

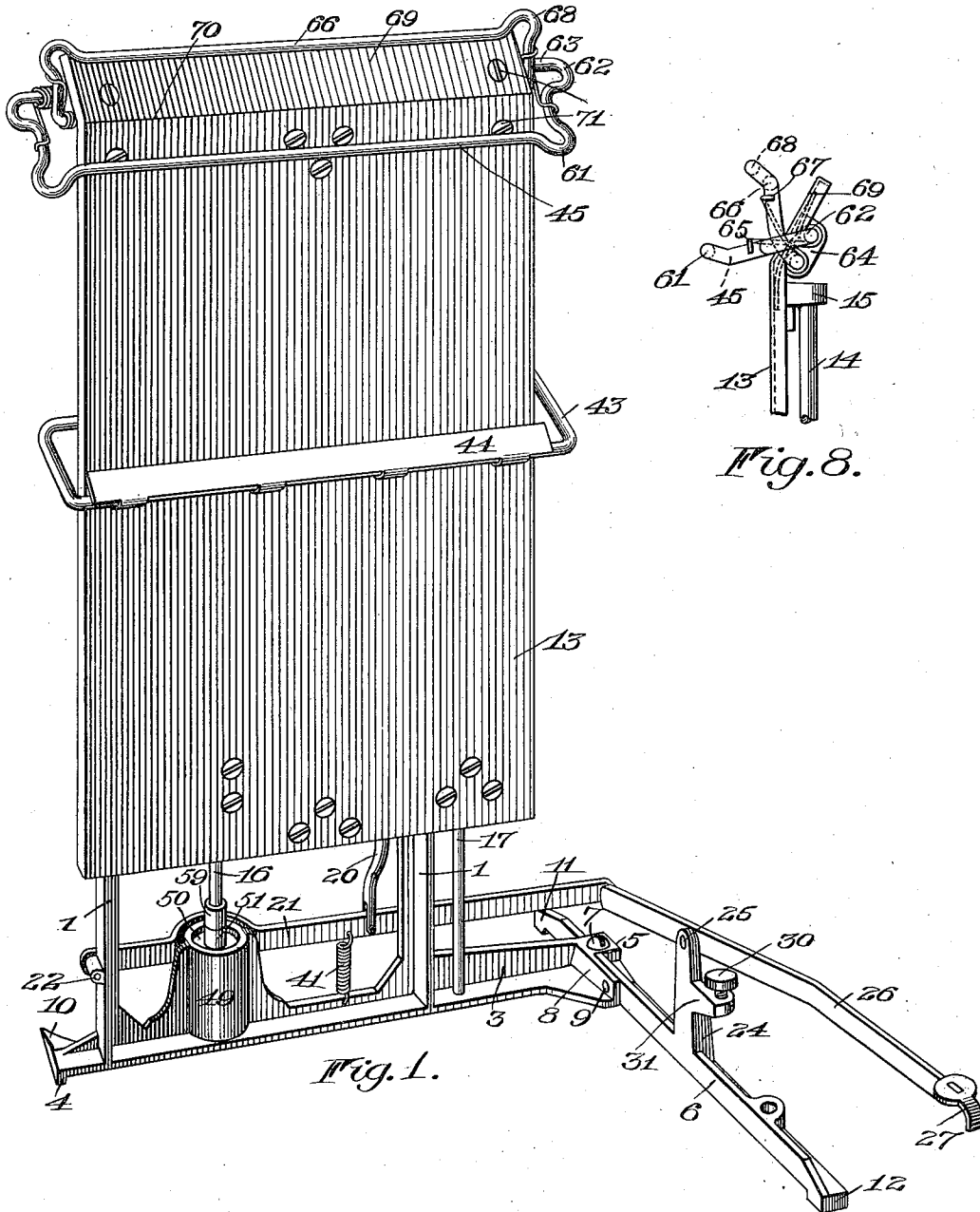
R. B. GRIFFITH.
COPY HOLDER.

APPLICATION FILED JAN. 6, 1909.

1,014,646.

Patented Jan. 16, 1912.

3 SHEETS—SHEET 1.



Inventor

Witnesses
Hatter B. Payne.
Nelson Copp.

