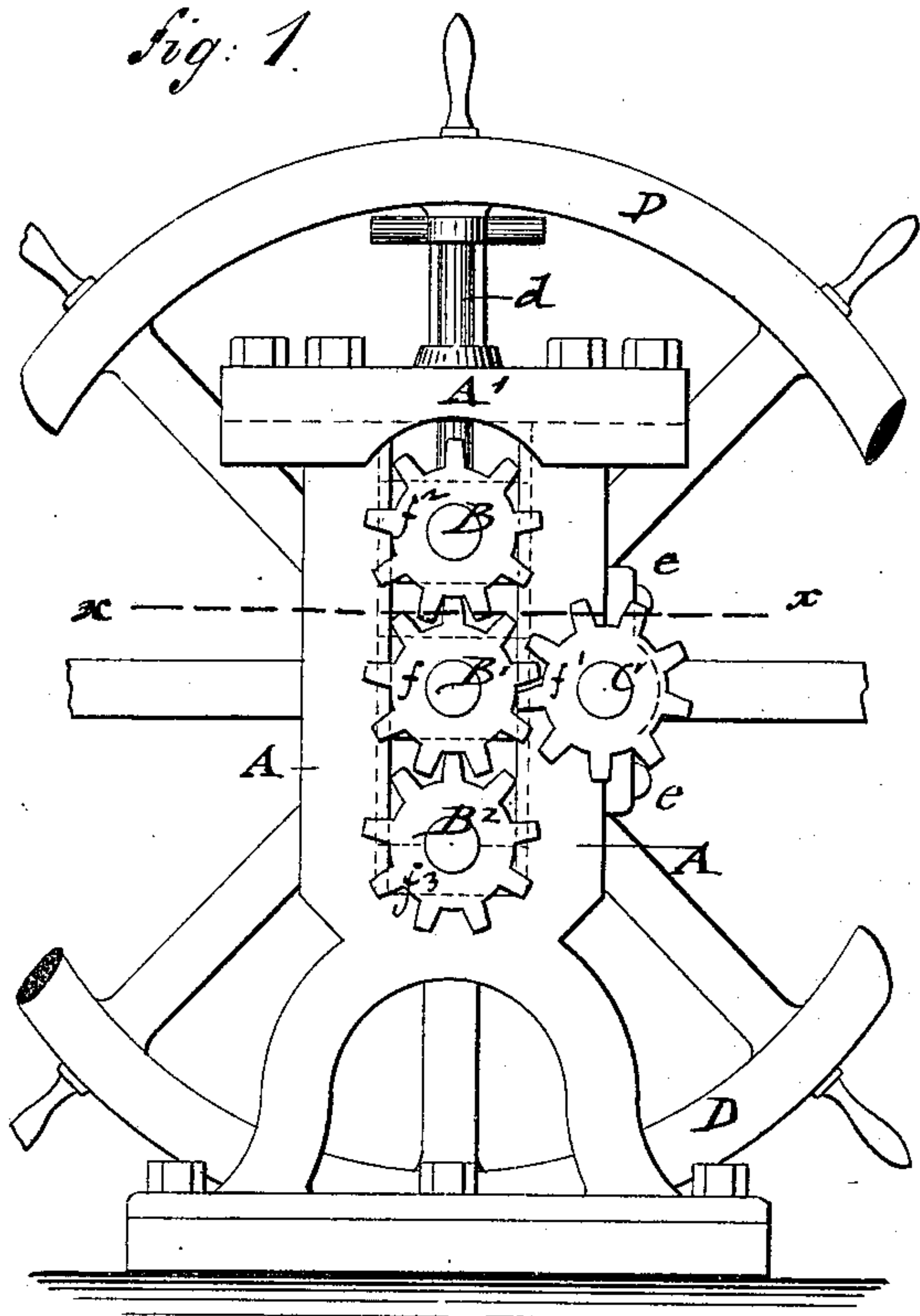


Fig. 2.

