

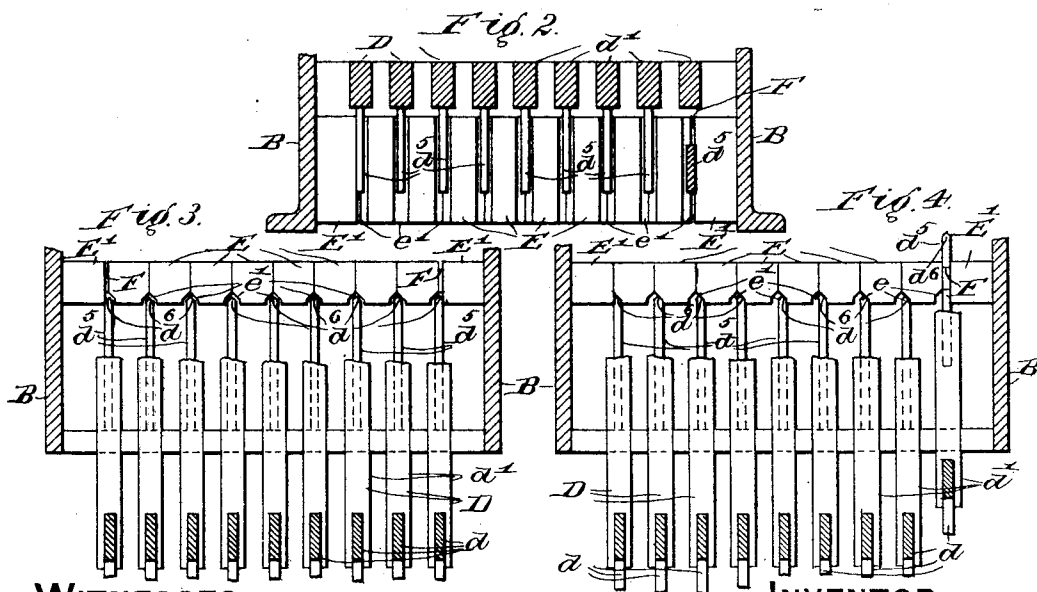
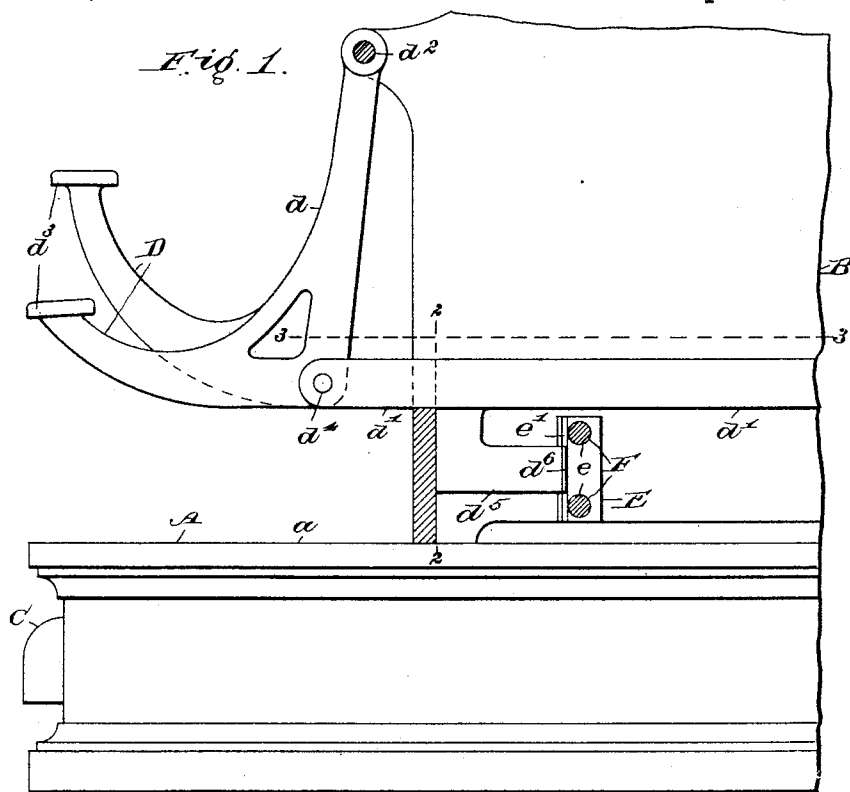
(No Model.)

C. S. TRASK.

KEY STOP FOR CASH REGISTERS OR OTHER MACHINES.

No. 537,086.

Patented Apr. 9, 1895.



WITNESSES.

Kirkley Hyde.
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INVENTOR

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UNITED STATES PATENT OFFICE.

CLARENCE S. TRASK, OF LOWELL, MASSACHUSETTS, ASSIGNOR TO THE
COLUMBIA CASH REGISTER COMPANY, OF PORTLAND, MAINE.

KEY-STOP FOR CASH-REGISTERS OR OTHER MACHINES.

