(No Model.)

R. W. ROBERTS.

TYPE WRITING MACHINE.

No. 529,410. Patented Nov. 20, 1894.

Fig. 2.

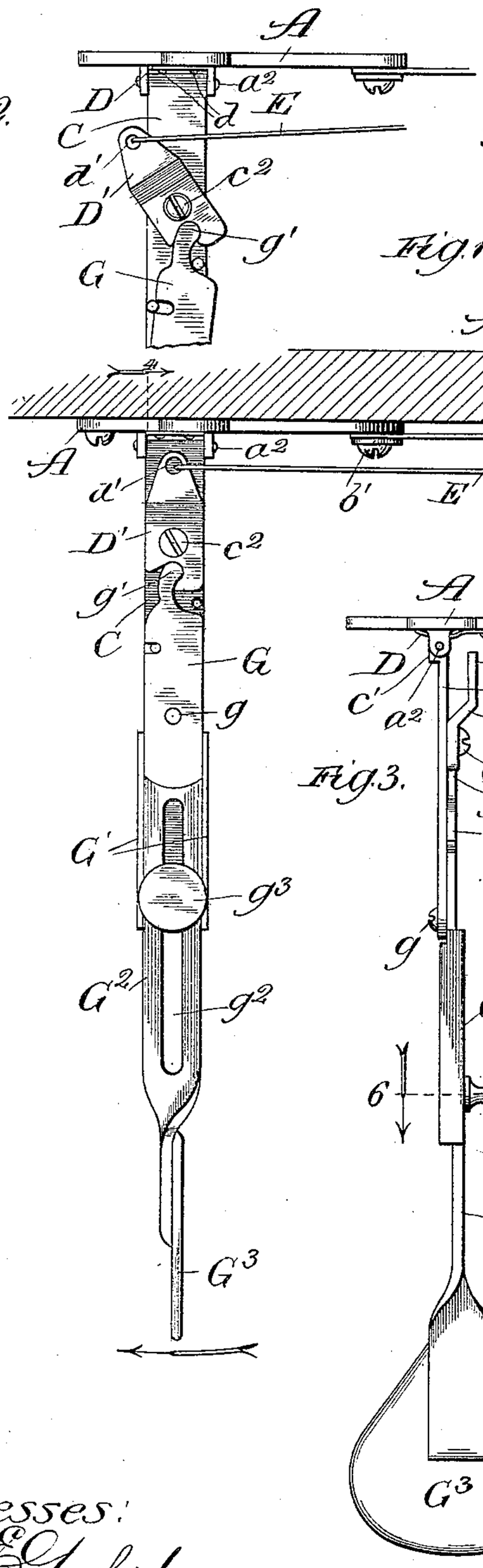


Fig. 1.

