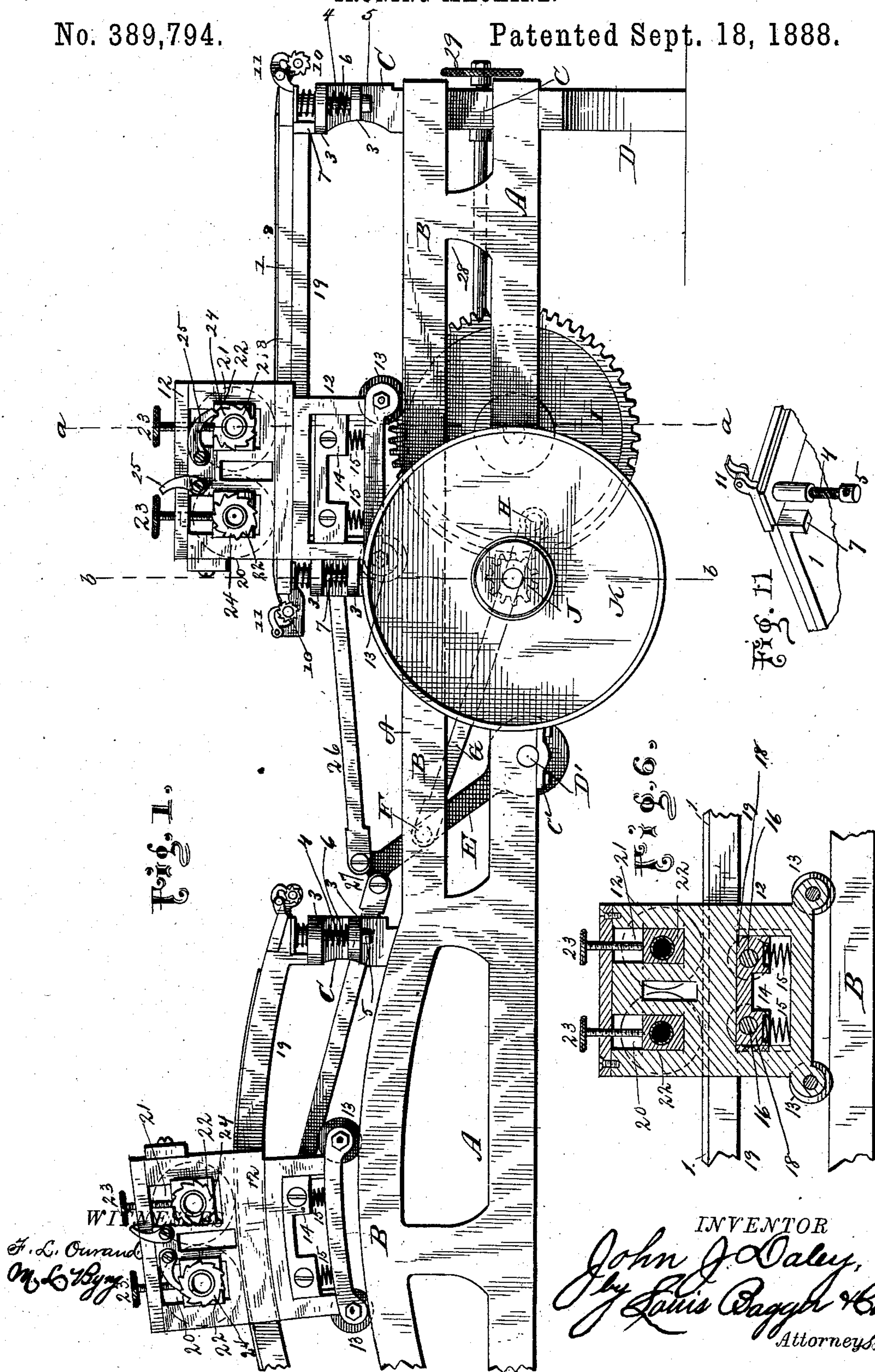


5 Sheets—Sheet 1.

No. 389,794.

Patented Sept. 18, 1888.



