

(No Model.)

2 Sheets—Sheet 1.

J. MUNTON.

TIRE ROLLING MACHINE.

No. 318,129.

Patented May 19, 1885.

Fig 1.

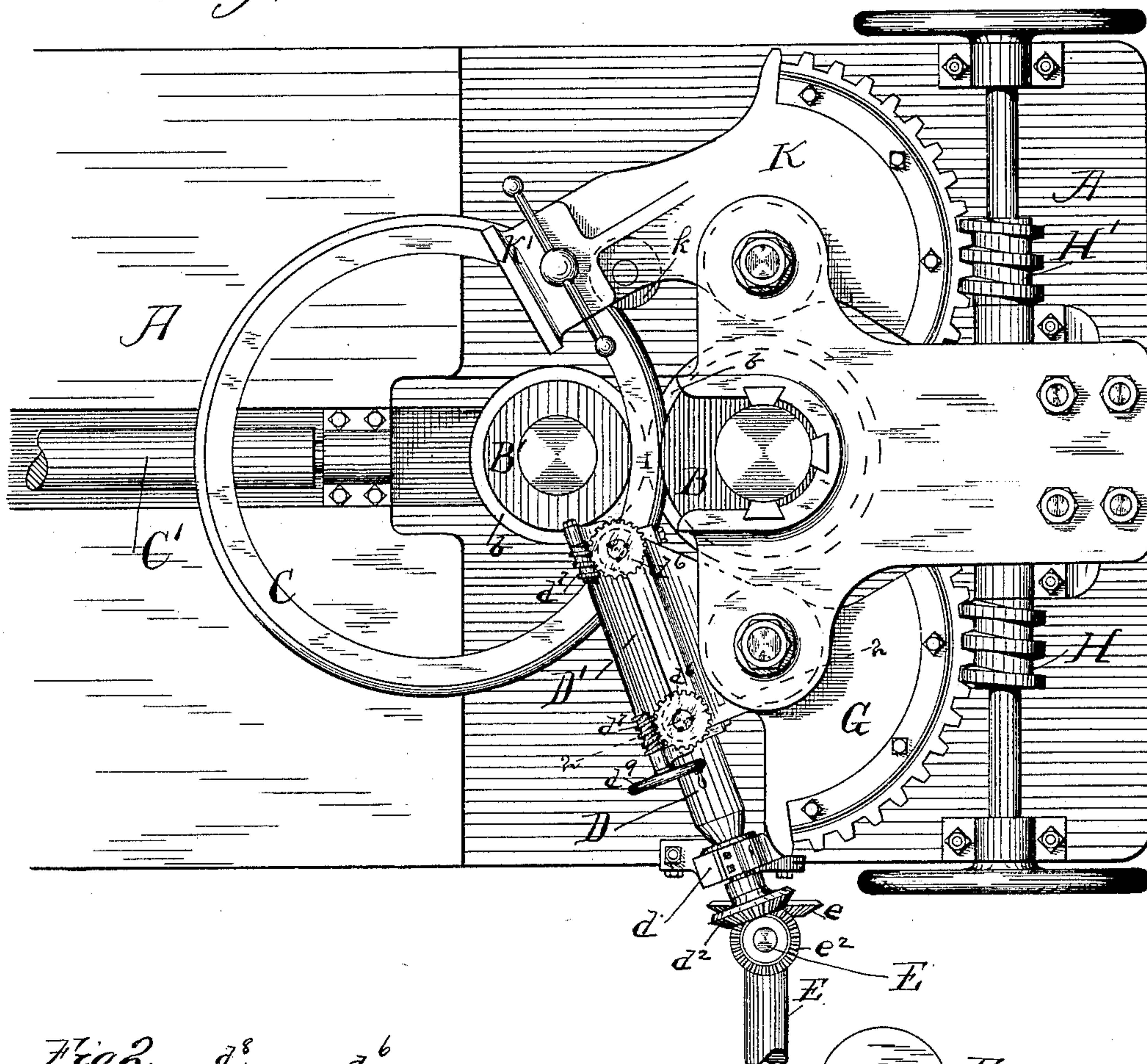


Fig 2.