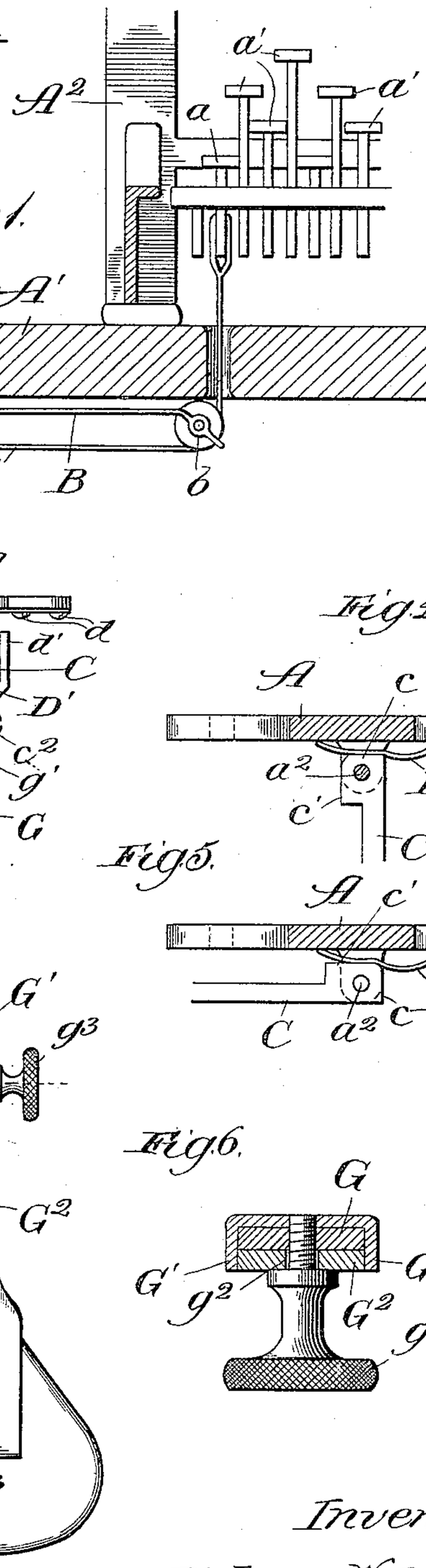
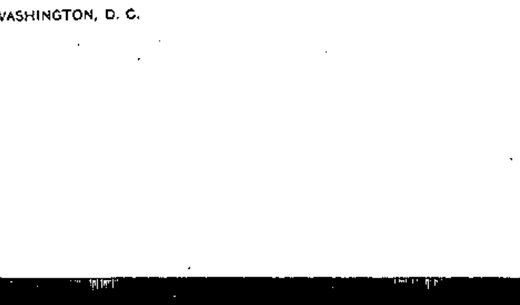


Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE.

RICHARD W. ROBERTS, OF CHICAGO, ILLINOIS.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 529,410, dated November 20, 1894.

Application filed May 26, 1894. Serial No. 512,423. (No model.)

To all whom it may concern:

Be it known that I, RICHARD W. ROBERTS, of Chicago, Illinois, have invented certain new and useful Improvements in Attachments for Type-Writers, of which the following is a specification.

My invention relates particularly to the means for actuating the case bars, and has for its object the providing of simple, economical and efficient mechanism by which the case bar—either upper or lower case—can be actuated independent of the movements of the hands.

The invention consists in the features and combinations hereinafter described and claimed.

In the drawings, Figure 1 is a front elevation of my improvement, showing the method of connecting it to the case bar of a typewriting machine; Fig. 2, an elevation of a portion of the same, showing it in an opposite position from Fig. 1; Fig. 3, a side elevation; Figs. 4 and 5, details taken on line 4 of Fig. 1; and Fig. 6 and enlarged transverse section taken on line 6 of Fig. 3.

It is well known in the use of typewriting machines—particularly those of the Remington type—that the letters or characters are so arranged that each bar carries two characters adapted to be actuated by one key, the machine keeping a normal position by which one of these characters—say the lower case letters—may be printed by the movement of the hand, while in order to secure imprints of the upper case—figures or capitals—the carriage of the machine is moved to bring the paper in proper alignment. The case bar or key for moving the machine to obtain imprints of the upper case is generally heavier to press down than the regular keys, requiring a distinct operation of the fingers, and when operated throws the operator off his balance, as would a very stiff key on a piano. Typewriters have very peculiar methods of overcoming this difficulty, and they are, generally speaking, divided into two classes, one class who use the left forefinger to press down the case key, and the second class—and smaller percentage—who acquire the more difficult method of keeping the little finger hovering over or resting lightly upon the case key ready to press the key down when necessary. In ordinary writing, the capital letters or figures occur only at intervals, and the method of constantly holding the little finger rigidly over the key is obviously laborious and awkward.

My invention is intended to obviate these disadvantages, and to provide means by which the case key or bar may be actuated by the knee, thus saving the time lost by the operator in going from and returning to the correct position of the left hand over the keys, enabling the operator at all times to maintain a normal position with the hands, and allowing him the full and unrestricted use of the left hand. This advantage will be particularly appreciated by skilled typewriters, as it enables them to ignore the case key altogether, allowing them to devote their entire attention to the note book or copy.

In constructing my improvement, I use a supporting plate, A, of the desired form and size, and affix it to the under side of the supporting table, A′, upon which the typewriter, A^2, rests. In illustrating this—particularly in Fig. 1—I show only a portion of the typewriter frame, the case bar, *a*, and a few of the ordinary keys, *a′*.

