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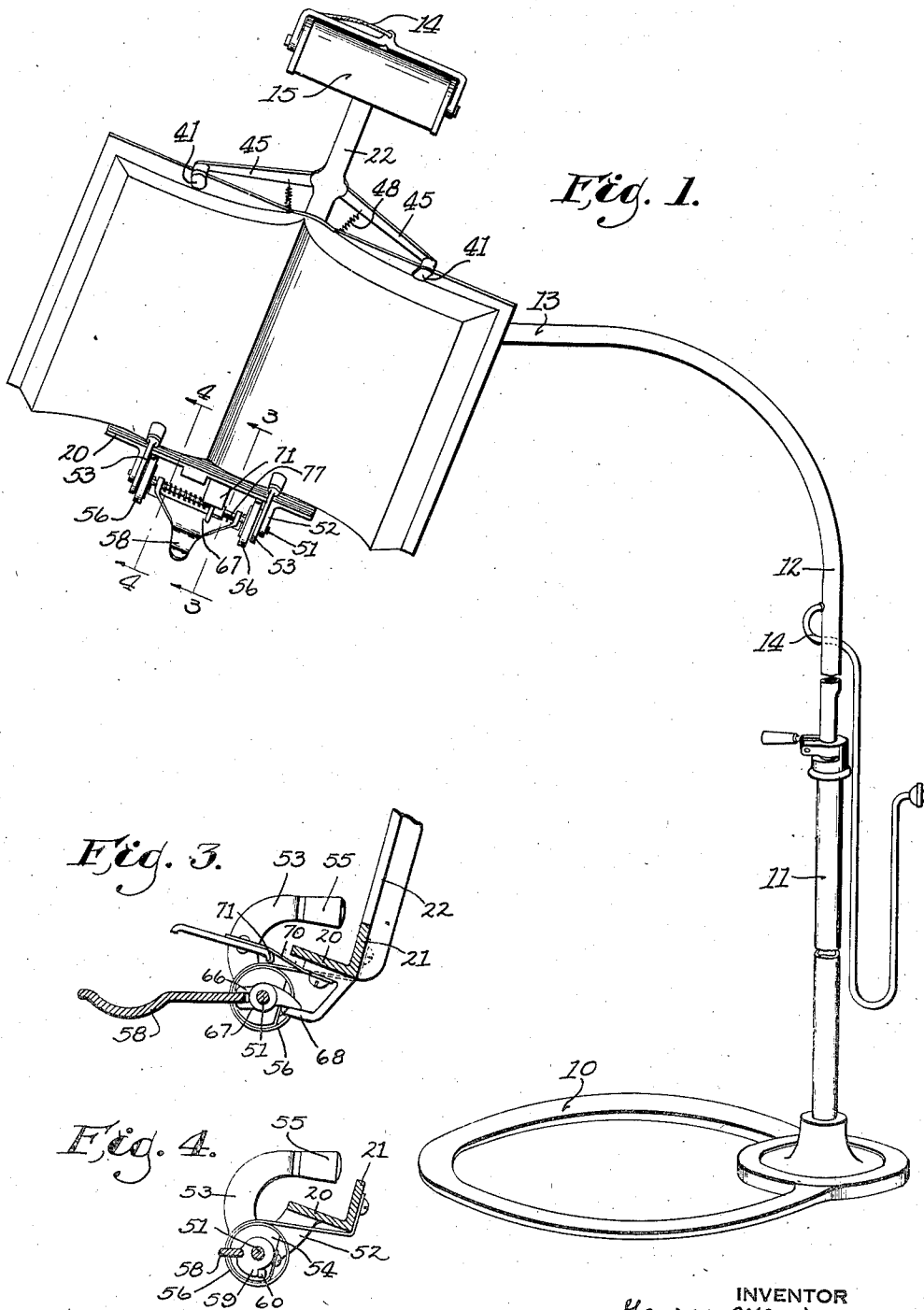
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BOOK HOLDER FOR READING STANDS

