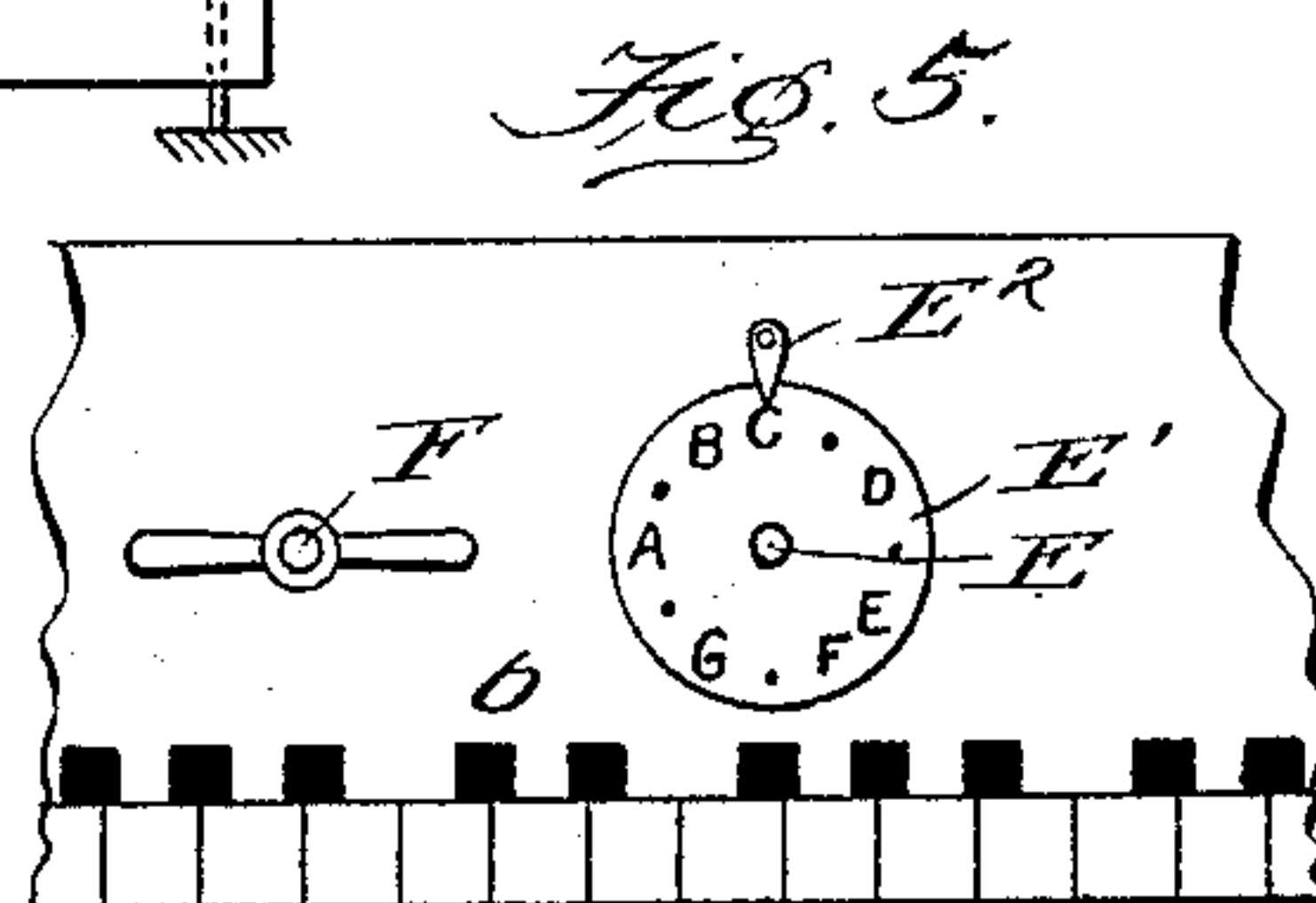