N. PETERS. Photo-Lithographer, Washington, D. C.



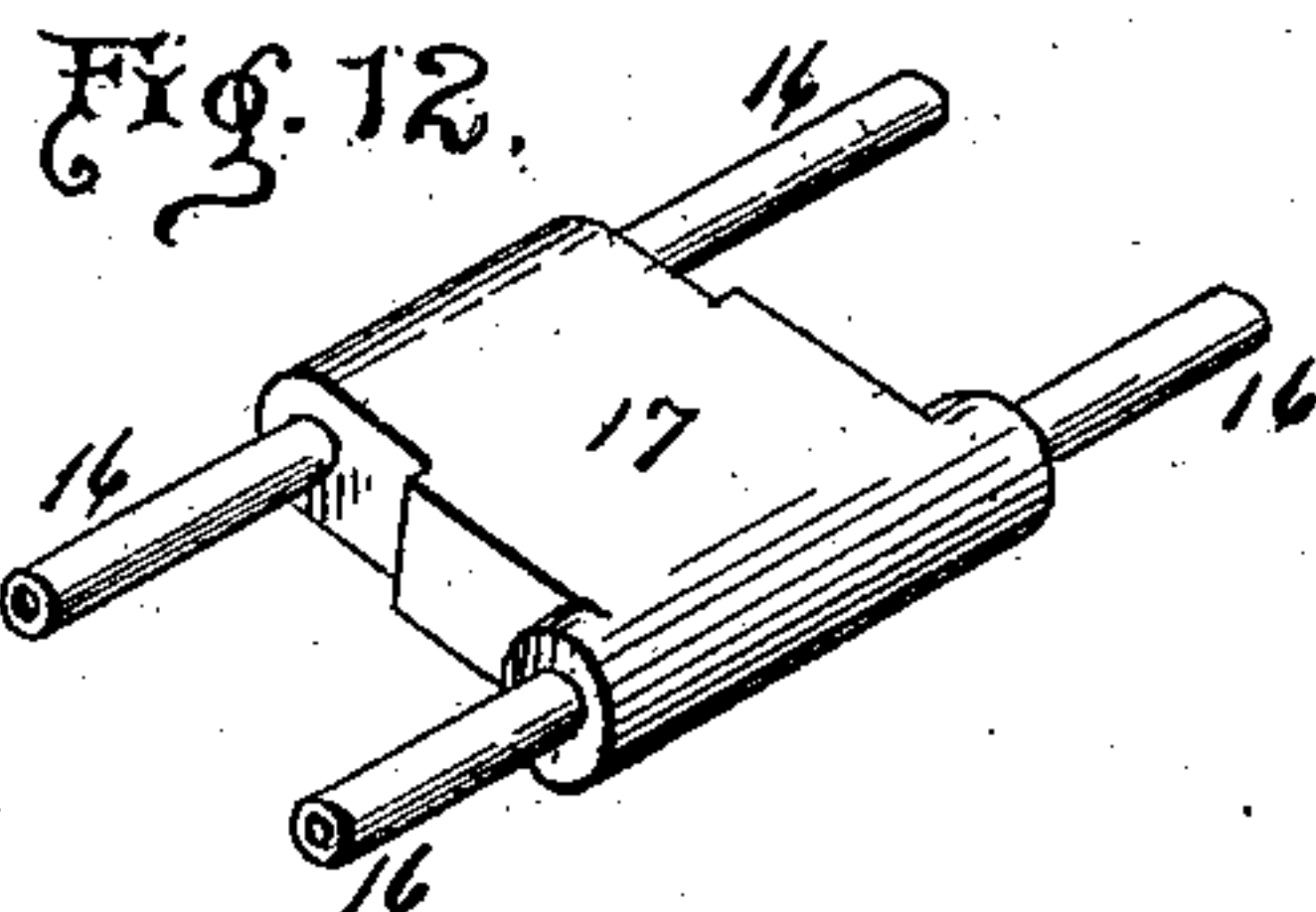
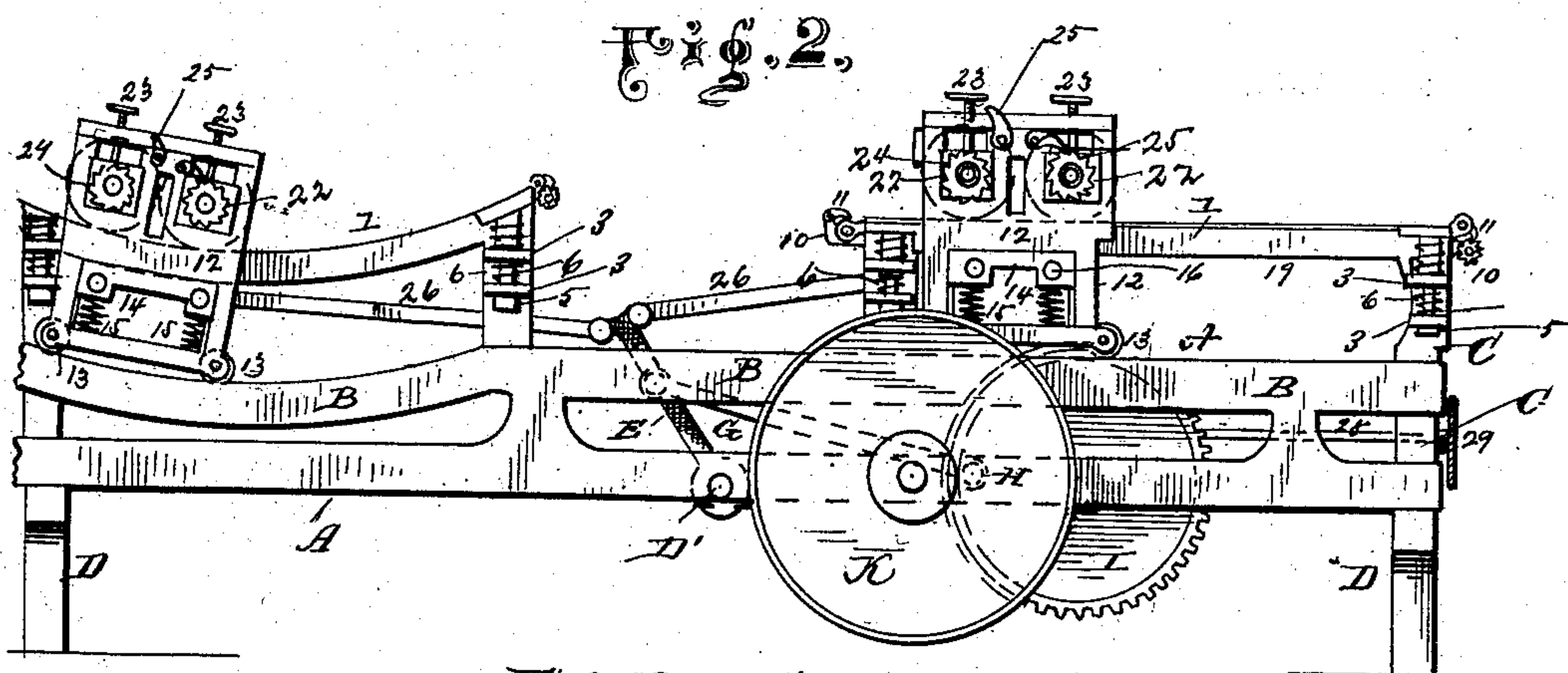
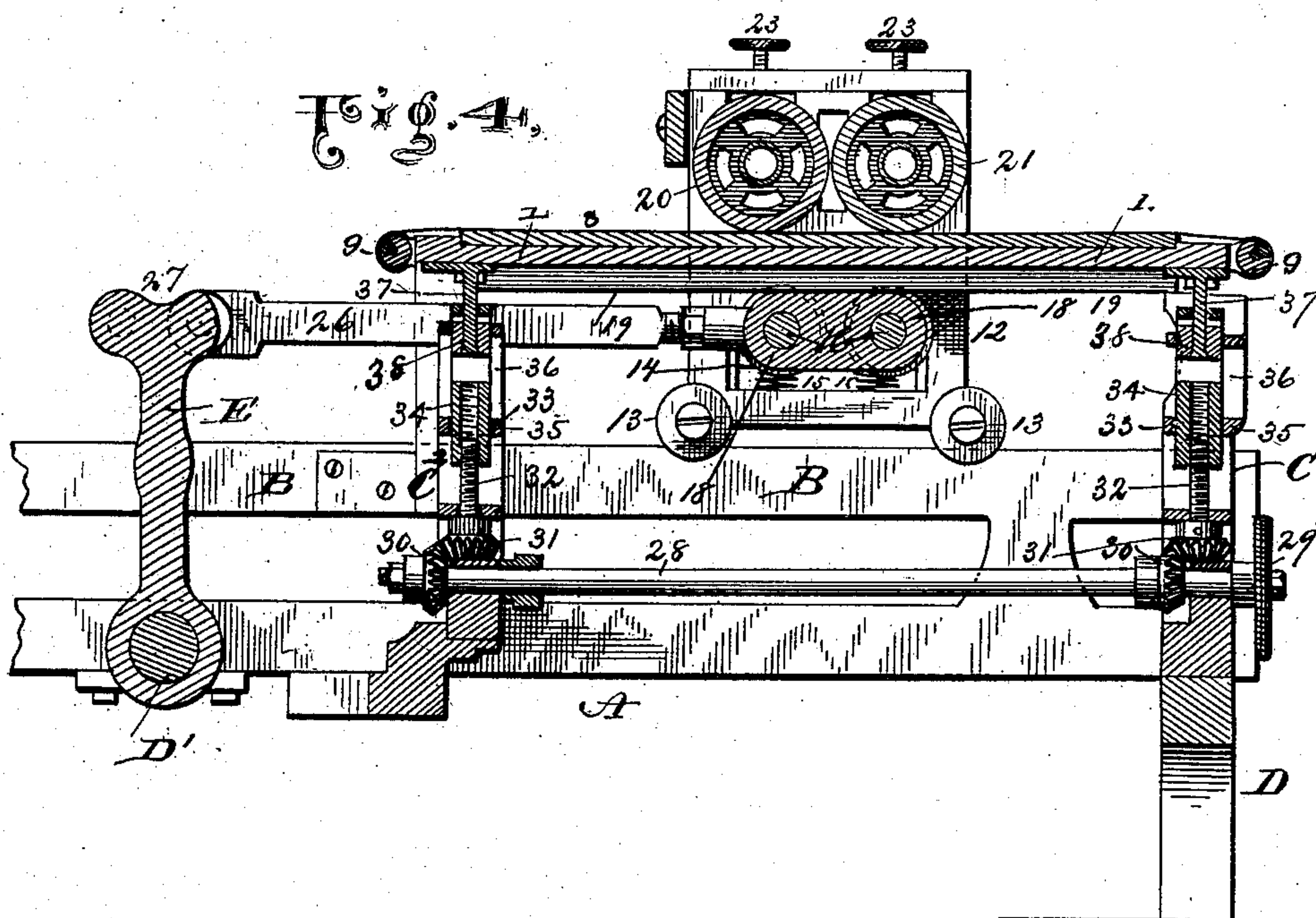
(No Model.)