Filed Aug. 9, 1937

2 Sheets-Sheet 1



INVENTOR
George Manierre
BY
Wheeler, Wheeler & Wheeler
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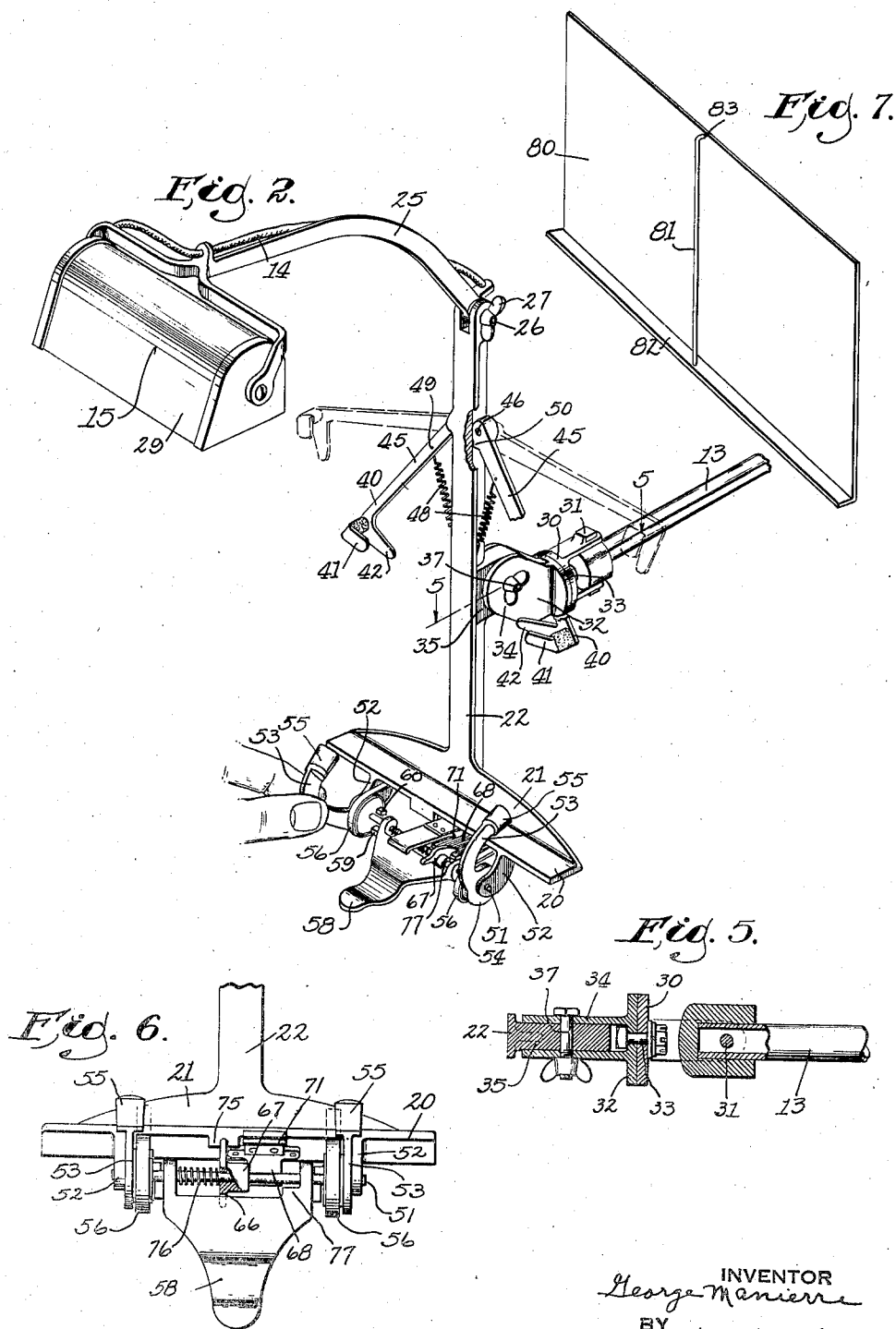
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UNITED STATES PATENT OFFICE

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BOOK HOLDER FOR READING STANDS

George Manierre, Milwaukee, Wis.

Application August 9, 1937, Serial No. 158,012

4 Claims. (Cl. 45—61)

My invention relates to improvements in book holders for reading stands, with particular reference to stands of that class which are provided with means for holding books in open or reading position, convenient for readers in various sitting or reclining positions.

An important object of my invention is to provide an improved reading stand in which the book support or holder is equipped with book cover clamping means adapted to receive and hold books of various sizes with their covers clamped in open position without engaging the pages, the latter being either left free for turning movements or held to the book covers by independently operable page holding means.

