(No Model.)

3 Sheets—Sheet 1.

J. W. COULTAS.

BOOK SUPPORT.

No. 475,933. Patented May 31, 1892.

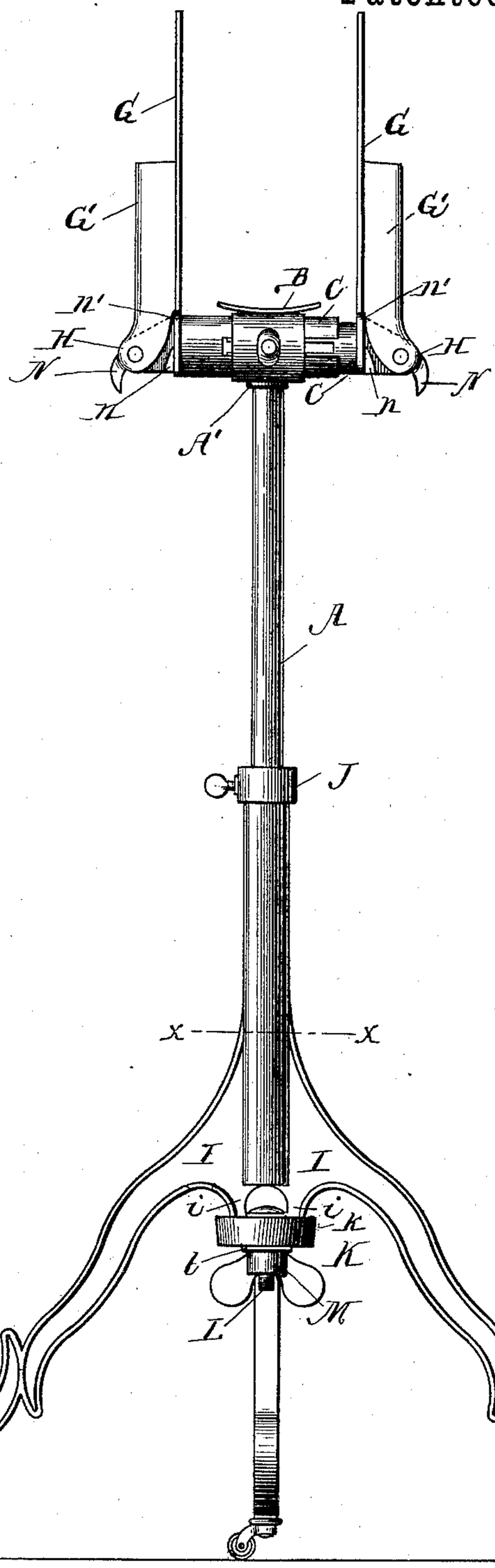


Fig. 1.

Witnesses
H. Rossiter
M. G. Armstrong

Inventor:
James W. Coultas
By Charles H. Roberts,
his Atty.

(No Model.) 3 Sheets—Sheet 2.

J. W. COULTAS.

BOOK SUPPORT.

No. 475,933. Patented May 31, 1892.