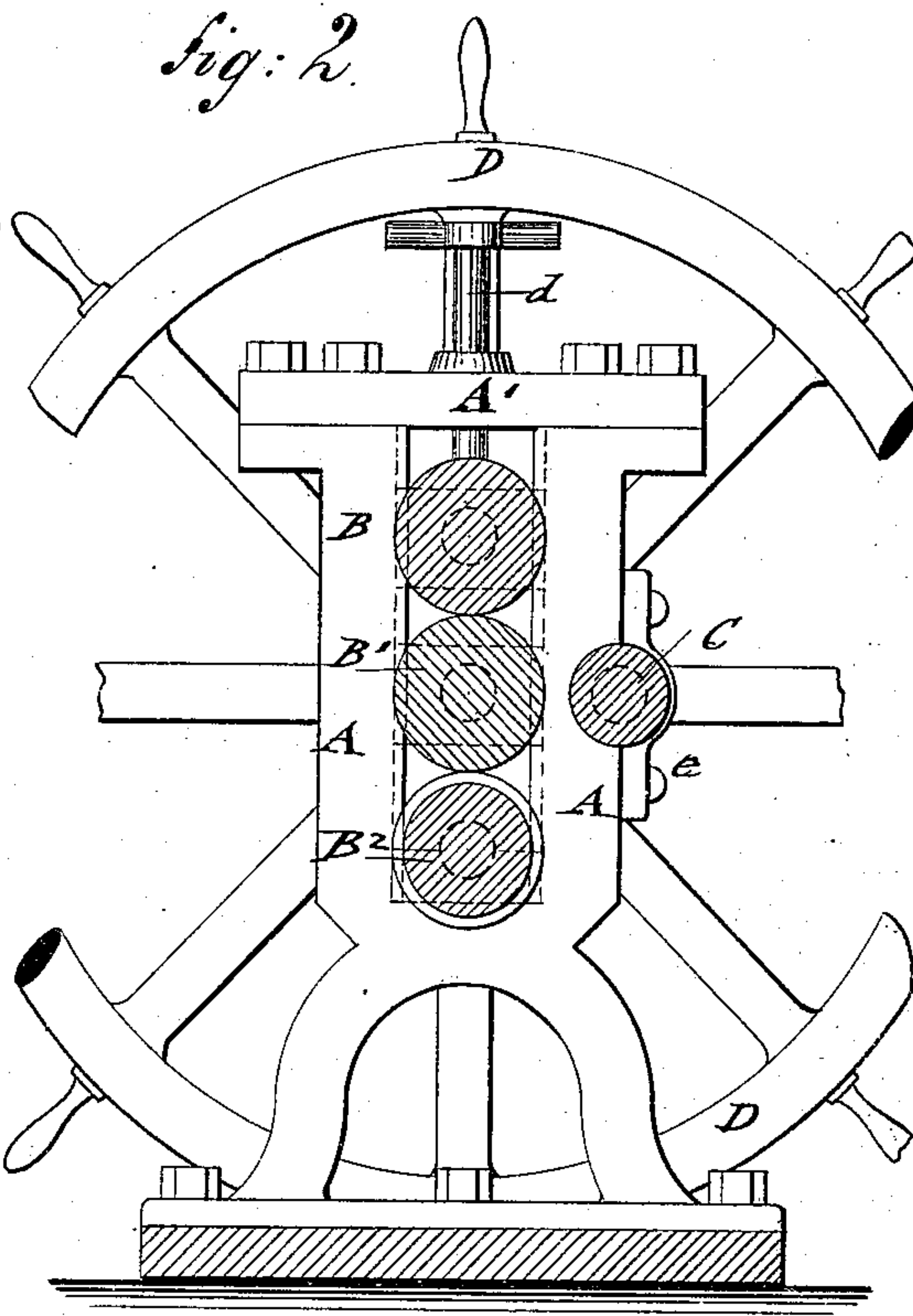


Fig. 4.

