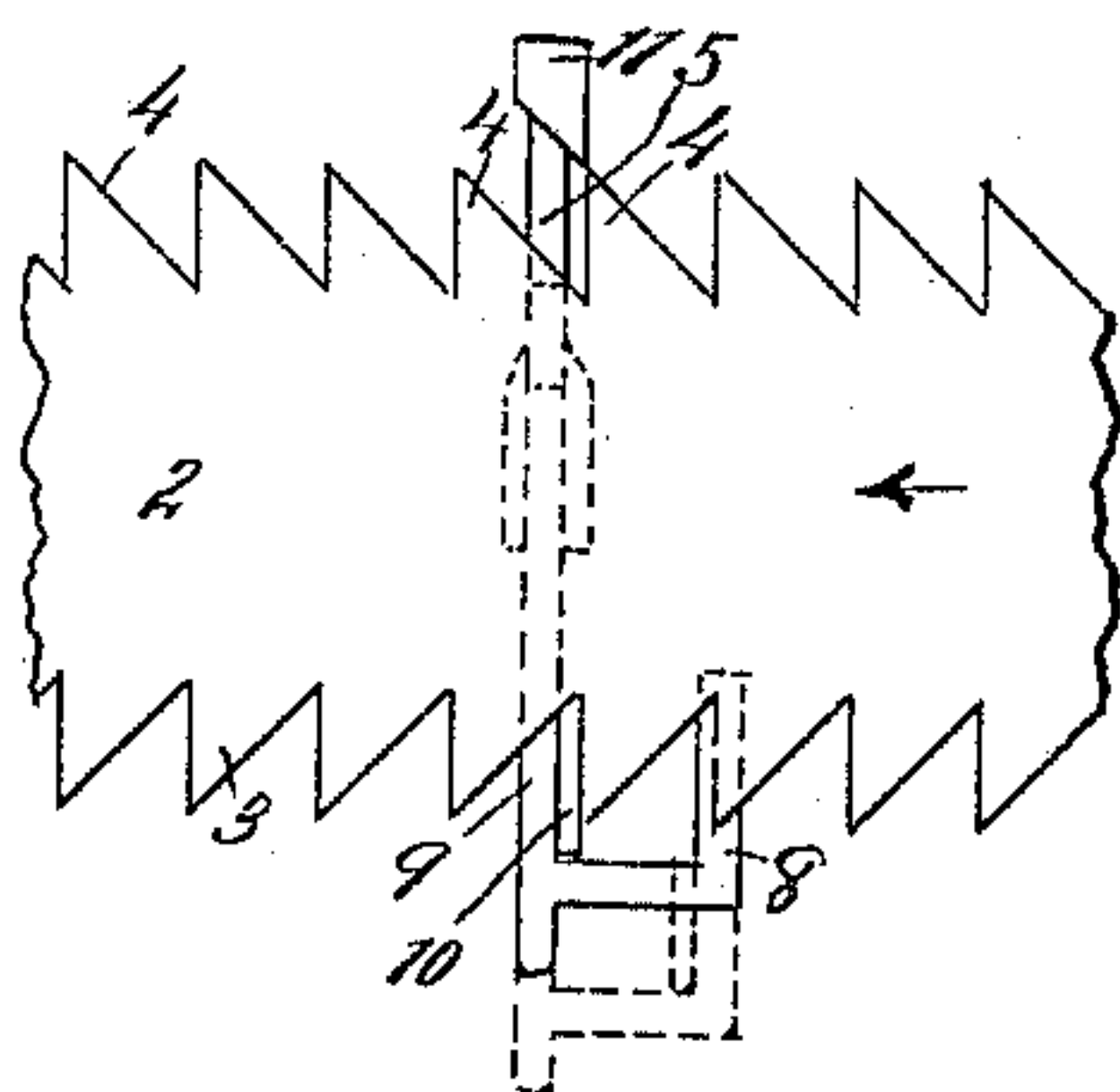