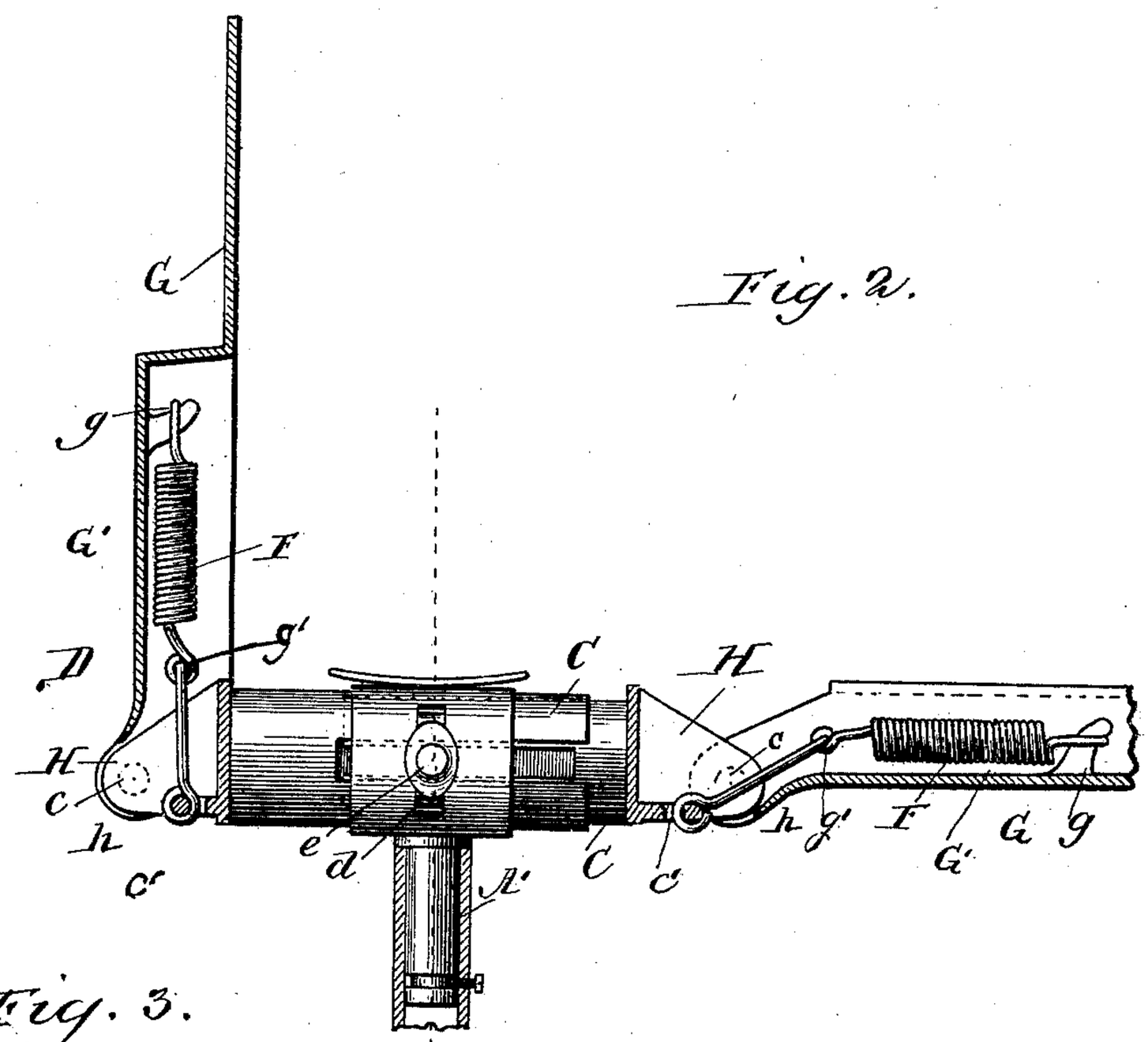