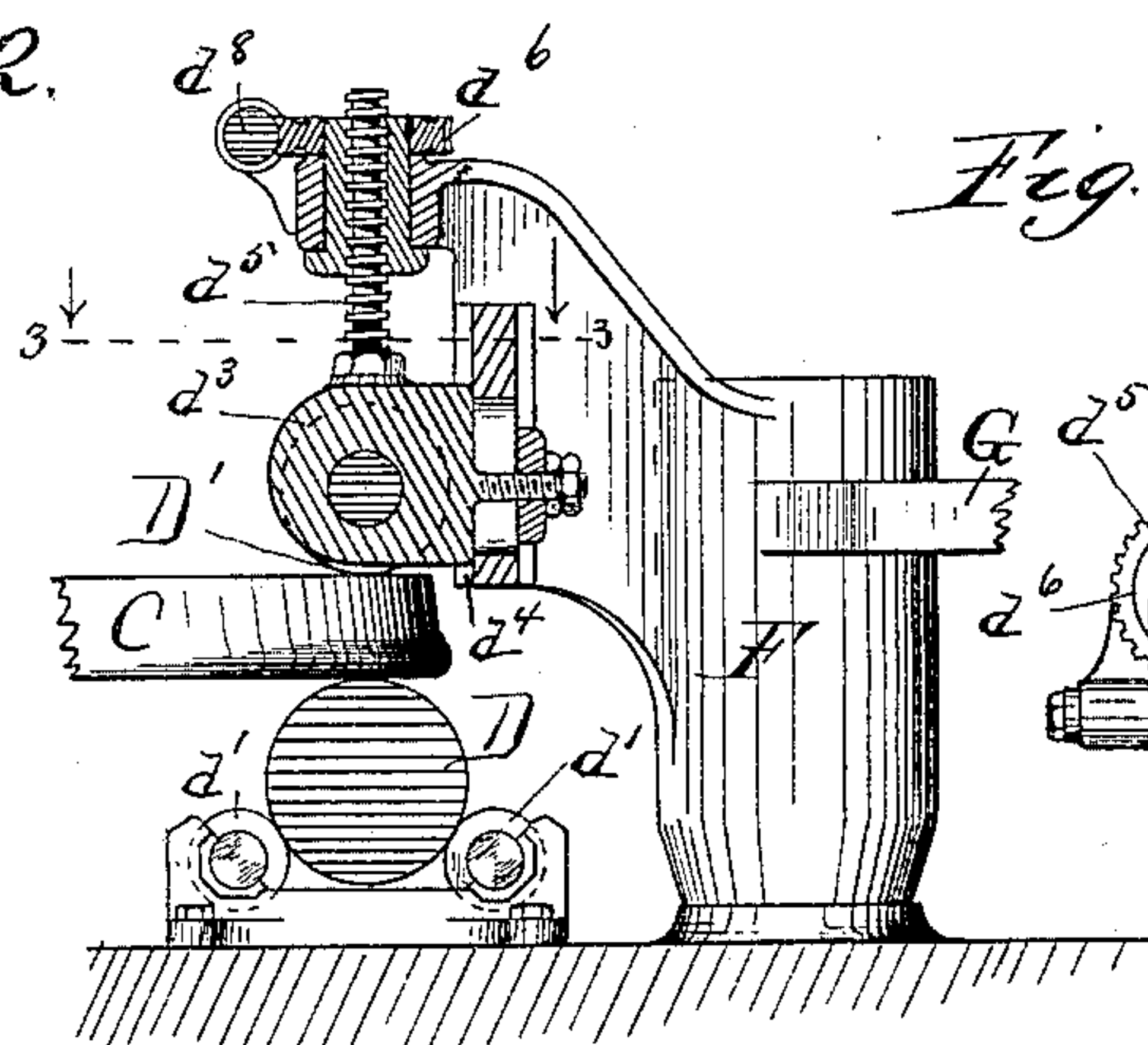
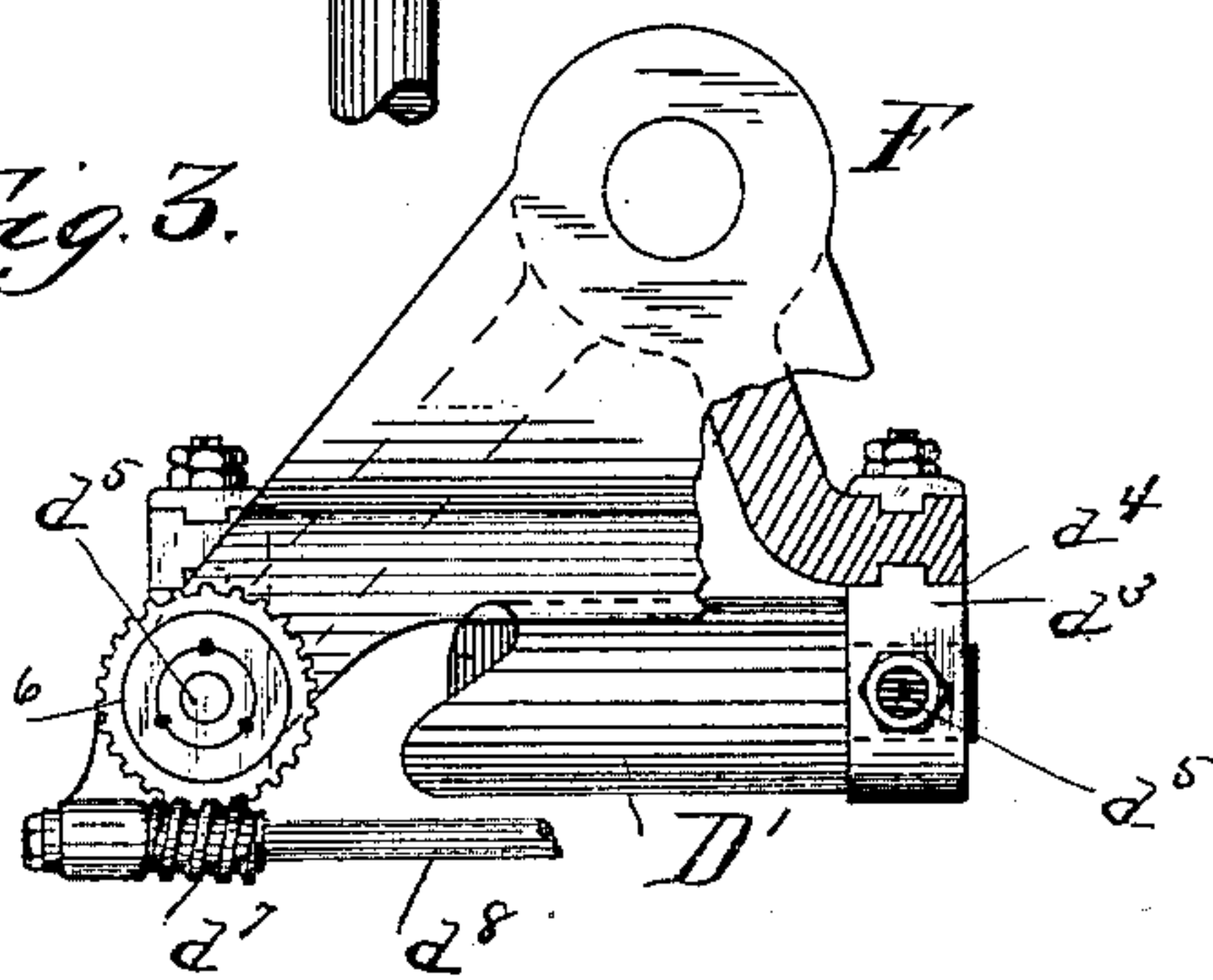