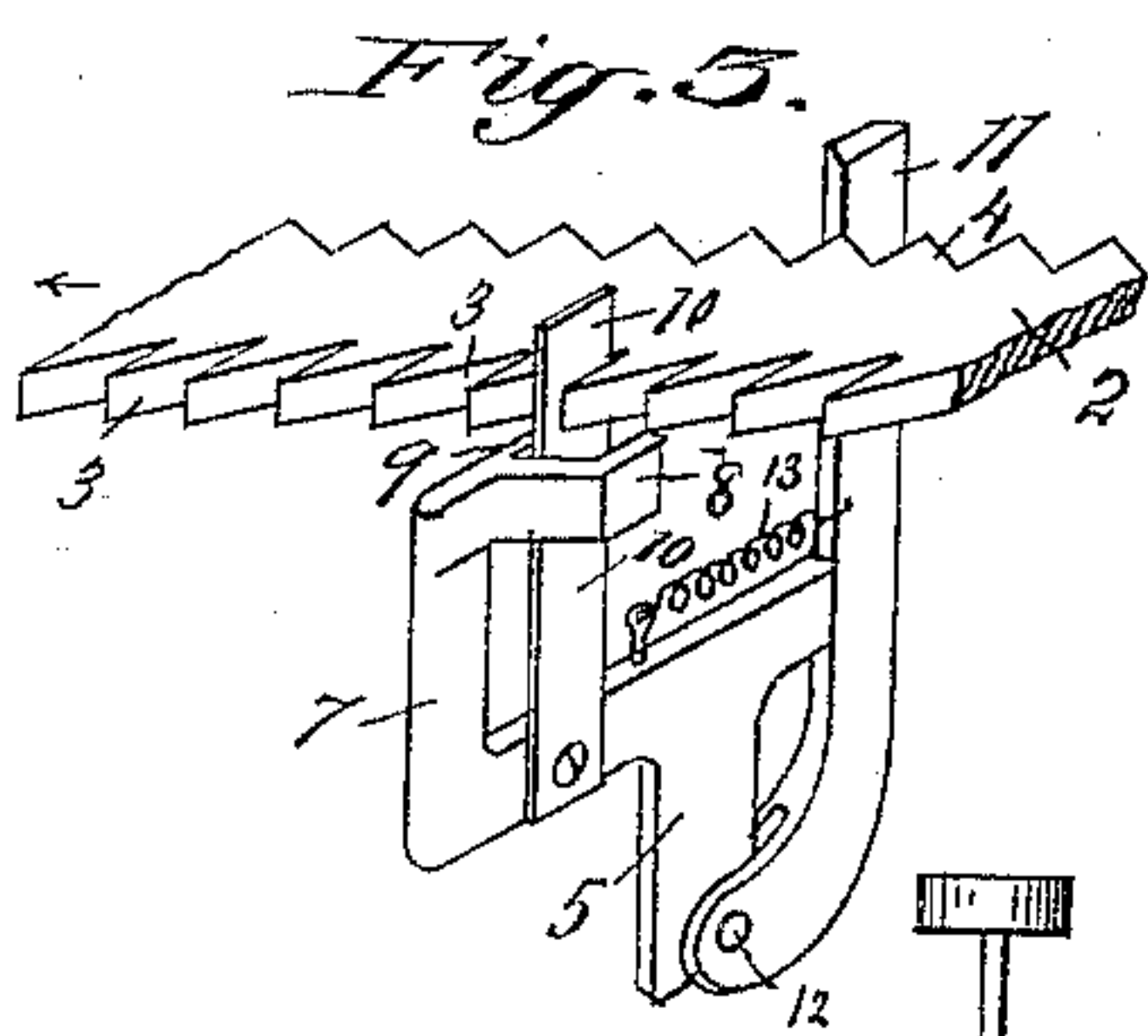
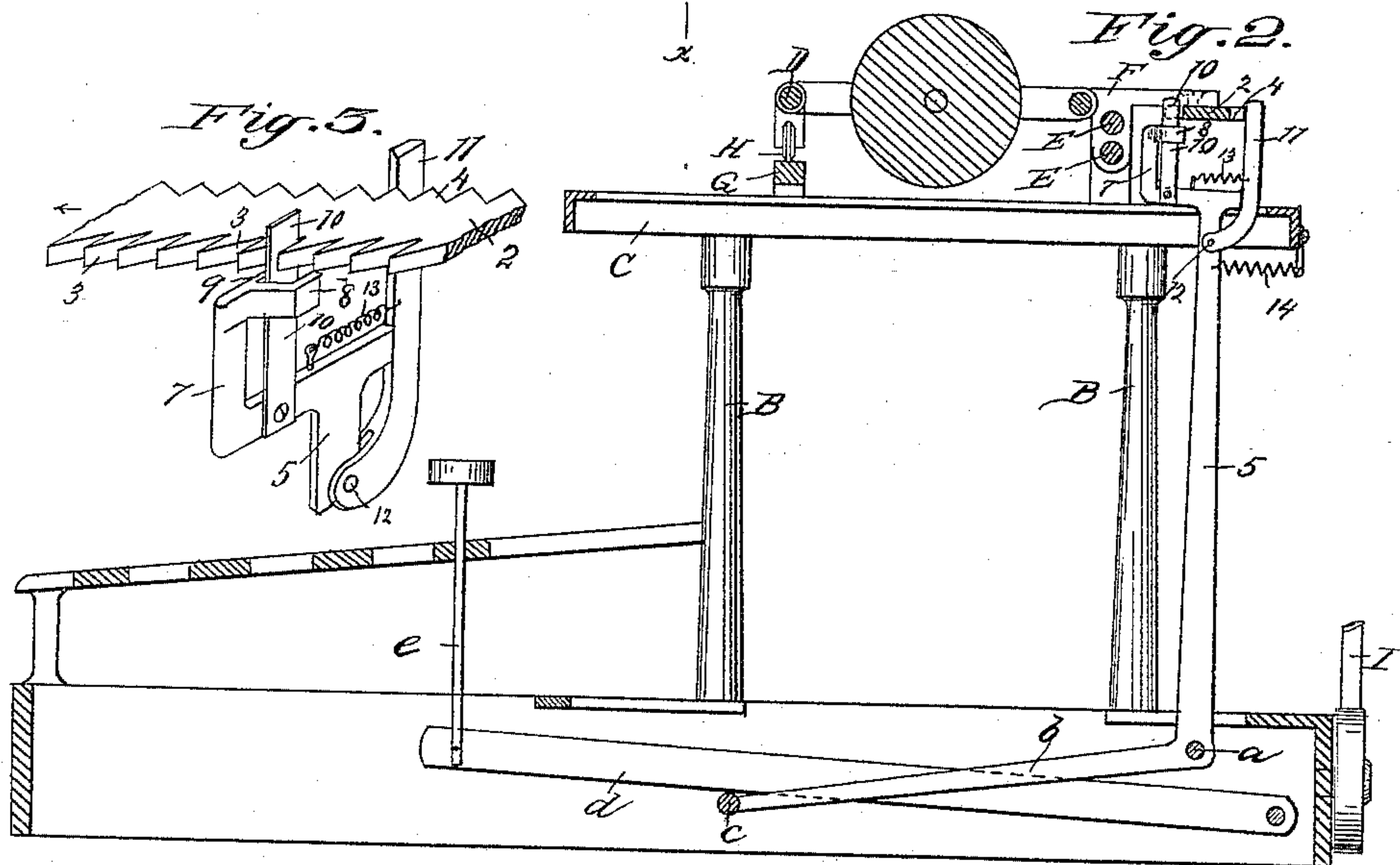
