No. 615,022. Patented Nov. 29, 1898.

J. A. HOFF.

AUTOGRAPH CASH REGISTER.

(No Model.) (Application filed Feb. 14, 1898.)

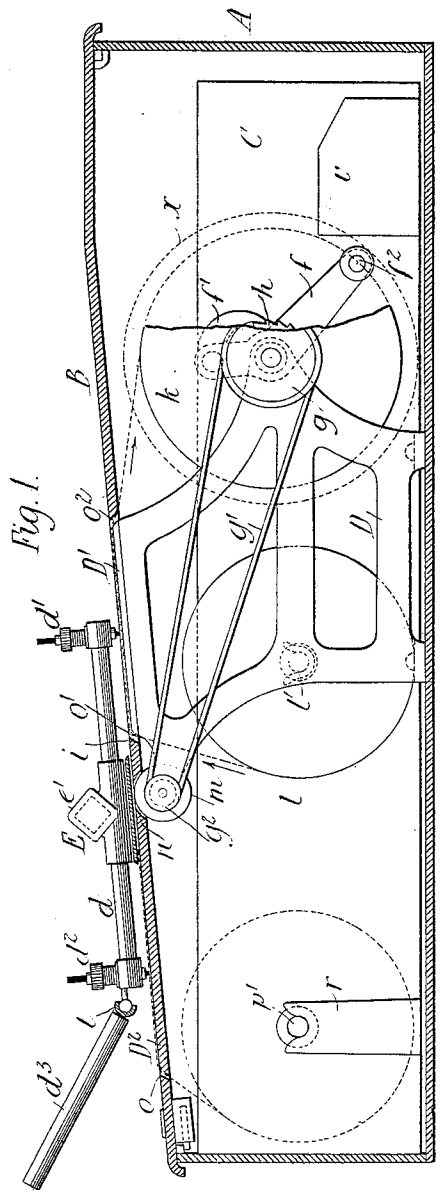


Fig. 1.

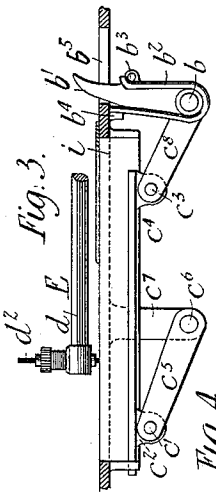


Fig. 3.

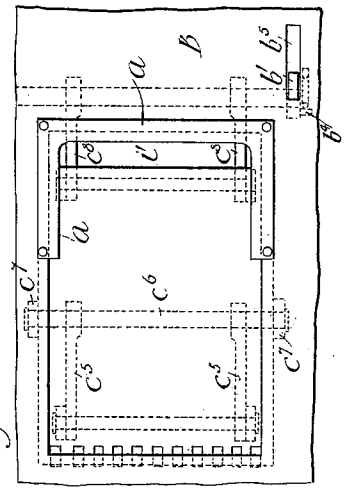


Fig. 4.

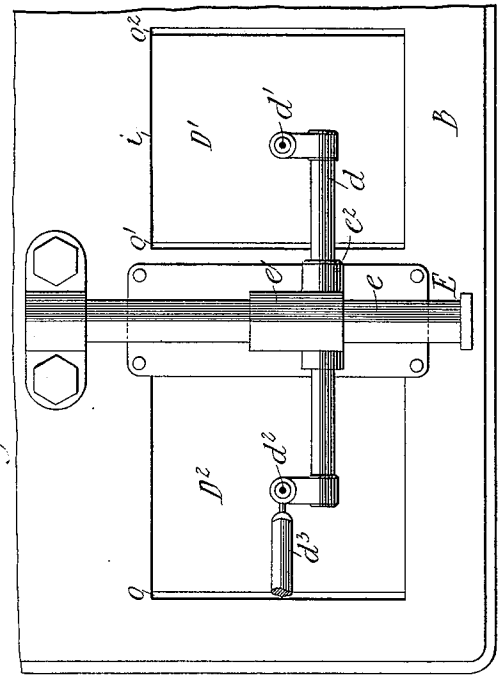


Fig. 2.

WITNESSES

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AUTOGRAPH CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 615,022, dated November 29, 1898.

