

(No Model.)

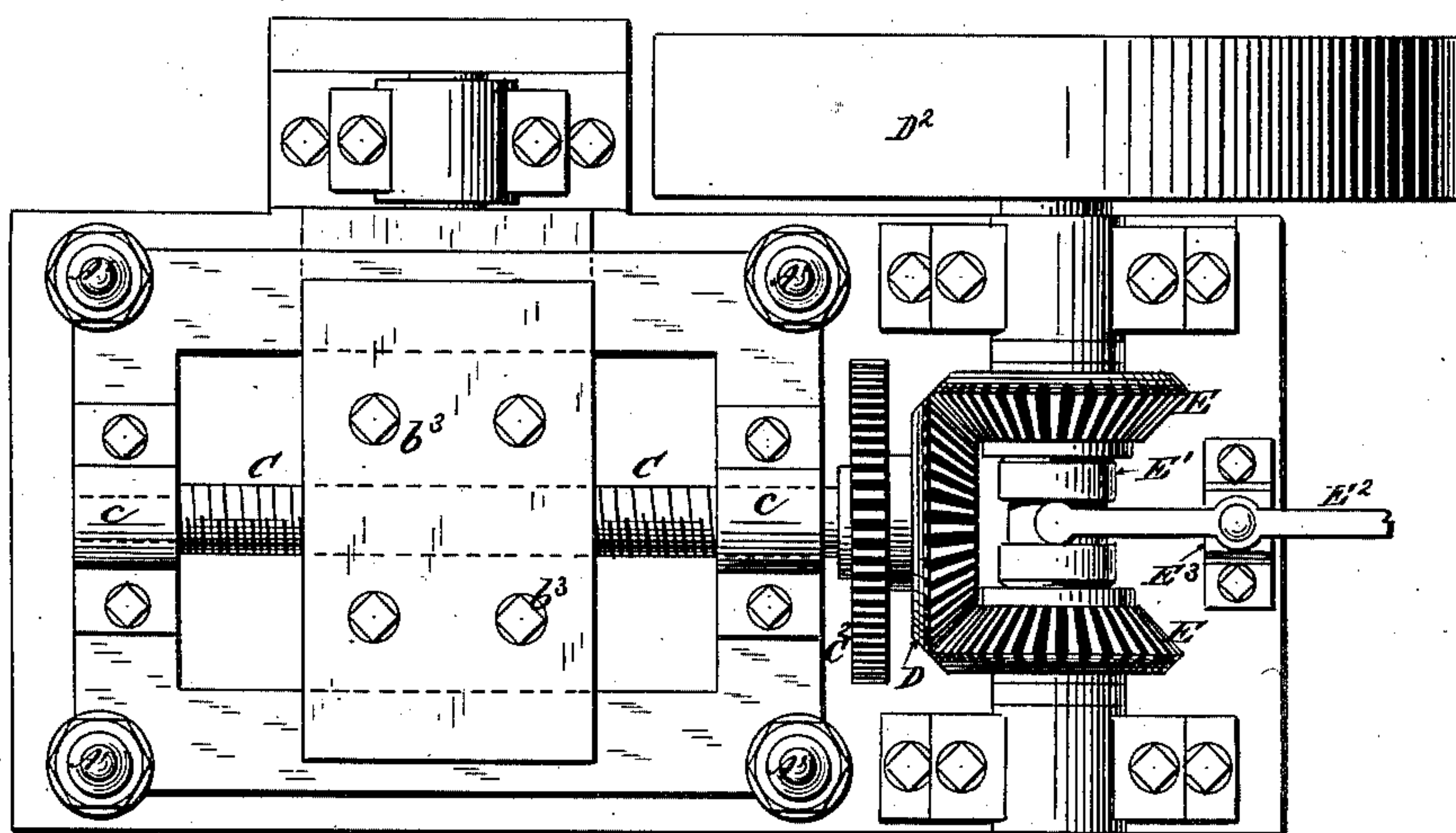
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L. T. SHEFFIELD & T. M. SINCLAIR.  
MACHINE FOR ORNAMENTING TUBULAR RECEPTACLES.