Russell B. Griffith

R. B. GRIFFITH.

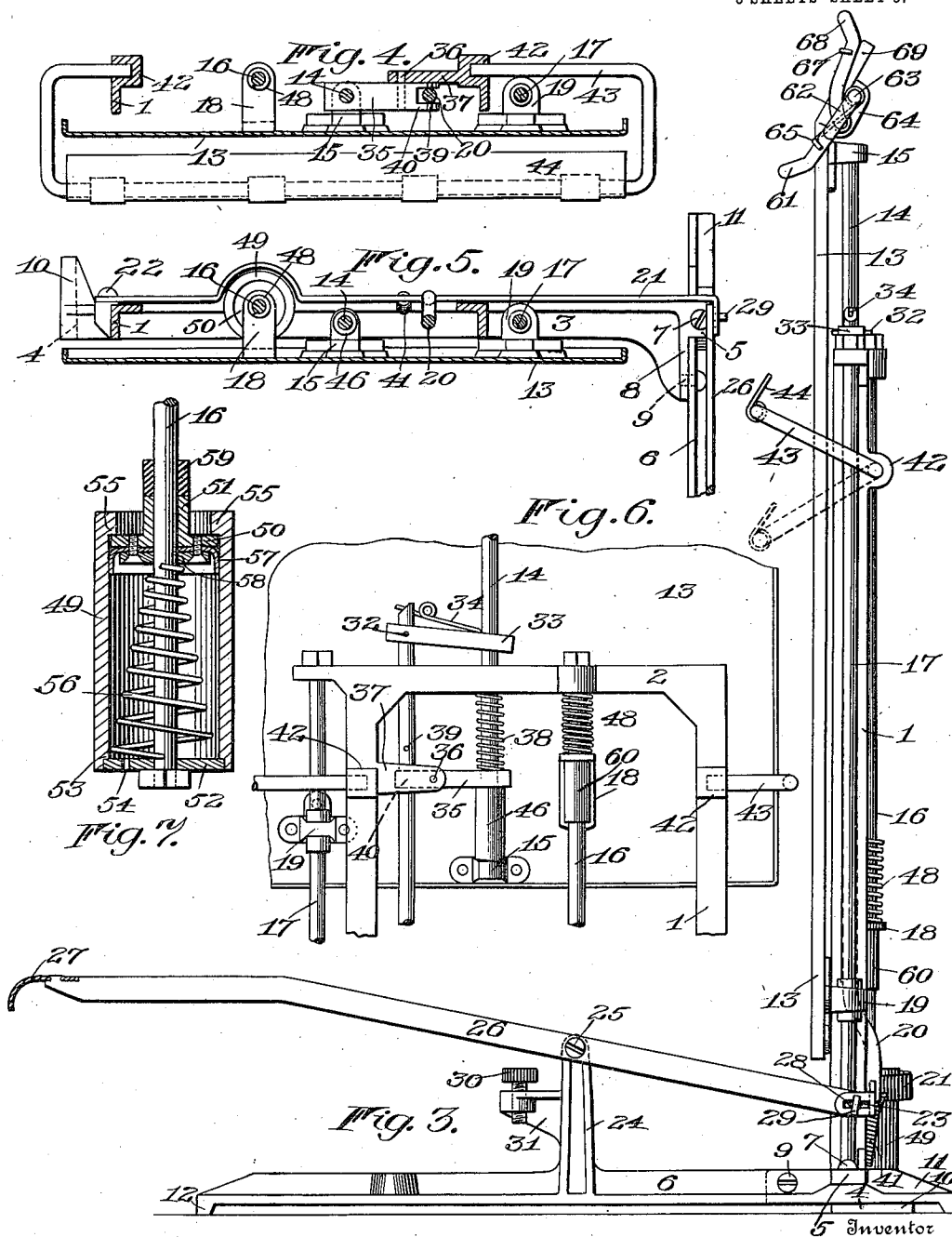
COPY HOLDER.

APPLICATION FILED JAN. 6, 1908.

Patented Jan. 16, 1912.

3 SHEETS—SHEET 3.

1,014,646.



Witnesses

Walter B. Payne
Tolson Copp.

Russell B. Griffith

Inventor

UNITED STATES PATENT OFFICE.

RUSSELL B. GRIFFITH, OF ROCHESTER, NEW YORK.

COPY-HOLDER.

1,014,646.

Specification of Letters Patent.

Patented Jan. 16, 1912.

Application filed January 6, 1908. Serial No. 409,550.