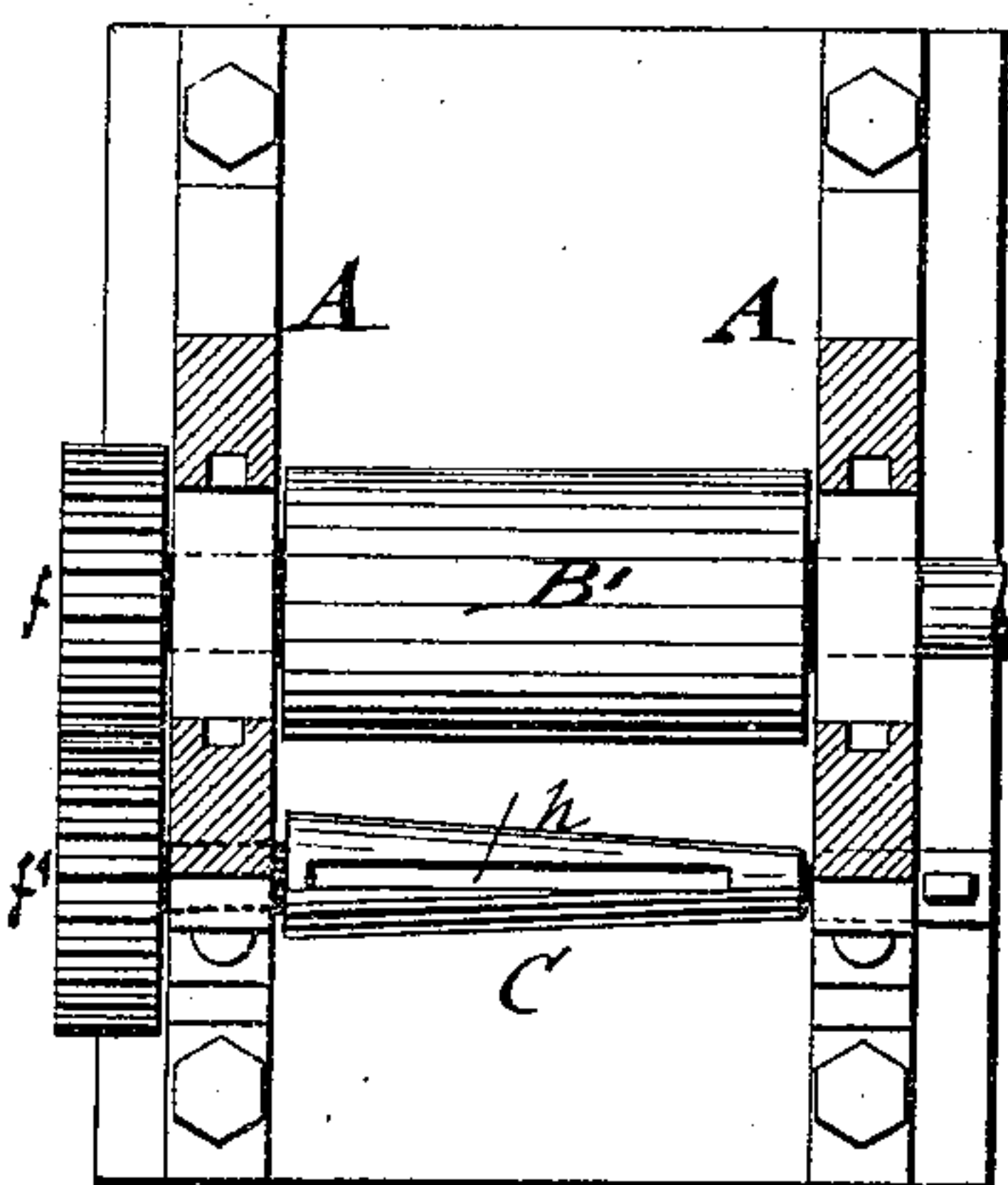