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J. J. DALEY.  
IRONING MACHINE.

No. 389,794.

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5 Sheets—Sheet 3.

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Fig. 3.

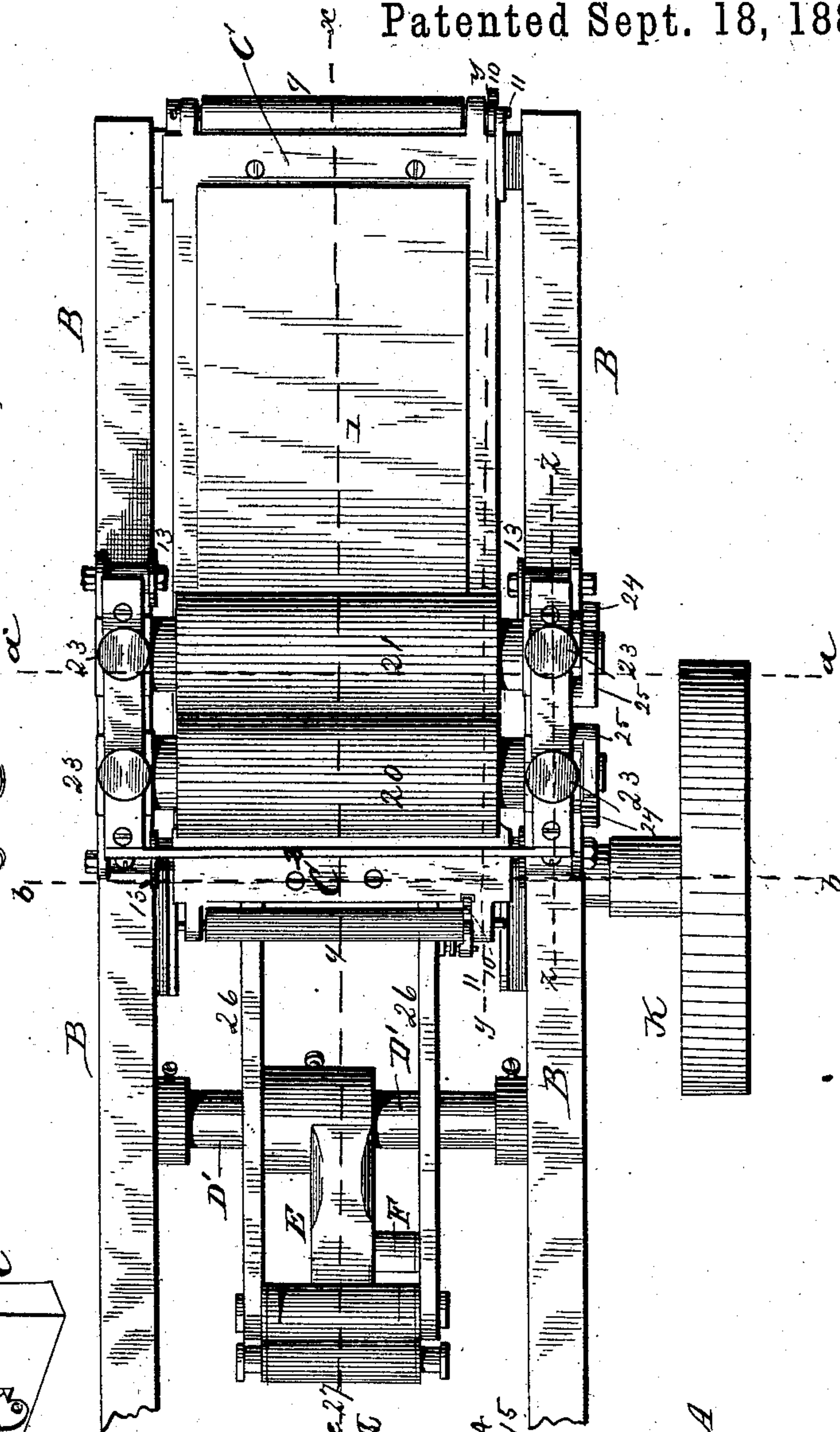


Fig. 13.