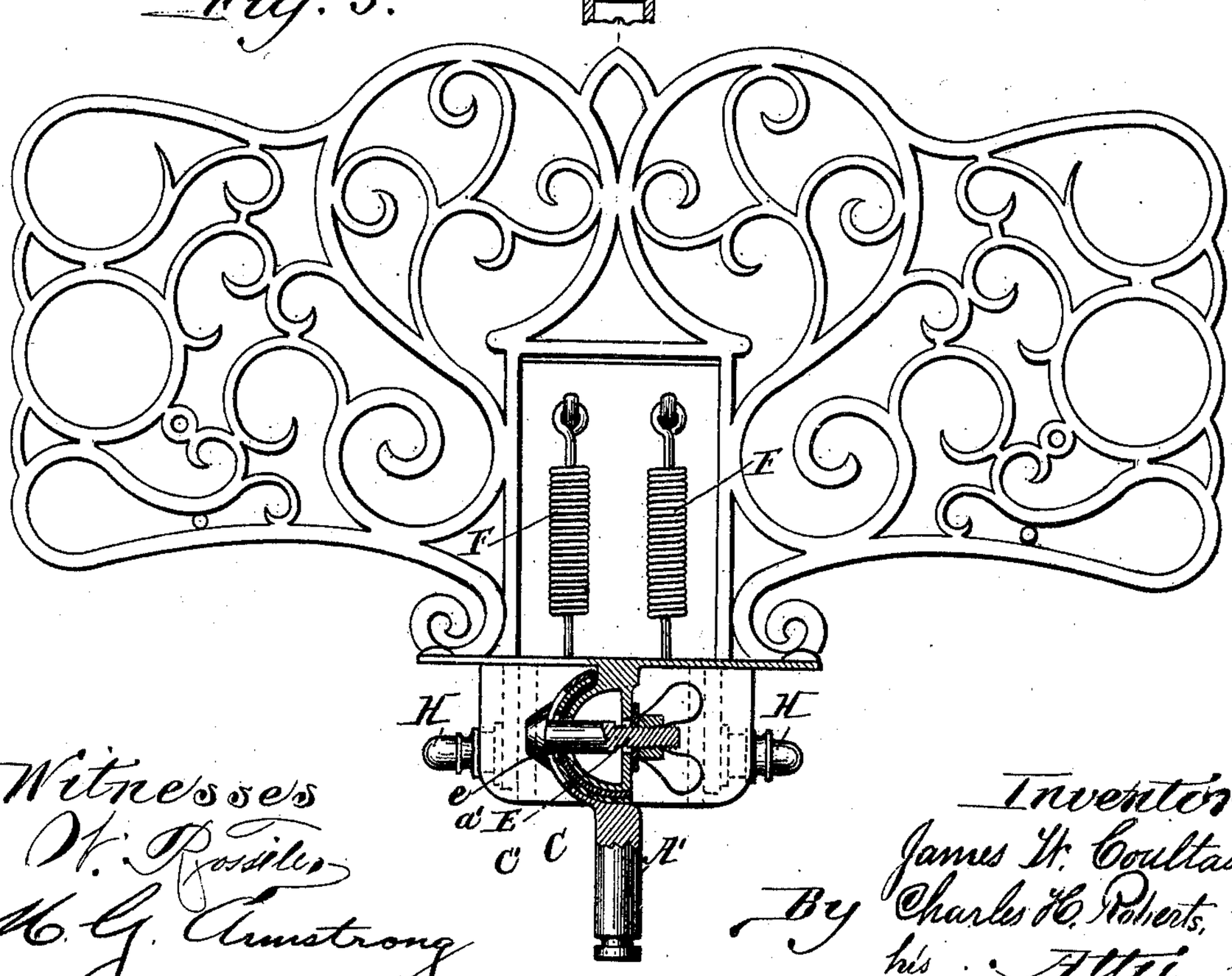


