R. L. COOLEY.

FOLDING STAND.

APPLICATION FILED APR. 2, 1909.

**987,113.**

Patented Mar. 21, 1911.

2 SHEETS—SHEET 1.

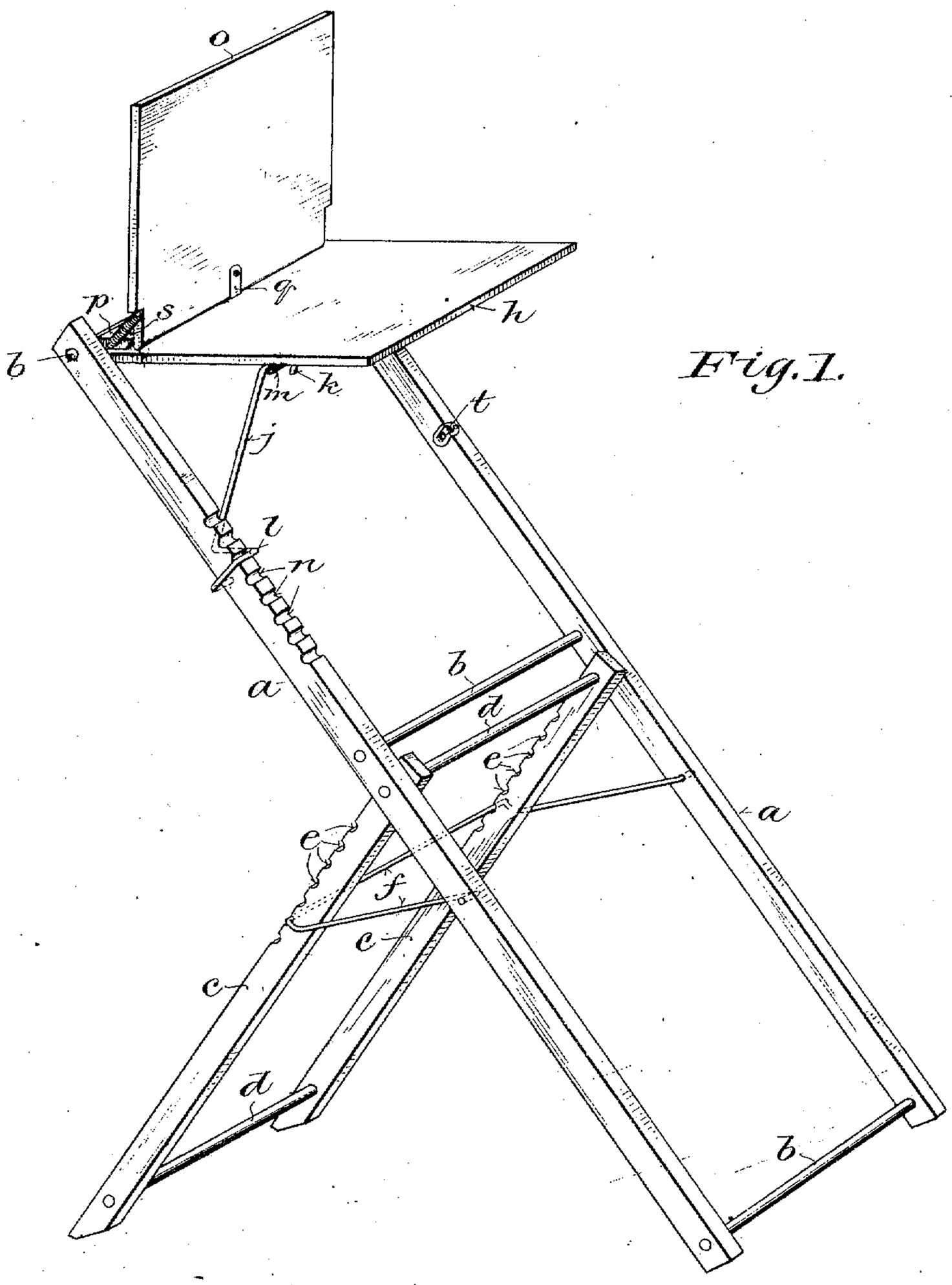


*Fig. 1.*

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2 SHEETS—SHEET 2.

Fig. 2.