To all whom it may concern:

Be it known that I, RUSSELL B. GRIFFITH, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Copy-Holders; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference numerals marked thereon.

My present invention relates to copy-holders for use in transcribing and to those of the type providing for a stationary line indicator and movable copy and it has for its object to provide a simple, cheap and durable device of this nature which will indicate, successively, upon the copy for the guidance of the writer the lines to be transcribed in their proper order and which, when used in conjunction with a writing machine, may be conveniently placed with reference thereto and easily operated through means readily accessible from the keyboard of the machine.

Another object of my invention is to promote a silent operation of the parts and render the movements of the same free from such jars or shocks as would tend to wear the mechanism and prove annoying to the operator.

My improvements are further directed toward the means for holding the copy in the machine and for disposing of the leaves or pages that have been transcribed.

To these and other ends the invention consists in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of this specification.

In the drawings: Figure 1 is a perspective view of a copyholder constructed in accordance with my invention and illustrating one embodiment thereof. Fig. 2 is a rear elevation of the same. Fig. 3 is a side elevation. Fig. 4 is a transverse or horizontal section on the line 4—4 of Fig. 2. Fig. 5 is a similar view on the line 5—5 of Fig. 2. Fig. 6 is a rear detail view showing the clutch mechanism and adjacent parts in their relative positions when the copy plate has reached its upward limit of movement. Fig. 7 is a vertical section through the shock absorbing element in detail and

Fig. 8 is a detail side elevation of the copy retaining mechanism after being operated from the position shown in Fig. 3.

Similar reference numerals throughout the several figures indicate the same parts.

Referring more particularly to the drawings, 1 indicates a supporting member, preferably in the form of a frame having a cross bar 2 at its top and a base bar 3 at its bottom, one end of which latter is provided with a leg 4 while the other has a projecting portion 5 fitting into a mortise in a side bar 6 and secured as by the screw 7. The side bar extends transversely to the frame and preferably at right angles thereto, its relative position being rigidly maintained by a coextensive angular portion 8 on the base bar and a screw 9 in addition to the screw 7. By this construction the supporting frame is held in an upright and preferably vertical position rearward extensions 10 and 11 on the leg 4 and side bar, respectively, and the forward end 12 of the latter forming a solid three point bearing.

The copy plate 13 is preferably formed of thin sheet material and rectangular in outline, its dimensions approximating the maximum dimensions of the copy sheets which it is designed to accommodate and on its rear side is fitted with a lifting rod 14 rigidly secured thereto as by the brackets 15 to form a part thereof and guided in the cross bar 2 of the supporting frame. The latter is also fitted with parallel, vertical guide rods 16 and 17 extending between the cross bar and base upon which are guided the brackets 18 and 19 on the copy plate so that the latter bears a fixed relation to the support but is also movable relatively thereto. Also guided in the cross bar 2 is a clutch rod 20 pivoted at its lower end to an actuating lever 21 having one end pivoted to the frame at 22 and the other bent forwardly as at 22^a and provided with a horizontal slot 23.

A post 24 is arranged on the side bar 6 to which is pivoted at 25 an operating lever 26 having at its forward end a finger piece or key 27 and at its rear end a stud 28 bearing in the slot 23 in the actuating lever 21 transversely to which latter the operating lever extends. The said stud is provided with a headed portion 29 that is normally disposed transversely to the slot and prevents disengagement of the members but is nevertheless of substantially the same shape and can be passed therethrough in assembling when the

side bar and its attachments are held in a vertical position before the screws 7 and 9 are applied as will be understood. A detachable though interlocking and pivotal connection is thus established between the two levers, joining them for movement in both directions which is useful as simplifying the assembling or dismantling of the machine and makes possible a compact position of the major parts of the latter for shipping.

The operating lever, through the medium of the actuating lever, is employed to elevate the clutch rod 20 intermittently, its throw being regulated by an adjustable stop in the form of a screw 30 threaded into a forwardly extending arm 31 on the post 24. By this arrangement the stop can be brought close enough to the fulcrum 25 of the lever to be squarely engaged thereby and to materially affect the extent of movement of the latter by a relatively slight adjustment while readily accessible to the operator's fingers from above the lever.