SPECIFICATION forming part of Letters Patent No. 537,086, dated April 9, 1895.

Application filed September 8, 1894. Serial No. 522,423. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE S. TRASK, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Key-Stops for Cash-Registers or other Machines, of which the following is a specification.

My invention relates to key-stops for cash registers and other machines, and consists in the means herein described of preventing the simultaneous operation of two keys of a set and in the devices and combinations herein claimed.

In the accompanying drawings, Figure 1 is a side elevation of part of a case, such as is used with cash registers, part of a frame, two keys, turning on a fulcrum-rod, supported on said frame, and provided with stop-separators, the stop-guide rods and stops arranged thereon, a part of said frame, the fulcrum-rod and the guide-rods being in vertical section; Fig. 2, a vertical section on the line 2 2 in Fig. 1; Fig. 3, a horizontal section on the line 3 3 in Fig. 1, showing the keys and stop-separators in their normal positions; Fig. 4, like Fig. 3, except that a stop-separator is represented as having been forced by the operation of a key between two adjacent stops.

The case A, of which only the lower part is shown, is of any usual form, having a table *a*, on which the frame B (which supports the operative mechanism) is supported, and having, below said table *a*, a chamber in which slides a money-drawer, the handle of which is shown at C, all these parts being of any usual construction and operation and needing no further description.

The keys D are represented as each formed in two parts *d d'*, the part *d* being a bent lever, similar to a bell-crank lever, all said levers *d* being pivoted on a common fulcrum-rod *d²* and each provided, in the usual manner, with a button *d³*, which being depressed, pushes the other horizontal part *d'*, (pivoted at *d⁴* to the part *d*) endwise, to operate the indicating, registering and drawer-unlocking mechanisms, by any convenient connecting devices, as for instance, in a similar manner

to that in which the horizontally sliding-rod E in United States Patent, No. 480,698, granted August 9, 1892, to James Jacques, operates the visual signals H, said mechanisms and connecting devices forming no part of the invention herein described, which relates wholly to the means herein described of preventing the operation of a key after another key has been partially operated until such time as said last named key has returned to its normal position.

Sliding stops, E, equal in number to the spaces between the keys of the series, are supported and slide freely upon two rods F F, parallel with each other, which pass through holes *ee* in said stops E and are rigidly secured in the frame B.

In addition to the sliding stops E, there are two end stops E' E' which, for convenience, may be supported upon the rods F F just as said sliding stops are supported, but these end-stops, as they are not moved upon said rods by the action of the keys, hereinafter described, might be immovable and form parts of the stationary frame B. The distance between the end-stops E' E' exceeds the combined width of the sliding stops by the lateral thickness of one stop-separator *d⁵* such as is hereinafter described. The front faces of the sliding stops are represented as parallel with the plane in which the guide-rods F F lie, and the front vertical corners of said sliding stops are grooved or cut away at *e'* at each side of each sliding stop from top to bottom thereof, so that when two such sliding stops are in contact with each other, there is a vertical groove at *e'*, having sides perpendicular to the front faces of said sliding stops and having a V-shaped bottom or deepest part.

Each key is provided with a part which, when said key is operated, advances toward the stops at about right-angles to the plane in which the guide-rods F F lie and this advancing part may be the rear end of the sliding part *d'* of the key but is preferably an L-shaped stop-separator *d⁵*, integral with or secured to said sliding part *d'* of the key and thinner than said sliding part in order that

each stop may have a greater lateral thickness and thereby a greater bearing upon the guide-rods. That edge d^b of each separator which is nearest to the sliding stops is beveled on opposite sides at the same angle as the surfaces which constitute the bottom of the groove e' formed in the contiguous sliding stops, and said stops are so arranged that the edge-portion d^b of any separator is always within the corresponding groove e' and the parallel sides of said groove serve as a guide for said separator to limit the lateral movement of said separator. The separators are so arranged with reference to the guide rods, that the operation of any key forces its separator between the adjacent stops at equal distances from said rods and at right angles to the plane of said rods.

The stops being guided both above and below the stop-separating parts of the keys are prevented from cramping on the guide-rods and therefore always move easily and the beveled edges which form the groove e' allow the stop-separating part of each key to be at all times between two of the stops and

prevent the key from being sprung or bent in such a manner as to strike the front flat face of a stop.

I claim as my invention—

1. The combination of keys, having stop-separators, two parallel guide-rods, arranged in a plane at right angles to the plane in which said stop-separators move and at equal distances from said stop-separators, and stops, sliding on said rods, as and for the purpose specified.

2. The combination of two parallel rods, stops, sliding on said rods and having beveled edges, and keys, having stop-separating parts adapted to move in a plane at right angles to the plane of said rods and arranged at all times between the beveled parts of said stops, as and for the purpose specified.

In witness whereof I have signed this specification, in the presence of two attesting witnesses, this 25th day of July, A. D. 1894.

CLARENCE S. TRASK.

Witnesses:

ALBERT M. MOORE,
ORA C. HUBBARD.