Sept. 29, 1959 R. GREENBERG 2,906,242

COPY HOLDER

Filed Aug. 9, 1954 2 Sheets-Sheet 1

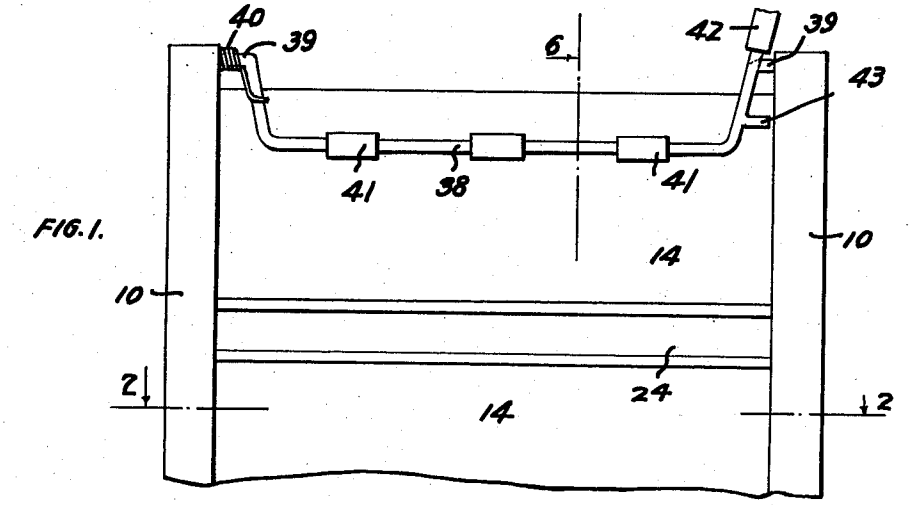
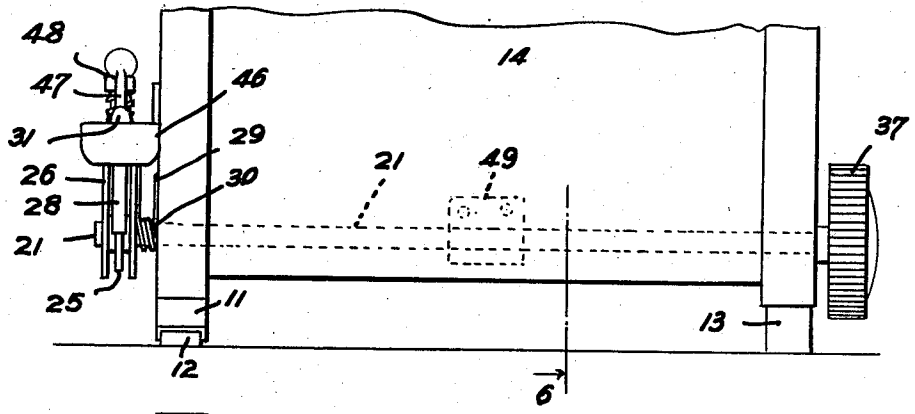


FIG. 1.



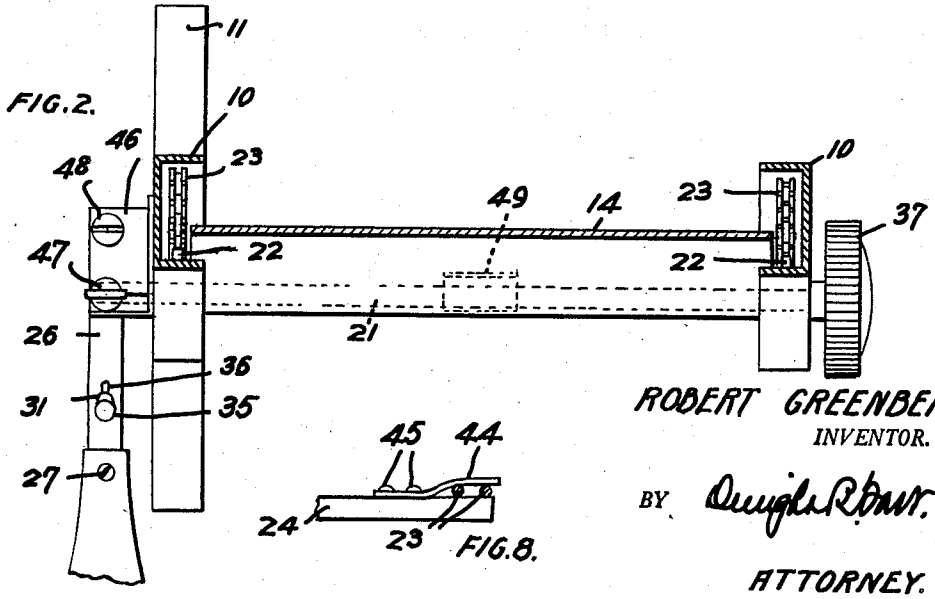


FIG. 2.