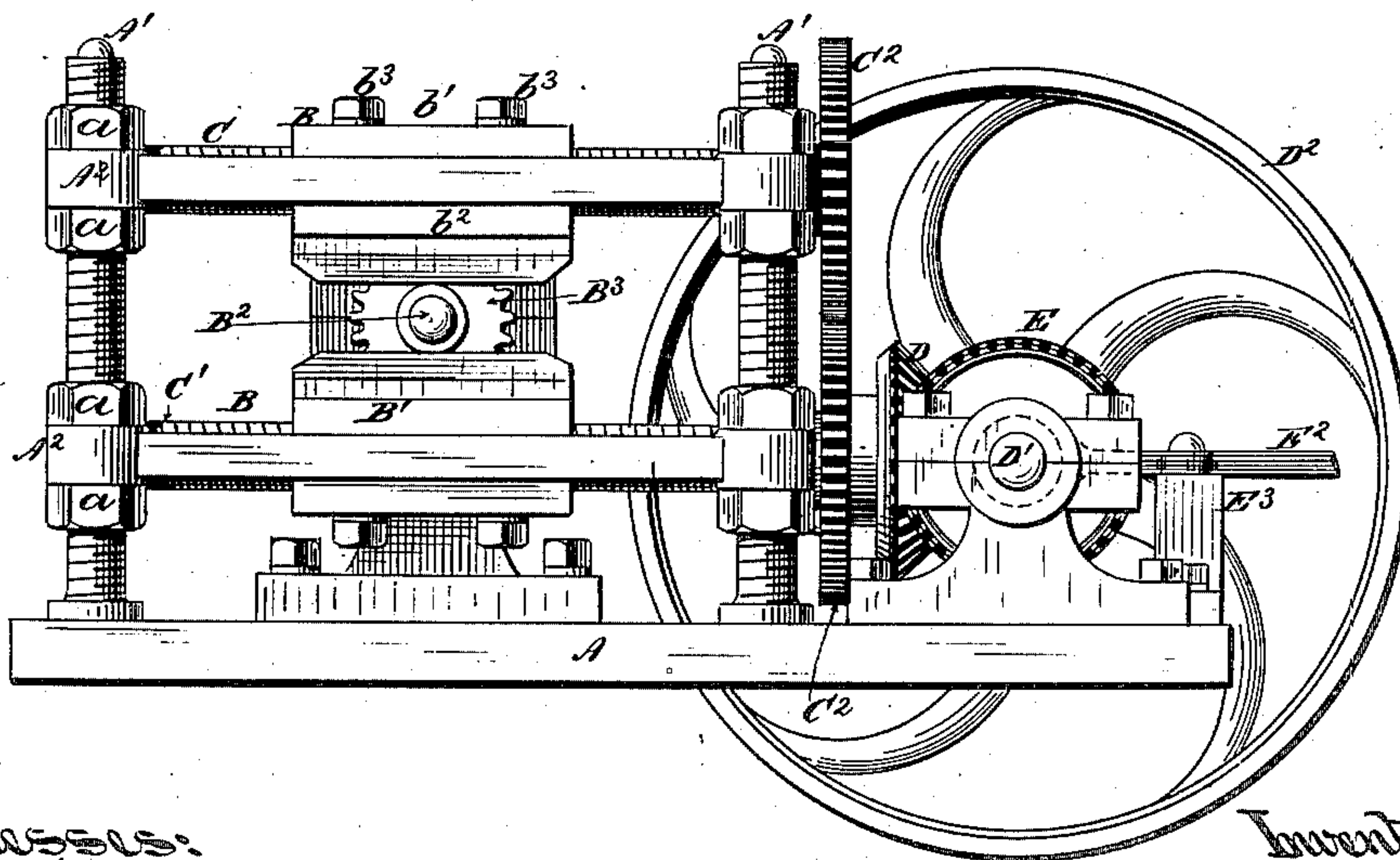
No. 448,678.

Patented Mar. 24, 1891.

*Fig. 1.*



*Fig. 2.*



Witnesses:  
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Inventors:  
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Thomas M. Sinclair  
By their attorney  
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(No Model.)