Application filed February 14, 1898. Serial No. 670,292. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. HOFF, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Autograph Cash-Registers, of which the following is a specification.

My invention relates to an improvement in the class of cash-registers in which provision is made for producing a copy of each entry made.

My object is to simultaneously produce the copy by the operation of making the entry, but without resorting for the purpose to the employment of a transfer medium, such as a carbon-sheet, interposed between the original entry and the copy-receiving sheets, which is the common practice.

To attain my aforesaid object, I provide, as an attachment upon an autograph cash-register, a pantograph; and my invention therefore consists in its broadest sense in combining a pantograph of any suitable construction with an autograph cash-register of any construction adapted to have a pantograph combined with it.

The description hereinafter contained relates to a special and desirable construction of autograph cash-register and pantograph as an example of one form of each by which to set forth my improvement, though without intention on my part to limit my invention to the same, and that particular form of the device is illustrated in the accompanying drawings, in which—

Figure 1 is a partly-broken longitudinal vertical sectional view of an autograph cash-register equipped with a pantograph attachment; Fig. 2, a broken plan view of the same; Fig. 3, a broken view, in sectional elevation, of the cash-register cover, below which for supporting a pack of loose copy-sheets is provided a table automatically adjustable to maintain the upper surface of the pack to the bottom sheet thereof as the pack is used up on the same plane with reference to the copying portion of the pantograph; and Fig. 4, a broken plan view of the cover with the adjustable table mechanism, shown partly by dotted representation, in position with relation to the table.

A denotes the case of an autograph cash-register, having a cover B, which should be adapted to be locked, as indicated, to prevent unauthorized access to the interior of the case. A drawer C is represented within the case, being provided to hold money. Within the case, near one end thereof and to one side of the drawer, are parallel standards, one of which is shown at r in Fig. 1. In the upper ends of these standards is journaled a roller p', carrying the voucher-supply roll of paper, (indicated at p,) the end of which passes through a slot o in the cover along its upper surface, past an opening n in the cover, and over a friction-roll m, extending through the opening and actuated as hereinafter described. In the case in line with the roller p' are a roller l' for the supply l of copy-paper and a roll k, upon which to receive and wind the register-strip from the roll l. The roller l' and roll k are journaled in a frame D in the case and fastened upon its base to extend upward to an opening i in the cover, where the frame carries a rigid table D', preferably, as shown, flush with the outer surface of the cover and somewhat shorter than the opening i to leave slots o' and o^2, respectively, at its opposite ends. Only one side of the frame D is presented in Fig. 1, owing to the nature of the view selected for illustration. The paper from the supply thereof on the roll l passes up through the slot o', along the upper surface of the table D', and down through the slot o^2 to the roll k, upon which it is accumulated by turning the roll, as hereinafter described, the extent of accumulation being indicated as increased diameter of the roll by the dotted circular line at x. On a journal of the roll k are fastened a ratchet h and also a grooved pulley g, which is geared by an endless band g' with a pulley g^2 on a journal of the friction-roll m. A lever f is fulcrumed between its ends upon the journal of the roll k, carrying the ratchet h, and on the upper end of the lever is pivoted a dog f' to engage the teeth of the ratchet, while the lower end of the lever carries a stud f^2, extending into the path of a projection v

on the drawer C. Thus each time the drawer is opened (from the end of the case containing the roll p) the projection v encounters the end of the lever f in its path and turns it upon its fulcrum to engage the dog f' with the ratchet and thereby turn the roll k sufficiently to wind upon it a length of the paper strip leading to it equal, or about equal, to the length thereof covering the table D′ and to feed from the roll l a fresh section of the paper to cover the table. By the turning of the roll k the pulley is also turned to rotate the friction-roll m and cause it to feed the proper length of paper from the voucher-supply on the roller p' along the top of the cover B over the table-section D^2 thereof.

In the opening movement of the drawer the forward end of the projection v clears the lever f to engage it at the inner end of the projection in the return or closing movement of the drawer and throw the lever to cause the dog f' to back against another tooth of the ratchet prepared to be engaged therewith to again turn the roll when the drawer is again opened.