Fig. 2.

Fig. 3.



Witnesses
H. Rossiter
H. G. Armstrong

Inventor
James W. Coultas
By Charles H. Roberts,
his Atty.

(No Model.) 3 Sheets—Sheet 3.

J. W. COULTAS.

BOOK SUPPORT.

No. 475,933. Patented May 31, 1892.

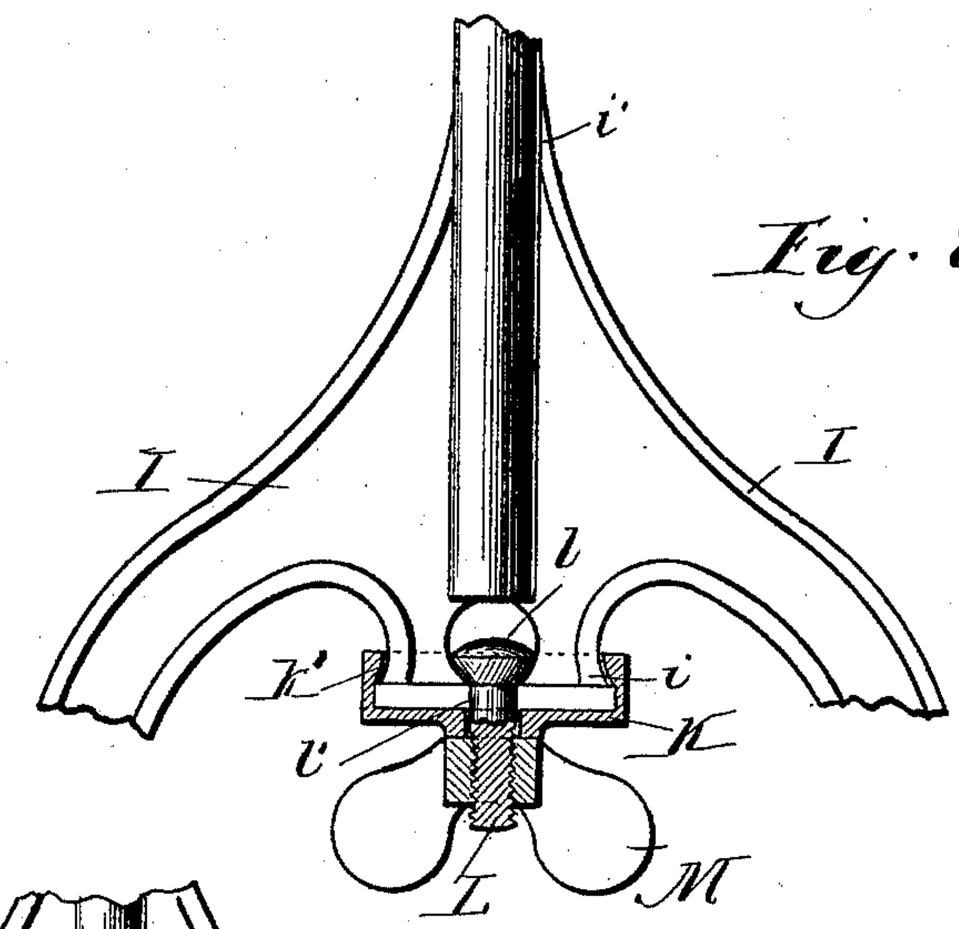


Fig. 8.

Fig. 9.

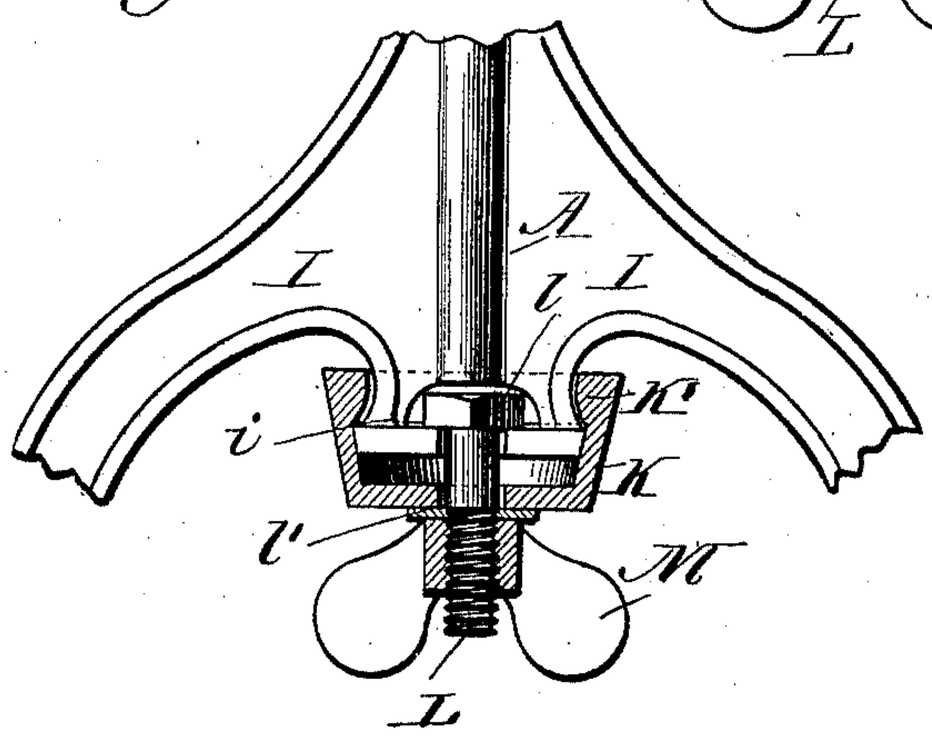
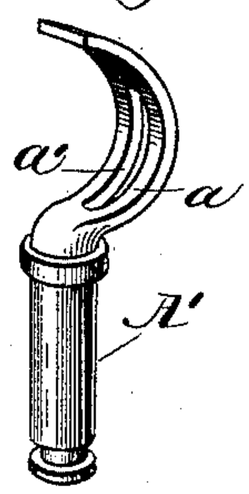


