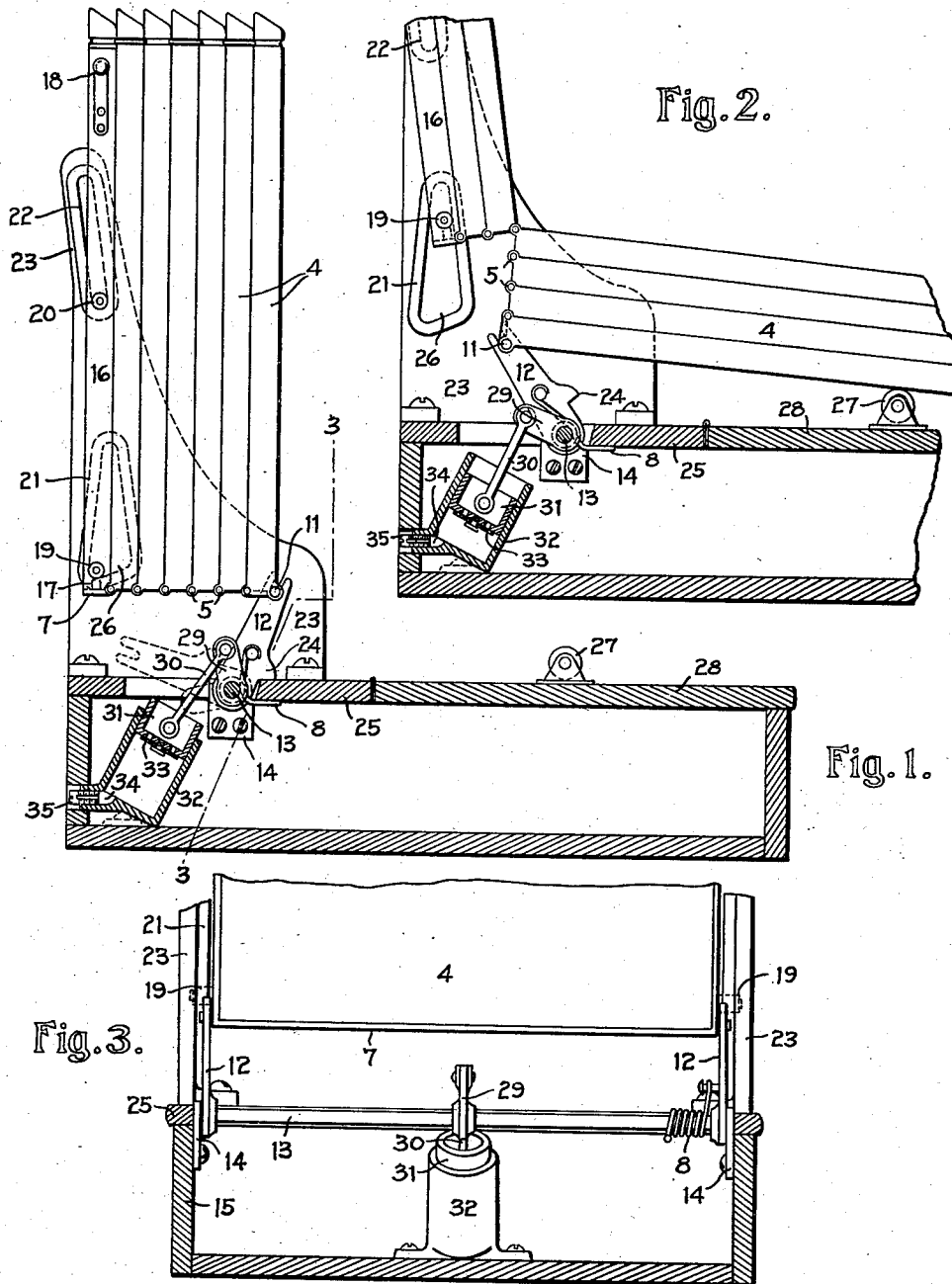


A. F. STAPLES.
ACCOUNT REGISTER.
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1,026,614.

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UNITED STATES PATENT OFFICE.

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ACCOUNT-REGISTER.

1,026,614.

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To all whom it may concern:

Be it known that I, ALBERT F. STAPLES, a citizen of the United States, and resident of Canisteo, in the county of Steuben and State of New York, have invented certain new and useful Improvements in Account-Registers, of which the following is a specification.

This invention relates to account-registers of the type in which a series of frames, carrying bill-holding clips, are pivotally mounted at their lower edges so as to stand normally in upright position, but to be swung forwardly and downwardly like the leaves of a book to afford access to the bill-holders.

The object of the invention is to produce a device of the kind referred to in which novel and simple means are provided for supporting and guiding the frames in their pivotal movements and for checking such movements to prevent slamming of the frames. To this end I employ various details of construction and operation which will be pointed out hereinafter, in connection with the description of the illustrated embodiment of the invention.