Pivoted at 32 through a yoke at its end to the upper end of the clutch rod 20, is a movable clutch 33 comprising a bar having an aperture therein through which passes the lifting rod 14 on the copy plate, the aperture being slightly larger than the lifting rod permitting the bar to bind thereon when tilted in a well known manner. It is normally held in binding engagement by a spring finger 34 but being above the cross bar 2 is disengaged by contact of its free end with the latter when the clutch rod is lowered a sufficient distance. Below the bar is arranged a retaining clutch 35 (Figs. 2 and 4) similar in character and shape and also engaging the lifting rod 14 but pivoted on a pin 36 on a projection 37 of the supporting frame. It is normally held in binding engagement with the rod by a spring or tension member 38 interposed between it and the cross bar but is released by the engagement of a projecting pin or abutment 39 on the clutch rod with its opposite yoked end 40. A spring 41 extending between the base bar 3 and actuating lever 21 normally tends to hold the latter and the actuating rod in lowermost position, that is, with the movable clutch adjacent to the cross bar and the tripping pin 39 against the retaining clutch but is not sufficiently strong to cause the release of the latter by overcoming the tensions of the springs 34 and 38.

Pivoted at its ends in lugs 42 on the supporting frame is a yoke 43 carrying a line indicating plate 44 extending across the face of the copy plate, while at the top of the latter is arranged a copy holding clip 45 which clamps the copy sheets against the face of the copy plate behind the line indicator. The yoke 43 is preferably composed of resilient material and held slightly

sprung in its bearings so that there is maintained a slightly inward pressure at its ends sufficient to hold the line indicator in any desired adjusted position, up or down or toward or from the face of the copy plate, within certain limits, as indicated in full and dotted lines in Fig. 3.

The operation of the device as thus far described will now be briefly explained.

The copy having been secured in place on the copy plate in the manner indicated, and assuming the latter to be in its lowermost position on the guides and the clutch devices in their normal positions shown in Fig. 2, when the operating lever 26 is depressed, the actuating rod 21 is moved in the opposite direction and the clutch rod 20 raised a certain distance. The movable clutch 33 carried thereby grips the lifting rod 14 with the aid of the spring 34 and elevates the copy plate 13 a corresponding amount. When the operating lever is released, the parts are returned to their former positions, (the said clutch being movable relatively to the lifting rod in that direction) with the exception of the copy plate which is held in its elevated position by the action of the retaining clutch 35 aided by the spring 38. Successive similar operations of the lever duplicate these movements, each movement resulting in the line of the copy previously indicated by the line indicator 44 being raised above the latter to disclose the next and the throw of the lever is regulated by means of the adjustable stop 30 to bring about this result. When the last line on the sheet has been copied, or at any previous point in the travel of the copy plate, a reverse or upward movement of the operating lever lowers the actuating lever and trips both of the clutches in the manner previously described, whereupon the copy plate is allowed to fall or slide downward to its former position ready for the insertion of a new sheet.

To prevent a continued operation of the lever, after the upward limit of movement of the copy plate has been reached, from straining or perhaps injuring the parts, I provide a projection here presented in the form of a shoulder or sleeve 46 at the base of the lifting rod which automatically engages and trips the retaining clutch 35 at this point, as shown in Fig. 6, the extreme movement of the lever being preferably insufficient to cause the said clutch to lock in the opposite direction. Should it lock, however, the two clutches would only act against each other upon the lifting rod. The result is in either case that the copy plate will simply move up and down through a limited space and warn the operator that the return movement should be effected. Also, to prevent the copy plate from binding on its guides when thus elevated, I pro-

vide a tension member between it and the support which is flexed by the last effective movement of the clutches and in the present instance comprises a light spring 48 coiled about the guide rod 16 and carried by or on the bracket 18. It is compressed between the latter and the cross bar 2 and, when the clutches are released, accelerates the return movement of the copy plate and causes its instant descent.