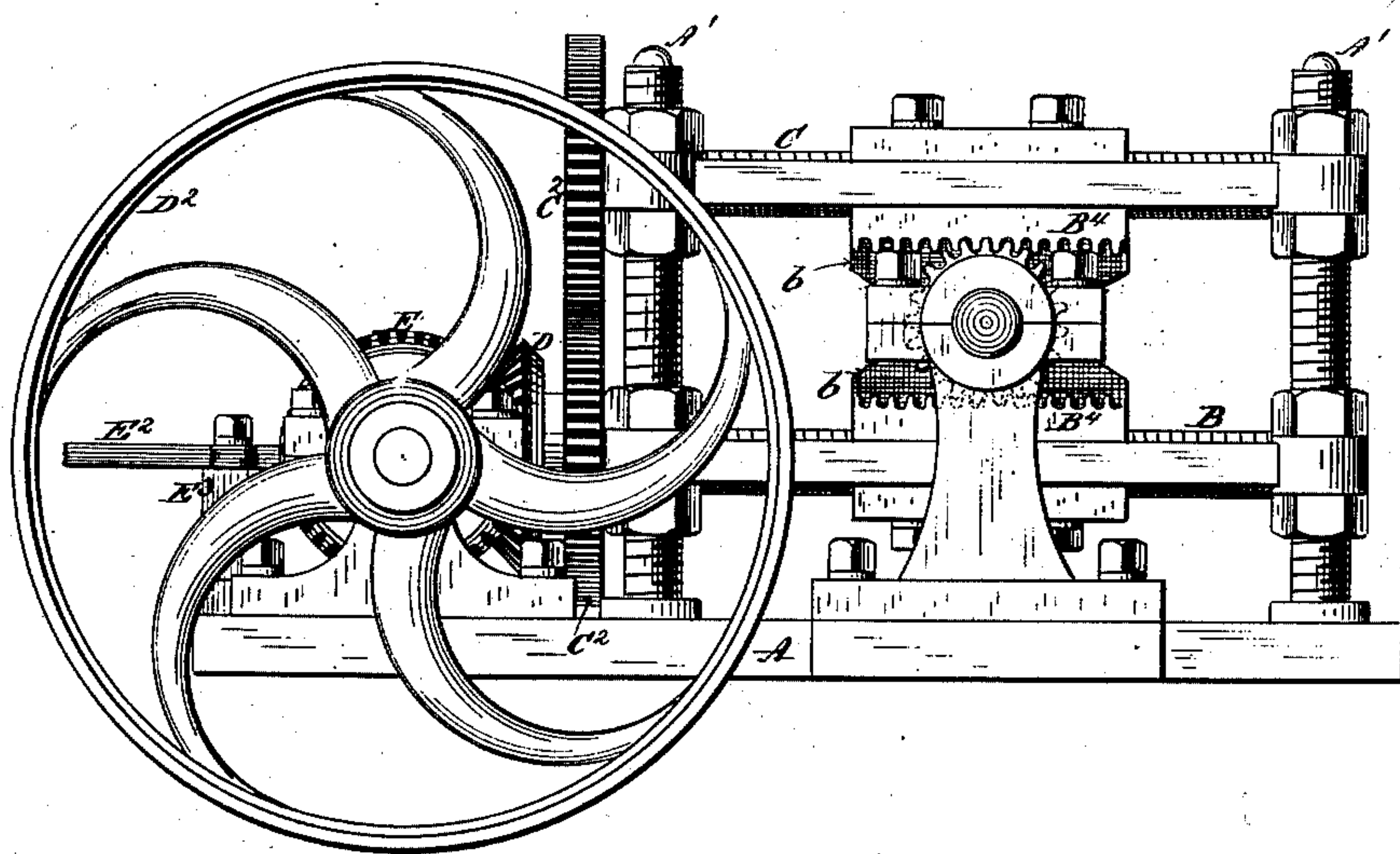
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