July 1, 1930. C. FENSKY ET AL 1,768,753

COPYHOLDER

Filed Nov. 24, 1928 2 Sheets-Sheet 1

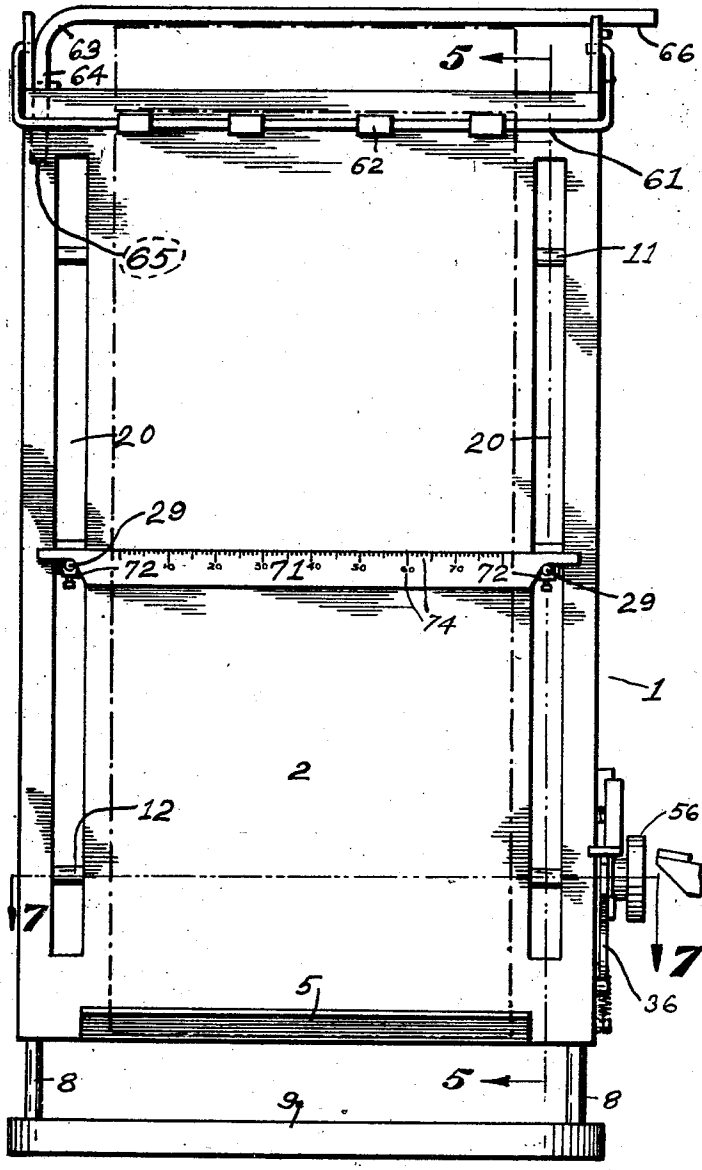


Fig. 1.

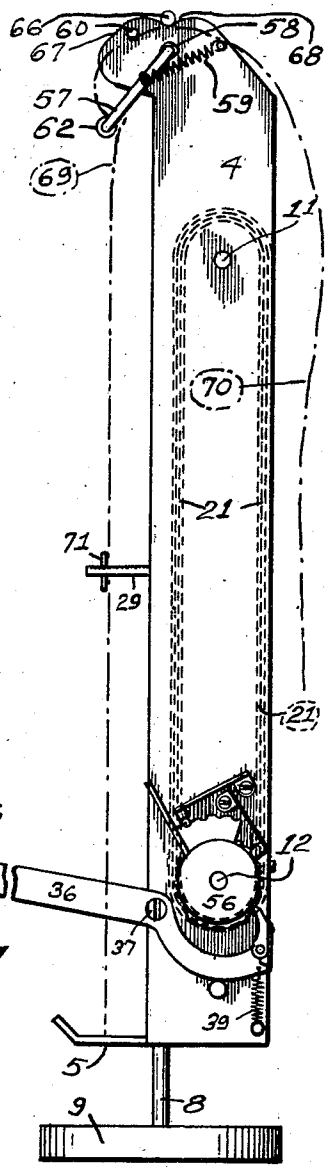


Fig. 2.

