(No Model.)

C. F. HAYNES.

BOOK REST.

No. 568,139. Patented Sept. 22, 1896.

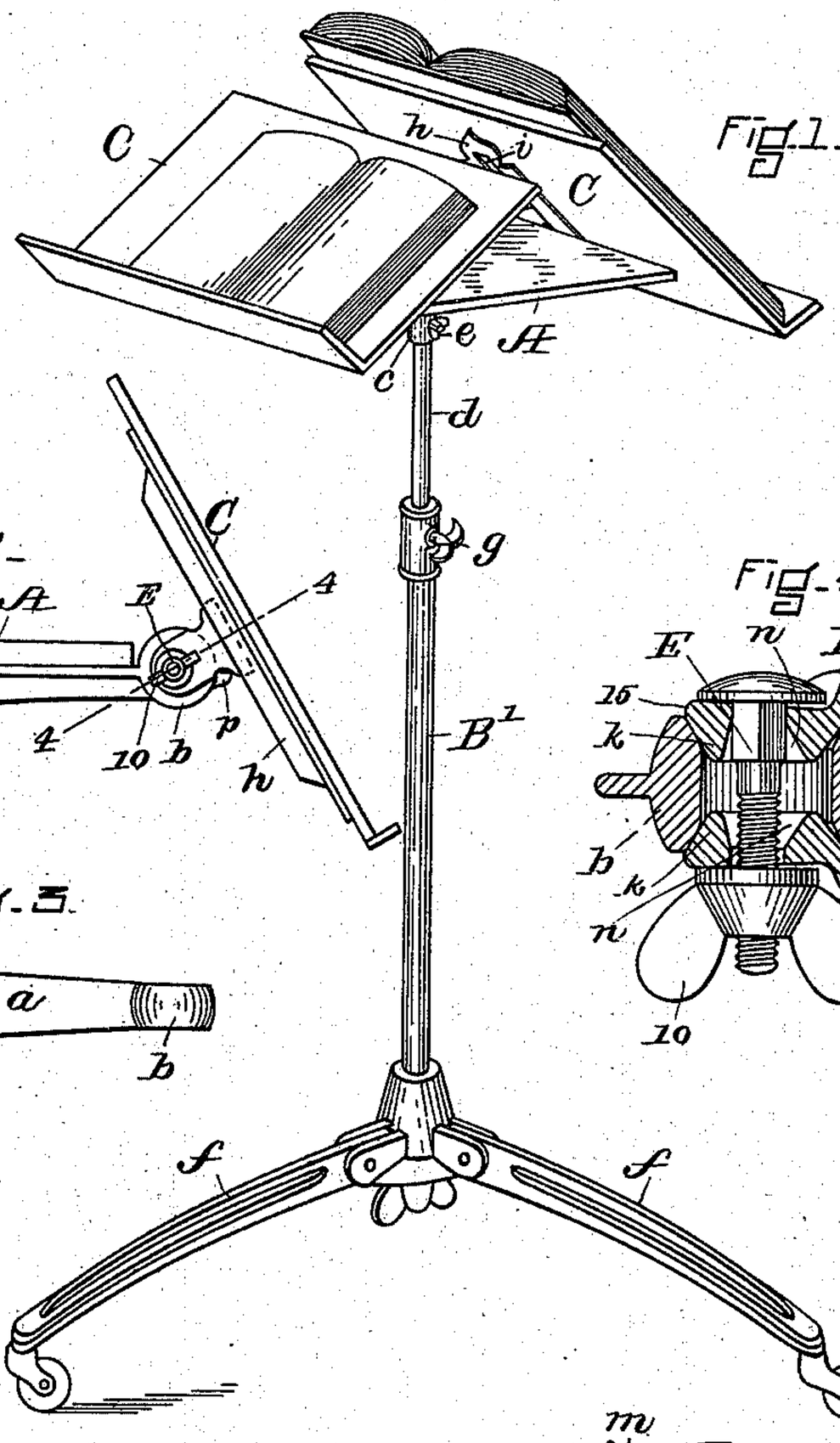

Fig. 1.

