

(No Model.)

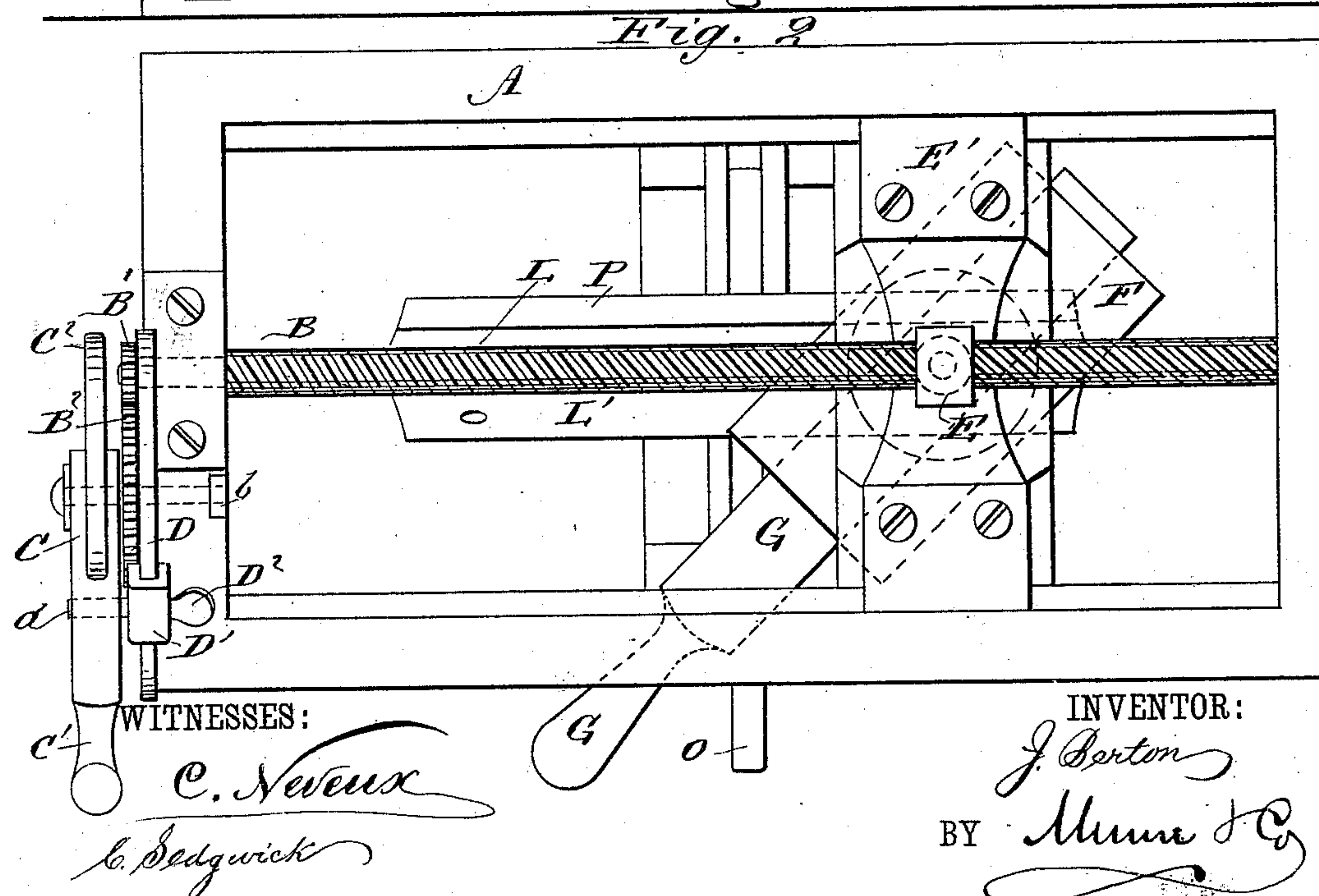