Fig. 3.



Witnesses:

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Lew. C. Curtis.

Inventor:

James Muntton

By Munday Ewarts & Adcock
his Attorney

His Attorneys:

(No Model.)

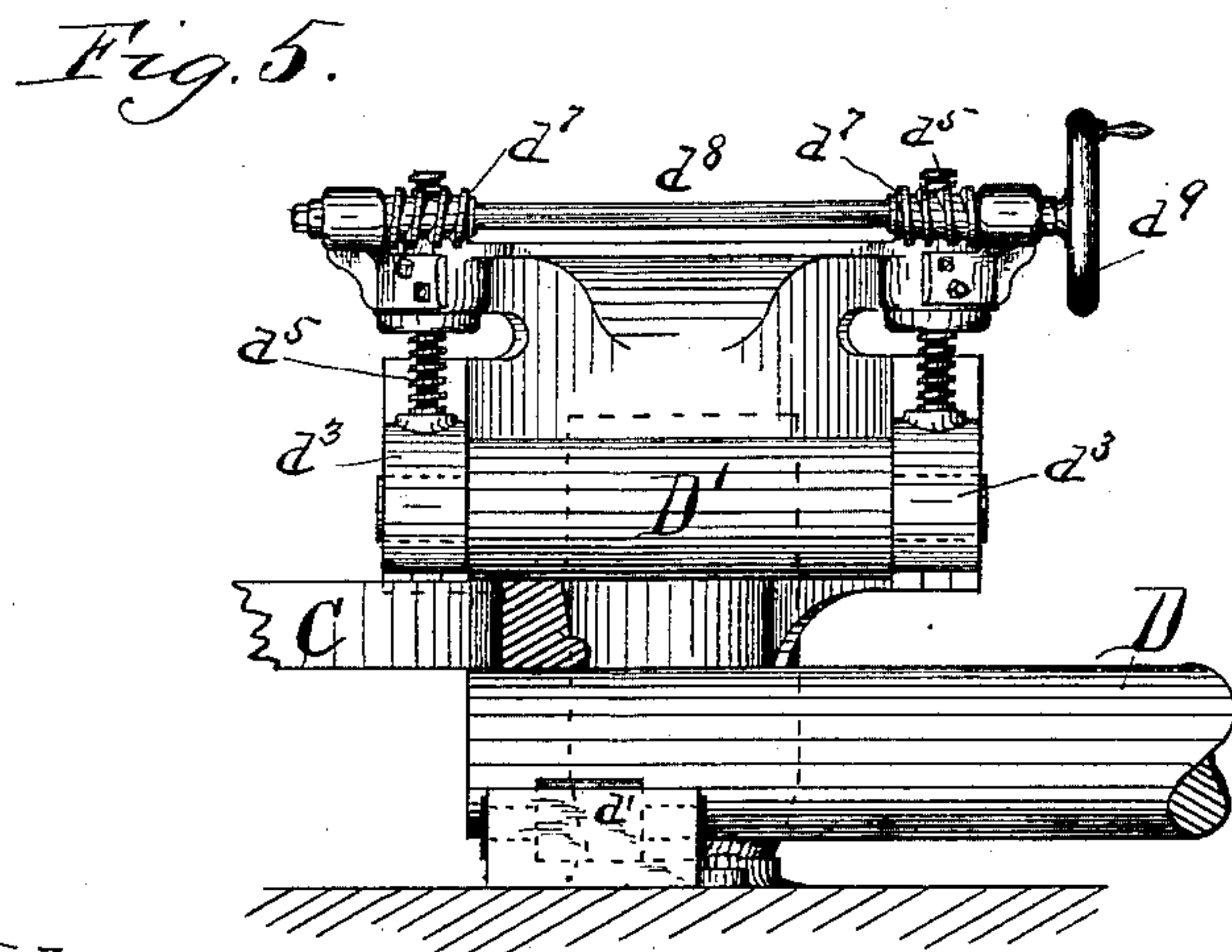
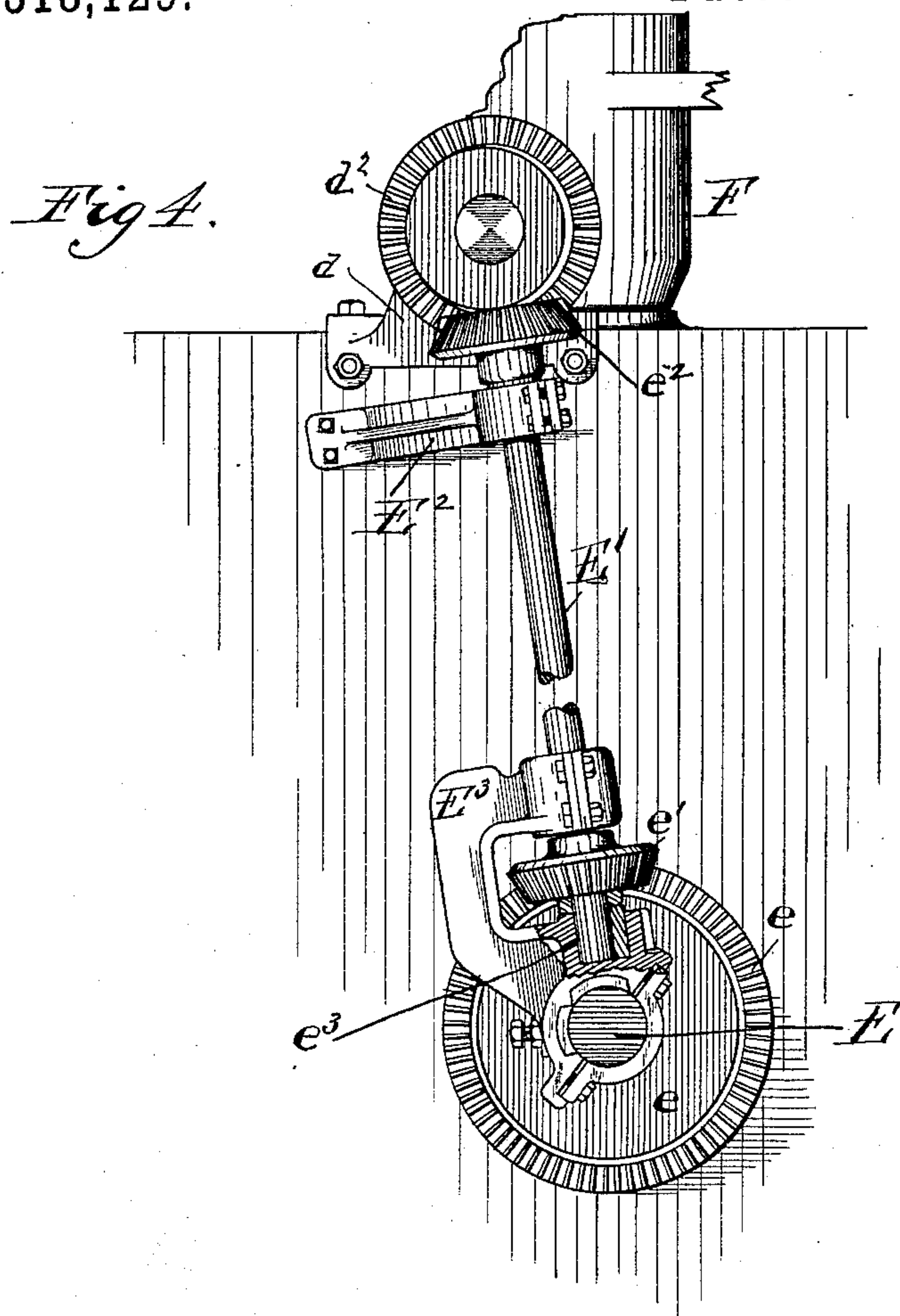
2 Sheets—Sheet 2.