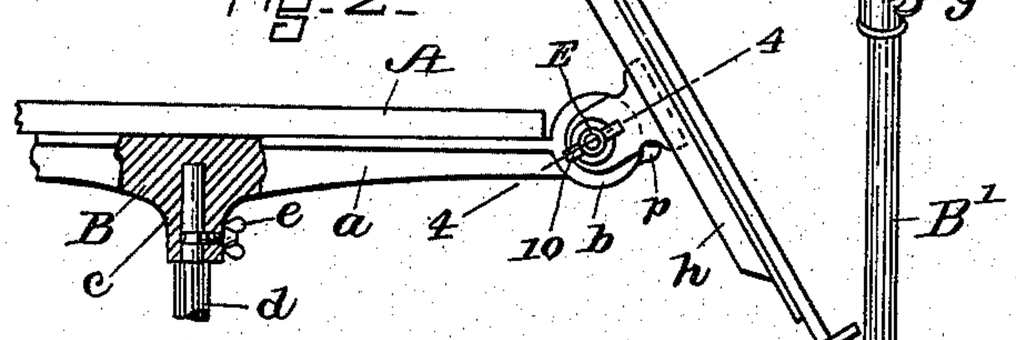

Fig. 2.

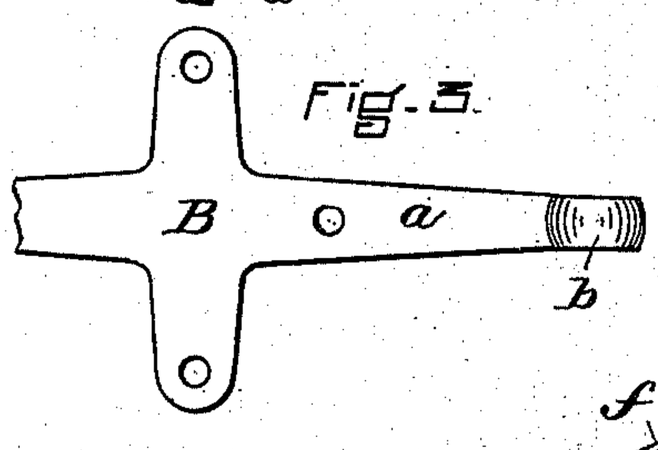

Fig. 3.

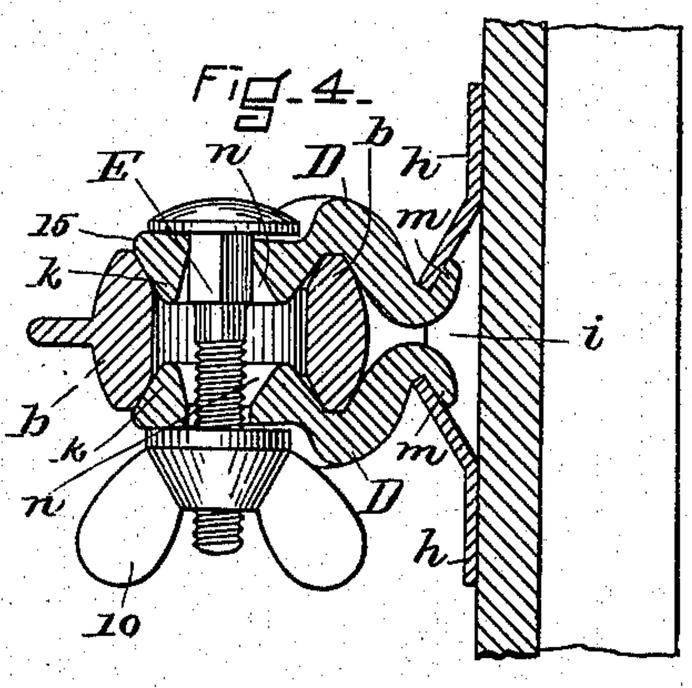

Fig. 4.