Arranged, in the present embodiment of the invention, at the base of the guide rod 16 is a cylinder 49 (shown in detail in Fig. 7) within which operates a piston 50 having a tubular stem 51 sliding on the guide rod, the latter extending concentrically of the cylinder and being secured in a bottom plate 52 held thereby against a shoulder 53 and provided with an opening 54. The cylinder may be conveniently formed in a single casting integral with the supporting frame and base bar 3 upon which it rests and the shoulder 53 counter-bored therein as well as an upper shoulder 55 against which the piston abuts to normally limit its upward movement caused by the tension of a conical spring 56 encircling the guide rod and resting on the bottom plate. The piston itself may be packed in any suitable manner, as by a flexible diaphragm 57 secured between its face and a plate 58, while sliding with it on the guide rod above its stem is a wear plate or washer 59 for the material of which commercial fiber will be found suitable. The object of the construction just described is to form a cushion for absorbing the shock of the descending copy plate when it is brought to rest. The bracket 18 is provided with a downwardly extending barrel portion 60 through which the rod 16 extends and which is adapted to enter the cylinder to operate the piston a full stroke, though it also contributes the function, by providing a long bearing on the rod, of steadying the copy plate when in the elevated position shown in Fig. 6, at which point the latter's several guiding connections are, for the moment, very close together. When the copy plate is released from an elevated position it falls rapidly until this barrel portion on the bracket engages the wear plate 59, from which point it is brought to a gradual stop by reason of an instantaneous compression of the air within the cylinder and its gradual escape through the opening 54 at the bottom and also through the compression of the spring 56. By forming the latter in a conical spiral it is rendered compressible into small compass and in no way interferes with a full stroke of the piston. The copy plate being again elevated, the spring returns the piston to its former elevated position. It will be observed that while the ultimate check given to the fall of the copy plate is thus made

gradual, the function of the cushioning device is completed within a comparatively short space of its travel, while through the greater portion of its descent it is free and unobstructed except by the friction of the guides, so that its return movement is made with great rapidity.

The form of clip which I prefer to employ for securing the copy in place against the face of the copy plate will form the subject matter of a separate application but is illustrated in Figs. 1, 2, 3 and 8 herein to show the manner in which it may be usefully combined with a copyholder of the character above described. It may be conveniently constructed from a single piece of material such as wire and comprises in the present instance a yoke having a bar portion 45 disposed across the face of the copy plate and having a looped portion 61 at one and preferably both ends, the material beyond the loops extending at right angles to the bar and again looped at 62, and thence inwardly at 63 parallel with the bar, the inwardly extending portions being pivoted in brackets 64 secured to the rear of the copy plate. A spring or tension member 65 normally operates to press the bar 45 against the face of the copy plate, while the looped portions 61 are bent outwardly angularly to the general plane of the clip as shown in Figs. 2 and 8 to form a better purchase for the fingers of the operator in raising the bar upon an axis transverse to the copy plate against the tension of the spring to insert the copy.

Arranged above the copy retaining clip just described is a leaf retaining clip 66 which I prefer to construct in a similar manner, with the exception that an inner loop corresponding to the loop 62 may be dispensed with. It is also pivoted in the brackets 64 to move upon an axis parallel with that of the other, but is fitted with a tension member 67 which normally presses it against the face of the copy plate in an opposite direction. It also being provided with an angularly disposed loop 68, it will be seen that both clips may be released and moved toward one another by pressing the loops together. In this way, the copy may be quickly removed from the holder and the action of both clips, or both may be raised and an open copy book inserted in such manner that they will simultaneously engage, one with the page to be copied and the other with those turned back. In either instance, the strain upon the copy plate is slight, as the two clips work against each other. As each page is copied, it is turned back on the bar 45 and slipped beneath the leaf retaining clip by lifting the latter through outward pressure on the finger piece. To obtain a greater range of movement for both clips, and to make it conform

more clearly to the naturally assumed position of the folded leaves, I prefer to bend or incline the upper end of the copy plate rearwardly, as shown at 69. The brackets 64 are preferably disposed across the line of demarcation 70 and their fastening 71 arranged upon both sides thereof for strengthening purposes.

A copyholder constructed in accordance with my invention is durable, noiseless and efficient in operation, while free from such complexities of structure as would prohibit its production and sale at a reasonable price and its successful operation by persons possessed of but ordinary mechanical knowledge. While its usefulness is not confined to such an association, the machine is particularly adapted to be arranged in rear of a writing machine, in which position the copy is in the most natural position for observation by the typist and the operating key readily accessible from the keyboard of the machine.

I claim as my invention:

1. In a copy holder, the combination with a support, a copy plate mounted thereon and means for moving the latter intermittently relatively to the support, of means for locking the copy plate relatively to the support between such movements embodying a retaining clutch carried by one of said members and engaging the other after each movement of the copy plate and means on the other member engaging said clutch to release it at a predetermined point in the travel of the copy plate.