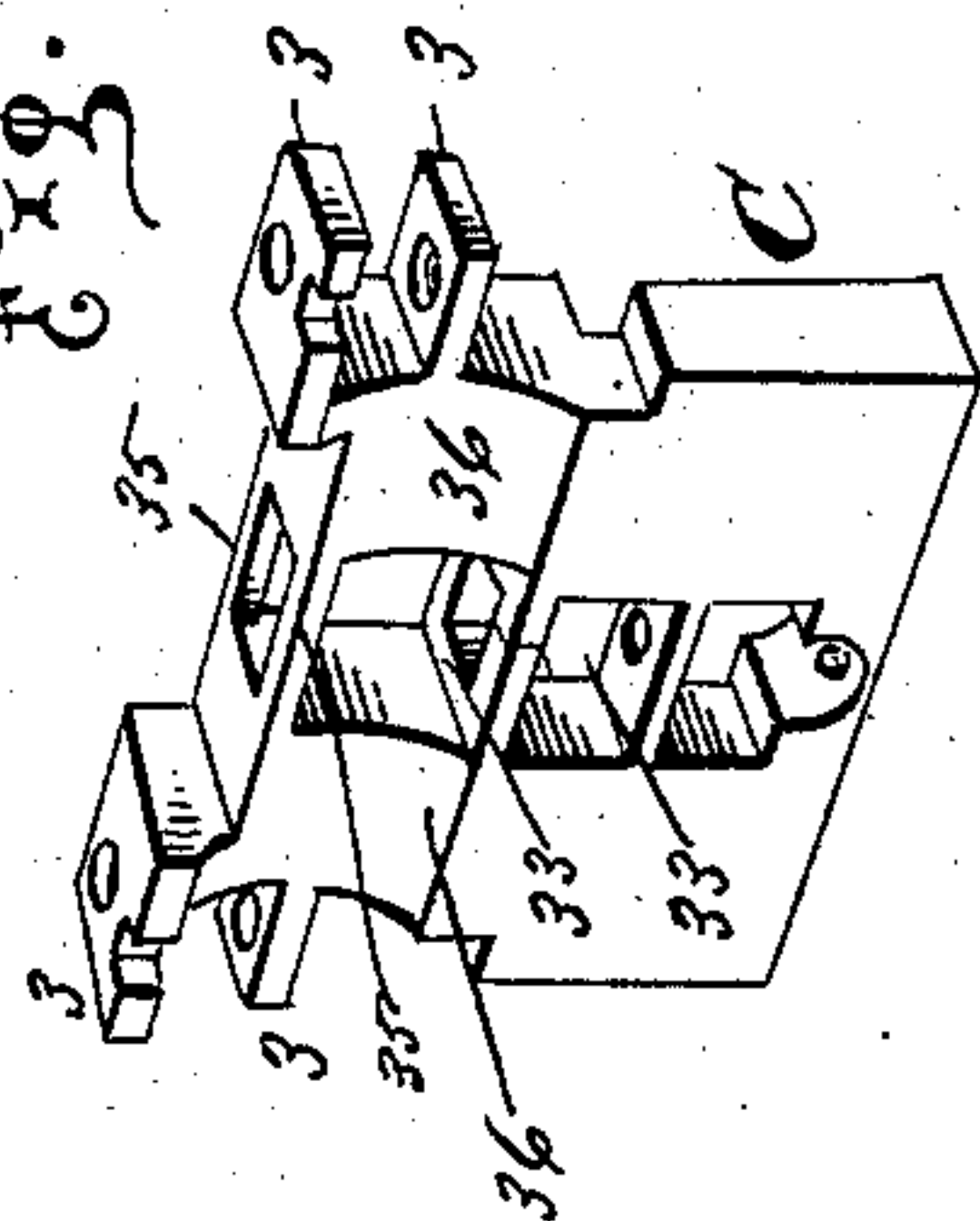
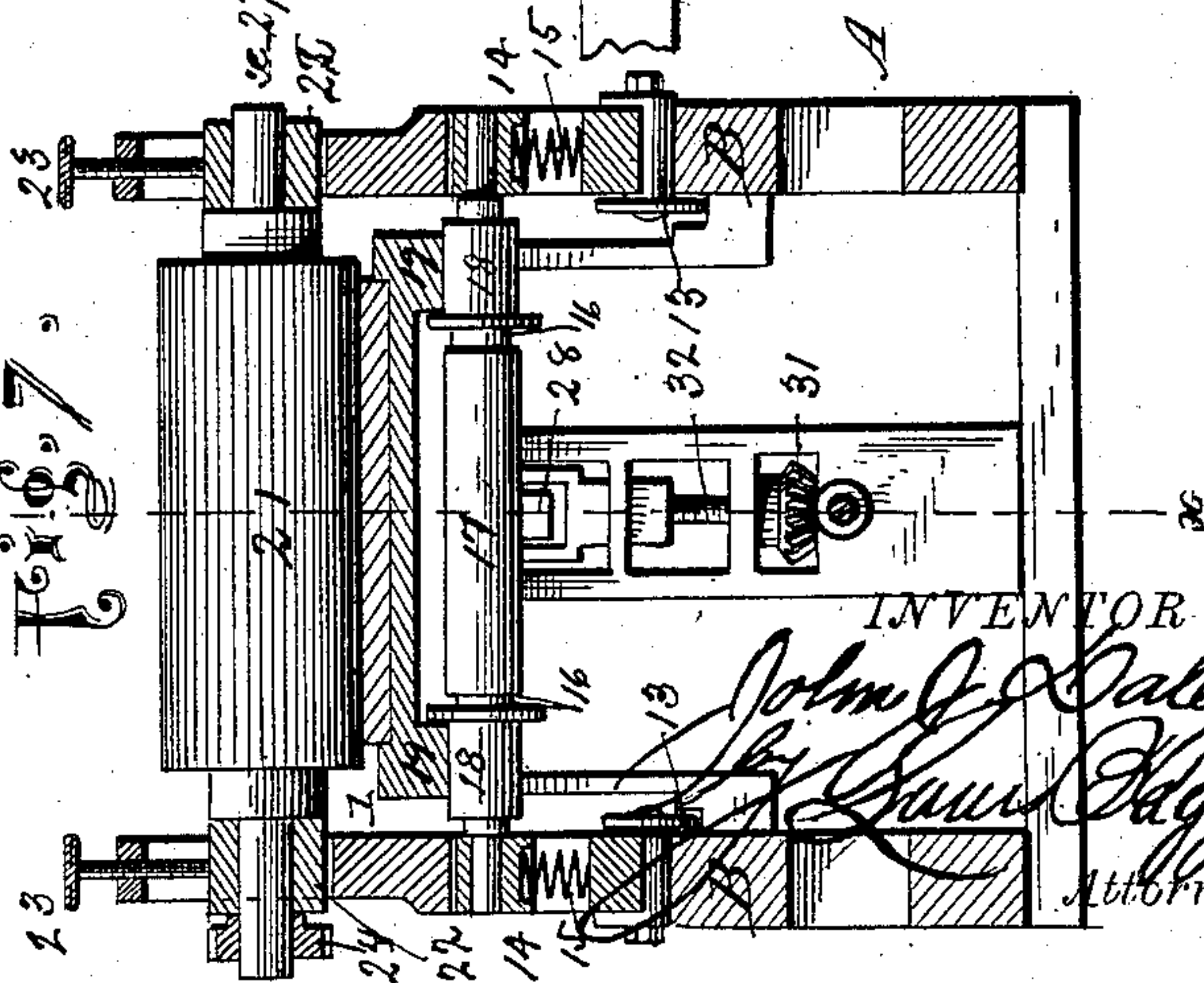