E is a pantograph, shown as involving the following-described construction: A slide-bar e, of angular shape in cross-section, is supported at its ends to extend transversely across the top of the cover B and raised above its surface about midway between the slots o and o^2. On the bar e is a sliding sleeve e', conforming in cross-section, at least inside, to the shape of the bar and carrying, to extend transversely across it, a rigid, preferably cylindrical, sleeve e^2. In the sleeve e^2 is loosely supported, to adapt it to slide freely therein longitudinally, a rod d, carrying at one end a writing implement or pencil d' and at its opposite end a writing implement or pencil d^2, both being adjustable to bear on the paper-covered surfaces of the cover-section D^2 and table D′. The end of the sliding rod at which the pencil d^2 is provided has connected with it by a universal joint t an operating-handle d^3.

The described construction of pantograph E, which is very simple, affords to it two motions at right angles to each other, the one by the sliding movement of the rod d and the other by sliding the sleeve e' on the bar e, whereby the motions of the pencil d^2 in writing on the paper underneath it from the roll p are imparted to the pencil d', causing it to produce on the paper underneath it covering the table D′, along which it is passed from the roll l, a copy of the matter written by manipulating the pencil d^2. After each entry and copy thereof thus made opening the drawer winds the copy on the register-strip upon the roll k and feeds the section of the paper on which the original entry is made to the slot o', or thereabout, where it is to be torn off to serve as a voucher to be handed to the customer.

At x' in Fig. 1 is shown the tearing or cutting edge for the paper p.

I also provide for furnishing the vouchers from separate sheets of paper instead of from a roll p thereof, as by means of the mechanism illustrated in Figs. 3 and 4, and of which the following is a description. In the cover B the table-section D^2 is removed to leave an opening i', which should conform to the shape of the sheets employed and be of dimensions somewhat greater than they. As shown, the opening is of rectangular shape. Below the opening i' is a bed-plate c, carrying near one end a rod c', supported at its ends by lugs c^2 on the bottom of the bed-plate, and near its opposite end a rod c^3, similarly supported by lugs c^4 on the bottom of the bed-plate. Links c^5 c^5 pivotally connect the bed-plate from the rod c' near its opposite ends with a rod c^6, supported at its ends in rigid hanger-arms c^7, depending from the bottom of the cover B at opposite sides of the opening i' therein, and links c^8 c^8 similarly connect the bed-plate from the rod c^3 with a rock-shaft b near its opposite ends, at which it is suitably journaled below the cover B. The rock-shaft b carries a finger b', which projects upward from it through a coincident elongated slot b^5 in the cover and is given a tendency to turn the shaft by moving toward the outer or right-hand end of the slot through the medium of a spring b^2, confined under tension, with one end against a stud b^3 on the finger and with its opposite end against a lug b^4, depending in proper position from the bottom of the cover beyond the inner or left-hand end of the slot, the spring being shown as passing between its ends about the rock-shaft b. The opening i' is overlapped at one end and along a portion of each of its sides by a stop-frame a.

A package of sheets of paper (not shown) is introduced upon the bed-plate c, which is depressed to receive the package by turning the finger b' to the position in which it is shown in Fig. 4, and thereby tensioning the spring b^2, which crowds the package up against the bottom of the overlapping portion of the frame a to hold the paper smooth and taut, with the uppermost sheet flush with the top of the cover B or against the pencil d^2. As each sheet is withdrawn from the top of the package after writing upon it with the pantograph in the manner described the recoil force of the spring b^2 against the finger b' turns the shaft b accordingly, thereby causing it, through the described link connections, to raise the bed-plate to bring the new upper surface of the package into position to be written on by the pencil d^2, and this automatic adjustment of the bed-plate is repeated to the last or bottom sheet of the package to bring it into position.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a recording-ma-

chine having a plurality of record-receiving strips and means for automatically and intermittently feeding the strips, of a device carried by the machine operative for writing on exposed portions of said strips, said device consisting of a plurality of marking devices and mechanism permitting universal movement of said marking devices, whereby a dual record is made upon the strips, substantially as set forth.

2. In combination with a recording-machine, a plurality of record-receiving strips movable separately, a cash-receiving drawer, mechanism for automatically and intermittently feeding the strips by the movement of the drawer, and a device carried by the machine and operative for making a dual record upon such strips, said device comprising a plurality of marking devices and mechanism permitting universal movement of said implements, substantially as set forth.