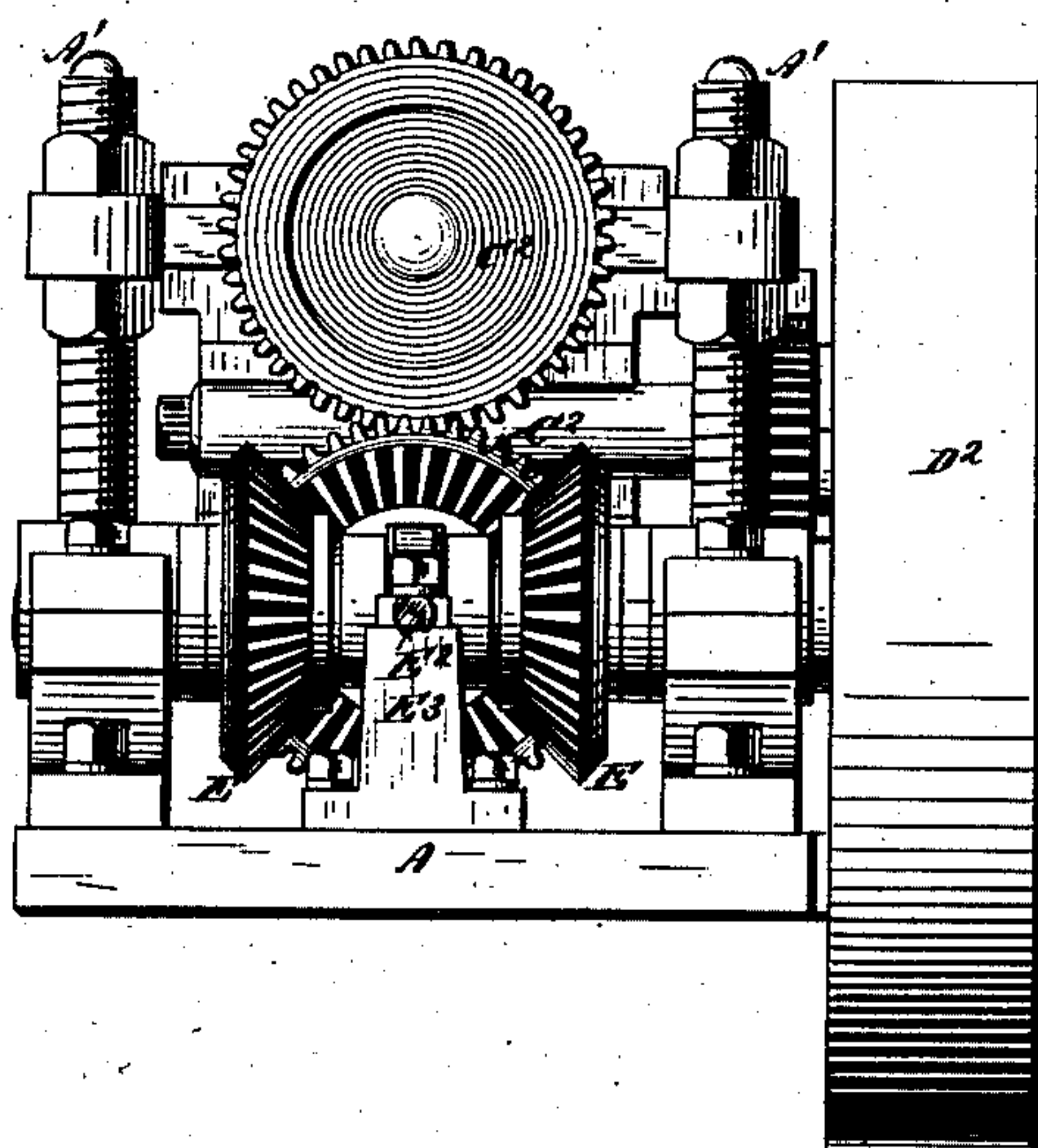
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*Fig. 3.*