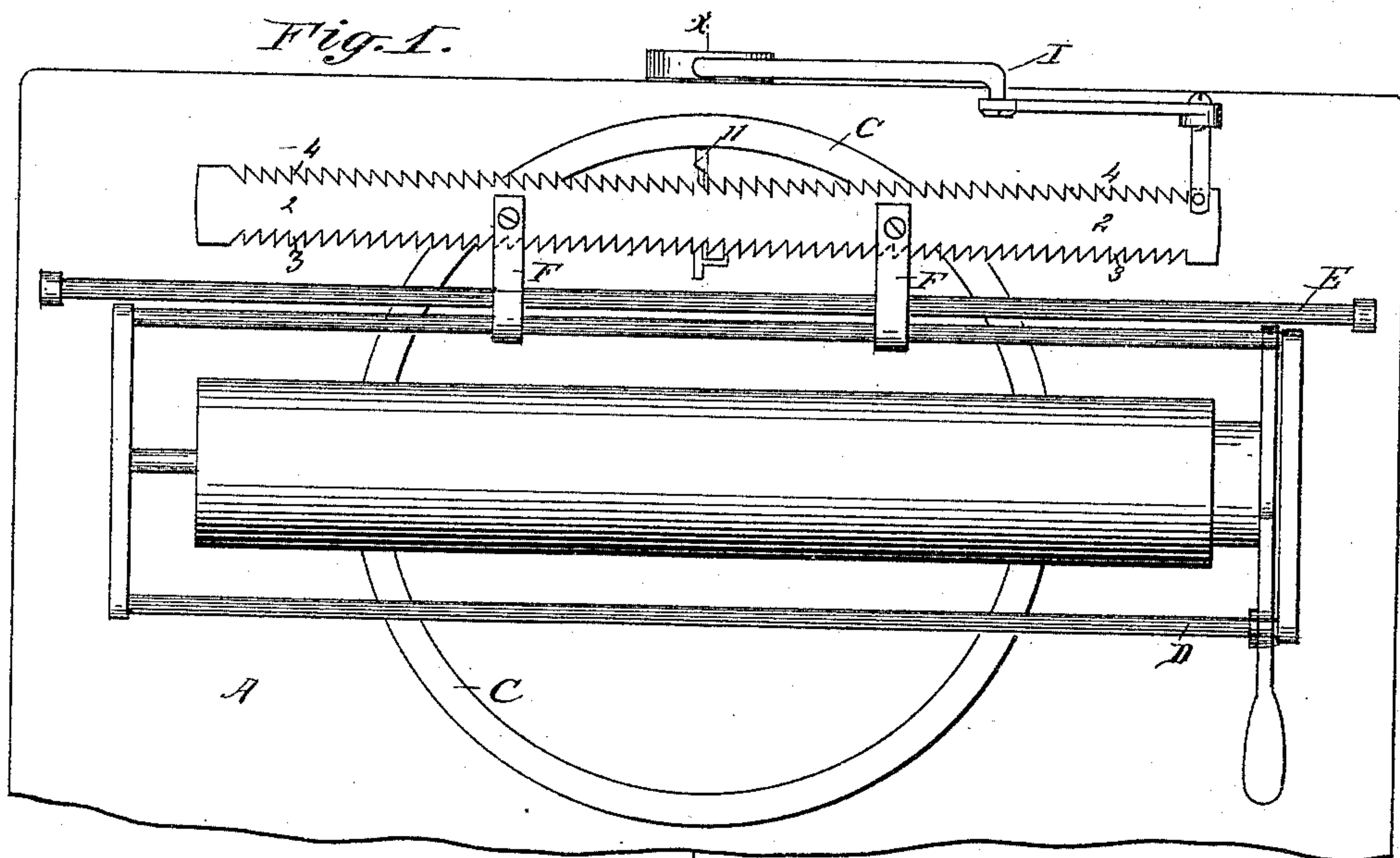