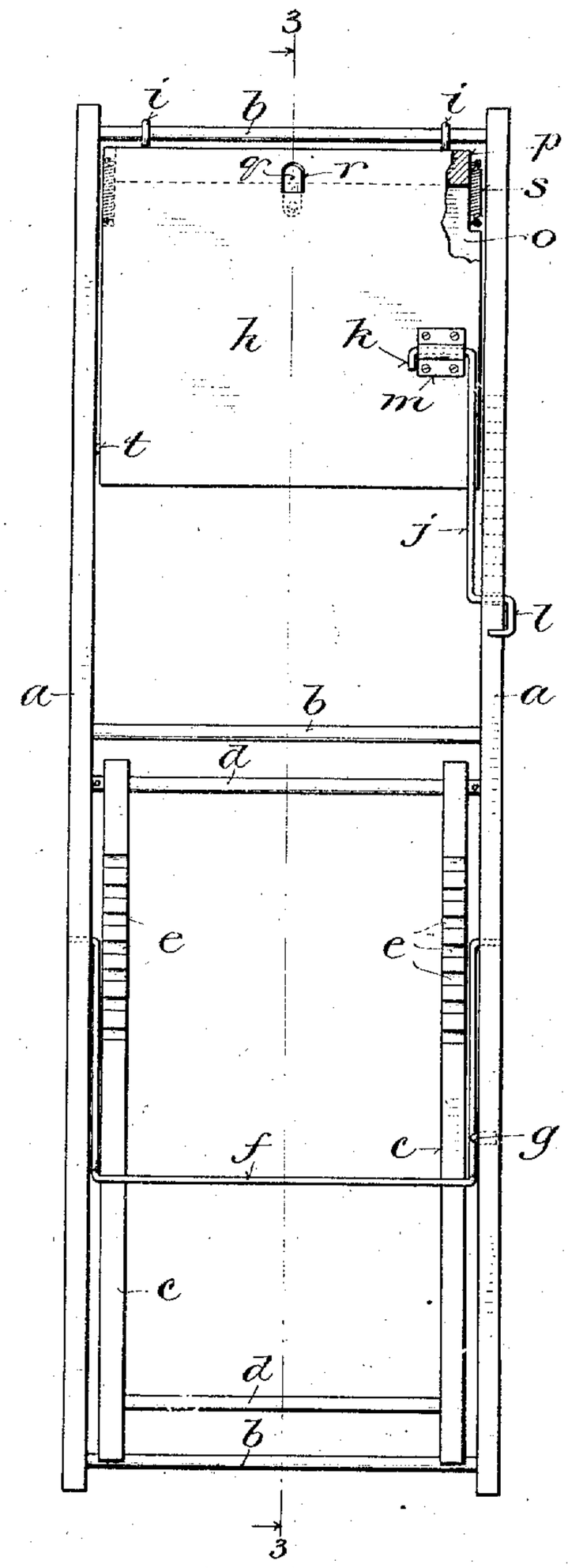
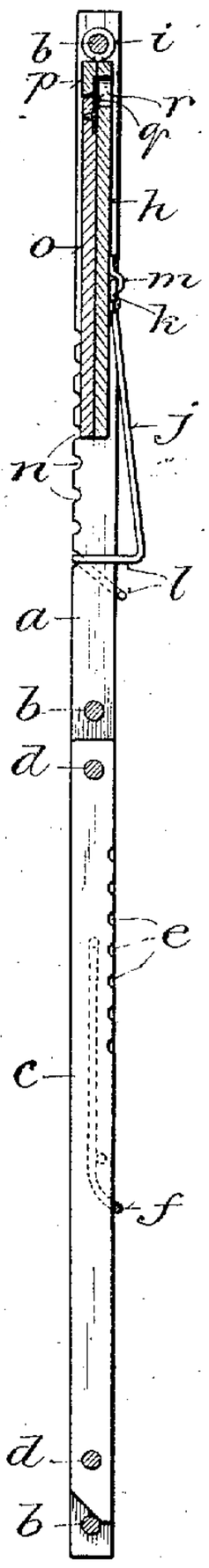



Fig. 3.




Witnesses:

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# UNITED STATES PATENT OFFICE.

ROBERT L. COOLEY, OF MILWAUKEE, WISCONSIN.

## FOLDING STAND.

987,113. Specification of Letters Patent. Patented Mar. 21, 1911.

Application filed April 2, 1909. Serial No. 487,405.

*To all whom it may concern:*

Be it known that I, ROBERT L. COOLEY, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Folding Stands, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof.

This invention relates more particularly to devices for supporting in convenient position for drawing or otherwise copying various objects such as models, leaves, twigs, flowers, pictures, etc. Its main object is to provide a convenient, light, portable and adjustable device for this purpose which when not in use can be easily folded into small compass for storage or transportation, and when set up for use will display the objects to be drawn or copied under the most favorable conditions.