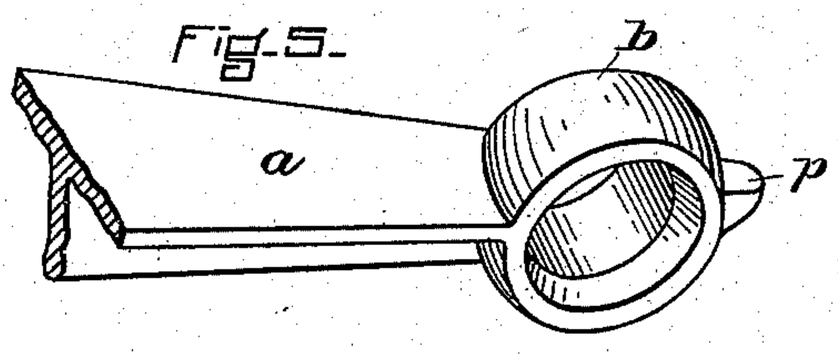

Fig. 5.

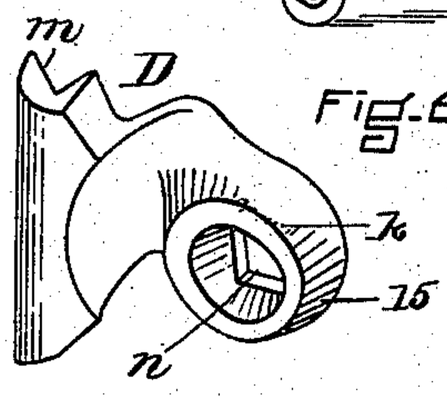

Fig. 6.

WITNESSES.

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UNITED STATES PATENT OFFICE.

CHARLES F. HAYNES, OF BOSTON, MASSACHUSETTS.

BOOK-REST.

SPECIFICATION forming part of Letters Patent No. 568,139, dated September 22, 1896.

Application filed July 8, 1896. Serial No. 598,449. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. HAYNES, a citizen of the United States, residing at Boston, (Brighton,) in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Book-Rests, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved book-rest mounted on an adjustable stand. Fig. 2 is a side elevation, partly in section, of a portion of the same. Fig. 3 is a plan of that portion of the rack-supporting frame shown in Fig. 2. Fig. 4 is an enlarged section on the line 4 4 of Fig. 2, showing the clamp which regulates the hinge and sliding friction device of the book-rack. Fig. 5 is a perspective view of one of the rack-supporting arms. Fig 6 is a view of one of the two pieces which coöperate with the ring at the end of the rack-supporting arm to form the hinge and sliding friction device for holding the rack in the desired position.

My invention is designed to improve the construction of the book-rest for which Letters Patent of the United States No. 289,652 were granted to me December 4, 1883, and has for its object, first, to provide a metal framework of peculiar construction on which to hinge the book rack or racks, and, second, to more perfectly control the hinge and sliding movements of the racks.

To this end my invention consists in certain novel features and combinations of parts, as hereinafter more particularly set forth, and specifically pointed out in the claims.

In the said drawings, A represents a table of any suitable size or form on which to lay articles or books not in use on the racks.

B is a frame to which is fastened the table A, and which is provided with any desired number of arms *a*, each terminating in a ring *b*, formed integral therewith, said frame B having at its center a hub *c*, bored out to receive the upper end of a rod *d*, and having a thumb-screw *e* for clamping it or retaining it while permitting it to revolve. The rod *d* slides telescopically within a tube B′, provided with legs *f* to form a stand which is adapted to rest on the floor, said tube B′ being provided with a thumb-screw *g* for clamping the rod *d* when adjusted to the desired height.