Fig. 6.



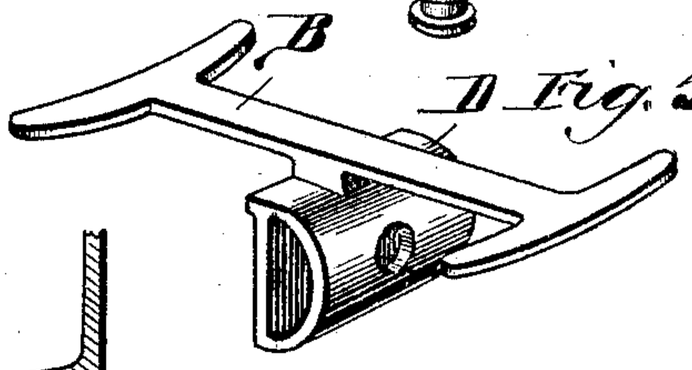


Fig. 5.

Fig. 4.

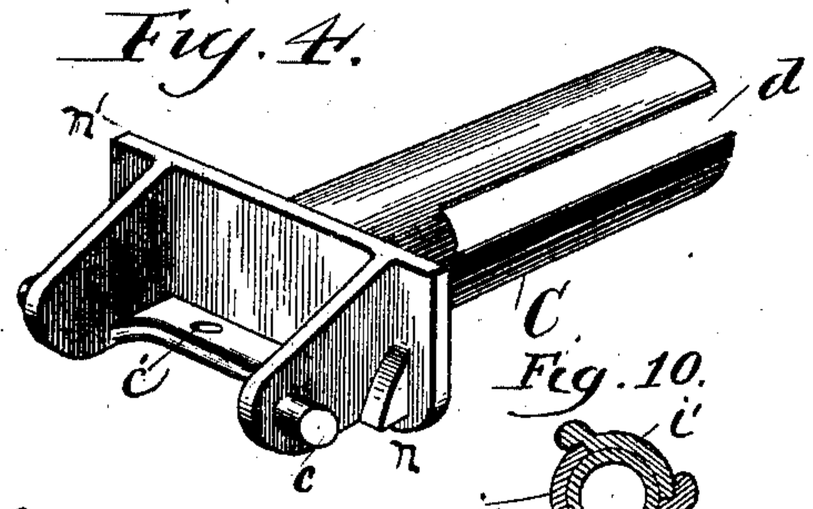


Fig. 10.

