E. B. HESS.

TYPE WRITING MACHINE.

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974,882.

Patented Nov. 8, 1910

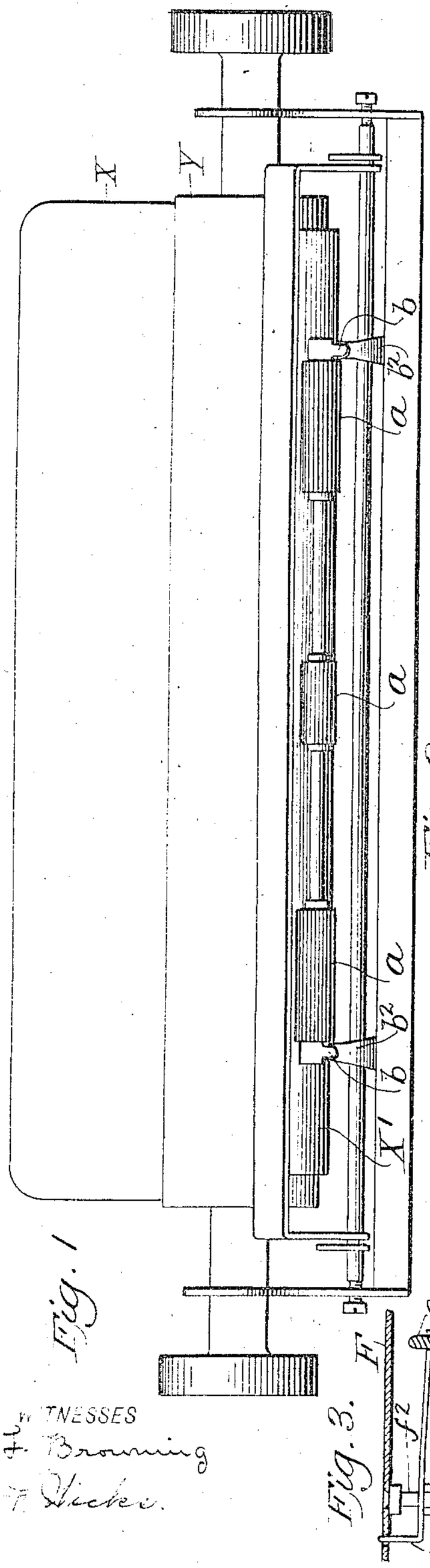

Fig. 1

Fig. 2.

Fig. 3.

Fig. 4.

WITNESSES

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EDWARD B. HESS, OF NEW YORK, N. Y., ASSIGNOR TO ROYAL TYPEWRITER COMPANY, OF HOBOKEN, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

974,882. Specification of Letters Patent. Patented Nov. 8, 1910.

Application filed November 22, 1906. Serial No. 344,529.

To all whom it may concern:

Be it known that I, EDWARD B. HESS, a citizen of the United States, residing in the borough of Brooklyn, city and State of New York, have invented certain Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to paper feed devices of an ordinary type-bar rotatable platen machine and comprises certain improvements in details of construction thereof.

In the accompanying drawing: Figure 1 is a front elevation of so much of a type-writing machine carriage as is desirable to illustrate the invention: Fig. 2, a bottom plan view thereof; Fig. 3, a detail sectional view showing the means for supporting and regulating the tension of the rear feed rolls: Fig. 4, a transverse detail sectional view showing the means for supporting the front feed rolls.

The front feed rolls *a*, three of which are shown, work through apertures in the paper guide plate X, and are carried upon a shaft *a'* the ends of which are seated in open bearings b^3 in corresponding ends of bell crank levers *b*. The opposite arms of these levers lie in transverse notches in a rocking bar *c*, mounted to turn in the end plates of the carriage and by the rotation of which the bell cranks are moved in a direction to carry the feed rolls *a* away from the platen Y. The bar *c* may be rocked by means of a gear *c'* applied to one of its ends and meshing with the enlarged toothed end c^2 of a lever pivoted on an end plate of the carriage. On the upper side of the bottom rail of the carriage (in the under face of which may be the usual ball race or way) are secured curved springs b^2 the free ends of which are bifurcated or bent into U-shape to embrace the arms of the bell crank levers carrying the shaft *a'*. The reaction of these springs tends to carry the rolls into engagement with the platen. The base of each spring b^2 is slotted for passage of the bolt attaching it to rail B. This affords a means of adjusting the free end of the spring with reference to the bell-crank arm upon which it operates.

The rear feed rolls *d* are carried by a shaft *d'*, the ends of which are mounted in open bearings *e'* (similar to the bearings b^3) intermediate the ends of arms *e* whose corresponding ends are attached to a rock shaft e^2 turning in bearings on a plate F extending between the side plates of the carriage. The opposite or free ends of these arms lie in transverse recesses in the rotatable bar *c* on the side thereof opposite that containing the recesses in which the arms *b'* of the bell crank levers lie. To impose adjustable tension upon the arms *e*, tending to carry the rolls *d* into engagement with the platen, there is employed for each such arm a flat or plate spring *f* curved at one end to embrace, or partially embrace, the bar and having at the opposite end a right angle extension *f'* seated in a recess or slot in the plate F. Riveted to this plate is a screw bolt f^2 that passes through an aperture in the spring *f* and has applied to its end a nut f^3 that holds the spring, and by manipulation of which the tension of the spring may be adjusted. Pressure of the spring upon this nut prevents it from becoming loosened because of vibrations incident to the operation of the machine.

I claim:

A writing machine comprising the combination of the transverse carriage plate F, a screw bolt attached thereto, a leaf spring one end of which loosely engages the plate and which has an aperture through which the bolt passes, a spring adjusting nut applied to the bolt and against which the spring reacts, and a feed roll carrying-arm arranged at a right angle to and engaged by the free end of the spring.

In testimony whereof, I have hereunto subscribed my name.

EDWARD B. HESS.

Witnesses:

EDWARD C. DAVIDSON,

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