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TIRE ROLLING MACHINE.

No. 318,129.

Patented May 19, 1885.



Witnesses:

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Levi C. Curtis.

Inventor:

James Munton

By Munday; Everts & Adcock

his Attorneys:

UNITED STATES PATENT OFFICE.

JAMES MUNTON, OF MAYWOOD, ILLINOIS.

TIRE-ROLLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 318,129, dated May 19, 1885.

Application filed April 8, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES MUNTON, a subject of the Queen of Great Britain, residing in Maywood, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Tire-Rolling Machines and Edging-in Rolls, of which the following is a specification.

The object of this invention is to provide a machine for roughing and edging-in the blooms preparatory to rolling them into tires. Heretofore the edging-in operation, or reducing the width of the bloom, has been effected by means of a steam or other hammer, which of course requires a separate heat of the bloom. In the present machine I accomplish this result of edging-in the bloom while it is being rolled in the roughing or preliminary rolls by means of a pair of horizontal rolls, which bear upon the edges of the bloom and serve to reduce its width, or edge it in at the same time it is being rolled by the usual vertical rolls. In this way I save the necessity of employing a steam-hammer, as well as of again heating the bloom. The housings for the upper one of these horizontal rolls is made movable, and preferably mounted upon a wing, so that it may be swung back away from the bloom to permit the same to be removed and another placed between the rolls. The under one of these two horizontal edging-in rolls is driven, being connected by suitable gearing with the shaft which drives the main roll. This lower roll should be driven at a little higher surface-speed than that of the main roll, so that the pressure put upon these horizontal rolls will have no tendency to make the bloom drag or clog the other rolls, which tendency would otherwise exist, owing to the fact that the interior diameter of the bloom is, of course, less than its exterior diameter.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a plan view of a device embodying my invention. Fig. 2 is a vertical section on line 2 2 of Fig. 1. Fig. 3 is a plan view of the movable horizontal roll and its housing. Fig. 4 is a side elevation showing the shaft and gearing for driving the lower horizontal roll, and Fig. 5 is a front elevation of the horizontal rolls.