2. In a copy holder, the combination with a support and a copy plate movable relatively thereto and provided with a lifting rod, of a movable clutch engaging the rod to move the copy plate in one direction, a retaining clutch mounted on the support and normally engaging the rod to prevent movement of the copyplate in the opposite direction, means for operating the movable clutch and means carried by the copy plate and engaging the retaining clutch to release the latter at a predetermined point in the travel of the copy plate.

3. In a copyholder, the combination with a support and a copyplate movable relatively thereto and provided with a lifting rod, of a movable clutch engaging the rod to move the copy plate in one direction, a retaining clutch mounted on the support and normally engaging the rod to prevent movement of the copy plate in the opposite direction, means for operating the movable clutch and means arranged at the base of the rod and engaging the retaining clutch to release the latter at the limit of movement of the copy plate.

4. In a copy holder, the combination with a support embodying a cross bar and a copy plate movable relatively thereto and pro-

vided with a lifting rod guided in the cross-bar, of a movable clutch arranged upon one side of the latter and engaging the rod to move the copy plate in one direction, a retaining clutch arranged on the other side of the cross bar and normally engaging the rod to prevent movement of the copy plate in the opposite direction, means for operating the movable clutch and means carried by the copy plate and engaging the retaining clutch to release the latter at a predetermined point in the travel of the copy plate.

5. In a copy holder, the combination with a support embodying a cross bar and a copy plate movable relatively thereto, and provided with a lifting rod guided in the cross bar, of a movable clutch arranged upon one side of the latter and engaging the rod to move the copy plate in one direction, a retaining clutch arranged on the other side of the cross bar and normally engaging the rod to prevent movement of the copy plate in the opposite direction, a spring interposed between the cross bar and the retaining clutch to act against such parts respectively, means for operating the movable clutch and means carried by the copy plate and engaging the retaining clutch to release the latter against the tension of the spring at a predetermined point in the travel of the copy plate.

6. In a copy holder, the combination with a support and a copy plate movable relatively thereto and provided with a lifting rod, of a clutch rod movable relatively to the support, means for operating it in two directions, a clutch carried by the clutch rod to be moved thereby toward and from the support and engaging the lifting rod to move the copy plate when the clutch rod is operated in one direction and released by engagement with the support when the clutch rod is operated in the opposite direction and means for retaining the copy plate against return movement.

7. In a copy holder, the combination with a support embodying a cross bar and a copy plate movable relatively thereto and provided with a lifting rod, of a clutch rod movable relatively to the support and guided therein, means for operating it in two directions, a movable clutch carried by the clutch rod to be moved thereby toward and from the cross bar and engaging the lifting rod upon one side of the cross bar to move the copy plate when the clutch rod is operated in one direction and released by engagement with the cross bar when the clutch rod is operated in the reverse direction, a retaining clutch engaging the lifting rod carried by the support upon the opposite side of the cross bar and means for releasing said clutch by the reverse movement of the clutch rod.

8. In a copy holder, the combination with

a support embodying a cross bar and a copy plate movable relatively thereto and provided with a lifting rod, of a clutch rod movable relatively to the support and guided therein, means for operating it in two directions, a movable clutch carried by the clutch rod to be moved thereby toward and from the cross bar and engaging the lifting rod upon one side of the cross bar to move the copy plate when the clutch rod is operated in one direction and released by engagement with the cross bar when the clutch rod is operated in the reverse direction, a retaining clutch engaging the lifting rod carried by the support upon the opposite side of the cross bar, means for releasing it by the reverse movement of the clutch rod and a tension member interposed between said retaining clutch and the cross bar and acting against each respectively.

9. In a copyholder, the combination with a supporting frame provided with guides, a copy plate movable relatively thereto on the guides and a clutch mechanism for operating the copy plate, of a side bar extending transversely of the supporting frame to form an L-shaped structure therewith and detachably secured thereto, an actuating lever for the clutch mechanism pivoted to the supporting frame and movable in one direction to operate the clutches and in the other to release them, one end of said lever being arranged to project from the side of the frame and copyplate in the region of the side bar and an operating lever pivoted to the latter, one of said levers being provided with an opening of non-circular shape forming a bearing and the other being provided with a stud rotatable in said bearing and having a headed interlocking portion movable through the bearing only when the levers are assembled while held in other than their operative relations.