(No Model.)

W. J. BARRON.
TYPE WRITING MACHINE.

No. 444,873.

Patented Jan. 20, 1891.



Attest:
Andrew W. Stearns.
George B. Hilton.

Inventor:
Walter J. Barron
By *Jacob Felbel*
Atty:

UNITED STATES PATENT OFFICE.

WALTER J. BARRON, OF NEW YORK, N. Y., ASSIGNOR TO THE YOST WRITING MACHINE COMPANY, OF SAME PLACE.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 444,873, dated January 20, 1891.

Application filed March 31, 1888. Serial No. 269,060. (No model.)

To all whom it may concern:

Be it known that I, WALTER J. BARRON, a citizen of the United States, and resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to the letter-space-feeding mechanism of type-writing machines; and it consists in the features of construction and combinations of devices, hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a top view of a portion of a type-writing machine embodying my invention. Fig. 2 is a vertical longitudinal section taken at the line $x x$ of Fig. 1, with several parts added to better show the arrangement and mode of operation. Fig. 3 is a fragmentary perspective view of the feed-racks and dogs enlarged, and Fig. 4 is a plan view of the same also enlarged.

In the several views the same part will be found designated by the same letter or numeral of reference.

A is the bed-plate of the machine, upon which are mounted posts B, that support the type-ring C.

D is the usual carriage, adapted to travel transversely and supported and guided at its rear by the parallel rods E E and yokes F F, and at its front by the way or track G and the roller H. The hind rail of the carriage passes through the yokes and permits the carriage to be turned up and down, as upon a hinge-joint.