*Fig. 4.*



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(No Model.)

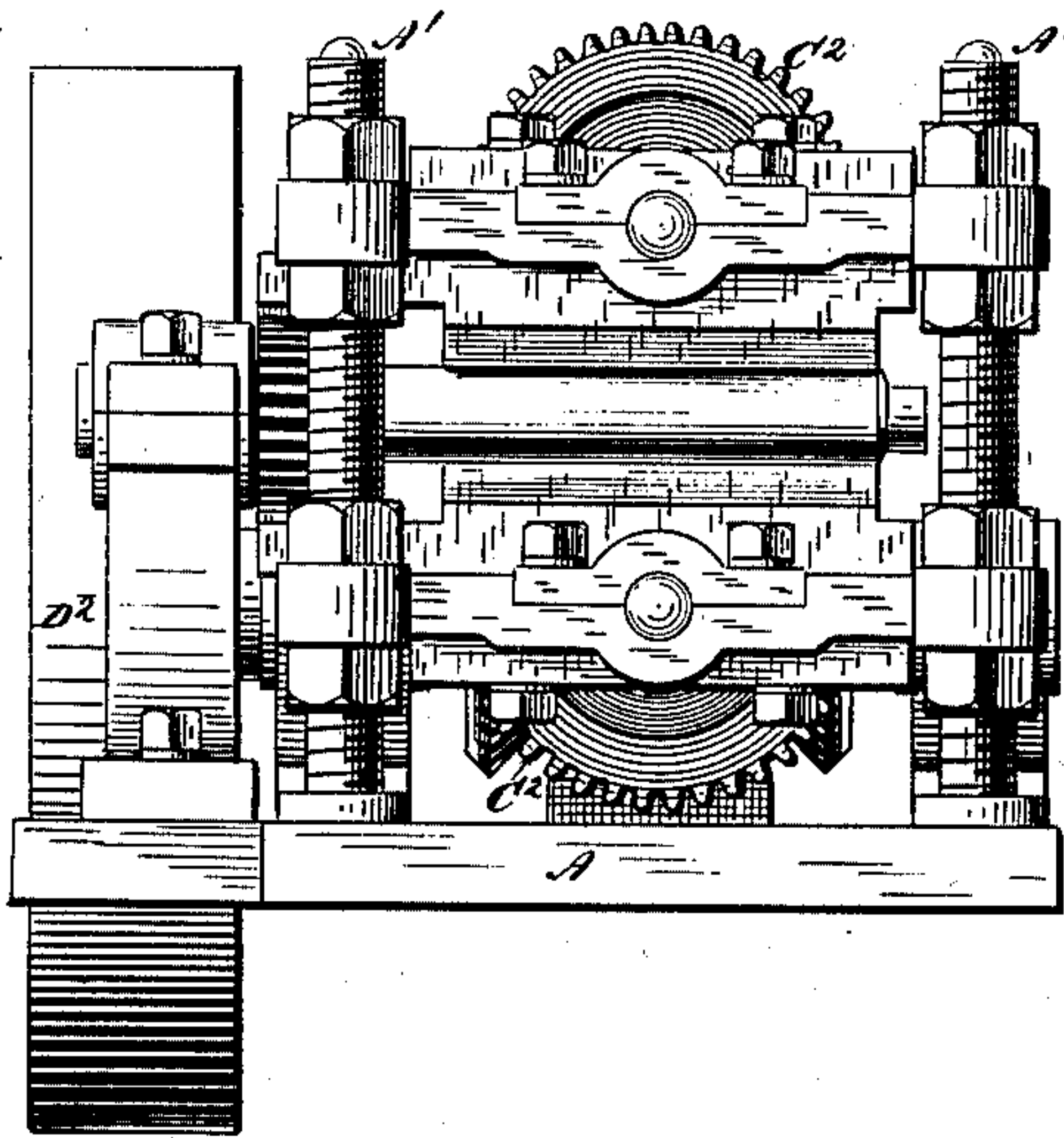
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MACHINE FOR ORNAMENTING TUBULAR RECEPTACLES.