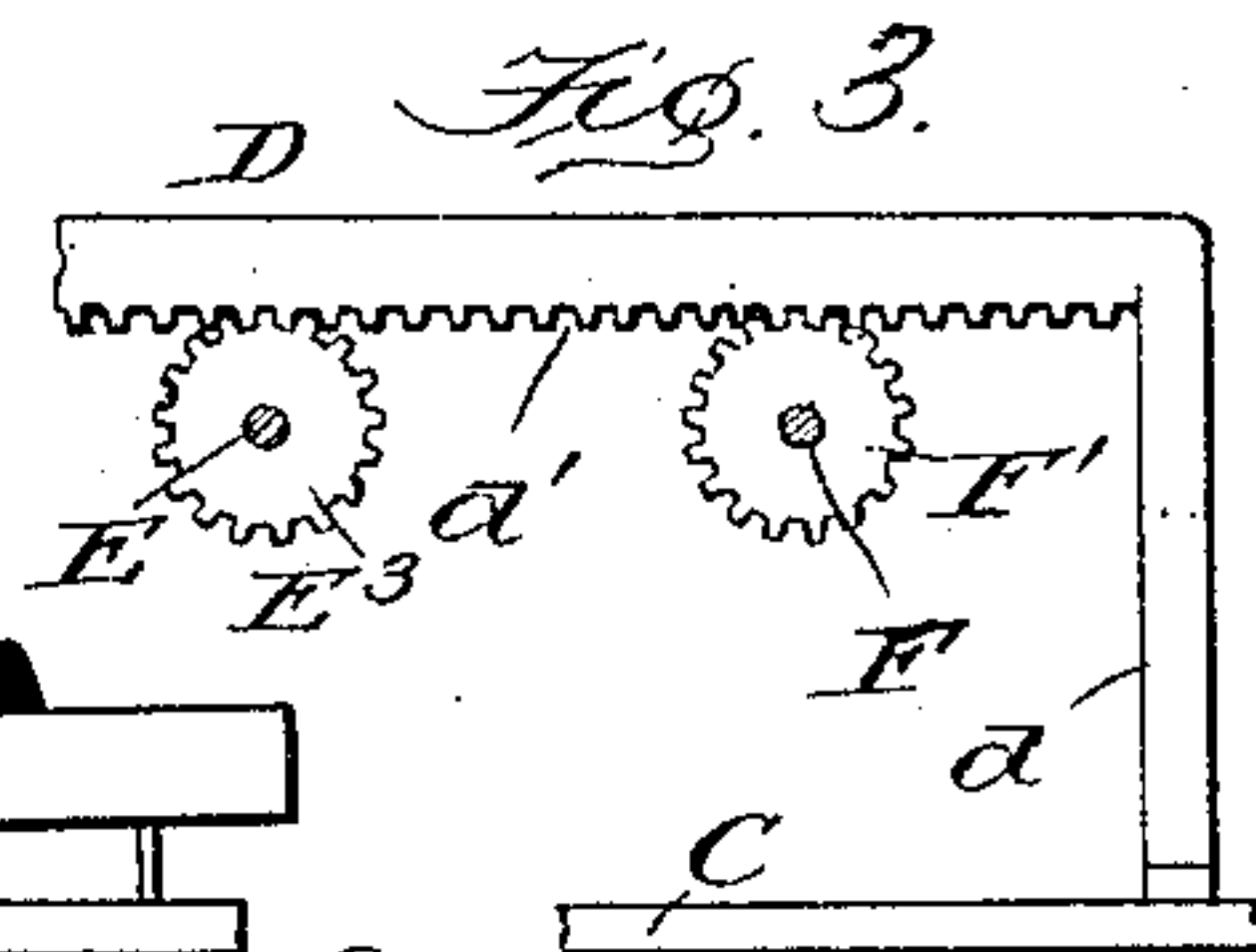