To the rear ends of the yokes is secured a horizontal bar or plate 2, which is formed or provided with teeth 3 at its front edge, and with teeth 4 at its rear edge. The teeth 3 and 4 are directly opposite each other and are preferably cut in the same direction.

To the right-hand end of the bar 2 is connected the driving mechanism 1, which may be of any desired construction.

5 designates a rocker-arm, which may be constructed and operated in any suitable manner. In the drawings I have shown the

rocker-arm pivoted at a and provided with an extension b , the forward end of which is provided with a cross-rod c , that extends under all of the key-levers d of the machine. The upper end of the rocker-arm is formed with a cross-bar 6, from which projects upwardly on the front side an arm 7, which is provided with two horizontal forks 8 and 9 projecting rearwardly.

10 represents a spring pawl or dog fastened by a screw to the bar 6, and extending vertically upward between the forks 8 and 9, and engaging with the teeth 3 of the double rack-bar 2.

11 represents another dog or pawl, pivoted at 12 to the rocker-arm, and extending upward on the rear side of the rack-bar and adapted to engage with teeth 4 thereon. A spring 13 is attached at one end to the pawl 11, and at the other end to the rocker-arm cross-bar 6, the whole construction affording a yielding engagement between the pawl and the rack.

14 represents a spring secured to the top plate and the rocker-arm for the purpose of returning the latter to its normal position. This returning-spring, if desired, may be located at some other point.

In the normal condition of the feeding mechanism, the spring-pawl 10 stands between two teeth, and, by the action of the driving mechanism on the rack-bar, is pressed over against the fork 9, thus checking the movement of the paper-carriage, while the dog or pawl 11 sets back of the rack between two teeth 4 ready for action. A vibration now of the rocker-arm will withdraw the spring-pawl 10 from the teeth 3, and carry the pawl 11 forward between two of the teeth 4. Immediately the spring-pawl 10 is withdrawn it flies laterally against the arm 8. As the pawl 11 enters close to the tooth 4 on the right-hand side of the two between which it is brought, the rack and the carriage will be held stationary. If the rocker-arm be now released, the spring 14 will carry it rearward and disengage the pawl 11 and re-engage the pawl 10. Immediately the pawl 11 is thrown out of engagement the rack and the paper-carriage move to the left until the spring-

pawl 10 comes to a stop against the arm 9, and this gives the letter-space movement or a movement of the rack one tooth to the left. When the spring-pawl is resting against the arm 8 it is practically devoid of tension, but when pulled over at its upper end against the arm 9 by the rack in its onward movement, a tension is imparted to it which causes it to spring back to its normal position against the arm 8 the instant it is vibrated from between the teeth of the rack.

A glance at Fig. 2 will show that a depression of the finger-key *e* will vibrate downwardly the key-lever *d*, and, through the instrumentality of the universal bar *c* and arm *b*, vibrate the rocker-arm forward against the tension of the spring 14, and that upon a release of the finger-key the parts mentioned will all return to their first positions.

The pivoted pawl 11 and spring 13 serve to make the touch of the machine softer or more elastic; but so far as the main feature of my invention is concerned this pawl may be made rigid or unyielding.

What I claim is—

1. In a type-writing machine, the combina-

tion of a feed-rack having a row of teeth on each side, a rocker-arm carrying two stops, a spring-pawl 10, adapted to play between said stops and engage one set of the teeth, and a pawl, as 11, adapted to engage the other set of said teeth.

2. In a type-writing machine, the combination, with a driving mechanism, of a feed-rack having a row of teeth on each side, a rocker-arm carrying two stops, a spring-pawl adapted to play between said stops and engage one set of the teeth, and a yielding pawl, as 11, connected to said rocker-arm and adapted to engage the other set of said teeth.

3. In a type-writing machine, the combination of a duplex rack, a rocker-arm having the stops 8 and 9, a spring-pawl 10 between said stops, a pivoted dog 11, and a spring 13 for said dog.

Signed at New York, in the county of New York and State of New York, this 23d day of November, A. D. 1887.

WALTER J. BARRON.

Witnesses:

CHAS. A. HESS,
JACOB FELBEL.