Fig. 7.



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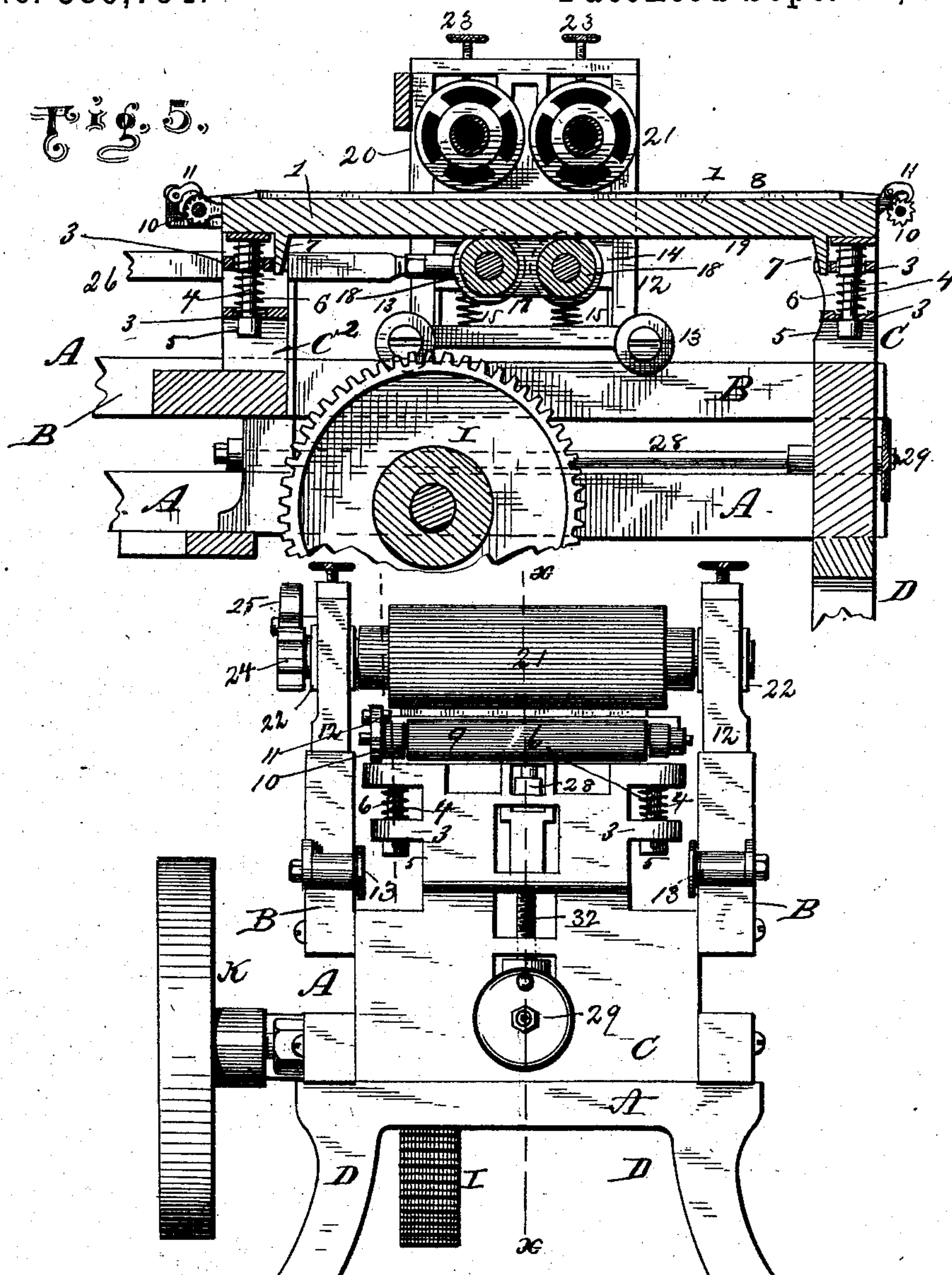


Fig. 9.

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5 Sheets—Sheet 5.

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Fig. 10.