FIG. 8.

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COPY HOLDER

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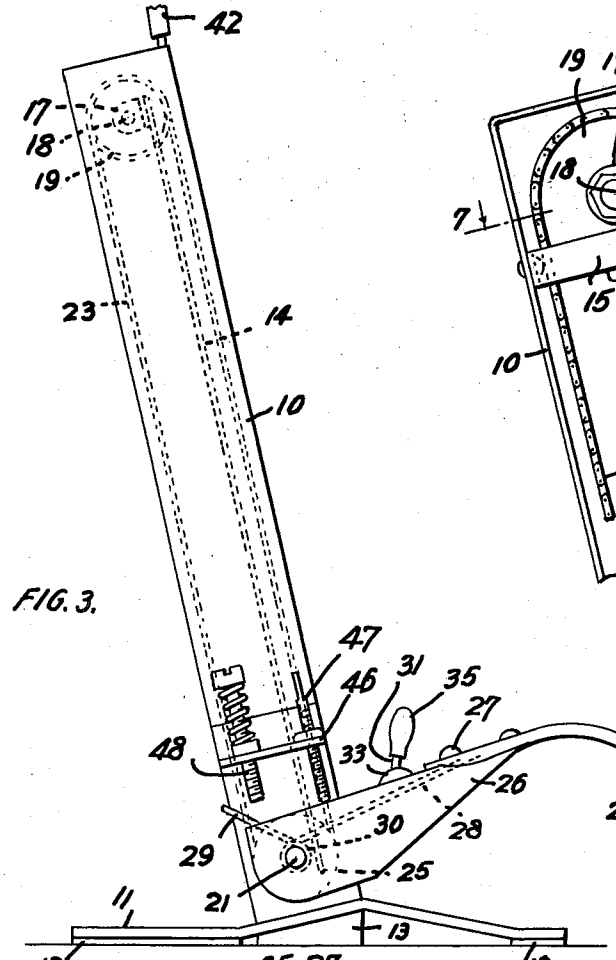


FIG. 3.

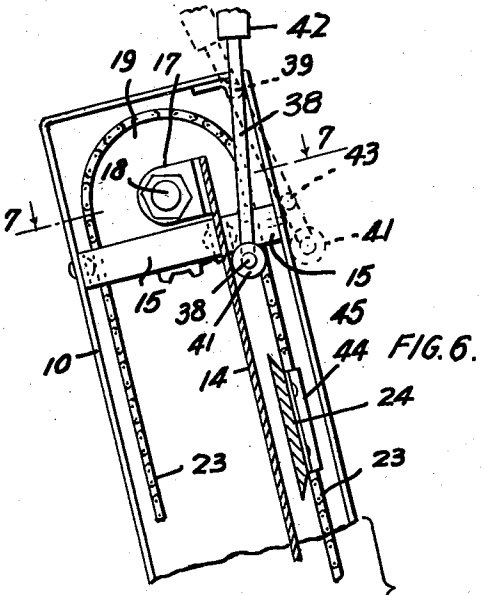
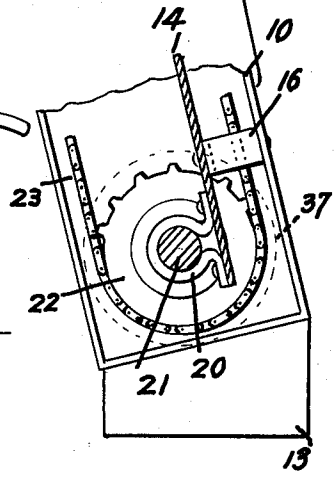


FIG. 6.



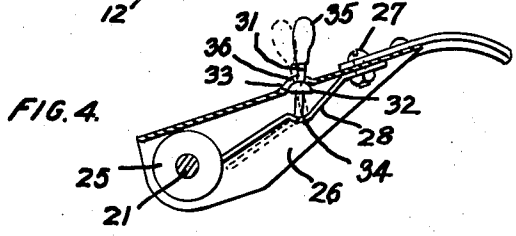


FIG. 4.