In the accompanying drawings: Figure 1 is a side-elevation of an account-register embodying the present invention, the supporting and guiding devices for the bill-holder frames being shown in vertical section; Fig. 2 is similar to the lower left-hand portion of Fig. 1, except that it shows the parts in a different position; and Fig. 3 is a front-elevation, in section on the line 3—3 in Fig. 1, of the lower portion of the machine.

The illustrated embodiment of the invention comprises seven bill-holder frames 4, of which the construction is not particularly illustrated as it has no bearing on the present invention. These frames may be provided with bill-holders of any suitable form (not shown).

The several bill-holder frames are pivotally connected, at their lower edges, by means of hinge-joints 5, so that the frames are permanently secured in a series, though free to be swung together or apart, like the leaves of a book.

In the normal position of the parts, as illustrated in Fig. 1, the frames stand in vertical position. The weight of the frames is supported by means connected with the bottom of the foremost frame. To this end

this frame is provided with pivot-pins 11 projecting from its lower corners, and these pins are removably seated in notches in the upper ends of upwardly-projecting arms 12 which constitute a support for the frames. The arms are fixed to a rock-shaft 13, which is journaled in bearings 14 on the sides 15 of a casing which forms a base for the account-register. The arms are arrested, in their normal foremost position, by means of stop-lugs 24 which engage the top 25 of the casing.

The frames are maintained in upright position by mechanism connected with the rearmost frame. This mechanism comprises a yoke which embraces the rearmost frame at its edges, having side-members 16 and a bottom-member 7 within which the frame is seated. The bottom-member is provided with upwardly-projecting short pins 17 which engage corresponding openings in the lower edge of the bill-holder frame, while the upper ends of the side-members 16 are secured to the frame by means of latch-devices 18, which may be of any ordinary or suitable form.

The yoke just described is sustained in upright position by means of two uprights 23 at the sides of the machine. These uprights are provided with slots 21 and 22, which are engaged by laterally-projecting rollers 19 and 20, respectively, journaled on the side-members 16 of the yoke. By the connection just described the yoke is guided in substantially vertical movements, while forward movements of the yoke and of the rearmost bill-holder frame are restricted, although a limited forward movement of the lower portions of these parts is permitted for a purpose which will be presently described.

The operation of the mechanism just described is such that as the bill-holder frames are swung forwardly and downwardly about their pivots, the rearmost frame moves upwardly in a substantially vertical direction, while the foremost frames move rearwardly. As the pivot-pins 11 on the foremost frame are guided in circular paths by the pivotal arms 12, the later portion of the rearward movement of these pivots is downward as well as rearward, so that the necessary upward movement of the rearmost frames is somewhat diminished.

The slots 21 have comparatively wide

lower extremities 26. In the normal position of the parts, as in Fig. 1, with the bottoms of the bill-holder frames all in line, the arms 12 are held in their foremost position, while the rollers 19 are held at the backs of the slots 21, and thus the frames stand in vertical position. In inserting and removing bills from the upright frames, however, it is more convenient to have these frames inclined rearwardly to a slight degree, and such an inclination is automatically produced in the present machine. As soon as one or more of the frames have been swung downwardly, the horizontal distance between the pivots 11 and the rollers 19 is diminished, so that these rollers are drawn to the front of the slots 21, thereby tilting the upright frames as in Fig. 2. As more of the frames are swung down the further movements of the rolls 19 and 20 are guided by the inclined front edges of the slots 21 and by the similarly-inclined slots 22, so that the upright frames retain the same inclination. When one frame only is swung down there is no rearward movement of the pivots 11 on the arms 12, as the weight of the frames maintains the arms in their foremost position. When a greater number of frames are swung down, however, rearward movement of the pivots and the arms is necessary, after the rollers 19 have engaged the front edges of the slots 21, and after such movement has occurred sufficiently to carry the pivots 11 to the rear of the vertical plane in which the rock-shaft 13 lies, the tendency of the weight of the frames is to swing the arms still farther to the rear and to move the rear-support rearwardly and carry the rollers 19 to the back of the slots 21. To oppose this tendency, and to maintain the rollers 19 against the front of the slots 21, a coil-spring 8 is mounted upon the rock-shaft 13, one end of the spring being connected with one of the arms 12, as shown in Fig. 3, and the other end engaging the lower surface of the top 25 of the casing. Through the arrangements just described, by which the bill-holder frames are tilted when in use and held upright when not in use, the device is rendered compact and symmetrical in its normal condition, while the operation of the device is facilitated. The construction, as above described, of the mechanism for supporting and guiding the frames is such that the frames may be readily detached from the mechanism when it is desirable to put them in a safe, or other secure place. As the rearmost frame, when in use, is never moved from upright position, this frame constitutes a back for the device, and it is unnecessary to provide any back upon the casing.