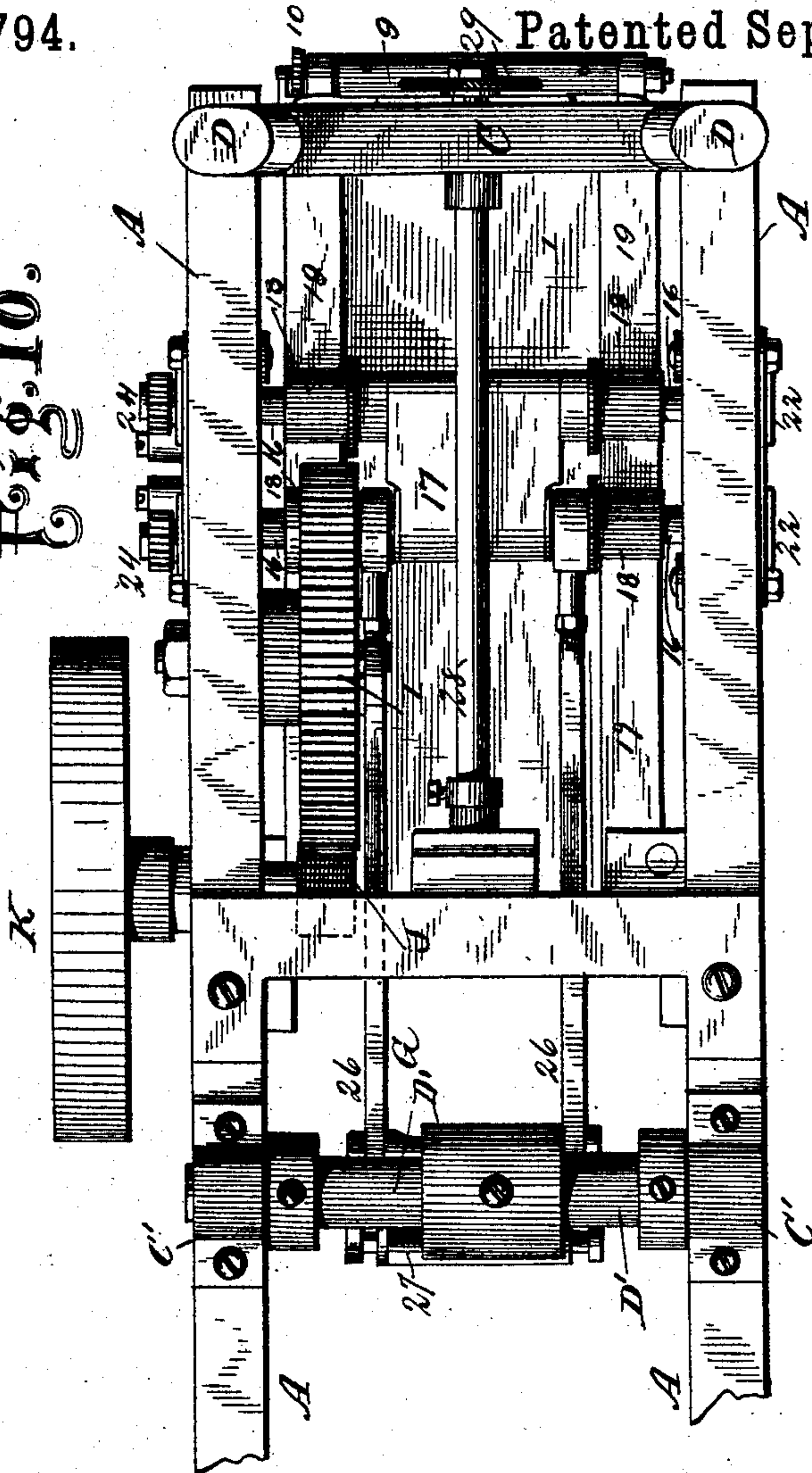
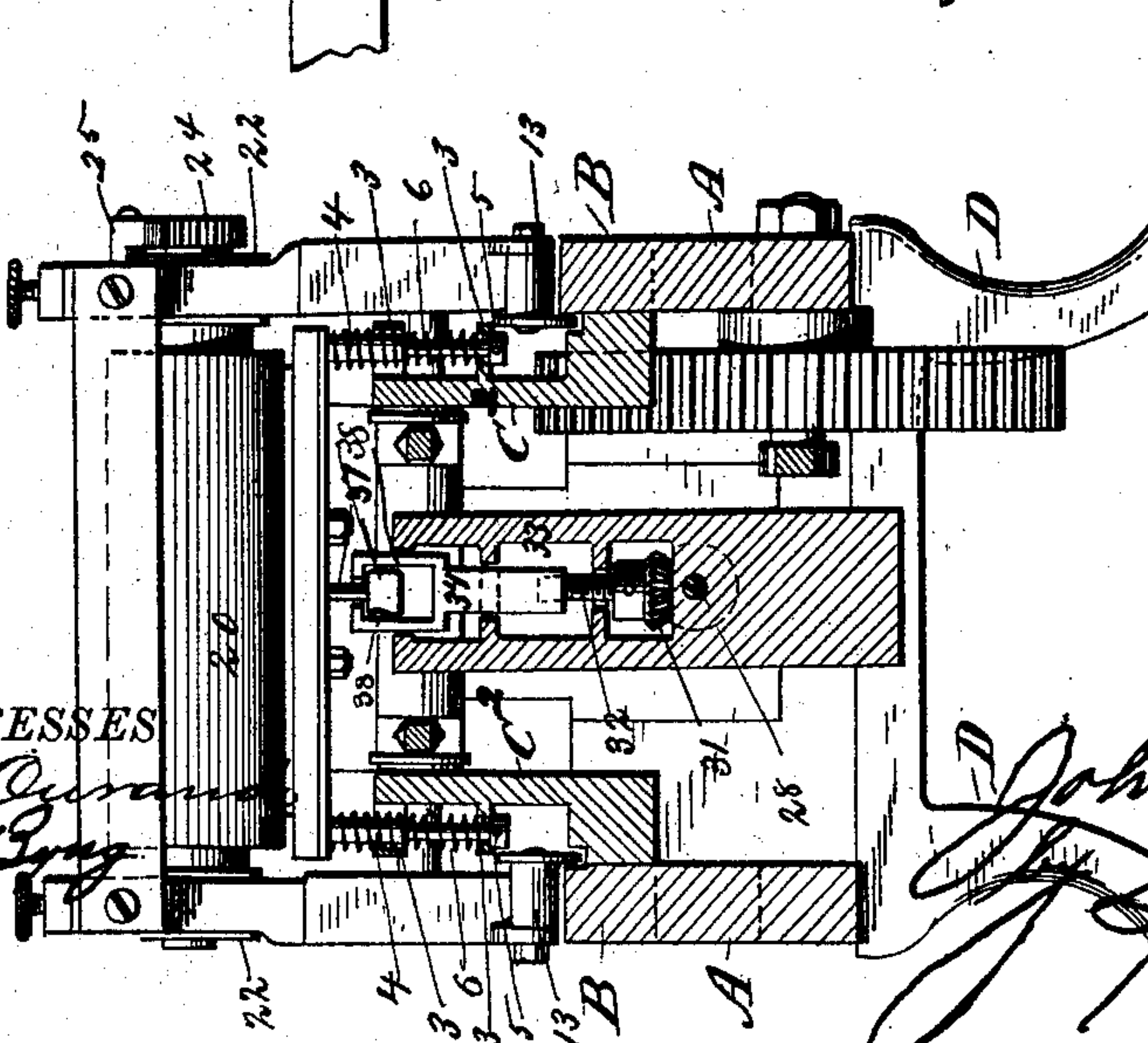


Fig. 8.



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# UNITED STATES PATENT OFFICE.

JOHN J. DALEY, OF BROOKLYN, NEW YORK.