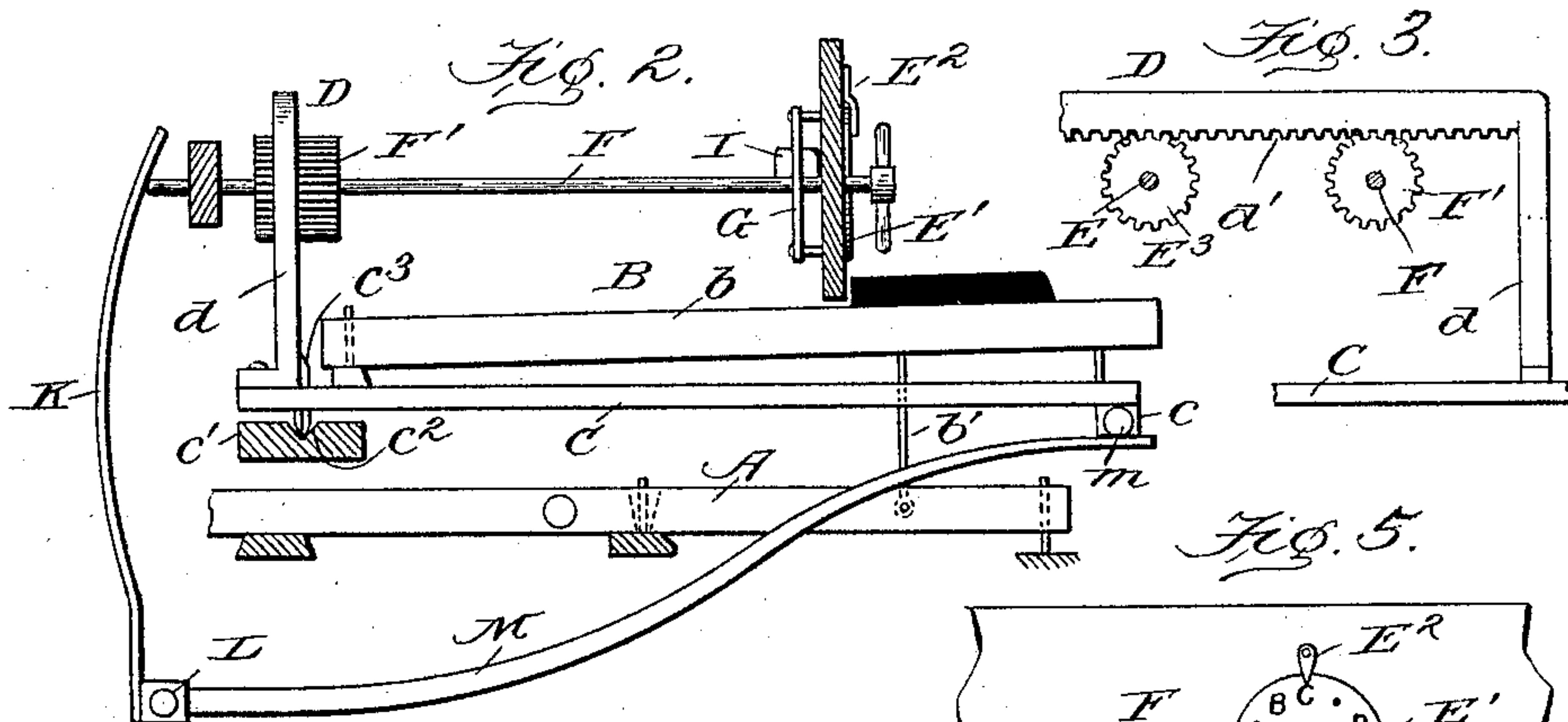