After one or more bill-holder frames have been swung down to the position in Fig. 2, if more frames are thereafter swung down

there results a rearward movement, in a generally-horizontal direction, of those frames which have already been swung down. To permit such movement without unnecessary friction, rollers 27 are journaled upon the cover 28 of the casing, these rollers engaging the edges of the horizontal frames and supporting them, while permitting horizontal movement without substantial friction.

In addition to the spring 8 which resiliently resists rearward movement of the front supports, an air-check is provided which acts, when one or more frames are swung downward quickly, to oppose this downward movement sufficiently to prevent the frames from slamming against the rollers 27. This air-check comprises a cylinder 32 fixed within the casing, and a piston 31 moving in the cylinder. The piston is connected, by a pitman 30, with a crank-arm 29 fixed to the rock-shaft 13. A check-valve 33, controlling vents in the piston 31, permits the piston to rise freely in the cylinder, but when the arms 12 swing rearwardly the piston is depressed and the air in the cylinder is compressed, thereby retarding the rearward movement of the arms. To permit adjustment of the operation of the air-check the cylinder is provided with an air-outlet 34 controlled by a slotted adjusting-screw 35. It will be apparent that as the rearward movement of the arms 12 varies in degree with the number and the weight of the bill-holder frames which are swung down, the movement of the piston 31 will vary similarly, so that the action of the air-check will vary according to the number of frames of which the movement is to be checked.

I do not claim as part of my invention the following combinations of parts, to wit:

"In a filing appliance, the combination of a series of leaves having pivotal connections between them, and supporting means for the leaves permitting both end leaves of the series to move in directions substantially at fixed angles to each other as any of the leaves between them are swung about their respective pivotal connections.

"In a filing appliance, the combination of a series of leaves having pivotal connections between them, supporting means for the leaves permitting both end leaves of the series to move in directions substantially at fixed angles to each other as any of the leaves between them are swung about their respective pivotal connections, and means tending to return the leaves to initial position.

"In a filing appliance, the combination of a series of leaves having pivotal connections between them, supporting means for the leaves permitting both end leaves of the series to move in directions substantially at fixed angles to each other as any of the

leaves between them are swung about their respective pivotal connections, and guide devices for said end leaves.

"In a filing appliance, the combination of a series of leaves having pivotal connections between them, supporting means for the leaves permitting both end leaves of the series to move in directions substantially at fixed angles to each other as any of the leaves between them are swung about their respective pivotal connections, and guide devices for said end leaves one of said guide devices operating to prevent shifting of the leaves relative to said supporting means," but have expressly disclaimed the same in two disclaimers signed July 6, 1911, and filed in connection with the present application.

My invention is not limited to the embodiment thereof hereinbefore described and illustrated in the accompanying drawings, but may be embodied in various other forms within the nature of the invention, as it is defined in the following claims.

I claim:—

1. An account-register having, in combination, a series of bill-holder frames pivotally connected at the bottom, the foremost frames being rearwardly movable at the bottom, and means connected with the bottom of the foremost frame and tending to hold said frame yieldingly in its forward position until a plurality of frames have been swung forwardly and downwardly.

2. An account-register having, in combination, a series of bill-holder frames pivotally connected at the bottom, means for guiding the rearmost frame adapted to restrain the latter, at its bottom, first to a forward movement and then to an upward movement, and means for supporting the bottom of the foremost frame adapted to permit rearward movement thereof but to resist such movement until the rearmost frame has made the forward movement aforesaid.

3. An account-register having, in combination, a series of bill-holder frames pivotally connected at the bottom, a guide for the rearmost frame adapted to permit upward and downward movement thereof, and a

support for the foremost frame, said support being pivotally connected with the bottom of said frame and being also pivotally mounted at a point below and behind the normal position of the bottom of the frame, so that as the support swings rearwardly the bottom of said frame is first raised and then lowered.

4. An account-register having, in combination, a series of bill-holder frames pivotally connected at the bottom, a guide for the rearmost frame adapted to permit free upward and downward movement and limited angular movement thereof, a support for the foremost frame, said support being pivotally connected with the bottom of said frame and being also pivotally mounted at a point below and behind the normal position of the bottom of the frame, so that as the support swings rearwardly the bottom of said frame is first raised and then lowered, and means for yieldingly resisting rearward movement of the support.

5. An account register having, in combination, a series of bill-holder frames hinged directly together at the bottom, a rock-shaft journaled below the frames, arms extending upwardly from the rock-shaft and pivoted to the bottom of the foremost frame so as to support the frames while permitting forward and rearward movement of the foremost frame, and means for guiding the rearmost frame in substantially vertical movements.

6. An account register having, in combination a series of bill-holder frames pivoted directly together at the bottom, means for supporting the foremost frame adapted to permit forward and rearward movement thereof but to resist such rearward movement, and means for maintaining the rearmost frame in upright position, said means having provision for limited angular movement of the rearmost frame to permit it to be inclined when one or more of the frames are swung forwardly and downwardly.

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