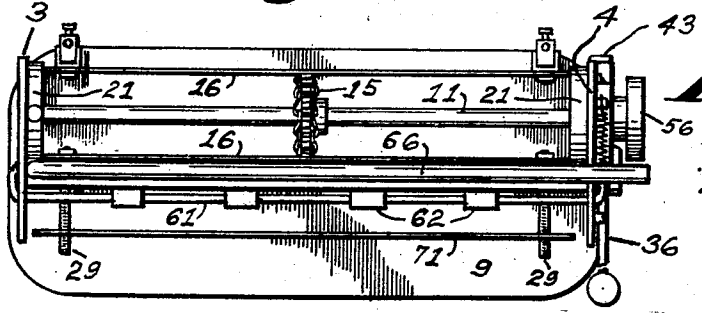


Fig. 3.

INVENTORS:
Charles Fensky,
Harvey J. Readey,
BY
Hughes Wagner,
ATTORNEY.

July 1, 1930. C. FENSKY ET AL 1,768,753

COPYHOLDER

Filed Nov. 24, 1928 2 Sheets-Sheet 2

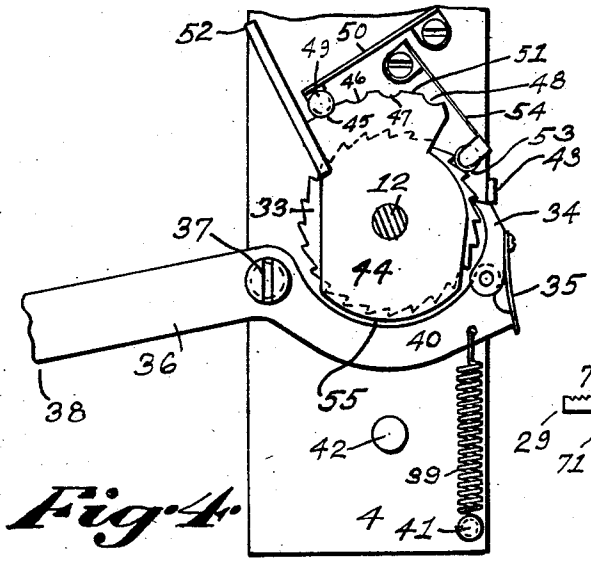


Fig. 4.

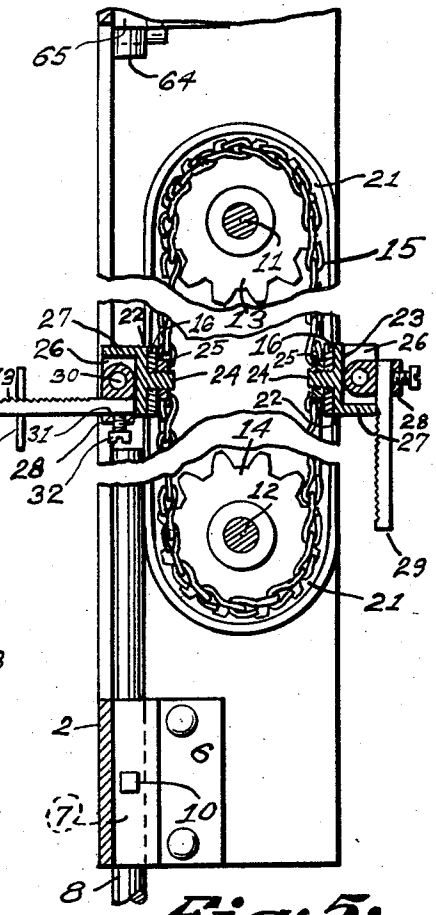


Fig. 5.

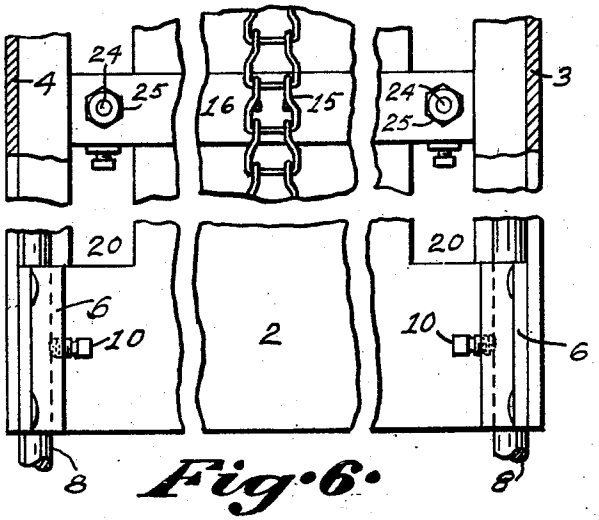


Fig. 6.