Adjustably secured to the plate, A, is a slotted extensible plate, B, carrying at its outer end a small grooved pulley, *b*, which is mounted thereon in suitable bearings. This extensible plate is provided with a slot, not shown in the drawings, and set screw, *b′*, which can be pushed out to a limit of motion, as shown in Fig. 1, or drawn back to any position desired by the operator.

Pivotally secured to the main plate at, a^2, is a folding supportable portion or bar, C, having its upper end, *c*, flattened and adapted to be contacted by a flat spring, D, which is riveted at, *d*, to the main plate, the tension of this spring tending to keep the supporting bar in either one of its two positions. In its working position, as shown by Figs. 1, 2, 3 and 4, the flat spring rests upon the upper flat end of the bar, and when it is desired to fold the bar back and out of position, the spring will rest upon the flat portion, *c′*, and serve to hold the bar in its flattened position and out of the way.

Pivotally secured to the supporting bar by means of the screw, c^2, is a bell crank lever,

D′, having its upper free end provided with a perforation, *d′*, which is connected with the case bar, *a*, of the typewriter, by means of a cord, E, which passes around the groove pulley, *b*.

The case bar of the machine is usually provided with a spring which serves to normally hold it in its working position, so that the bell crank lever is generally held in the position shown in Fig. 1. To actuate this bell crank lever by the knee, I pivot an actuating lever, G, to the supporting bar at *g*, and provide it at its upper free end with a curved finger, *g′*, adapted to engage a cam shaped groove in the lower free end of the bell crank lever.

I prefer to make the actuating lever in two parts—the lower part of the main lever at, G′, made in the form of a channel iron, and the second part, G^2, resting therein and provided with a slotted perforation, g^2, the two being adjustably secured together by means of the thumb screw, g^3, so that this lever may be lengthened out or shortened to suit or compensate for the different heights of typewriter tables. The lower portion is provided with a knee plate, G^3, adapted to be contacted or impinged by the knee of the operator and thus operate the case bar of the machine.

In operation, the machine generally occupies a position with the type bars adapted to actuate and imprint the lower case of letters or characters. When an impress of the upper case is desired, the operator strikes the knee plate, G^3, thus moving it in the direction indicated by the arrow. This throws the upper free end of the bell crank lever in the same direction, and, by means of the connecting cord, E, depresses the upper case bar and brings the carriage of the machine into position to receive imprints of the upper case.

While I have described my invention with more or less minuteness as to detail and as embodied in precise forms, I do not desire to be limited thereto unduly, any more than is pointed out in the claims. On the contrary, I contemplate all proper changes in form, construction and arrangement, the omission of parts and substitution of equivalents, as circumstances may suggest or render expedient.

I claim—

1. In attachments for typewriting machines, the combination of a supporting plate adapted to be secured to a typewriter table, an extensible bar adjustably secured thereto and provided with a grooved pulley near its outer end, a bell crank lever pivoted to such supporting plate, a cord connected with the bell crank passing around the grooved pulley and adapted to be secured to the case bar of a machine and actuate the same, and an actuating lever arranged to contact and actuate the bell crank lever, substantially as described.

2. In attachments for typewriting machines, the combination of a supporting plate adapted tobe secured to a typewriter table, an extensible bar adjustably secured thereto and provided with a grooved pulley near its outer end, a bell crank lever pivoted to such supporting plate, a cord connected with the bell crank passing around the grooved pulley and adapted to be secured to the case bar of a machine and actuate the same, an actuating lever arranged to contact and actuate the bell crank lever and provided with an adjustable extensible portion and knee plate, substantially as described.

3. In attachments for typewriting machines, the combination of a supporting plate adapted to be secured to a typewriter table and provided with a depending foldable bar, a grooved pulley pivotally secured to such supporting plate, a bell crank lever pivotally secured to the foldable portion of such supporting plate, a cord connected with such bell crank lever passing around the grooved pulley adapted to be connected with an actuating case bar of a machine, and means for actuating the bell crank lever, substantially as described.

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