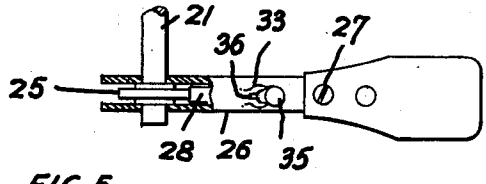


FIG. 5.

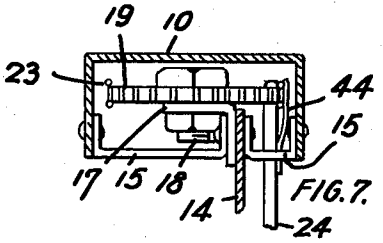


FIG. 7.

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2,906,242

COPY HOLDER

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Application August 9, 1954, Serial No. 448,476

2 Claims. (Cl. 120—34)

This invention is a copy holder and pertains particularly to devices to hold a copy sheet in proper position for visual observation and equipped with means whereby the writing or printing upon the sheet may be exposed a line at a time in an expeditious and easy manner by the operator.

The primary object of the invention is to provide a copy holder of this general type which is of simple construction, which is composed of but few simple and readily assembled parts, which has its various parts so arranged and coordinated as to be positive in operation and which may not readily become deranged, which is of light weight, which is operated in a positive manner with little effort on the part of the operator, which may be quickly and easily adjusted to accommodate the spacing upon the copy, and which will prove fully practical in operation.

A further object of the invention is to provide means of simple construction for maintaining the copy sheet or sheets secure in proper position upon the bed plate.

A further object of the invention is to provide improved means for mounting the line bar, such means enabling the bar to be readily adjusted independently of the mechanical spacing means.

A still further object of the invention is to provide means of simplified and improved nature for adjusting the "throw" of the operating lever to bring about a desired degree of movement of the line bar when the mechanical means is operated.

With the foregoing objects in view, together with others which will appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts, all as will be described more fully hereinafter, illustrated in the drawing, and particularly pointed out in the claims.

In the drawings:

Fig. 1 is a front elevation, parts broken away, of a copy holder embodying the invention,

Fig. 2 is a transverse sectional view taken substantially upon line 2—2 of Fig. 1,

Fig. 3 is a side elevation of the improved copy holder,

Fig. 4 is a detail sectional view taken through the operating lever for the copy holder.

Fig. 5 is a top plan view, parts broken away, of the device as shown in Fig. 4,

Fig. 6 is a cross sectional view, on an enlarged scale, taken substantially upon line 6—6 of Fig. 1,

Fig. 7 is a transverse sectional view taken upon line 7—7 of Fig. 6 and

Fig. 8 is a fragmentary end view of the line bar disclosing means for connecting the same to the travelling chains.

The holder of my invention comprises a frame including a pair of spaced parallel channel bars 10 formed preferably of thin metal, which bars are closed at their tops and bottoms, as shown, and the bars are arranged so that their channel openings are disposed inwardly, that is, facing one another. The frame also includes an elongated foot or rest 11 welded or in any other desired manner securely attached to the lower end of the frame at one side thereof and projecting forwardly and rearwardly therefrom to firmly maintain the frame in upright position upon a desk or table. The foot 11 comprises a channel member of light weight with its channel opening disposed downwardly to receive cushioning elements or pads 12 in the undersurface thereof. The opposite side of the frame is provided with a cushioning foot or block 13 having its lower face terminating in substantially the same plane with the pads or cushioning elements 12 of the elongated foot. From this arrangement it is apparent that the frame will be maintained in proper erect position upon a table or desk by the foot and pad. Disposed within the frame is a bed plate 14 preferably of thin flat steel and of a width to have its lateral edges disposed within the channels of the spaced side bars 10. This bed plate is provided near its upper end and at each side thereof with a pair of laterally disposed brackets 15, secured at their outer ends rigidly within the adjacent channel bar 10. These connections may be made by welding or rivets or screws as desired. Each side of the bed plate 14 near its lower end is provided with a laterally extending bracket 16 connected within the adjacent channel bar 10 to rigidly connect the lower end of the bed plate to these bars. It will be observed that these brackets 15—16 firmly attach the bed plate to the side bars to provide a rigid structure with the bed plate 14 spaced inwardly from the forward edges of the channel bars.