10. In a copy holder, the combination with a support provided with guides, a copy plate movable relatively thereto on the guides and a clutch mechanism for operating the copy plate embodying a lifting clutch and a retaining clutch, of a side bar extending transversely of the support and detachably secured thereto, an actuating lever for the clutch mechanism pivoted to the support and movable in one direction to operate the clutches and in the other to release them both and an operating lever pivoted to the side bar and having a detachable interlocking connection with the actuating lever insuring joint movement of the levers in both directions.

11. In a copy holder, the combination with a support provided with guides, a copy plate movable relatively thereto on the guides and a clutch mechanism for operating the copy plate, of a side bar extending transversely of the support and detachably secured there-

to, an actuating lever for the clutch mechanism pivoted to the support and movable in one direction to operate the clutches and in the other to release them and an operating lever pivoted to the side bar, one of said levers being provided with a slot and the other with a stud bearing in the slot and having a headed portion of substantially the same shape, extending transversely to the latter.

12. In a copyholder, the combination with a support, a copy plate guided thereon, means for elevating the copy plate relatively to the support and means for releasing the same to permit of its descent, of a cylinder carried by one of said members, a piston slidable therein relatively to both and operating connections between the other member and said piston for moving the latter upon the descent of the copy plate when the latter is released to cushion its fall and a spring within the cylinder for returning the piston.

13. In a copyholder, the combination with a support, a copy plate guided thereon, means for elevating the copy plate relatively to the support and means for releasing the same to permit of its descent, of a cylinder carried by one of said members, a piston operating therein and freely movable relatively to both members and a guiding projection on the other member engaging the piston to cushion the fall of the copy plate after the latter is released.

14. In a copyholder, the combination with a support, a copy plate guided thereon, means for elevating the copy plate relatively to the support and means for releasing the same to permit of its descent, of a cylinder carried by one of said members, a guide rod extending through the cylinder and a piston slidable within the latter upon the guide rod and operating connections between the other member and said piston for moving the latter upon the descent of the copy plate when the latter is released to cushion its fall.

15. In a copy holder, the combination with a support, a pair of guide rods thereon, a cylinder at the base of one of said rods, a copy plate movable on the guide rods, means for elevating the copy plate relatively to the support and means for releasing the same to permit of its descent, of a piston slidably mounted on the guide rod within the cylinder and cooperating connections between the piston and copy plate for operating the piston by the descent of the copy plate after the latter is released to cushion its fall.

16. In a copy holder, the combination with a support, a guide rod thereon, a cylinder arranged at the base of said rod, a copy plate movable on the rod, means for elevating the copy plate relatively to the support and means for releasing the same to permit

of its descent, of a piston slidably mounted on the guide rod within the cylinder, cooperating connections between the piston and copy plate for operating the piston in one direction by the descent of the copy plate, a spring arranged within the cylinder for operating the piston in the opposite direction and an abutment on the cylinder with which the piston engages to limit the action of the spring.

17. In a copy holder, the combination with a support, a cylinder thereon having a bottom plate, a guide rod on the support extending through the cylinder and secured to the bottom plate, a copy plate movable on the guide rod, means for elevating the copy plate relatively to the support and means for releasing the same to permit of its descent, of a piston slidable on the guide rod within the cylinder and cooperating connections between the piston and copy plate for operating the piston by the descent of the copy plate.

18. In a copy holder, the combination with a support, a guide rod thereon, a cylinder arranged at the base of said rod and a piston slidable on the latter within the cylinder, of a copy plate, means for elevating it relatively to the support, means for releasing it to permit of its descent and an extension thereon slidable on the guide rod and hav-

ing a barrel portion engaging the piston and movable within the cylinder upon the descent of the copy plate.

19. In a copy holder, the combination with a support, a copy plate guided thereon, means for elevating the copy plate relatively to the support and means for releasing the same to permit of its descent, of a tension member arranged between the copy plate and support and flexed by the copy plate when operated to its limit of movement to accelerate the descent thereof when released.

20. In a copy holder, the combination with a support, a guide rod thereon, a cylinder arranged at the base of said rod and a piston slidable on the latter within the cylinder, of a copy plate, means for elevating it relatively to the support, means for releasing it to permit of its descent, an extension thereon slidable on the guide rod and engaging the piston upon the descent of the copy plate and a spring encircling the guide rod and carried on the projection, said spring being compressed between the latter and the support when the copy plate is operated to its upward limit of movement.

RUSSELL B. GRIFFITH.

Witnesses:

G. WILLARD RICH,
H. H. SIMMS.