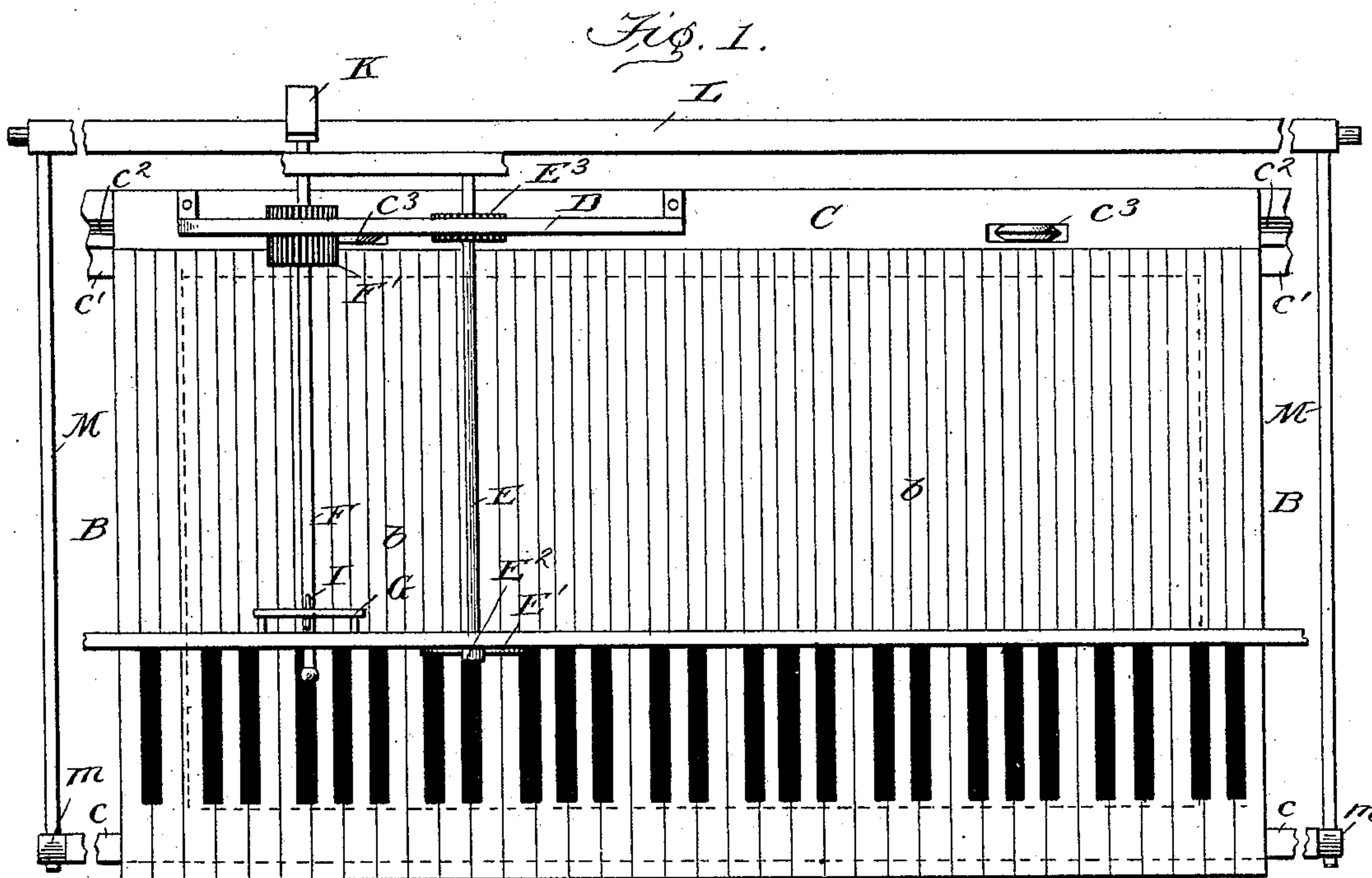