## IRONING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 389,794, dated September 18, 1888.

Application filed March 20, 1888. Serial No. 267,764. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN J. DALEY, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Ironing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying five sheets of drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation of my improved ironing-machine having parts broken away. Fig. 2 is a similar view (reduced) illustrating a somewhat modified construction. Fig. 3 is a top or plan view of the machine, one of the ironing-tables, and the reciprocating carriage appertaining thereto having been removed from the frame. Fig. 4 is a longitudinal vertical section on the broken line *x x* in Figs. 3 and 9. Figs. 5 and 6 are similar views on the vertical planes indicated, respectively, by the lines denoted by the letters *y y* and *z z* in Fig. 3. Fig. 7 is a vertical transverse section on the plane denoted by the broken line *a a*, Figs. 1 and 3. Fig. 8 is a similar view through a parallel plane, denoted by the letters *b b*, Figs. 1 and 3. Fig. 9 is an end elevation. Fig. 10 is a bottom plan; and Figs. 11, 12, and 13 are detail views, which will be hereinafter described.

Like letters of reference denote corresponding parts in all the figures.

My invention has relation to machines for ironing shirts, collars, cuffs, and other articles of wearing-apparel, of that class in which cylindrical ironing-rolls are made to roll or slide upon the articles to be ironed with a reciprocating motion, said ironing-rollers being mounted adjustably in a reciprocating carriage; and my improvements consist in the detailed construction, arrangement, and combination of parts, which will be hereinafter more fully described, and particularly pointed out in the claims.

Reference being had to the accompanying five sheets of drawings, the letter A designates the frame, which consists, essentially, of the parallel tracks or side pieces, B B, and end pieces, C C. This frame is mounted upon legs or supports D, of suitable height. About midway in the frame is journaled, in boxes C', a rock-shaft, D', which has fastened upon it a

projecting arm, E, provided with a laterally-projecting stud, F, to which the connecting-rod G is pivoted, the other end of said connecting-rod being pivoted upon the wrist-pin H of the gear-wheel I, which derives its motion from a pinion, J, on the inner end of the axle of the drive-wheel K. The latter may be operated by hand by means of a projecting crank or handle, or by steam, electricity, or any other suitable motive power.

In Figs. 1 and 2 of the drawings I have shown my improvements as applied to a "double" machine—that is to say, two separate ironing-machines, operated by a common power, (to wit, the drive-wheel K,) are mounted upon the same frame; but, inasmuch as one of these machines is merely, so far as its construction and operation are concerned, a duplication of the other, the description of the construction and combination of parts of one of them will suffice, the movable parts of both machines deriving their motion from the drive-wheel K, pinion J, gear-wheel I, connecting-rod G, and reciprocating arm E on the oscillating rock-shaft D'.

The ironing-machine proper consists, essentially, of three parts—viz., a stationary platform or ironing-table, a reciprocating wheeled carriage in which the ironing-rolls are mounted, and mechanism for adjusting the tension or pressure of the stationary table against the ironing-rolls of the reciprocating carriage. I shall proceed to describe the construction and operation of these several parts in the order in which they have been enumerated, designating each component part of the mechanism by a numeral.

The platform 1 consists of a frame, which is supported at its outer end upon the end pieces or end supports, C, and at its opposite or inner end upon similar supports, C', which are bolted or fastened, in any other suitable manner, to the inner sides of the side pieces, B B, of the main frame, as will appear more clearly by reference to Fig. 8 of the drawings. Both these outer and inner supports, C and C', are provided with lateral outwardly-projecting lugs or brackets 3, which have registering apertures for the insertion of bolts 4, the upper ends of which are threaded and screwed into the corners of the platform-frame, while their lower ends are provided with heads 5, having apertures for the insertion of a pin or



rod, whereby the bolt may be easily turned. Each of these bolts or arms 4 is encircled by a coiled spring, 6, the lower end of which bears against the lowermost bracket, while its upper end, after passing through the aperture in the upper bracket, bears against the under side of its appropriate corner of the platform-frame, as will be seen more clearly by reference to Figs. 1, 2, 5, 8, and 11 of the drawings. Thus it will be seen that the tension or pressure of this yielding platform or frame 1 against the reciprocating ironing-rolls (to be hereinafter described) may be primarily adjusted simply by turning the headed bolts 4.

In order to cause the ironing frame or platform 1 to move vertically up or down while it is being adjusted, or while yielding automatically during the operation of the machine, I further provide each corner of the frame with a downwardly-projecting pin, 7, which works in a slot or recess in the uppermost bracket at each corner, as shown in Fig. 5. These guide-pins 7 also effectually prevent lateral or longitudinal displacement of the frame or platform upon its supports. The body of this yielding platform is covered with a sheet of rubber, 8, of suitable thickness, and this is again covered with one or more layers of cloth or other suitable textile fabric, as usual, which is held in place by fastening the ends in rollers 9 journaled in bearings at opposite ends of the frame, and provided with ratchet-pinions 10, adapted to engage holding-pawls 11, in the well-understood manner, so that the layer of textile fabric may be stretched tightly across the platform over the underlying rubber sheet. By this means the layer of cloth may be readily changed at will and in a moment of time without detaching or disturbing any parts of the machine.

The reciprocating wheeled carriage consists of two side pieces, one mounted on each side of the main frame A of the machine and denoted by the numerals 12. At the lower end of each of these pieces is journaled a pair of flanged wheels or rollers, 13, which, during the reciprocating motion of the frame, roll upon the flat and smooth surface of the tracks B B. In the lower open part of each piece 12 works a sliding box, 14, the under side of which bears against springs 15, fixed in the lower cross-piece of the piece or frame. These movable boxes 14, of which, of course, there is one on each side, are connected by parallel cross-pieces 16 below the platform frame 1, and the cross-pieces 16 are again united by means of a plate or block, 17, below the platform. (See Figs. 5, 10, and 12.) Upon each of the cross-pieces 16, and on opposite sides of their connecting plate or block 17, is journaled a pair of flanged rollers, 18, bearing against the under side of the parallel ways 19 of the platform 1, the spring-actuated movable boxes 14 operating to force the flanged rollers 18 up against their respective ways 19 with a certain degree of pressure, which may be adjusted at will by regulating the tension of the springs 15. It

will further be seen that by the same means—viz., by the tension or pressure of the aforesaid springs—the carriage rollers 13 bear against their respective tracks B B with an equal pressure, so that the carriage will always run smoothly and evenly upon its parallel tracks with an even bearing at opposite ends of the carriage, and without danger of binding during the reciprocating motion of the same; and it will further be seen that by this construction and arrangement I compensate for the wear both of the carriage-rollers and the tracks upon which the carriage rolls forward and back.