In said drawings, A represents the main frame or bed of the machine; B, the main or driven roll; B', the inner or movable roll; C, the bloom, and C' its bed or supporting-roller.

D represents the lower or driven horizontal edging-in roll, and D' the upper or removable horizontal roll. The roll D is journaled at its outer end in a suitable bearing, d , on the frame of the machine, and its inner end rests or is journaled upon a pair of small friction-rollers, d' d' , which are journaled on the frame or bed of the machine. The inner end of the roll D will become heated by contact with the bloom, and I therefore rest or support it upon the friction-rollers d' d' , as the heat would speedily injure and destroy an ordinary box or bearing. The roll D is provided with a beveled gear, d^2 , on its outer end, and it is driven from the main driving-shaft E of the machine by means of bevel-gear e thereon, which meshes with a bevel-gear, e' , on the shaft E', the other end of which carries the bevel-gear e^2 , which meshes with the bevel-gear d^2 on the roll D. The shaft E' is journaled and supported at its upper end in a suitable box or bearing on the bracket E², and at its other end on the upper extremity of an arm, E³, which is pivoted to or journaled at its lower end on the main driving-shaft E and supported therefrom. The lower end of this shaft E' rests in a socket, e^3 , in the arm E³. The housing F for the upper horizontal roll, D', is secured to or made integral with the pivoted segment G, so that the roll may be swung back from over the bloom by means of the worm H, which engages with the teeth of the segment G. The roll D' is mounted in vertically-adjustable bearings d^3 . These bearings d^3 are moved up and down in suitable guides, d^4 , in the housing F by means of the screws d^5 , which are provided with toothed wheels d^6 , which engage with the worms d^7 d^7 on the hand-wheel shaft d^8 . By turning this shaft d^8 from time to time by means of a hand-wheel, d^9 , the operator can cause the edging-in rollers D and D' to exert any degree of pressure upon the bloom desired.

K represents a similar pivoted segment on the opposite side of the main roll B, the teeth of which engage with a worm-shaft, H', so as to be swung in and out with the segment G. This segment or wing K carries the small ver-

tical guide-roller k and bears against the periphery of the tire, and serves to give or keep the bloom in a circular form as it is rolled. This wing K also carries a housing, K' , in which is mounted the usual horizontal guide-roll for holding the bloom down upon its supporting-rollers.

Owing to the pressure upon the bloom between the edging-in rollers D and D' , they will grasp and hold the bloom, and thus serve in place of the usual vertical guide-roll on the wing or segment G , so that it will be unnecessary to employ such guide-roll upon this segment G , though one may be used, if desired, the same as on the segment K .

For the purpose of driving the lower edging-in roll D at a little higher surface-speed than that of the rolls B and B' , I make the bevel-gear e a little larger in diameter than the bevel-gear d' .

The vertical rolls B and B' have each a flange or collar, b , at their bottom to support the bloom passing through the rolls, and to give the proper form to the flange of the bloom.

I claim—

1. The combination of the rolls B and B' with horizontal edging-in rollers D and D' , a movable housing on which roller D' is mounted, and

gearing connecting roller D with the driving-shaft, substantially as specified.

2. The combination of rolls B and B' with horizontal edging-in rollers D and D' , a movable housing for roller D' , and gearing, substantially such as described, for driving said roller D at a higher surface-speed than that of the main roll B , substantially as specified.

3. In a tire-rolling machine, the combination of the rolls B and B' , pivoted segment G , provided with housing F for roll D' , vertically-adjustable bearings d^3 , screws d^5 , toothed wheels d^6 , shaft d^8 , provided with worms d^7 , substantially as specified.

4. The combination of the rolls B and B' , horizontal edging-in rollers D and D' , and friction-rollers d' d' , for supporting the inner end of said roll D , substantially as specified.

5. The combination of the vertical rolls B and B' , provided with collars or flanges b at their bottom edges or ends only, with the horizontal edging-in rollers D and D' , substantially as specified.

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Witnesses:

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