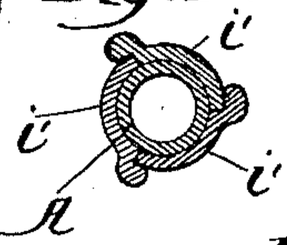
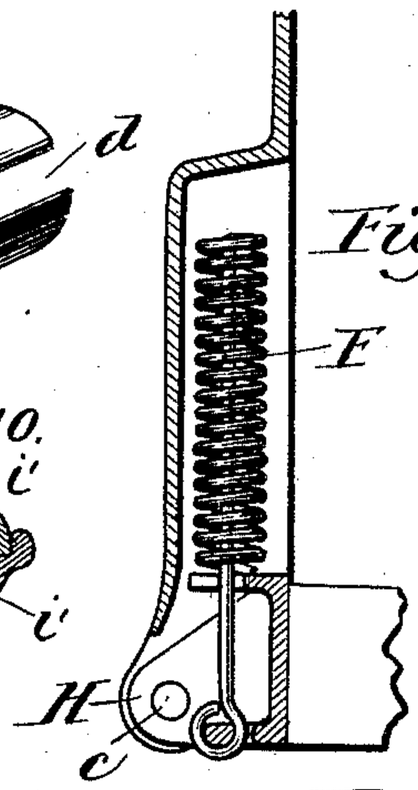


Fig. 7.



Witnesses
H. B. Kallock.
H. G. Armstrong

Inventor:
James W. Coultas,
By Charles H. Roberts
his Atty.

UNITED STATES PATENT OFFICE.

JAMES W. COULTAS, OF HAVANA, ILLINOIS.

BOOK-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 475,933, dated May 31, 1892.

Application filed September 7, 1891. Serial No. 404,991. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. COULTAS, a citizen of the United States, residing at Havana, in the county of Mason and State of Illinois, have invented a new and useful Improvement in Book-Supports, of which the following is a specification.

My invention relates to improvements in book-supports; and the objects of my improvements are to provide a convenient support which may be used for large unwieldy books of varying thicknesses, such support having means whereby books may be clamped and firmly held by adjustable hinged plates adapted to fit books of different sizes; also, means for inclining the book-support at different angles, whereby the adjustment of the hinged plates to the book and the inclination of the book-support may be secured by the same mechanism, and means for regulating the inward and outward throw of the hinged plates.

My invention is an improvement upon my earlier devices in book-holders patented by Letters Patent of the United States No. 393,542, issued November 27, 1888. I accomplish these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 shows my book-support complete with one method of attaching the legs. Fig. 2 is a sectional view showing the book-support with one leaf extended. Fig. 3 is a sectional view showing the adjustment of the curved shank-plates and the inside of the hinge-receptacle. Fig. 4 shows one of the slotted shank-plates. Fig. 5 shows the central support for the book with the curved base-plate attached. Fig. 6 shows the upper section of the stem curved to receive the shank-plates. Fig. 7 is a modification showing a coiled spring adapted to be used in my book-support and adjusted to act by compression of the coils. Figs. 8 and 9 show methods of adjusting the legs to the central stem. Fig. 10 is a section on the line *x x* of Fig. 1, showing the adjustment of the curved wings *i'*.

Similar letters refer to similar parts throughout the several views.

In the drawings, A is the central stem, preferably circular, of the book-holder, and A' is an adjustable section of the stem, having a socket-faced bearing or portion *a*, slotted vertically at *a'*.

B is the back plate, designed to receive the book, and D is a rest or bearing adapted to rotate in or be clamped against the socket or recess *a*.

C and C are shank-plates, preferably constructed of thin metal and preferably semicircular in cross-section and slotted horizontally, as shown at *d* in Fig. 4. The outer edges of the shank-plates are provided with bosses having lugs *c c*, to which the side plates are hinged, holes *c' c'* for the adjustment of the spring F, and shoulders *n n* to limit the outward throw of the side plates and shoulders *n' n'* to limit their inward throw.

E is a thumb-screw or clamp-bolt having a bolt-head *e*, preferably broadened and concave on its inner face to move on the outer and convex surface of the upper portion of A'.