The upper end of the bed plate 14 is provided at its lateral edges and at each side thereof with a rearwardly directed ear 17 to rigidly support a stub shaft 18 rotatably supporting a sprocket idler gear 19, the latter being disposed upon the exterior surfaces of the bearing ears 17 and wholly within the adjacent channel bar. The lower end of the bed plate 14 is provided upon its rear face and near its lateral edges with bearings 20 to rotatably receive an operating shaft 21 disposed laterally of the frame. Each end of this shaft has secured thereto a drive sprocket 22 preferably identical with the sprocket idlers 19 and also confined wholly within the adjacent channel bars 10. An endless chain 23 passes over each of the drive and idler sprockets at the sides of the frame, and the forward flight of these chains have secured thereto the ends of a line bar or gage 24. The arrangement is such that upon rotation of the shaft 21 the forward flight of endless chains 23 will move upwardly or downwardly of the frame depending upon the direction of rotation of the shaft, and the line bar will move accordingly.

One end of the shaft 21 projects through the adjacent side bar 10 and this projecting end has secured thereto in any desired manner a clutch disk 25. This disk is straddled by the inner end of a lever 26, the said lever being pivotally mounted on the projecting end of the shaft 21, the free end of the said lever extending forwardly of the frame as shown. Within this lever is secured as at 27 one end of a flat spring 28 whose free end normally engages the periphery of the clutch disk 25 in such manner that movement of the lever 26 in a downward direction will cause the disk 25 to rotate, which in turn rotates the shaft 21, but when moving in the opposite direction the free end of the clutch spring 28 slides freely upon the periphery of the clutch disk. A spring 29 is provided with a coil 30 inwardly of its ends surrounding the shaft 21 and having one end firmly connected to the adjacent channel bar 10 and its opposite end disposed beneath and in engagement with the operating lever 26. The arrangement is such that the spring normally maintains the lever 26 in elevated position. The lever 26 is provided with means whereby the clutch spring 28 may be disengaged from the periphery of the clutch disk 25 to permit of free rotation of the shaft in either direction.

This means in the present instance comprises a thumb or finger-operated rock lever 31 having a bearing 32 inwardly of its ends seated within a pocket 33 in the upper face of lever 26; the lower end of the rock lever 31 engaging in a depression or recess 34 in the underlying spring 28. The upper end of the rock lever is equipped with a gripper head 35, and the construction is such that the pressure of the spring against the lower end of the rock lever maintains the same with its head 32 firmly seated in the pocket 33 in the upper surface of the lever, the pocket being provided with a slot 36 disposed longitudinally of lever 28 to permit of limited rocking movement of the rock lever 31. When the rock lever 31 is in the forward position, as shown by full lines in Fig. 4, the free end of clutch spring 28 is operatively engaged with the periphery of clutch disk 25 so that depression of lever 26 will bring about a drive connection between the lever and the shaft 21. When the lever 26 is released, the spring 29 will operate to return the lever 26 to its elevated position, the free end of the clutch spring 28 riding freely upon the clutch disk 25. When the rock or operating lever 31 is moved in the reverse direction, as shown by the dotted lines in Fig. 4, the free end of clutch spring 28 will be moved downwardly or out of contact with the periphery of the clutch disk 25 so that the latter is free to rotate in either direction; the tension of spring 28 maintaining the rock lever 31 in this clutch released position.

The opposite end of shaft 21 projects beyond the channel bar at the opposite side of the frame and has rigidly attached thereto an operating wheel 37 to facilitate free rotation of the shaft 21. The bed plate 14, as is obvious, is to support the copy sheet or sheets, and this sheet is held firmly but releasably engaged with the flat surface of the bed plate by the gripper bar indicated at 38. This bar has its ends offset as shown, the said offset portions being provided with journals 39 rotatably supported in the upper ends of channel bars 10. A spring 40 encircles one of these journals and tends to maintain the bar in lowered or bed plate engaging position, rubber pads 41 being arranged in spaced relationship on the said bar to engage and firmly hold the copy sheet or sheets on the forward face of the bed plate 14. One end of the bar 38, adjacent to the journal 39 thereof, is provided with an operating handle 42 to permit the bar to be rocked manually upon its journals, the said journals being so mounted as to permit slight sliding movement of the bar 38 transversely of the frame. The bar 38 is provided near one end with a laterally disposed stop 43 to engage with the outer forward face of the adjacent channel bar 10 to maintain the bar in elevated position with its rollers 41 out of contact with the copy sheet or sheets on the forward face of the bed plate 14, as shown by dotted lines in Fig. 6 of the drawings; the slight longitudinal movement of bar 38 in its journals 39 permitting of this movement.