A further important object is to provide such a reading stand with an improved adjustable support for the book and its associated cover clamping means, which support can not only be conveniently manipulated to hold an open book in either upright or in downwardly or laterally inclined positions to suit the convenience of readers in sitting posture and in various reclining positions, but in which all required adjustments of the book or its pages may be made by the reader even though only one hand is available for that purpose.

Further objects are to provide improved page holding means, operable either independently of each other, or simultaneously, for holding or releasing pages at opposite sides of the binding, and to provide improved means for manually retracting and locking or latching the page holders in retracted position, subject to release by a further traverse of the manually operable retractor; to provide auxiliary latching means for automatically holding page holders in retracted position until manually released; to provide auxiliary means for supporting magazines, music sheets, and the like, and in general, to provide improved means for holding books, music sheets, etc., whereby page holding and turning operations may be readily performed without disconnection from the support.

This application is a continuation in part of my former application, filed October 12, 1935, Serial No. 44,678, for improvements in Book supports.

In the drawings:

Figure 1 is a perspective view of my improved reading stand book holder with an open book in place.

Figure 2 is a perspective view of the holder, with the book removed, the back bar being shown

in a vertical position, one page holding finger being shown independently retracted.

Figure 3 is an enlarged fragmentary sectional view drawn to line 3—3 of Figure 1, with the book omitted.

Figure 4 is a similar sectional view, drawn to line 4—4 of Figure 1.

Figure 5 is a sectional view of the supporting couplings drawn to line 5—5 of Figure 2.

Figure 6 is a fragmentary view in front elevation, showing the book supporting ledge and means for manipulating and locking a set of page holders in retracted position.

Figure 7 is a perspective view of an auxiliary music sheet mounting plate, adapted to be held in position by the book cover clamping means.

Like parts are identified by the same reference characters throughout the several views.

For the purposes of this description, the supporting portion or standard may be assumed to be of any ordinary construction. As illustrated, but not herein claimed, it comprises a ring-shaped base 10, from one side of which rises a hollow post 11 in which a slide rod 12 telescopes. This rod and the post socket are preferably flattened in cross section to prevent relative rotation, and the slide rod supports a curved arm 13, the upper portion of which extends approximately horizontally across the space above the ring 10, thus providing a portable support of light weight and great relative stability against tilting movement under the weight of books or other objects mounted upon the holder.

The arm 13 will preferably be made tubular and apertured so that an electric lamp cord 14 may be passed through it to a suitable lamp 15 supported from the stand, as hereinafter explained.

The book support includes an angle bar, one flange 20 of which is adapted to serve as a ledge upon which the lower margins of book covers may rest. A back flange 21 extends upwardly from the rear margin of the ledge at a slightly acute angle to its cover receiving face, and from the central portion of this back flange a back bar 22 extends upwardly and its upper end portion is provided with a lamp supporting arm 25 which is pivoted at 26 to the upper end of the back bar 22. It may be secured in various desired positions of pivotal adjustment by a thumb screw 27. The arm 25 may support a lamp 15 and its shade 29, the lamp cord 14 extending to the lamp along the arm 25 substantially as shown.

A set of coupling members, connected with each other for substantially universal adjust-

ment of the book support with reference to the stand, includes a forked member 30 which is pivoted by a normally vertical bolt 31 to the arm 13, and another member 32 rotatively secured by a king bolt 33 to the member 30, and having forked arms 34 pivotally connected with a projecting ear 35 on the back bar 22 by a normally horizontal transverse pivot bolt 37.

The coupling members 30 and 32 have mutually engaging flat bearing surfaces through which the king bolt 33 passes, and the king bolt and pivot bolts may be provided with clamping thumb nuts 34, whereby a book may be held in any desired position of adjustment notwithstanding the weight of the book and book holder. These coupling members allow the book holder to be swung laterally on the axis of the bolt 31, and rotated upon the axis of the king bolt 33 in addition to upward or downward tilting movements of adjustment upon the horizontal axis of the bolt 37.

In order to hold the book securely in any of these positions while adjustments are being made, and also when pages are being turned, I provide suitable means for clamping the book covers in position without interfering with page turning movements. This cover clamping means will now be described.

Due to the fact that the ledge 20 extends at a slightly acute angle to the flange 21 and back bar 22, downward pressure upon the book covers will tend to force their lower margins backwardly against the back flange 21, thus preventing them from sliding forwardly to the free margin of the ledge.