F F are coiled springs attached to the side plates G and preferably concealed in a hinge-receptacle within them and having one end attached to the side plates and the other end attached to the shank-plates at *c* and adapted to work on both sides of the axial line of the hinge to close the book and hold it closed or to hold it open, respectively, according to the extent to which the leaves are spread, after the manner of my original patent aforesaid. Either one spring or more may be used for this purpose.

G is a side plate of metal or other suitable material having a hinge receptacle or cavity G', a point of attachment *g* for the spring F, and hinges H, connecting the side plates with the shank-plates C.

h is a link attached at one end to the spring F at *g'* and attached at the other end to the shank-plate at *c'*.

The stem A is provided with three or more legs or supports I, having inner flanged edges in the form of cylindrical sections and adapted to clasp the circular stem A and to hook over the edge of the adjacent flanged edge, as shown in Fig. 10, and to fit into an annular cap or clamp J, surrounding the stem A.

The legs I are provided with an outwardly-hooked lug or projection *i*, adapted to fit into a cup K and hook under a corresponding projection afforded by the annular flange K' on

the cup K. The inner edge of the leg has curved wings *i'* to clasp the stem A. The inner part of the bottom of the legs is so constructed that when they are assembled about the stem A a round or funnel-shaped cavity is left under the stem A, terminating in a bolt-hole *l'*, as shown in Fig. 8. The cup K is provided with a flange K', projecting inwardly to hold the legs of the book-support in the cup. The legs I are still further secured in the cup K by the drawing-bolt L, which is provided with a globe-shaped or cone-shaped head *l*, adapted the fill the aforesaid round cavity under the stem A, and a nut M to draw the parts together.

A modification of my device (represented in Fig. 9) shows the cup K with inwardly-sloping walls K' and the lower tips of the legs adapted thereto, so that the turning of the nut M will bind the legs to the stem and within the cup K.

Many of the book-holders heretofore designed are arranged to clasp books of large size—such as dictionaries—by means of adjustable hinged plates or wing-plates, the shanks of which are adapted to slide to and from each other to clasp books of varying thickness; but the scope of this movement by the devices in use is very much limited, the sliding shanks of the hinged plates allowing a variation which is seldom greater than one and one-half inches; also, the adjustment of the hinged plates to the book and the movement of the book-holder to an inclination desired by the student is accomplished by complex and separate means.

In my present device the shanks of the hinged side plates are of the length desired, preferably about four inches, and are each of the shape of a half-section of a cylindrical shell, as shown at C of Fig. 4. These half-cylindrical slotted shank-plates C C are adapted to slide upon each other and move freely to and from the center of the book-support. Being open at the ends they can overlap or telescope freely, there being no limit to their lateral outward movement, except their length. These may be made to slide past each other so as to make a narrow adjustment inwardly.

Above the stem A, and serving as a continuation thereof, is a section of stem A', having as its upper portion a preferably broadened socket-faced bearing *a*, semicircular or convex in forward outline for the vertical passing of the bolt-head *e*, and semicircular or concave in rear outline to receive and support the two shank-plates C C and having in its center a vertical slot *a'* to receive the thumb-screw E. Located immediately above the section of stem A' is the back plate B, and attached to or integral therewith is a rest or portion having a curved and broadened ball-face D, convex or semicircular in forward outline and adapted to rest and rotate within the shank-plates C and form part of the clamp by which said plates are fixed in their lateral adjustment. The said broadened face or portion D is perforated to receive the thumb-screw E.

A very important feature of my device is the securing of a rest for the back of the book separate from the side plates and which will always sustain the same inclination as that of the side plates.

N N are small projections, preferably cast on the side plates G to limit their outward throw by contact with shoulders or lugs *n* on the shank-plates C, and the inward throw of the side plates is stopped by the contact of the side plate G against the shoulders *n'*.