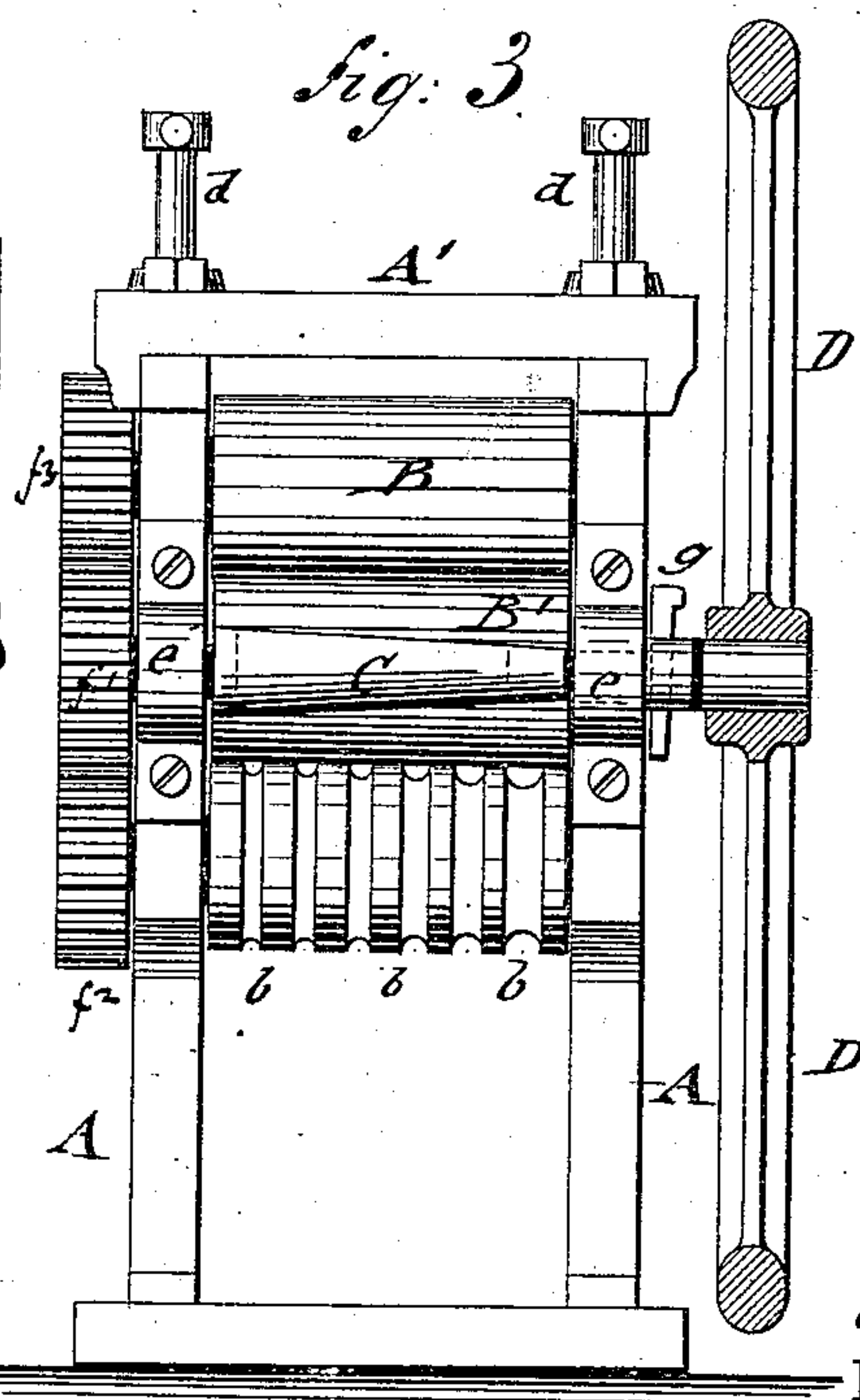