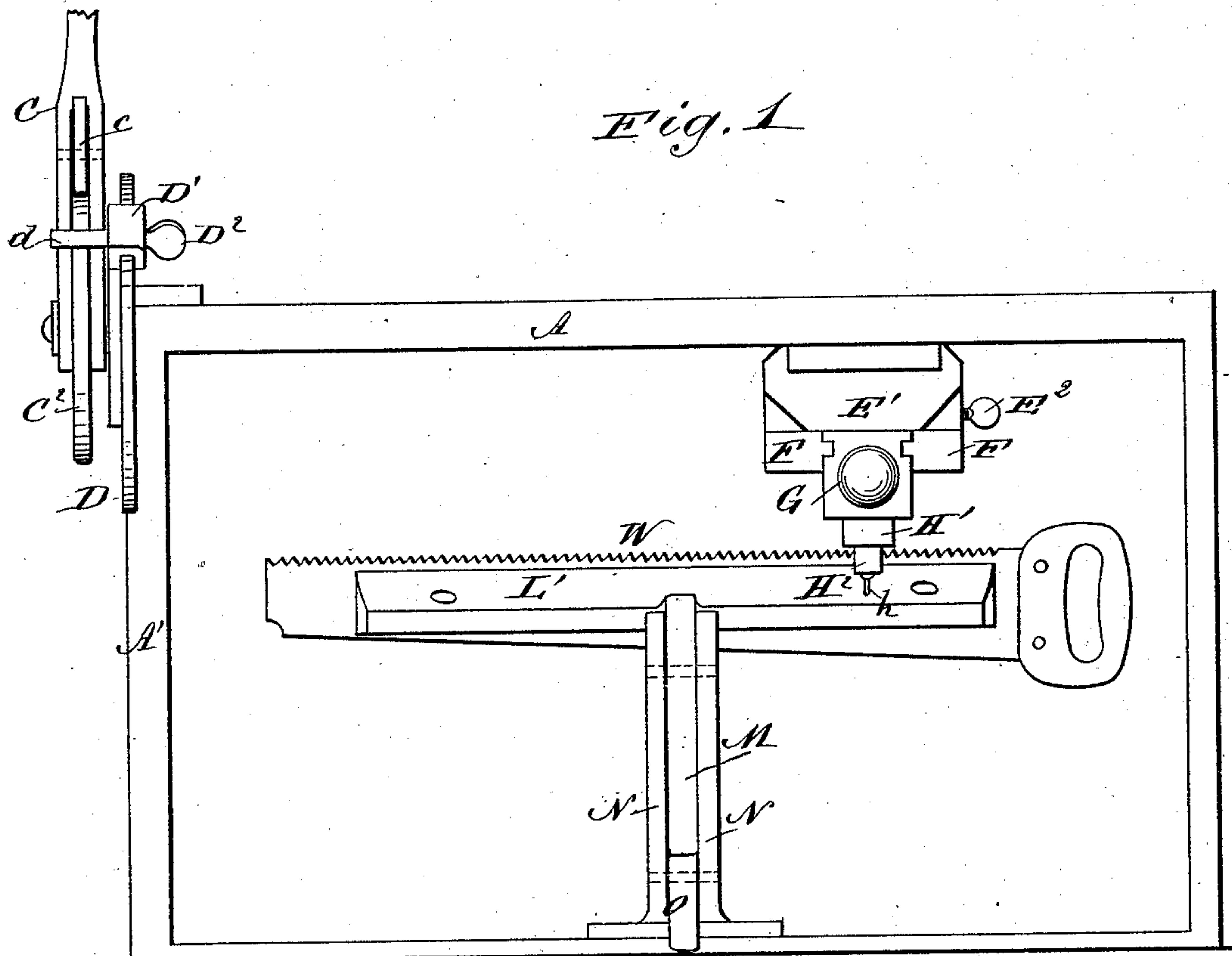
2 Sheets—Sheet 1.