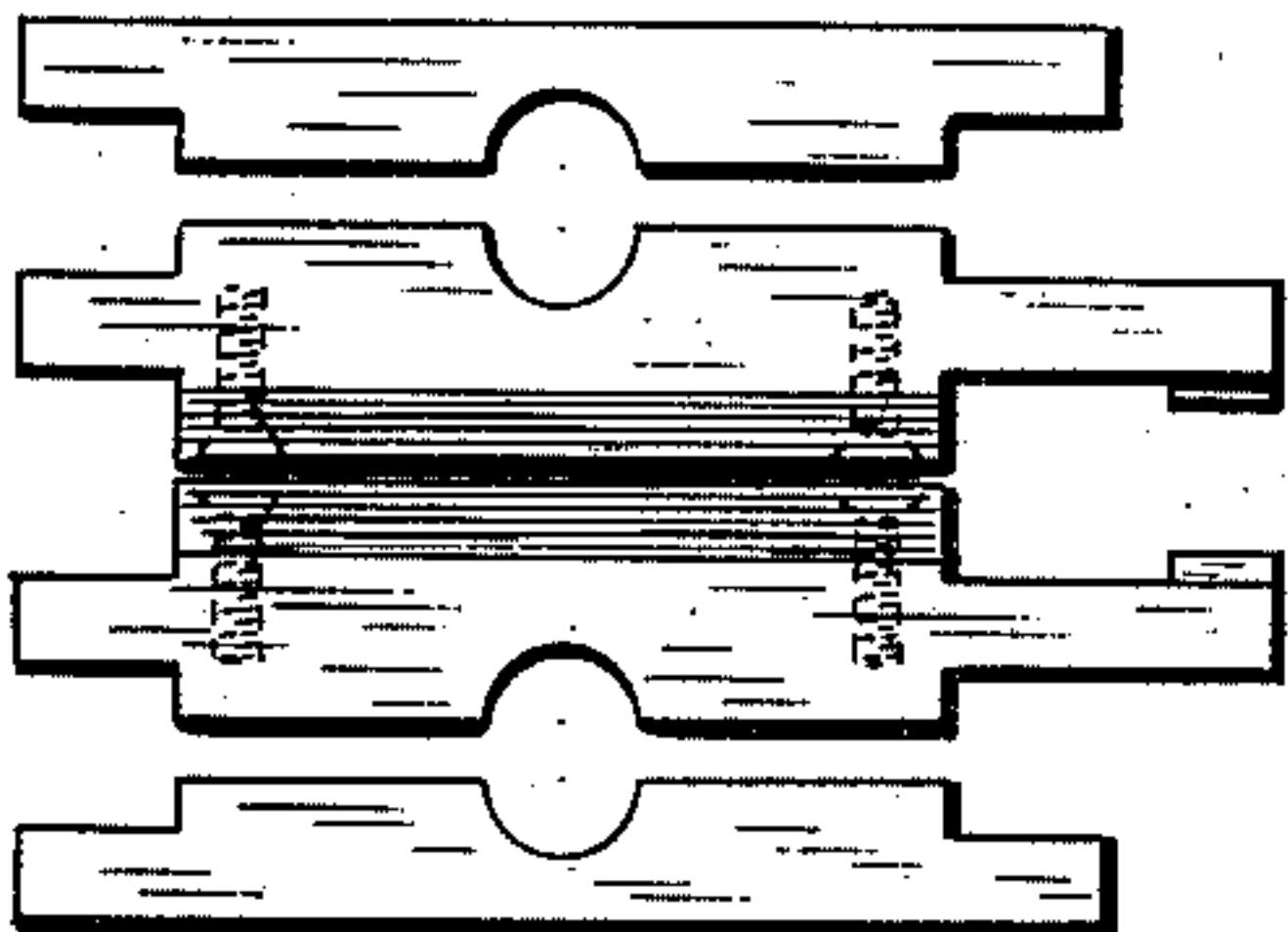
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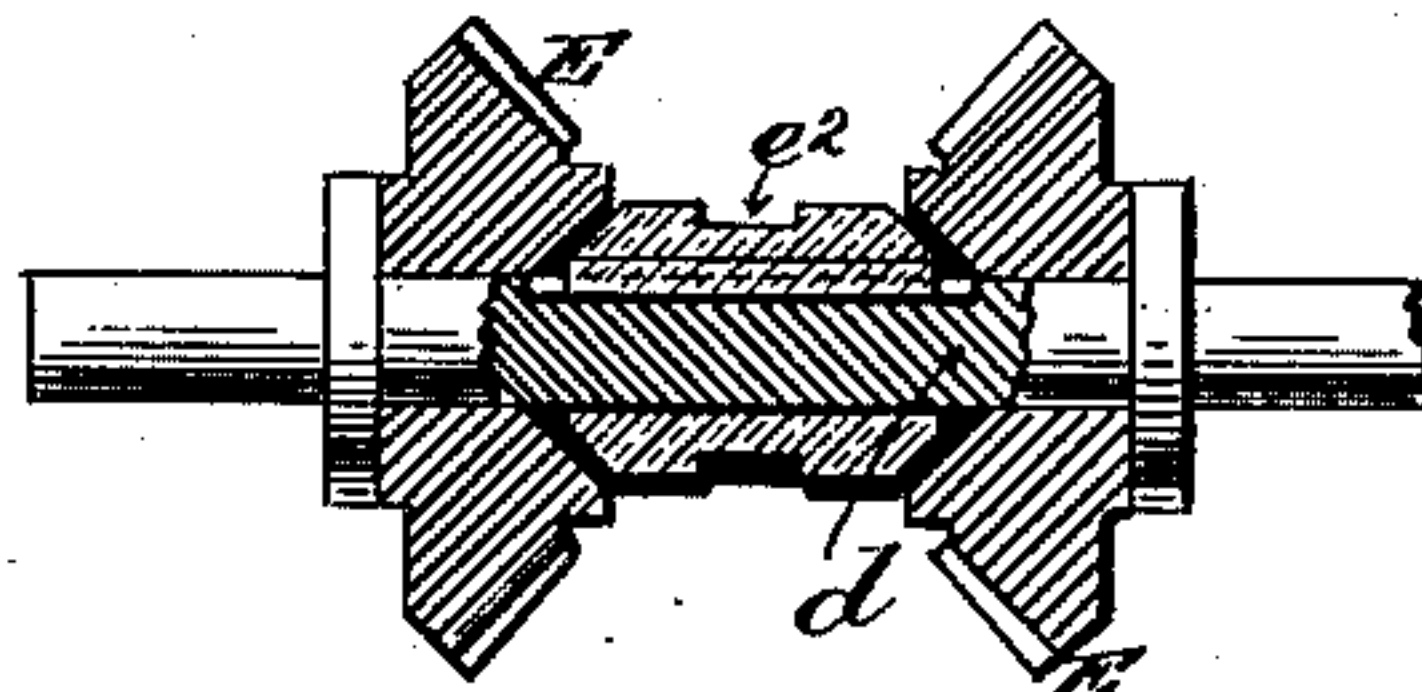
*Fig. 5.*