Clamping pressure to hold the covers in this position with the binding of the book against the back bar or parallel therewith is applied by a set of cover clamping heads 40, which are preferably forked or provided with depending lips 41 engageable with the inner faces of the book covers, and longer depending projections 42 to embrace the outer faces of such covers. These clamping heads are supported from the back bar 22 by arms 45 which are pivoted to opposite sides of the back bar at 46, said arms normally extending downwardly and laterally on opposite sides of the bar with the cover clamping heads secured to their depending ends. To apply the clamping pressure I preferably employ a set of tension springs 48, each secured to one of the arms 45 at 49 with its lower end connected with the associated bar 22 intermediate of its ends, whereby said arms are normally held in the position in which they are shown in Figure 2, further downward movement being prevented by stops 50.

The page holders are pivoted to a rod 51 supported from the ledge 20 by brackets 52. Rod 51 is located in front of and below the forward margin of said ledge 20, and each page holder comprises a curved finger 53 having one end provided with a hub 54 mounted to oscillate upon the rod. The other end of each finger has a page engaging extremity 55, which is preferably surfaced with rubber or otherwise cushioned for engagement with book pages.

Each hub 54 has a flat spring 56 wound thereon with one end secured to the hub and the other end secured to the associated bracket 52 under tension urging the finger 53 toward page holding position, subject to manual retraction, either by directly grasping the finger or by oscillation of an operating thumb piece 58. The latter is mounted to oscillate independently upon the rod 51 between the page holding fingers 53, and is

provided with laterally projecting lugs 59 engageable with oppositely projecting lugs 60 on the hubs 54 when the fingers are in page holding position and when they are being held by the operating piece in retracted position. Therefore, either page holding finger is free to move to page holding position independently of the other, and regardless of the number of pages to be held by it or by the other finger.

Also, when either page holding finger is independently retracted, its hub lug 60 moves away from the associated lug 59 on the operating piece, and no motion is transmitted to either the operating piece or the other finger, whereas, when the operating piece 58 is pressed downwardly, its lugs 59 transmit motion through both of the hub lugs 60 and simultaneously retract both page holding fingers. In that event, both page holding fingers may be locked or latched in the retracted position by mechanism now to be described.

The operating piece 58 has an inner margin spaced from the rod 51 between its pivotal or hinge connections with that rod. This margin is loosely connected at 66 in the notch of a locking or latching dog 67, through the hub of which rod 51 loosely passes so that said dog 67 may either slide upon the rod independently of the operating piece or may oscillate upon the rod in correspondence with oscillations of the operating piece.

The dog 67 is normally engageable with a stop bracket 68 depending from the ledge 21, but may be lifted from said bracket by downward movement of the operating piece. When oscillated to the raised position it may be locked or latched in that position by any suitable means to hold the operating piece and the page holding fingers in the retracted position. In the construction shown, I have illustrated two devices for thus holding the dog in the retracted position. Either or both of these devices may be used in a single structure. I may use an automatic spring latch for one-hand operations, and preferably use a depending stop on the ledge 21 for engaging the dog when the latter is shifted from its normal position as hereinafter described.

For automatic latching operations I employ a flat spring 70 which projects forwardly from the under surface of the ledge (or from the bracket 68). In its normal position, an upwardly swinging movement of the dog 67 will bring it into frictional contact with this flat spring 70 and lift the spring as the dog approaches a vertical position.

If desired, spring 70 may be provided with a depending catch projection 71, whereby, if the swinging end of the dog passes this projection, the dog will then be positively held in the raised position and because of its interlock with the operating piece the latter will be held in the depressed position with the page holding fingers retracted. By manually lifting spring 70 the dog may be released, whereupon the operating fingers and associated parts will be returned to normal position by the finger spring 56.

The dog latching spring 70 is peculiarly adapted for one-hand manipulation of the parts, either for turning pages or replacing books. But the latching dog 67 is not only mounted to oscillate upon the rod 51, but when raised it may slide thereon into and out of position for frictional engagement with a depending stop bracket 75 on the ledge 21.