J. BERTON.

SAW FILING AND SETTING MACHINE.

No. 285,557.

Patented Sept. 25, 1883.



WITNESSES:

C. Neveu
C. Sedgwick

INVENTOR:

J. Berton
BY *Munn & Co*
ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3

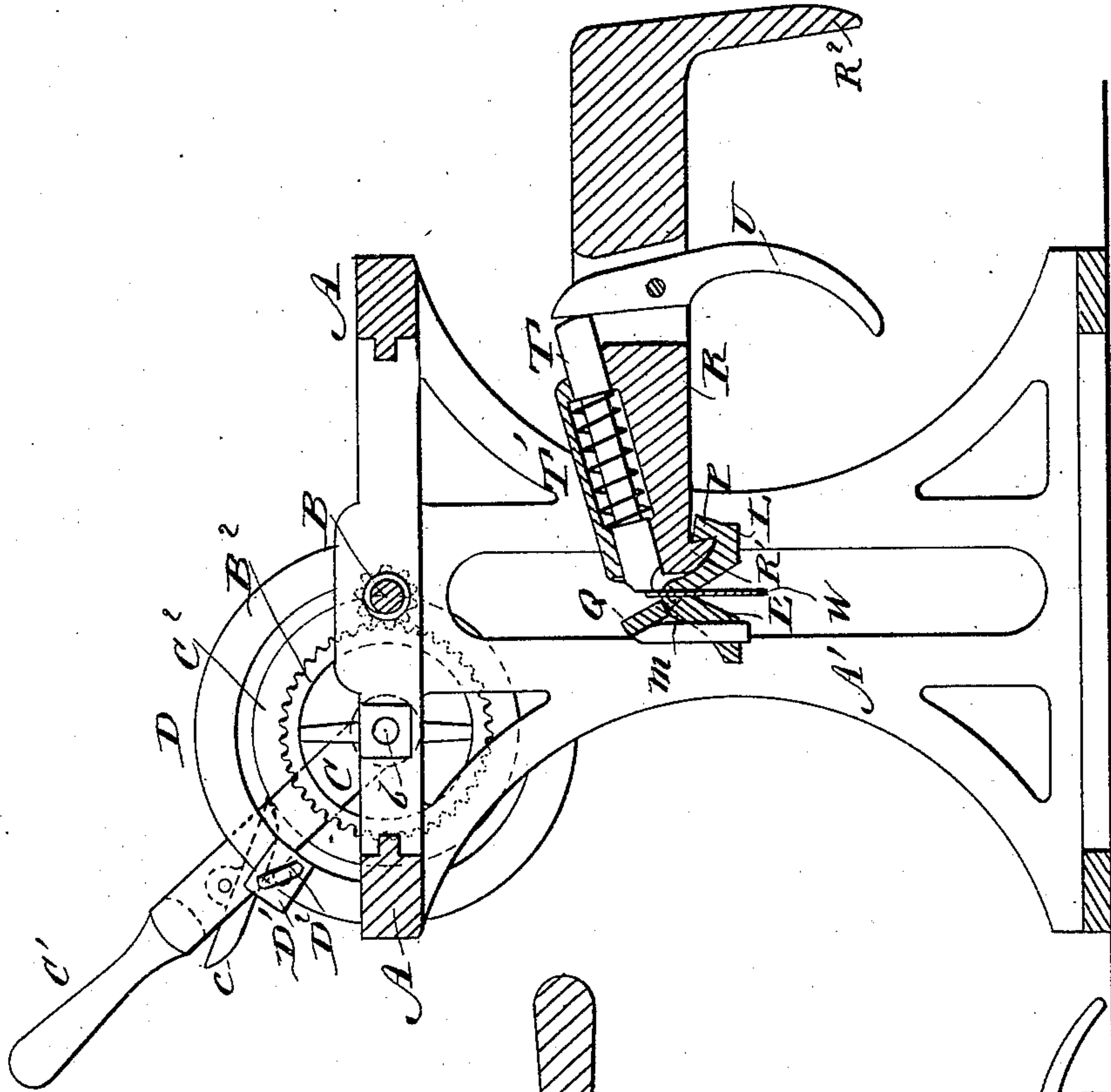


Fig. 5

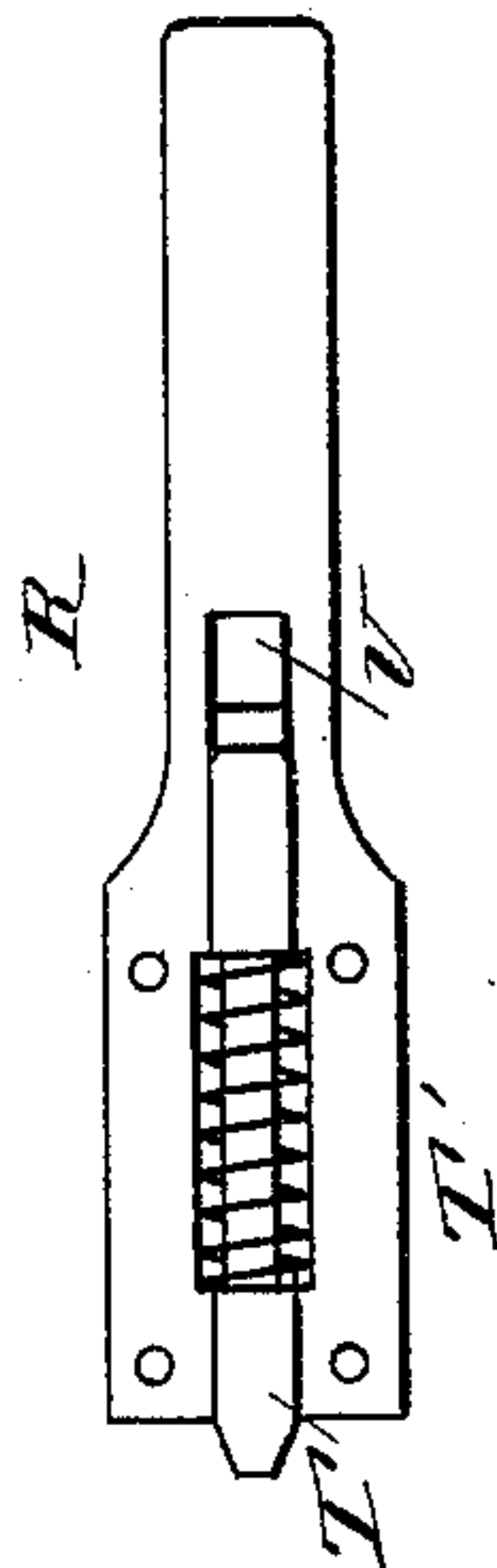
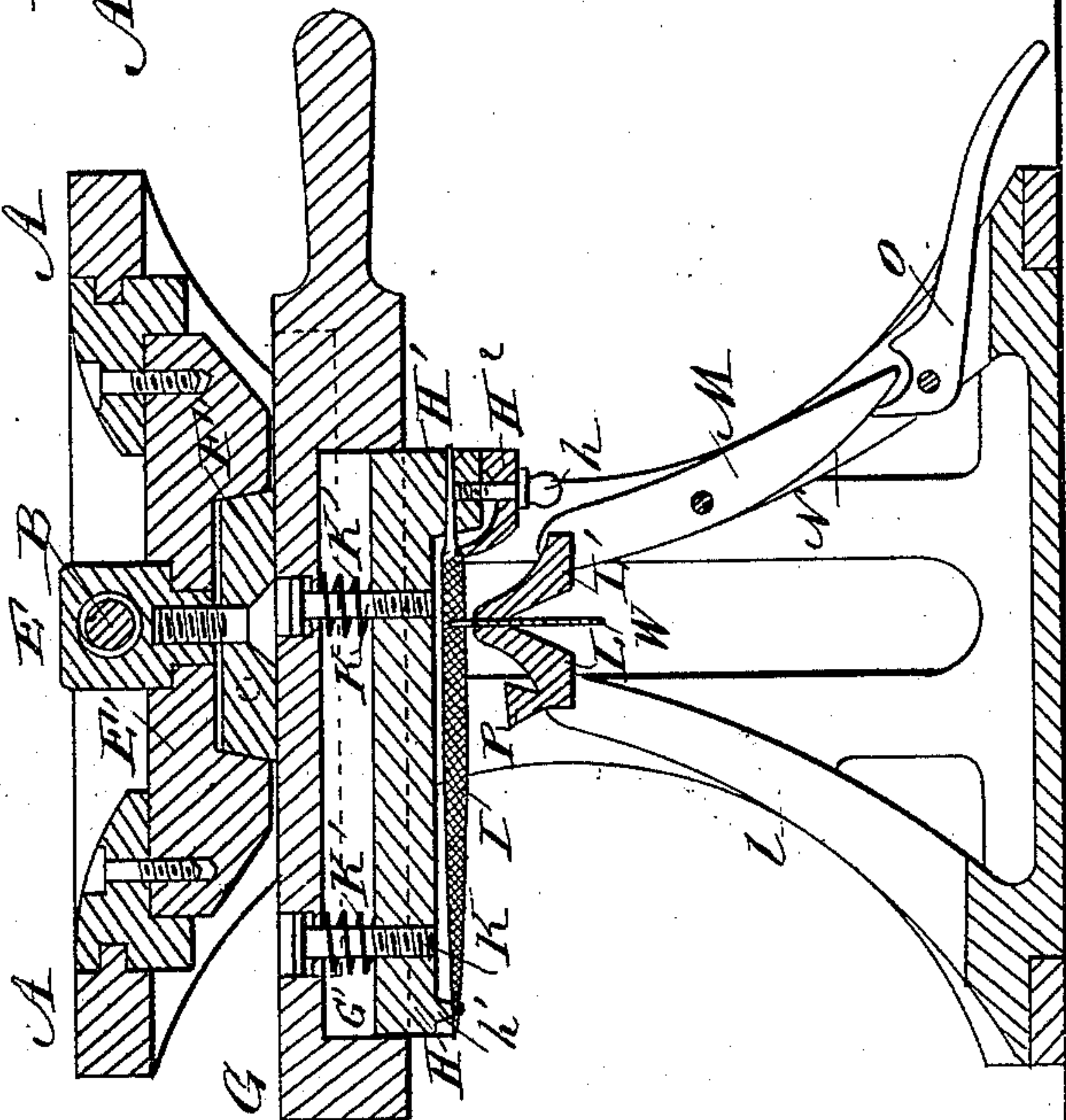