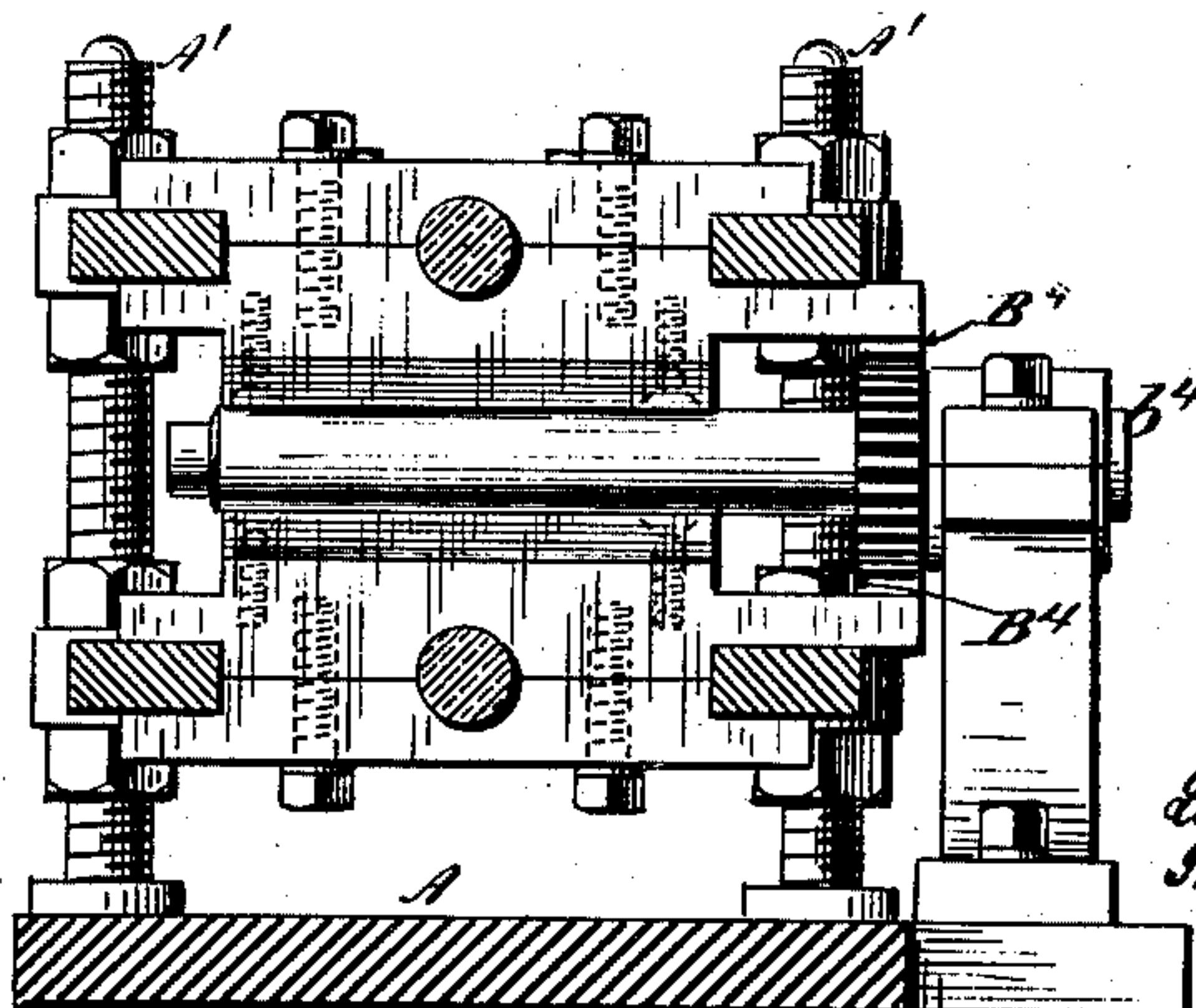
*Fig. 7.*



*Fig. 8.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

LUCIUS T. SHEFFIELD, OF NEW YORK, N. Y., AND THOMAS M. SINCLAIR, OF  
NEWARK, NEW JERSEY.

## MACHINE FOR ORNAMENTING TUBULAR RECEPTACLES.

SPECIFICATION forming part of Letters Patent No. 448,678, dated March 24, 1891.

Application filed June 19, 1890. Serial No. 355,984. (No model.)

*To all whom it may concern:*

Be it known that we, LUCIUS T. SHEFFIELD and THOMAS M. SINCLAIR, of the city, county, and State of New York, and Newark, county of Essex, and State of New Jersey, respectively, have invented a certain new and useful Improvement in Machines for Ornamenting Tubular Receptacles, of which the following is a specification.

10 This invention relates more particularly to devices for forming ornamentation or lettering on tubes of yielding material, such as block tin, paper, or analogous substances.

15 In the accompanying drawings, Figure 1 is a top or plan view of a machine embodying the improvement. Fig. 2 is a side elevation. Fig. 3 is a side elevation opposite that of Fig. 2. Fig. 4 is a rear end view. Fig. 5 is a front end view. Fig. 6 is a transverse section at  
20 one side of the tube-support. Fig. 7 is a detail showing the formers; and Fig. 8 is a sectional view of certain clutch mechanism employed.

Referring by letter to the drawings, A designates the base, from which are extended  
25 four posts A', serving as supports for guide-frames A<sup>2</sup>. The guide-frames are shown as adjustable lengthwise of the posts A', and as a means therefor the said posts are threaded,  
30 and jam-nuts a are provided on the posts at each side of the frames A<sup>2</sup>. It is evident from this construction that both of the frames A<sup>2</sup> may be adjusted or that one may remain stationary and the other adjusted relatively to  
35 it, as occasion may require.

B B' designate movable forms the inner faces of which may have suitable ornamentation or characters to be transferred to a tube mounted on a rotary support B<sup>2</sup> by emboss-  
40 ing or printing. When ornamentation is transferred from the forms by ink-impressions, the forms may be inked in any suitable manner—such, for instance, as from a brush or pad held in the hand. For convenience in  
45 placing the forms in position the said forms are made in longitudinal sections b' b<sup>2</sup>, secured together by means of bolts b<sup>3</sup>, and these forms are provided with extensions to engage over the ways b<sup>4</sup> of the guide-frames A<sup>2</sup>.