A compression spring 76 coiled on the rod 51 urges the dog toward its normal position underneath the flat spring 70, with the hub of the dog

in contact with a shoulder 77 of the operating piece. But when the dog is manually lifted by depression of the operating piece 58 and then pushed laterally into position for engagement with the stop bracket 75 and the operating piece released to permit such engagement, the spring 76 has insufficient power to overcome the friction of the dog upon this stop bracket under its pressure derived from the springs 56, and therefore the page holding fingers will be held retracted, subject to release whenever the operating piece is manually pressed downwardly to a sufficient extent to withdraw the dog from the bracket and allow the spring 76 to push it laterally to its normal position under the flat spring 70 and in contact with the shoulder 77.

Thereupon manual release of the operating piece will allow the fingers to return to page holding position, and also allow the dog to return to its normal position in contact with stop 68.

To adapt the holder for supporting music sheets or other sheets which are not bound between rigid or semi-rigid covers, I may employ the auxiliary equipment shown in Figure 7. The sheets to be supported in the holder are first mounted upon a plate 80 and temporarily secured thereto by a rod 81 having its ends secured to the plate and intermediately spaced from the plate sufficiently to allow the music sheets to be slipped into position between the rod and plate, whereupon the mounting plate may be adjusted on the ledge and secured by the clamping heads in the same manner that book covers are secured. Pages may then be held by the page holding fingers in the manner above described.

Preferably the plate 80 has a base flange 82 to rest upon the ledge 21 of the holder, and the lower end of the rod 81 is secured to the margin of this base flange, whereas the upper end is elbowed and riveted to the plate at 83.

My improved construction allows books to be supported with the pages facing downwardly or in any other direction and the pages freely turned or wholly released for free turning movements without releasing the book from the holder. Also, books may be released and replaced with the greatest facility while the page holders are latched or locked in a retracted position.

I attach great importance to this independence of the page holders from the book clamping means, and to the provision of means whereby the page holders may be simultaneously retracted and latched or may be independently retracted without affecting any other operating members.

When the page holding fingers are retracted, either open or closed books may be inserted in the holder. If a book is to be inserted in a closed position, one of the clamping heads may engage one of the covers and hold it to the ledge at one side of the back bar. Thereupon the book may be opened to the desired page and swung to the open position while manually lifting the clamping head at the other side of the back bar into position for engagement with the cover of the opened part.

I claim:

1. In a book holder designed to support an open

book in various reading positions, including a position above a recumbent reader, with exposed pages facing downwardly, the combination of a book support having a ledge with which end margins of open book covers may be engaged without interfering with page turning operations, a back bar projecting upwardly from the central portion of the ledge, a set of cover clamping arms having adjacent ends pivoted to the back bar and having their extremities engageable with the upper end margins of the covers of an open book to clamp the covers between said arms and the ledge, and springs secured to the back bar below the arms and connected with intermediate portions of the arms for applying yielding pressure to said arms to hold them in book cover clamping position.

2. In a book holder of the described class, the combination with a book cover supporting ledge, of book cover clamping means adapted to securely hold the lower margins of the covers to the ledge, a rod supported from the ledge and provided with a set of page holding fingers mounted for oscillation about the front margin of the ledge into and out of page holding position, an operating piece mounted for independent oscillation on said rod and provided with means for transmitting retractive motion to said fingers when oscillated in one direction, a resiliently yielding catch connected with the ledge and a latch dog pivotally supported by the rod and adapted to be actuated by the operating piece into locking engagement with said catch during extreme finger retracting movements of the operating piece.

3. In a book holder of the described class, the combination of a book supporting ledge provided with a set of depending finger supporting brackets and an intermediate stop bracket, a rod carried by the finger supporting brackets in a position substantially parallel with the ledge and forwardly and downwardly offset therefrom, a set of curved spring actuated page holding fingers, each mounted to oscillate on said rod, an intermediate finger operating piece having projections for engagement with the fingers to retract the latter when said piece is swung downwardly, a resilient catch plate supported from the ledge, and a latch dog associated with said operating piece in a position to engage and lift the catch plate at one stage of its movement and to engage either the plate or the bracket for temporarily latching the fingers in retracted position.

4. In a book holder, the combination of a book cover supporting ledge and an upstanding back bar provided with oppositely projecting book cover clamping arms pivotally connected with said bar, springs connecting said arms with the back bar and adapted for applying resilient clamping pressure to said arms to urge them in the direction of said ledge, and an auxiliary plate engageable between the clamping arms and ledge and having a forwardly offset wire-like bar substantially parallel with the back bar and adapted to hold music sheets and the like to the plate.

GEORGE MANIERRE.