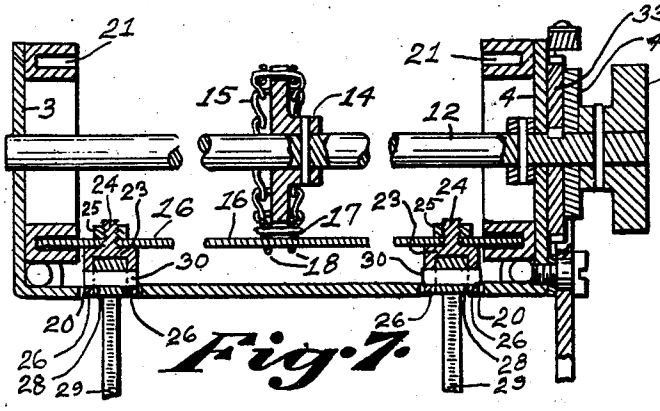


Fig. 7.

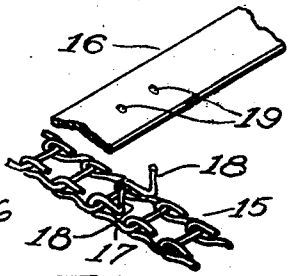


Fig. 8.

INVENTORS:
Charles Fensky,
Harvey J. Readey,
BY
Hugh V. Wagner,
ATTORNEY.

Patented July 1, 1930

1,768,753

UNITED STATES PATENT OFFICE

CHARLES FENSKY AND HARVEY J. READEY, OF ST. LOUIS, MISSOURI; ANNA K. READEY ADMINISTRATRIX OF SAID HARVEY J. READEY, DECEASED

COPYHOLDER

Application filed November 24, 1928. Serial No. 321,533.

This invention relates to a device for holding copy for typists, linotype operators, or others who need to follow a copy or original in order to make reproductions thereof. The devices of this character hitherto in use comprise a board to which the copy may be clamped, a stationary guide in the form of a bar that indicates the instant line to be copied, and means, actuated by the operator after he has finished copying a line, for raising the board the proper distance with relation to the stationary guide to indicate the succeeding line to be copied. Since the copy in such devices moves while the guide remains stationary, the operator is compelled to view each line at the same level, which becomes very monotonous and tiresome, especially where the work extends without interruption over a period of several hours. Moreover, since the entire board and copy are lifted while the comparatively light guide remains stationary, the lifting mechanism must be made correspondingly heavy and cumbersome for the sake of strength and stiffness, while the exertions of the operator in actuating the lifting mechanism must also be comparatively vigorous and toilsome. Such prior devices are also objectionable because their position cannot be shifted as desired to accommodate the visual characteristics of the operator, since the comparatively great effort required to operate them requires that they be secured in place.

Accordingly, the principal purpose of the present invention is the provision of an indicating copy-holder that will obviate the aforesaid disadvantages and objectionable features of the said prior devices. Other objects and advantages, more or less ancillary to the foregoing, will appear in the course of the following description of an illustrative embodiment of the invention.

In the accompanying drawings forming part of this specification, in which like numbers of reference denotes like parts wherever they occur:

Figure 1 is a front elevation of the copy-holder of this invention;

Figure 2 is an end elevation of the same;

Figure 3 is a plan view;

Figure 4 is a fragmentary enlargement end elevation with the operating lever depressed, parts being broken away to reveal underlying parts;

Figure 5 is a fragmentary transverse vertical sectional view, taken on the line 5—5 in Figure 1;

Figure 6 is a fragmentary rear elevation with parts broken away to reveal underlying parts;

Figure 7 is a horizontal sectional view taken on the line 7—7 in Figure 1, but with the guide in a lower position; and

Figure 8 is a perspective fragmentary view exhibiting the manner of attaching the bar of the conveyor to the conveyor chain.