C C represent the racks for supporting the books. To the back of each rack is secured the narrow metallic piece *h*, having a dovetailed way or groove *i*, within which slide lips *m* at the ends of two plates or pieces D D, each of which is provided on its inner side with a raised portion or circular protuberance *k* in the shape of a truncated cone, which fits against one side of and projects into the ring *b* of the frame B. These pieces D D are held in place by a bolt E, extending through apertures *n* therein and through the ring *b* and having a thumb-nut 10 turning on its threaded end, whereby the ends of the two pieces D D opposite to the lips *m* can be drawn tightly toward each other to clamp them against the sides of the ring, a hinged joint being thus formed to permit the book-rack C to be adjusted at any desired angle, while its height may be varied by sliding it up and down on the pieces D D. On the outer side of the ring *b* is a projection *p*, which forms a stop to limit the movement of the rack on the hinge in that direction. The bolt E does not pass through the centers of the circular protuberances *k*, but is arranged eccentrically with respect to the same on the side toward the end opposite to the lips *m* that enter the dovetailed way *i* of the piece *h*. The holes *n*, through which the bolt E passes, are made slightly larger than the bolt to permit play or loose motion.

The operation is as follows: When the thumb-nut 10 is tightened upon the bolt E, the tendency is to draw the ends of the pieces D D opposite to the lips *m* toward each other by reason of the bolt passing eccentrically through the ring *b*, the pressure being thereby exerted in such manner that the ends 15 of the circular protuberances *k* will be drawn toward each other and their opposite ends separated, thus causing the pieces D D to act as levers turning upon the portion of the ring *b* nearest to the piece *h* as a fulcrum, whereby the lips *m* are caused to bind more tightly in the dovetailed groove *i*. As the tightening of the bolt E also increases the hinge friction between the ring *b* and the pieces D D it is obvious that the tightening of a single bolt

will thus not only clamp the hinge, but will simultaneously produce sufficient friction between the pieces D D and the sides of the dovetailed groove *i* to prevent any sliding movement of the rack C after it has been adjusted in position, and that any increased pressure at the hinge will be instantly transmitted to the sliding friction device, and vice versa. In this manner the degree of friction may be nicely regulated, so that when the hinge is adjusted so that it can be moved by hand but not by the weight of the book upon the rack the sliding friction device will also be sufficiently tight to prevent the rack from being moved thereon by the same weight, but nevertheless capable of being easily moved up or down by the hand, thus rendering the book-rest extremely convenient for practical use. The table A is not essential, as the frame B may be made to extend out into the form of a table, if desired, and the arms *a*, having the rings *b*, instead of being mounted on a hub supported by a stand, as shown, may be made separate and provided with suitable means for securing them to a table or other support.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a book-rest, the combination of a supporting-arm, a book-rack having its back provided with a dovetailed way or groove, a slide engaging said groove and pivoted at its opposite end to the supporting-arm by means of a clamping-bolt, forming a hinge, said slide being composed of two separate pieces or members acting as levers and adapted to be drawn toward each other at their inner ends by the bolt to clamp the hinge and simultaneously separated at their opposite ends to clamp the same against the opposite sides of the dovetailed groove of the book-rack, substantially as described.

2. In a book-rest, the combination of a supporting-arm terminating in a ring, pieces having conical raised portions or protuberances entering the sides of said ring, a rack having its back provided with a dovetailed way or groove engaged by said pieces, and an eccentrically-placed bolt passed through the said pieces and ring, for regulating both the hinge and sliding friction device of the book-rack, substantially as set forth.

3. In combination, in a book-rest, a pivoted frame B having one or more arms terminating in rings *b*, pieces D D having conical raised surfaces or protuberances placed on the sides of and entering the rings *b*, a rack C having its back provided with a dovetailed way or groove engaging the extended outer ends of the pieces D D, and an eccentrically-placed bolt E passing through the pieces D D and ring *b*, substantially as and for the purpose set forth.

Witness my hand this 6th day of July, A. D. 1896.

CHARLES F. HAYNES.

In presence of—
P. E. TESCHEMACHER,
CHARLES W. HAYNES.