Fig. 4



WITNESSES:

C. Neveu

C. Sedgwick

INVENTOR:

J. Berton

BY

Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JEAN BERTON, OF NEW YORK, N. Y.

SAW FILING AND SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 285,557, dated September 25, 1883.

Application filed May 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, JEAN BERTON, of the city, county, and State of New York, have invented a new and Improved Saw Filing and Setting Machine, of which the following is a full, clear, and exact description.

My invention relates to improvements in saw filing and setting machines; and it consists in the peculiar construction and arrangement of parts, as hereinafter fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal elevation of my improved saw filing and setting machine. Fig. 2 is a plan view of the same. Fig. 3 is a cross-sectional elevation of the same and of the setting device. Fig. 4 is a cross-sectional elevation of the same, showing the file-holder in longitudinal section. Fig. 5 is a plan view of the setter, showing the top plate removed.

In a frame, A, resting on suitable standards, A', a screw-spindle, B, is journaled, the said screw-spindle passing centrally and longitudinally across the frame, and on one end of the same a pinion, B', is mounted, which engages with a cog-wheel, B², rigidly mounted on a short shaft, b, on which a rocking fork, C, is pivoted, which is provided with a suitable handle, C'. Between the shanks of the fork C a friction clutch-wheel, C², is rigidly mounted on the shaft b, so that if the said wheel C² is turned the cog-wheel B² will be turned with it. Between the upper ends of the shanks of the fork C a double friction-clutch pawl, c, is pivoted, which is adapted to catch on the edge of the disk or wheel C².

A circular guide-frame, D, is secured on the end of the frame A, and on the said guide-frame D a sliding box, D', is held, which is provided with a binding-screw, D², and with a pintle, d, against which the forked lever can strike. By rocking the forked lever C in one direction or the other the wheel C² will be turned, and with it the cog-wheel B², which in turn turns the pinion B' and the screw-spindle B, on which it is mounted, and thereby a nut, E, through which the screw-spindle B passes, will be moved longitudinally in the

frame A, which nut E is held in a transverse frame or carriage, E', adapted to slide on the side bars of the frame A.

Two guide-tracks, F F, are secured to a plate, F', pivoted to the middle of the bottom of the transverse frame or carriage E', so that the said guide-tracks F F can swing on the central pivot. A file-holder carrier, G, is constructed of a block having longitudinal grooves in the sides, into which grooves the ridges of the guide-tracks are adapted to pass, whereby the file-holder carrier will be guided while being reciprocated in cutting the teeth of the saw. In the bottom of the file-holder carrier a longitudinal groove, G', is provided, in which a file-holding block, H, is held to move vertically, the said block being provided at one end with a downwardly-projecting part, H', having an aperture, through which the handle end of the file can be passed, on the bottom of which projection H' a curved hook or clutch, H², is held by a binding-screw, h, which also holds the end of the file I in place. The free end of the file rests in a short grooved projection, h', on the under side of the block H. The file I is held at its handle end, and is pressed forward a short distance from the handle end by the end of the hook or clutch H², whereby the file I is held in place on the bottom of the block H. Screws K pass through the top of the file-holder carrier G into the block H, and are surrounded by springs K', which press the block H downward.

The carriage E' is provided with a binding-screw, E², for locking the central plate, F', to which the guide-tracks F are secured, in place on the frame E'.

The saw is held between two longitudinal jaws, L and L', of which the former is secured to a fixed support, l, whereas the latter is secured to the upper end of a lever, M, pivoted in standards N, the lower end of the lever M passing in between the shanks of a fork formed at the upper pivoted end of a foot-lever, O, pivoted in the lower part of the standards N. The fixed jaw L is provided along its lower longitudinal edge with an upwardly-projecting flange or ridge, P, for a purpose that will be described hereinafter, and the movable jaw L' is provided with two or more apertures for receiving the pintles m of an inclined check-

rail, Q, which is adapted to rest upon the upper edge of the said jaw L, as shown in Fig. 3, while the saw is being swaged or set.

The saw-setter is composed of a block, R, provided at its front end with a downwardly-projecting hook, R', adapted to catch on the flange P, and at the other end with a downwardly-projecting handle-piece, R². A downwardly-inclined sliding bolt, T, is held in the front part of the surface of the block R, which bolt T is drawn inward and upward by a spring, T', surrounding it. The upper inner end of the bolt T rests against a trigger, U, pivoted in the block R and projecting downward from the same, whereby, by pulling the trigger U, the bolt T will be moved downward and outward. The block R is usually so arranged that the hook R' rests against the flange P, and the lower end of the bolt, which is suitably beveled and pointed, can strike the teeth of the saw and bend them as may be required.