The board 1 of the copy-holder is preferably formed of sheet metal bent to define a front wall or web 2, side walls or flanges 3 and 4 that extend rearwardly respectively from opposite lateral edges of the front wall 2, and a shelf or bracket 5, that extends forwardly from the bottom edge of the front wall 2. A pair of offset plates 6 are secured to the inner sides of the flanges 3 and 4, respectively, at their lower anterior corners, and co-operate with the adjacent portions of the web 2 and the flanges 3 and 4, respectively, to form vertical channels or sockets 7, adapted to receive the vertical rods 8 of a stand 9. The board 1 may be raised or lowered on the rods 8 and fixed at any desired or convenient level by tightening set screws 10, threading through the plates 6, against the rods 8.

A horizontal shaft 11 is journaled at its opposite ends in the upper portions of the flanges 3 and 4, respectively; and another horizontal shaft 12 is journaled at its opposite ends in the lower portions of the flanges 3 and 4, respectively. A sprocket wheel 13 is rigidly secured to the intermediate portion of the upper shaft 11; and a sprocket wheel 14 is rigidly secured to the intermediate portion of the lower shaft 12 and in alinement with the sprocket wheel 13. A sprocket chain 15 passes around the sprocket wheels 13 and 14. The links of the chain may be formed of any suitable material and

have any suitable shape, but in the present instance, for the purpose of illustration, they have been formed of wire bent to the desired shape. A horizontal bar 16 is secured to the chain parallel to and behind the front wall 2 of the board. Preferably, although not necessarily, a plurality of such bars is disposed at suitable intervals along the chain, two such bars being exhibited in the illustrative embodiment of the invention. In the present instance, the bars are secured to links 17 of the chain that are especially formed for that purpose. As shown in Figure 8, the ends 18 of the wires that form the links are bent to project outwardly, and the bar 16 is provided at its intermediate portion with openings 19 for the reception of the said ends. After the ends 18 have been passed through the openings 19 and the bar has been pushed home against the link 17, the ends 18 are bent back against the bar 16, thereby securely attaching it to the link. The front wall 2 of the board is provided with slots 20 that extend along its respective opposing lateral edges, and the outer ends of the bars 16 extend beyond the said slots into guide channels 21, through which the ends travel as the bars 16 are carried along by the chain 15. The bars 16 are provided with arms that project through the slots 20. The arms are preferably, although not necessarily, pivotally borne by the bars 16, so that the slots 20 need not be unduly long, the pivotal connection permitting them to swing into retracted position when they reach the end of the slots. Each of the arms is pivoted to its bar 16 through the intermediation of a stud 22, comprising a head 23 and a screw-threaded stem 24 that passes through an opening therefor in the bar 16, the head being clamped against that side of the bar that is presented to the rear side of the board by means of a nut 25 screwed home against the opposite side of the bar on the threaded stem 24. Flanges 26 project outwardly from each lateral edge of the outer face of the head 23, and a flange 27 projects outwardly from that horizontal edge of the outer face of the head 23 that is uppermost when the bar is immediately behind the front wall 2 of the board. The arms are preferably, though not necessarily, formed in sections, one of the sections 28 being a member disposed between and pivoted to the flanges 26, and the other section 29 being a detachable extension for the pivoted arm member 28. The pivotal connection of arm member 28 to the flanges 26 is effected by a pin 30 that passes tightly through the flanges 26 and loosely through the arm member 28. The member 28 is provided with a socket 31 to receive the detachable extension 29 with its axis arranged transversely to the pin 30. A set screw 32 secures the extension 29 to the pivoted block 28. The arms are biased, preferably by a preponderance of their weight being disposed at one side of their pivotal axes, so that they will normally tend to fall in a counter-clockwise direction when their bar 16 is positioned immediately behind the wall 2, the descent of the extensions 29 below a horizontal position being prevented by reason of the lower portion of the heads 23 acting as stops to limit the movement in this direction, as best shown in Figure 5. Undue angular movement of the arms in the opposite direction is limited by the flanges 27.