3. In a cash-register the combination of a plurality of record-receiving strips movable separately, in alinement, on a fixed surface, a cash-receiving drawer, mechanism for automatically feeding the strips in the same direction by the movement of the drawer, and a device carried by the machine and operative for making a dual record upon such strips, said device comprising a plurality of marking devices and mechanism permitting universal movement of said implements substantially as set forth.

4. In an autograph cash-register and in combination with a fixed surface and cash-receiving drawer, a plurality of record-receiving strips mounted independently of each other, means automatically to cause the plurality of strips to be fed over and upon said surface by the movement of the drawer, the means whereby one strip is fed constituting the means for automatically feeding the other strip.

5. In a recording-machine and in combination with a fixed surface, a plurality of record-receiving strips, separately, simultaneously and intermittently movable, means arranged below said surface to feed said strips in the same direction through openings in said surface, a cash-receiving drawer, and a device carried by the machine and operative for making a dual record upon such strips, said device comprising a plurality of marking devices and mechanism permitting universal movement of said implements, substantially as set forth.

6. In combination with an autograph cash-register, a pantograph comprising a stationary bar supported on the cash-register cover, a sliding sleeve on said bar carrying a lower sleeve extending at right angles thereto, a sliding rod in said lower sleeve provided at its opposite ends with writing implements, and an operating-handle having a universal-joint connection with said rod, substantially as described.

7. In combination with an autograph cash-register, a pantograph comprising a stationary angular bar supported on the cash-register cover to extend transversely thereof, a sliding sleeve on said bar carrying a lower sleeve extending at right angles thereto, a sliding rod in said lower sleeve provided at its opposite ends with writing implements, and an operating-handle having a universal-joint connection with one end of said rod, substantially as described.

8. In combination, an autograph cash-register comprising a covered case containing a supply-roll of copy-paper and a receiving-roll therefor to which said paper is passed, to be wound upon it, at an opening in the case-cover, a supply of original-entry paper supported to present a writing-surface at said cover, and a pantograph on the cover carrying a writing implement for each of said papers, substantially as described.

9. In combination, an autograph cash-register comprising a covered case containing a supply-roll of copy-paper and a receiving-roll therefor to which said paper is passed, to be wound upon it, over a table at an opening in the case-cover, a supply of original-entry paper supported to present a writing-surface at said cover, and a pantograph on the cover carrying a writing implement for each of said papers, substantially as described.

10. In combination, an autograph cash-register comprising a covered case containing a supply-roll of copy-paper and a receiving-roll therefor to which said paper is passed, to be wound upon it, at an opening in the case-cover, means for turning said rolls by operating the cash-register, as by sliding a drawer therein, a supply of original-entry paper supported to present a writing-surface at said cover, and a pantograph on the cover carrying a writing implement for each of said papers, substantially as described.

11. In combination with an autograph cash-register, copy-paper extending past an opening in the cash-register cover, a sheet-holder supported at another opening in said cover and self-adjusting to maintain the surface of the sheet or sheets upon it at a predetermined plane relative to the top of the cover, and a pantograph on the cover carrying a writing implement for the sheet and one for the copy-paper, substantially as described.

12. In combination with an autograph cash-register, copy-paper extending past an opening in the cash-register cover, a sheet-holder comprising a spring-actuated bed-plate supported below another opening in said cover to maintain, under the tension of its controlling-spring, the surface of the sheet or sheets upon it at a predetermined plane relative to the top of the cover, and a pantograph on the cover carrying a writing implement for each of said papers, substantially as described.

13. In combination with an autograph cash-register, copy-paper extending past an open-

ing in the cash-register cover, a sheet-holder comprising a bed-plate supported from said cover below another opening therein, by links, a rock-shaft journaled in the cash-register case and having a link connection with the bed-plate, and a spring-controlled finger extending from said rock-shaft through a slot in the cover, a sheet-stop on the cover at said opening for the holder, and a pantograph on the cover carrying a writing implement for each of said papers, substantially as described.

JOHN A. HOFF.

In presence of—
R. T. SPENCER,
DAN. W. LEE.