(No Model.)

J. E. PITRAT.
MOVABLE KEYBOARD.

No. 575,985.

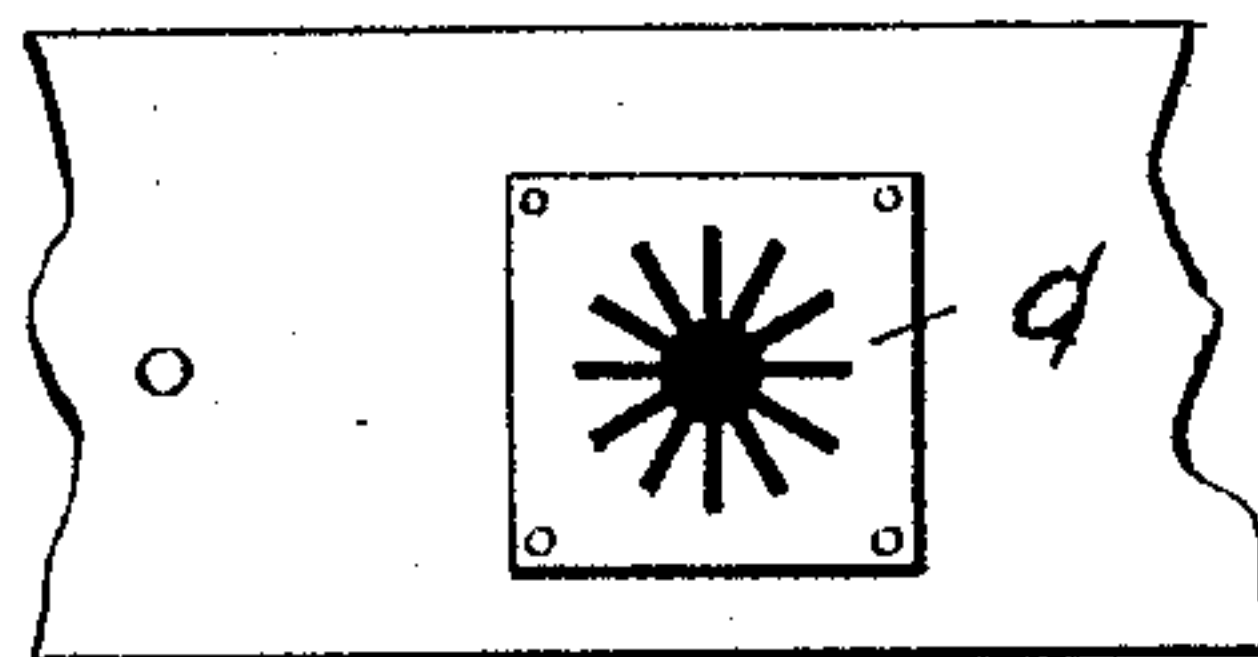
Patented Jan. 26, 1897.



WITNESSES:

Edmund L. Bradford
A. P. Lacey

Fig. 4.



INVENTOR

Julius E. Pitrat
BY
R. S. & A. P. Lacey
ATTORNEY.

UNITED STATES PATENT OFFICE.

JULIUS E. PITRAT, OF GALLIPOLIS, OHIO.

MOVABLE KEYBOARD.

SPECIFICATION forming part of Letters Patent No. 575,985, dated January 26, 1897.

Application filed February 11, 1896. Serial No. 578,882. (No model.)

To all whom it may concern:

Be it known that I, JULIUS E. PITRAT, of Gallipolis, in the county of Gallia and State of Ohio, have invented an Improved Movable Keyboard, of which the following is a specification.

This invention is an improved movable keyboard adapted for use upon pianos, organs, &c.

The object of the invention is to enable a player to render music into any key or pitch desired without change of fingering, as, for instance, when the singer wishes the accompaniment pitched so as to better suit the voice; and the object is to lessen the labor and length of time necessary to enable one to play pieces often rendered difficult of execution from being noted in keys having many sharps or flats by playing them from copies noted in an easier key, yet rendering them, if so desired, in the key designed by the composer.

The invention is adapted to pianos now in use, as well as those built specially to embody the improvement, and the improvement increases the cost of the instrument very little.

The invention consists in the peculiar construction of the various parts and their novel combination or arrangement, all of which will be fully described, and pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a top plan view; Fig. 2, cross-sectional view; Fig. 3, view of pinion and rack. Fig. 4 is a detail of the locking-plate; Fig. 5, detail view showing the dial.

In carrying out my invention I employ a permanent set of keys A, and above the same the movable keyboard B, said movable keyboard comprising a frame C, rectangular in form, and to which the keys *b* are attached, each being provided with a suitable pin *b'*, whereby the keys of the permanent board are actuated.