A ratchet wheel 33 is affixed to the shaft 12 adjacent the outer side of the flange 4, and is rotated in a counter clockwise direction, as shown in Figure 4, by means of a pawl 34, pressed thereagainst by a spring 35, and pivotally borne by an operating lever 36, pivoted to the wall 4 by means of a stud 37. The anterior or outer end 38 of lever 36 is normally held in elevated position by a contractile coil spring 39, one end of which is connected to the rear end 40 of the lever, and the other end to a stud 41, affixed to the flange 4. The movement of lever 36 is limited in one direction by a projection 42 on the outer side of the wall 4, and in the opposite direction by a lug 43 on the rear edge of wall 4 that is engaged by the nose of pawl 34. A cam plate 44, for optionally "masking" one or more of the teeth that the pawl 34 rides over at each stroke or throw of the lever 36, is loosely journaled on the shaft 12 and adjacent the outer side of the ratchet wheel 33. Plate 44 is provided with a plurality of circumferentially spaced notches 45, 46, 47 and 48, that ride under a roller 49, borne by a leaf spring 50, borne by the wall 4 so as to urge the roller 49 against the notched edge 51 of plate 44. The engagement of roller 49 with one or the other of the said notches prevents the plate 44 from being moved accidentally to a position other than the one of the four positions to which it has been set by the manipulation of the lever 52 formed integral with the plate. The proper positioning of the ratchet wheel 33 is similarly assured by the roller 53, pressed into engagement with the teeth of the ratchet wheel by the leaf spring 54, secured to the wall 4. When lever 52 is in the position shown in Figure 4, pawl 34 rides over 3 teeth at each operation of the lever 36, and the ratchet wheel 33 is rotated through an angular displacement corresponding to the circumferential distance occupied by three of its teeth. When lever 52 is pulled forward to engage roller 49 with notch 46, the arcuate edge 55 of masking plate 44 is rotated counterclockwise the distance of one tooth, permitting pawl 34, which is wide enough to also ride on the edge 55, to ride over only two teeth of the ratchet wheel, but engag-

ing the pawl to lift the latter out of engagement with the third tooth, and thereby correspondingly limiting the angular movement of the ratchet wheel. Similarly, when lever 52 is moved still further forward notch 47 engages roller 49, and the pawl 34 advances the ratchet wheel 33 over the circumferential distance of only one tooth. When lever 52 is moved to the extreme forward position, notch 48 engages roller 49 and arcuate edge 55 lifts pawl 34 entirely out of engagement with the ratchet wheel 33, thereby permitting knob or disc 56, affixed to the outer end of shaft 12, to be rotated in a clockwise direction and to rotate ratchet wheel 33 and shaft 12 in the reverse direction to that effected by the operation of the lever 36. Of course, knob 56 can always be turned in a counter clockwise direction to rotate shaft 12, no matter what the position of lever 52 may be, and so constitutes a means for rotating shaft 12 rapidly in either direction. The pitch of the teeth of the ratchet wheel 33 is preferably such that the arms 29 are advanced a distance equal to a single space between successive lines of the copy or manuscript held on the board each time the ratchet wheel is rotated through the space of one tooth. It will, therefore, be understood that the guide can be advanced at single, double, or triple space intervals, as desired, by setting the lever 52 at the proper position corresponding thereto.

A U-shaped wire 57 has its ends pivoted in apertures 58 therefor in the upper ends of the walls 3 and 4. The wire 57 is urged against the front face of the board by a contractile spring 59 when it is in the position shown in figure 2; but when the wire is turned away from the board until it abuts against the stop 60, borne by the wall 4, the spring 59 tends to hold it against the stop. The horizontal portion 61 of the wire 57 is preferably covered at intervals by sleeves of rubber 62, that bear against the sheet or sheets of paper, or the leaves of a book or record that may be clamped between the arm 61 and the wall 2 of the board. An L-shaped rod 63 has its vertical arm 64 pivoted in a socket 65 behind the board 2 and the wall 3, and the outer end of its horizontal arm 66 is adapted to ride yieldingly over a cam edge 67 on the upper end of the wall 4. The cam edge 67 is formed to provide a notch or depression 68 that serves to hold the arm 66 against accidental displacement from the position shown in Figure 2.