The hollow ironing-rolls, designated by the numerals 20 and 21, respectively, are of the usual construction, and are journaled in sliding boxes 22, mounted in the upper part of the reciprocating carriage. These rolls bear against the ironing-table by their own gravity; but the pressure may be augmented by turning the adjusting screws 23, the lower ends of which bear against the sliding boxes 22. Owing to the mechanism provided for adjusting the tension or pressure of the ironing table or platform against the rolls from the under side, however, this adjustment of the rolls themselves will seldom be required, and is only necessary under peculiar conditions or in adjusting and regulating the various parts of the machine.

Each of the ironing-rolls 21 and 20 is provided at one end with a ratchet-pinion, 24, engaging a pawl, 25, pivoted upon a stud projecting laterally from that end of the carriage-frame, and by means of these two pawls, with their corresponding ratchets, either one of the two rolls may be caused to remain stationary in its bearings simply by dropping the appropriate pawl into engagement with the ratchet appertaining to that one of the rolls which is to remain stationary, and, on the other hand, by disengaging the pawl from its appropriate ratchet the roll will again revolve through frictional contact with the goods placed upon the ironing-table. It will be seen that this adjustment may be effected in a moment of time, so that one roll may remain stationary in its bearings while the other revolves, and vice versa. By this construction and arrangement of the ironing-rolls they will perform twice the work of a single roll as ordinarily constructed, as when the machine is running under ordinary circumstances both pawls are set on their respective ratchets. The result is that, as the carriage moves in one direction, the rear ironing-roll will remain stationary in its bearings and simply slide on the fabric which is to be ironed; but when the carriage, having reached the end of its "stroke," moves in the opposite direction this operation of the ironing-rolls is reversed. Thus it will be seen that at each forward and backward motion of the carriage one of the ironing-rolls is automatically locked in its bearings, while the other one is unlocked or released, so as to enable it to revolve, and vice versa, during the entire time



that the machine is operated. In other words, the rearmost roll will always do the polishing during the reciprocation of the carriage, thereby polishing the fabric placed under it the full length of the table.

It may sometimes be found desirable to let both rolls revolve in their bearings, which can be done in a moment of time simply by releasing both pawls from their respective ratchets; and again it may (for certain kinds of work) be found advantageous to construct the ironing-table either with a convex or a concave surface, as shown in Figs. 1 and 2, respectively, instead of with a flat surface. In these cases the shape of the frame which forms a track for the reciprocating carriage must of course be made to conform to the shape of the table.

The ironing-carriage is reciprocated upon the fixed tracks B B by means of the pitmen 26, which connect the cross-head 27 at the upper end of arm E with one of the cross-pieces 16 which connect the two sides of the carriage below the platform. As will be seen by reference to the drawings, the oscillating arm E is provided with two of these cross-heads 27, parallel to each other, one for each of the machines, that are arranged at opposite ends of the fixed bed or main frame.

Having in the foregoing described the combination of parts, and also the operation of the ironing-platform and the reciprocating carriage with its ironing-rolls, I shall now proceed to describe the mechanism for adjusting the contact-pressure between the yielding platform 1 and the rolls in the carriage. This adjustment is conveniently effected from one end of the machine by means of a shaft, 28, journaled in suitable bearings, and provided at its projecting outer end with a hand-wheel, 29, by which the shaft may be turned. At opposite ends of said shaft 28 are beveled pinions 30, mitering with beveled pinions 31 upon the lower ends of vertical screw-threaded shafts 32. The latter work in boxes 33, with their upper ends projecting into threaded apertures in bearings 34, which slide up and down between cross-pieces 35, connecting the side pieces, 36, which, together with the cross-pieces, constitute the boxes 33, as will be seen more clearly by reference to Figs. 8 and 13 of the drawings. By turning shaft 28 it will thus be seen that the threaded vertical shafts 32 are revolved, thereby raising or lowering the interiorly-threaded bearings 34, according to the direction in which the shaft is turned, and as the yielding platform 1 is connected on its under side by means of downwardly-projecting headed lugs 37 to these movable bearings 34 by means of a yoke, 38, at the upper end of said bearings it follows that the platform may be lowered so as to compress its supporting-springs 6 by turning shaft 28 in the direction which will draw the sliding boxes 34 with their yokes 38 in a downward direction, while by turning the shaft in the opposite direction and thereby raising the yokes with which the headed

lugs 37 engage the corner springs 6 will again be released, and thus operate to raise the platform, so as to cause it to bear against the under side of the ironing-rolls with increased pressure. The platform may be locked in place or in a rigid position simply by turning the shaft so as to raise the threaded boxes 34 sufficiently to cause the under side of the yokes 38 to bear against the under side of the headed lugs 37. In this position it will be seen that the ironing-platform is locked in place so as to be incapable of yielding, and it will further be seen that by turning shaft 28 in the opposite direction the spring pressure or tension of the ironing-platform against the under side of the rolls may be adjusted in a moment of time and with the greatest possible degree of nicety and accuracy.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In an ironing-machine, the combination of a fixed frame having parallel sides or tracks, an ironing-table adapted to yield vertically, and a reciprocating carriage provided with wheels or rollers adapted to run upon the track formed by the sides of the fixed frame, and provided with yielding boxes adapted to exercise spring-pressure against the under side of the ironing-table, substantially as and for the purpose shown and set forth.

2. The combination of the frame A, having supports C and C', provided with apertured brackets 3, platform 1, having guide-pins 7, and threaded bolts 4, and springs 6, all constructed and combined to operate substantially as and for the purpose shown and set forth.

3. The combination of platform 1, having downwardly-projecting headed lugs 37, vertically-adjustable bearings 34, having yokes 38 engaging the lugs 37, threaded shafts 32, having pinions 31, and adjusting-shaft 28, provided with a crank or hand-wheel, 29, and pinions 30, substantially as and for the purpose shown and set forth.

4. The combination of rock-shaft D', arm E, having cross-head 27, pitman 26, cross-pieces 16, having flanged rollers 18, connecting-block 17, yielding platform 1, provided on its under side with the parallel ways 19, reciprocating roller-carriage 12, and spring-actuated movable boxes 14, substantially as and for the purpose shown and set forth.

5. The combination of the vertical yielding platform 1, carriage 12, having yielding boxes 14, cross-pieces 16, having flanged rollers 18, ironing-rolls 20 and 21, adapted to be locked in the carriage-frame, and adjusting-screws 23, all constructed and combined to operate substantially as set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN J. DALEY.

Witnesses:

ARTHUR L. MORSELL,  
BENNETT S. JONES.