The frame C is supported at its forward end upon a beam *c* and at its rear end upon a beam *c'*, said beam having a longitudinal groove *c²*, in which travel the wheels *c³*, having double bevel or knife edges and carried by the rear member of frame, so that they serve as a fulcrum or pivot when the movable

keyboard-frame is elevated, as hereinafter described.

A rack-bar D is arranged upon the rear member of the frame C and supported a suitable height by means of posts *d*, teeth *d'* of said rack being arranged upon the inside of the bar, as clearly shown.

The shaft E is journaled in the casing of the piano and passes through the front board thereof and carries a dial *E'* upon the outer end, said dial having letters and signs marked thereon to represent the twelve tones of the chromatic scale. Above said dial is an indicator or pointer *E²*, which points to the upper letter or sign and indicates the key which the movable keyboard is arranged to play in.

Upon the rear end of the shaft E is mounted a pinion *E³*, which meshes with the rack-bar, and as the frame is moved longitudinally said rack-bar moves therewith, revolves the shaft, and consequently the dial.

In order to move the frame and rack-bar for the purpose of changing the key, I employ a shaft F, parallel with the shaft E, the forward end of said shaft having a knob or handle thereon upon the outside of the front board of the piano, while upon the rear end of said shaft is arranged an elongated pinion *F'*, which is adapted to engage the rack-bar, and by turning the handle said pinion is moved to the right or left, as desired, and consequently the entire movable keyboard, and when said keyboard is shifted the indicator-dial is revolved to bring the proper letter or sign beneath the indicator.

Upon the inner face of the front board is arranged a locking-plate G, having twelve notches or recesses arranged radially about its center, through which the shaft F passes, and mounted upon said shaft adjacent to said notched plate is a feather or lug I, which is adapted to engage one of the notches after the movable keyboard has been shifted to the desired position, thus locking said movable keyboard against any possible movement.

The shaft F extends some distance through the pinion *F'* and passes through a timber in the framework, said rear end being adapted to engage an upwardly-extending arm K, mounted upon the rock-shaft L, journaled in the piano-casing to the rear end of the mov-

able frame, said rock-shaft carrying lifter-arms M near each end, which are adapted to engage extensions *m*, arranged upon the ends of the forward member of the movable frame, 5 whereby when the shaft F is pushed inward to move the feather or lug out of engagement with the notched plate the rear end of said shaft will engage the arm K, pushing the same backward, rocking the shaft, and lifting the 10 movable keyboard, all of which is done prior to turning the shaft F to cause any longitudinal movement of said movable keyboard. By this arrangement the keyboard is safely moved above the permanent keyboard and 15 when shifted from one side to the other will not interfere in any manner with the said permanent keyboard.

After the movable keyboard has been adjusted to the desired key, as shown by the 20 indicator and dial, the movement of the shaft F is stopped, and the weight of the movable keyboard will cause the lifting-arms to descend, throwing the arm K forward and pushing shaft F forward or outward, thus forcing 25 the feather or lug into one of the notches and securely holding all of the parts locked in their adjusted position.

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

1. The combination with the movable and fixed keyboards, of the frame carrying said movable board, the rack-bar mounted thereon, the pinion and shaft for moving said frame, and the lifting mechanism operated by said shaft to lift the movable keyboard-frame, 35 substantially as shown and described.

2. The combination with the fixed and movable keyboards of the movable frame, the rack-bar thereon, the pinions and shafts, the 40 dial mounted upon the end of one shaft, the handle upon the end of the opposite shaft, the feather or lug, the notched plate, said shaft being longitudinally movable, the rock-shaft, the arm carried thereon adapted to engage the longitudinally-movable shaft, and the lifting-arms all arranged, substantially 45 as shown and described.

In testimony whereof I affix my signature in the presence of two witnesses.

JULIUS E. PITRAT.

Witnesses:

A. F. MOORE,

A. HUTSINPILLER.