In using the device, the paper, manuscript or book 69 that is to be copied from is placed against the front face of the wall 2 of the board and clamped thereagainst by the wire clasp 57, as shown in Figures 1 and 2. Any preceding leaves of the book that cover the page that is to be copied are turned back over the top edge of the board, as shown at 70, and are held in this position by the arm 66 of the rod 63. The nearest pair of the arms 29 are then brought into position on a level slightly below that of the line of the copy 69 that is to be copied first, by turning disc 56 in the proper direction, and, if the direction is to be clockwise, by first pulling lever 52 to its extreme forward position to disengage the pawl 34 from the ratchet wheel 33. The guide bar 71, having its lower end portions cut away to provide edges 72 that limit its endwise movement, is then placed on the arms 29 against the copy 69, the teeth 73 on the upper side of the arms 29 serving to maintain the guide 71 against the copy 69. Lever 52 is then operated to set the device to lower the guide 71 through either the one, two, or three-space intervals each time the lever arm 38 is depressed by the operator when he has finished copying a line. When the guide 71 reaches the lower end of the board, the arms 29 are retracted, and the guide falls onto the shelf 5. The bar 71 may, if desired, be provided with suitable markings 73 to indicate a scale, such as is embodied in a typewriter adjacent the carriage.

It will be observed that the guide 71 is shifted instead of the copy, so that the operator views each succeeding line at a different level, thereby relieving eye strain, as well as muscle and nerve tension and fatigue. Since the guide is comparatively light, it can be easily shifted. Moreover, it is lowered, instead of lifted, as is the copy in prior devices. This feature is highly meritorious whenever the records that are to be copied are heavy and cumbersome. The ease of operation also enables the use of a lighter and less cumbersome shifting mechanism, and therefore, also a lighter supporting frame and device in general, thereby reducing the cost of construction and also enabling it to be lifted about with greater ease from one position to another to suit best the convenience and visual characteristics of the operator. A plurality of detachable arm extensions 29 of different lengths may be provided to accommodate copies or books of different thickness. It will also be understood that the slots 20 may be shorter in consequence of the pivotal connection of the arms 29 to the bars 16, since they will be retracted automatically when they touch the ends of the slots. It will also be understood and appreciated that the chain 15, sprocket wheels 13 and 14, bars 16, and associated parts constitute but one form of the conveyor hereinafter referred to in the claims. The device can of course be made in a variety of sizes to suit copies of widely differing dimensions. Also, the shelf 5 may serve to support the lower edge of heavy records that are to be copied.

Having thus fully described this invention, we hereby reserve the benefit of all changes in form, arrangement, order, or use of parts, as it is evident that many minor changes may be made therein without departing from the spirit of this invention or the scope of the following claims.

We claim:

1. In a copy-holder, a copy-holding board having slots extending along opposing edges, an endless conveyor positioned midway behind the board, a pair of arms pivotally borne by the conveyor so as to pass through said slots in extended position and to retract automatically to clear the board at the end of the slots, and a guide in front of said board and having its opposite ends supported by said arms.

2. In a copy-holder, a copy-holding board having slots extending along opposing edges, a conveyor positioned behind the board, a bar carried by said conveyor and extending from one to the other of said slots and presenting arms that project through the said slots respectively, means for shifting said bar, and a guide in front of said board and having its opposite ends sustained by said arms.

3. In a copy-holder, a copy-holding board having slots extending along opposing edges, a conveyor behind the board, a bar carried by said conveyor, a pair of arm members pivotally borne by the bar behind said slots, detachable extensions for said arm members that project through said slots, respectively, and a guide in front of said board and having its opposite ends supported by said extensions.

4. In a copy-holder, a copy-holding board having slots extending along opposing edges, a conveyor behind the board, a bar carried by said conveyor, a pair of arm members pivotally borne by the bar behind said slots, detachable extensions for said arm members that project through said slots, respectively, a guide positioned in front of said board and having its opposite ends supported by said extensions and detachable therefrom as said extensions reach the lower end of their course and means for receiving said detached guide.

5. In a copy-holder, a copy-holding board, a bar operable behind said board, means for operating said bar, a pair of arms supported by said bar, and a guide carried by said arms and adapted to be moved over the front of said board under the influence of said bar-operating means.

6. In a copy-holder, a copy-holding board having slots extending along opposing edges, a conveyor behind the board, a bar carried by said conveyor, a pair of arm members pivotally borne by the bar behind said slots, detachable extensions for said arm members that project through said slots, respectively, and a guide positioned in front of said board and having its opposite ends supported by said extensions.

In testimony whereof we hereunto affix our signatures.

CHARLES FENSKY.
HARVEY J. READEY.