To operate my book-support, the book is placed in position with its leaves closed on the back plate, the side plates are brought against the sides of the book, the book is placed at the inclination desired by the student, and by a single movement of the thumb-screw the shank-plates are adjusted laterally, and the inclination of the book-support is fixed by one and the same action of the screw E.

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

1. The combination, in a book-support, of the shank-plates C C, adapted to be extended and contracted laterally on the clamp-bolt E and also adapted to rotate vertically on curved walls in a bearing *a* in giving the book vertical adjustment, a curved bearing or socket *a*, adapted to serve as a base for both the vertical movement and lateral extension of the shank-plates, and means of clamping the shank-plates and bearing together, substantially as described and shown.

2. The combination, in a book-support, of the shank-plates C C, adapted to be extended and contracted diversely and laterally on a clamp bolt or pin and also adapted to rotate vertically in giving the book vertical adjustment, all within the same clamping device, said clamping device being adapted to serve as a base for both said vertical movement and lateral extension and contraction and also adapted to lock the parts against all said movements, substantially as described and shown.

3. The combination, in a book-support, of the shank-plates C C, adapted to be extended and contracted laterally and diversely on a clamp-bolt E and also adapted to rotate vertically in a bearing, said rotation being guided by the bolt E moving in a slot in the bearing, and a clamp adapted to lock said shank-plates by the same locking effect against all said movements, substantially as described and shown.

4. The combination, in a book-support, of side plates G G, shank-plates C C, adapted to be extended and contracted laterally on a clamp-bolt E and also adapted to rotate vertically, the slotted bearing *a*, and a single clamp adapted by one and the same locking

effect to adjust the grasp of the side plates and to lock said shank-plates against both said movements, substantially as described and shown.

5. In a book-support, the combination of a rest for the book, side plates hinged to slotted shank-plates, a spring operating on one side of the axial line of the hinge to hold the book open and operating on the other side of said axial line to close the book, a slotted bearing *a* on the stem A′, adapted to receive the slotted shank-plates, and a screw operating in both slots to guide the movements of the shank-plates and to clamp the bearing and shank-plates together, substantially as described and shown.

6. In a book-support, the combination of a rest for the book, side plates hinged to slotted shank-plates, a spring operating on one side of the axial line of the hinge to hold the book open and operating on the other side of said axial line to close the book, a slotted bearing *a* on the stem A′, adapted to receive the slotted shank-plates, and a clamping-bolt operating in both slots to guide the movements of the shank-plates and to clamp the rest, bearing, and shank-plates together, substantially as described and shown.

7. In a book-support, the stem A, having legs I, provided with wings or flanges *i′*, hooked to break joint and prevent the edges from flaring, and means to clamp the legs to the stem, substantially as described and shown.

8. In a book-support, the stem A, legs I, provided with the projection *i*, cap J, cup K to retain the legs, hooked wings *i′*, and drawing-bolt L, substantially as described and shown.

9. In a book-support, the stem A, legs I, provided with the outwardly-sloping projection *i*, cap J, and cup K, provided with an inwardly-projecting flange *k* to retain the legs, and a bolt L to fasten the legs and cup together, substantially as described and shown.

10. In a book-support, the combination, with the stem of the main frame, of three or more legs adapted to be clamped about the stem at their top by an annular clamp and adapted to be received in a cup-shaped cavity at their bottom, said legs forming a globe or funnel shaped cavity within the cup for the reception of a drawing-bolt, the head of which is cone or globe shaped or otherwise adapted to force the legs against the annular clamp, substantially as described and shown.

11. In a book-support, the combination, with the stem A, of the legs I, having curved wings *i*, adapted to be clamped about the stem at their top and adapted to be received into a cup at their bottom, the annular clamp J to clamp the legs to the stem, the cup K, having inwardly-sloping walls, said cup adapted to receive the legs at their bottom, and the drawing-bolt L to fasten the legs and cup together, substantially as described and shown.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES W. COULTAS.

Witnesses:
J. F. DAVIES,
THEO. CURRAN.