50 C C' designate carriers for the movable forms in the form of threaded rotary shafts

engaging with threaded openings through the forms. The shafts C C' have journal-bearings in boxes c in the end portions of the respective guide-frames A<sup>2</sup>. A gear-wheel C<sup>2</sup> 55 is mounted on the rear end of each of the carriers C C'. These wheels C<sup>2</sup> are geared together and rotate the carriers in opposite directions, so that the forms are moved in reverse directions. It will be seen that the carrier-threads are cut in the same direction, and it will be observed that in this example of the improvement the wheels C' C<sup>2</sup> correspond in size, so that the carriers are rotated at a uniform speed. One of the carrier-shafts, in  
60 this instance the carrier-shaft C', is provided on its rear end with a bevel-gear D, engaging with gearing on the driving-shaft D', which is provided with a power-wheel D<sup>2</sup>.

E E designate bevel-gears on the shaft D', 70 meshing with the bevel-gear D at opposite sides thereof. The gears E E are loosely mounted on the shaft D'; but as the said gear-wheels are intended to alternately rotate with the shaft a shifting clutch mechanism E' is 75 employed. The clutch mechanism C' consists in this instance of a sleeve rotating with the shaft D', but having a movement lengthwise of the shaft. Fig. 8 shows the shaft D' as having a longitudinal channel d, 80 into which a key or spline d' from the clutch E' extends. The clutch E' is somewhat shorter than the distance between the two gears E E, and it is shown as having conical or convexed ends e, adapted to enter concavities e' in the 85 gears E, and to have a frictional bearing against the inclined walls of the concavities. By this means one of the gears E may be rotated with the shaft D' to rotate the carriers C C' in one direction, and by shifting the 90 clutch-sleeve to engage frictionally with the other gear E the carriers may be rotated in the reverse direction, and thus reciprocate the forms B B'. A shifting lever E<sup>2</sup> is fulcrumed to a standard E<sup>3</sup>, and engages at its bifurcated 95 end in an annular groove e<sup>2</sup> in the clutch-sleeve E'. This shifting lever may be operated by hand or otherwise. The tube-support B<sup>2</sup> extends transversely to the movement of the forms, and has a journal b<sup>4</sup> at one end 100 mounted in a journal-box b<sup>5</sup> on a pillar extending from the base A, and the support has



affixed to it adjacent to the journal-bearing a gear-wheel  $b^3$ , engaging with racks on lateral extensions from the movable forms B B'.

It is obvious from this construction that a rotary motion is imparted to the support B<sup>2</sup> from the forms. It is also obvious that the same result would obtain by omitting the rack from one of the forms.

In operation the tube is placed upon the support. This may be done when the machine is in motion, and the forms impress or imprint the design upon the tube. By employing two forms intricate designs may be transferred to the tube either by embossing or printing with different-colored inks.

Having described the invention, what I claim is—

1. In a machine for ornamenting tubes, the combination, with driving mechanism, of a reciprocating form and a support for a tube rotated by the movement of the form, substantially as specified.

2. In a machine for ornamenting tubes, the combination, with driving mechanism, of reciprocating forms moving in opposite directions and a support for a tube rotated from and during the movement of said forms, substantially as specified.

3. In a machine for ornamenting tubes, the combination, with driving-gear having shifting mechanism, of forms deriving reciprocating motion from the driving-gear and a rotary support deriving motion from the reciprocating forms, substantially as specified.

4. The combination, with the rotary support for a tube, of the vertically-adjustable forms and mechanism for imparting a reciprocating movement to said forms, substantially as specified.

5. The combination of the rotary carriers, reciprocating forms moved by said carriers,

intermeshing gear-wheels on the carriers, a gear-wheel on one of said carriers engaging with gear-wheels loosely mounted on a driving-shaft, a clutch mechanism on the driving-shaft, and a rotary support for a tube, substantially as specified.

6. The combination, with movable forms and mechanism, substantially such as described, for imparting movement to the forms, of a rotary support for a tube and a gear-wheel on said support engaging with racks on the forms, substantially as specified.

7. The combination, with the base, of the posts extending therefrom, the guide-frames adjustable on said posts, reciprocating forms moving in said guide-frames, mechanism, substantially such as described, for imparting motion to the forms, and a support for a tube extending transversely to the movement of the forms and rotated by said forms, substantially as specified.

8. In a machine for ornamenting tubes, the combination, with reciprocating forms and a rotary support for a tube, of the threaded shafts geared together, a bevel-gear on one of said shafts, a driving-shaft, bevel-gears loosely mounted on said driving-shaft and meshing with the first-named bevel-gear, and a clutch-sleeve rotating with the driving-shaft, but movable lengthwise thereon to alternately engage with the bevel-gears on said shaft, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

LUCIUS T. SHEFFIELD.  
THOMAS M. SINCLAIR.

Witnesses:

ELLA F. BRAMAN,  
SUSAN C. BRAMAN.