The operation is as follows: The lever O is raised, whereby the jaws L L' will be separated. The saw W is then placed between the jaws in such a manner that the teeth project above the upper edges of the jaws, and the saw is then firmly clamped and held between the said jaws by pressing the lever O downward, whereby the lower end of the lever M will be moved outward, and the movable jaw L' will be pressed toward and against the fixed jaw L. The screw-spindle B is so adjusted that the transverse sliding carriage E' will be at one end of the frame A. The file I is fastened in the block H of the file-holder in the manner described, and the screws K of the file-holder are so adjusted that the springs K', surrounding same, press the block downward to such an extent that the file will cut the desired depth into the edge of the saw. The tracks F can turn freely on the bottom of the transverse carriage E'; or they can be locked in position at a desired inclination, so that the inclination of the edges of all the teeth will be the same. The file is then reciprocated by sliding the file-holder backward and forward between the guide-tracks. After a tooth has been filed or cut, the lever C is thrown once, whereby the carriage E' will be moved the desired distance, and then the next tooth is filed. That the carriage may be moved the same distance every time that the lever is thrown, the sliding block D' on the frame D is so adjusted that when the lever C strikes against the pintle d of the said block the screw-spindle B will have moved the carriage the desired distance. In this manner all the teeth of the saw are filed. If the teeth are to be set, the check-rail Q is placed on the movable jaw L', and the hook R' of the block R is placed against the inner edge of the flange P, and the bolt T is moved downward by means of the trigger U, in the manner described, whereby the teeth will be pressed laterally, the check-rail Q preventing them from being pressed too far. As the alternating teeth only are pressed in the same direction, the saw-blade must be removed

and reset, so as to permit of the remaining teeth being bent in the inverse direction.

By means of the above-described machine the saws can be filed and set very rapidly, can be placed in the clamp or removed from the same very quickly, and all the teeth are filed accurately and are all alike, as the file-holder is moved the same distance every time that its lever is thrown. The saw-setter handle R² is held in the hand while operating with it; or the setter can be placed on a suitable support.

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

1. The combination, with the frame A, the carriage E', reciprocating in said frame, and the screw B for reciprocating the same, of the plate F', pivoted to the carriage, and provided with the guide-tracks F, and the file-holder carrier G, reciprocating in said guide-tracks, substantially as herein shown and described.

2. In a saw-filing machine, the combination, with the carriage E' and the screw B, provided with the pinion B', of the gear-wheel B², the forked lever C C', provided with the pawl c, and the friction-wheel C², substantially as herein shown and described.

3. In a saw-filing machine, the combination, with the carriage, operating-screw B, provided with the pinion B', the circular frame D, the gear-wheel B², the lever C C', provided with the pawl c, and the friction-wheel C², of the sliding block D', held adjustably on the said circular frame and provided with the pintle d, substantially as herein shown and described.

4. In a saw-filing machine, the combination, with the reciprocating file-holder carrier G, provided with the longitudinal groove G', of the file-holding block H, fitting in the groove of the carrier, the screws K, and the springs K', surrounding said screws, substantially as herein shown and described.

5. In a saw-filing machine, the combination, with the file-holding block H, provided with the apertured projection H' and the grooved projection h', of the clutch H² and binding-screw h, substantially as herein shown and described.

6. In a saw-filing machine, the combination, with the fixed jaw L, of the movable jaw L', the lever M, secured to said movable jaw, and the forked foot-lever O, substantially as herein shown and described.

7. The combination, with the frame and the clamping-jaws of a saw-filing machine, of the block R, the sliding bolt T, and the trigger U, substantially as herein shown and described.

8. The combination, with the frame and the clamping-jaws of a saw-filing machine, of the block R, provided with the handle R², the sliding bolt T, the spring T', and the trigger U, substantially as herein shown and described.

JEAN BERTON.

Witnesses:

OSCAR F. GUNZ,

C. SEDGWICK.