Fig. 3.



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## JEWELERS' ROLLS.

SPECIFICATION forming part of Letters Patent No. 316,135, dated April 21, 1885.

Application filed June 27, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, ABRAHAM FLATOW, of Ellenville, Ulster County, State of New York, have invented certain new and useful Improvements in Jewelers' Rolls, of which the following is a specification.

This invention has reference to improvements in jewelers' rolls, whereby not only plates of gold and silver can be rolled out, but also bent to the proper shape on a mandrel; and the invention consists of a supporting-frame carrying three rolls, one vertically below the other, the upper and middle rolls being smooth, while the lower roll is provided with circumferential grooves that gradually diminish in width and depth from one end of the roll to the other. A mandrel of tapering shape is arranged sidewise of the middle roll and supported in side bearings of the supporting-frame, said mandrel having a slot for inserting the plate to be bent, and being attached to the bearing by a key, so that it can be removed for detaching the bent plate therefrom. A hand-wheel is attached to the shaft of the middle roll, which transmits by gear-wheels rotary motion to the upper and lower rolls and mandrel.

In the accompanying drawings Figure 1 represents a side elevation, Fig. 2 a vertical transverse section, Fig. 3 an end elevation, and Fig. 4 a horizontal section on line *x x*, Fig. 1, of my improved jewelers' rolls.

Similar letters of reference indicate corresponding parts.

A A in the drawings represent the side standards of my improved jewelers' rolls. The side standards, A A, are connected at the top by a transverse plate, A', which is firmly bolted to the standards A. The standards A carry in vertical recesses the bearings for three rollers, B B' B<sup>2</sup>, which are arranged one below the other. The upper and middle rolls, B B', are smooth, while the lower roll is provided with circumferential grooves *b b*, which gradually diminish in width from one end of the roll to the other, as shown clearly in Fig. 3. The bearings of the upper roll, B, are acted upon by screws *d d*, so that said roll may be adjusted relatively to the middle roll, B', whereby the limit of separation of the faces of said rolls can be positively increased or diminished, and a plate of gold or other metal can be re-

duced to any desired degree of thinness by passing it successively between said rolls and decreasing their distance apart before each successive rolling. When rods are to be rolled out, the blanks are passed through between the middle roll, B', and the lower roll, B<sup>2</sup>, being first placed into the wider and successively into the narrower grooves until they are reduced to the required thickness.

For bending the plate or rod into ring shape, one end is inserted into an oblong slot, *h*, of a mandrel, C, of conically-tapering shape, which is supported in side bearings, *e e*, of the standards A, while the other end is held by the operator by a hand-vise or pair of tongs. The tapering mandrel C is provided at one end with a gear-wheel, *f'*, which meshes with a gear-wheel, *f*, on the shaft of the middle roll, B', and at the other end with a recess for inserting a key, *g*, by which the mandrel is locked in position. When the plate or rod has been passed through the rolls B' B<sup>2</sup>, it is bent around the mandrel C by first inserting into the slot of the same while holding it with the vise or tongs at the outer end, and then turning the mandrel so that the plate is wound around the mandrel. The key *f* is removed and the mandrel C withdrawn from its bearings, so that the bent plate or rod can be taken away from the mandrel C. From the tapering plate a number of rings of various diameters can be cut.

To the shaft of the middle roller, B', is applied a hand-wheel, D, while to the other end the gear-wheel *f'* is applied, which meshes with the gears *f<sup>2</sup>* and *f<sup>3</sup>* on the upper and lower rolls, B B<sup>2</sup>. By turning the hand-wheel all the rolls and the mandrel are turned, so that either a plate of metal can be reduced in thickness by being passed through the upper rolls, B B', or a conical hollow cylinder be formed by passing the plate through between the roll B and the mandrel C. The use of the hand-wheel sidewise of the rolls has the advantage that one man can attend to the rolls by inserting the blank between the rolls and then turning the wheel, so as to pass the same through between the rolls. The grooved rolls and mandrel also admit the reducing of rods for rings and the shaping or bending of the same to the proper size, which forms an additional advantage of my improved rolls.



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

1. As an improvement in jewelers' rolls, the combination of an upper adjustable smooth roll and an intermediate smooth roll with a lower roll that is provided with circumferential grooves of gradually-diminishing width and depth, substantially as set forth.

2. As an improvement in jewelers' rolls, the combination of an upper smooth and adjustable roll, an intermediate smooth roll, a lower roll that is provided with circumferential grooves of gradually-diminishing width and depth, and a detachable conically-tapering mandrel supported sidewise of one of the rolls, substantially as specified.

3. The combination, in jewelers' rolls, of an upper smooth and adjustable roll, a middle

smooth roll, a lower roll having circumferential grooves of gradually-diminishing depth and width, a tapering mandrel alongside of the middle roll, secured in position by a key, a hand-wheel attached to the shaft of the middle roll, and gear-wheels on the shafts of the rolls and mandrel by which rotary motion may be communicated from the middle roll to the upper and lower rolls and mandrel, respectively, substantially as specified.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses:

ABRAHAM FLATOW.

Witnesses:

WILLARD F. HANSEE,  
JAACHIM D. CLYNE.