The ends of line bar 24 are connected to the chain 23 in such manner as to normally travel with the chains when the latter are moved, but may be slid manually relative to the chains, when desired, without disturbing the connection between the bar ends and the chains. This is accomplished by providing spring gripper plates or fingers 44 at the ends of the bar 24 as shown particularly in Fig. 8 of the drawings. These plates are secured as by rivets 45 at their inner ends inwardly from the extremities of the bar 24, and the chain 23 is engaged between the line bar and the plates 44 to bring about a frictional connection between the bar ends and the chains. It is obvious, therefore, that the bar may be manually moved longitudinally of the chains when desired, yet in the normal operation of the device the frictional connection between the bar ends and the chains will be sufficient to enable these elements to travel together.

The degree or extent of movement of the line bar 24 is determined by the "throw" of the operating lever 26, and this movement may be regulated by any desired means. In the drawings, the side bar 10 is provided with an outwardly projecting flange 46 adjacent to and above the operating lever 26. An adjusting screw 47 threaded through the flange 46 acts as a stop or limiting means for the lever 26 in an upward direction, while a companion screw 48 spaced beyond the longitudinal center of the side bar 10 limits the downward throw or movement of the lever 26 as will be understood. By adjusting the screws 47—48, the "throw" of the lever may be accurately gaged, and it will be understood that these screws will be manipulated or adjusted to determine the degree of movement of the line bar 24 over the forward face of the bed plate 14.

It is apparent from the foregoing that I have provided a copy holder which is of extremely simple construction and the mechanical make-up and assembly is such that it may be manufactured by simple processes with a minimum of parts, thus enabling the same to be marketed at a minimum of cost. The frame is strong and durable and the movable parts are so designed as to be positive in their operations and at the same time with a minimum of opportunity for breakage or derangement.

The adjusting screws 47—48 being properly set to determine the degree of movement of the line bar 24, the copy is applied to the bed plate 14 and maintained firmly at the upper end in frictional engagement thereon. With the line bar 24 at the upper end of the flight of belt 23, or in such position as to expose the first line upon the copy, depression of operating lever 26 will cause the endless chains or belts to move such distance as to expose the next underlying line of the copy above the upper edge of the line bar 24. The adjusting screws 47—48 permit of liberal adjustment to bring about movement for single, double or further spacing of the line bar as will be understood. After the line bar has reached its lower limit, the rock lever 31 is moved to the dotted line position, whereupon the shaft 21 may be rotated by operation of the hand wheel 37 at one end thereof to move the forward flight of the chain 23 to carry the line bar 24 back to its topmost position and beneath the first line of the next underlying copy sheet. Switching the rock lever then back to normal or operative position enables the step by step or line by line operations to continue as will be understood. If necessary, a spring brake or drag 49 may be attached to the rear face of bed plate 14 to bear against shaft 21 to hold the same against free movement when the clutch spring is disengaged from the clutch disk 25.

The specific construction of the frame and the manner in which the several parts are associated therewith is important. The main body or frame resides in the inwardly facing spaced channel bars of light and inexpensive yet rigid construction. The bed plate 14 serves not only as an adequate support for the copy sheets, but also performs the important function of stabilizing, reenforcing and strengthening the frame. The manner in which the brackets 15 and 16 bring about this connection, as well as the manner of mounting the idler and driving sprockets also lends to simple, inexpensive and yet expedient structure.

I claim:

1. In a copy holder, a frame comprising a pair of spaced parallel channel bars having their open sides facing each other, a bed plate disposed between said bars in spaced relationship to the sides thereof and with its sides disposed in said channels, idler sprockets rotatably supported by and at opposite sides of said bed plate adjacent the top of the plate within said channel bars, a shaft rotatably supported by said bed plate at the lower end thereof, drive sprockets affixed to the ends of said shaft and disposed within said channel bars and supported by said bed plate, said shaft having its ends passing freely through the said bars, endless chains passing over the sprockets in each of said side bars, a line bar disposed

transversely across the face of said bed plate and attached at its ends to the chains within said channel bars, a lever rotatably secured at one end to said shaft, and clutch means interposed between said shaft and said lever whereby depression of the lever in one direction will transmit rotary motion to said shaft; said clutch means comprising a clutch disk affixed to said shaft with the said lever rotatably mounted upon said shaft and over said disk, a clutch spring secured at one end to said lever and having its free end engaged with said clutch disk, spring means tending normally to maintain said lever in one position, a rock lever mounted on said first named lever adapted when in one position to move said spring out of engagement with said clutch disk, and means for regulating the degree of movement of said first named lever.

2. The device as set forth in claim 1, including spring fingers on the ends of said line bar releasably gripping said chains, whereby said bar may be manually moved longitudinally of the chains when desired.

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