It consists in the construction, arrangement and combination of parts as hereinafter particularly described and defined in the claims.

In the accompanying drawing like characters designate the same parts in the several figures.

Figure 1 is a perspective view of the stand, spread or open in condition for use; Fig. 2 is a back view of the stand folded; and Fig. 3 is a longitudinal section on the line 3 3, Fig. 2.

The stand comprises a main frame, a folding support pivotally connected therewith between its ends, a folding shelf or leaf pivoted in the upper part of the main frame, and a folding back pivotally connected with the shelf.

The main frame consists of two side pieces *a* connected at intervals by rounds or cross pieces *b*. The folding support which is preferably about half the length of the main frame, consists of side pieces *c*, which are connected by rounds or cross pieces *d*. The upper cross piece *d* is extended beyond the side pieces *c* and is journaled in the side pieces *a* of the main frame. The support is made to close inside of the main frame, as shown in Figs. 2 and 3, and the lower ends of its side pieces *c* are beveled or cut away on the front side so as to close against the lower round or cross piece *b*, which serves as a stop to prevent the support from swinging forward beyond the sides of the frame when the stand is closed. Adjacent to the upper ends the side pieces *c* are formed in their rear edges with correspondingly spaced series of notches *e*, and in the side pieces of the main frame below the upper round or cross piece *d* are pivoted the outwardly bent ends of a bail-shaped brace *f*, which may be made of heavy wire and is adapted to be engaged with corresponding notches *e* in the support to determine the extent of the opening of the support and the height of the stand. Adjacent to its cross piece the sides of the brace are bent upwardly or rearwardly as shown in Figs. 1 and 3, so that when the stand is folded they will lie between the side pieces of the frame and support.

One of the side pieces *a* of the frame is provided on the inside with a spring pin or yielding catch *g*, which is arranged to engage with the adjacent side of the brace *f* and hold it with the folding support *c* closed A folding leaf or shelf *h* is hinged or pivoted at its rear edge in the upper part of the main frame. This may be conveniently accomplished by means of screw eyes *i*, inserted in the shelf and encircling the upper round *b*. A brace *j* which may be made of heavy wire as shown, bent at its upper end at right angles to form a pivot pin and stop *k* and at its lower end to form a guide loop *l* around the adjacent side piece *a* of the frame, is hinged or pivoted to the under side of the shelf by a hinge plate *m*. The side piece *a* which is loosely embraced by the guide loop *l* of the brace, is formed in its upper or front edge with a series of notches *n* spaced for engagement with the front side of the loop *l* so as to hold the shelf in a horizontal position when the stand is spread or open. The notches *n* are spaced to correspond with the notches *e*, so that the brace *j* may be adjusted to hold the shelf in a horizontal position according to the adjustment of the brace *f*, which determines the height of the stand or the elevation of the shelf from the floor. The back *o* which serves as a background for objects placed on the shelf *h* and as a support for the attachment of pictures, leaves, twigs, flowers and other objects to be copied, is hinged to the shelf adjacent to its rear edge so as to be folded against it, or opened and held in a position perpendicular thereto.

To form the hinge connection between the shelf and back and to hold the back in the desired positions with relation to the

shelf, the shelf is provided on the upper side along its rear or upper edge, with a cleat *p* against which the adjacent edge of the back abuts. A tongue *q* which may be made of sheet metal and attached by a screw to the back, projects therefrom into a mortise or opening *r* in the shelf and cleat to hold them in the proper relation to each other. The back is connected at the ends with the ends of the shelf or cleat *p* by spiral springs *s* which tend to hold the back in a position perpendicular to the shelf, as shown in Fig. 1, when the stand is spread or opened. In this position of the back the tongue *q* engages with the front side of the mortise *r*, but when the shelf is closed or folded, as shown in Figs. 2 and 3, the tongue engages with the under or inner side of the cleat *p*. The cleat is made somewhat shorter than the width of the shelf, and the ends of the back adjacent thereto are cut away or recessed to receive the springs *s* and permit them to pass between the side pieces *a* of the main frame when the stand is closed or folded. One of the side pieces *a* of the frame is provided with a spring catch *t* which is arranged to engage with the adjacent end of the back *o* and to hold it with the shelf *h* in place between the sides of the frame when the stand is closed or folded. By engaging the cross piece of the brace *f* with different notches *e* in the folding support, the height of the stand and the elevation of the leaf *h* from the floor may be varied as desired, the loop *l* of the brace *j* being correspondingly adjusted to support the leaf in a horizontal position.

In setting the stand up for use, the support *c* is swung back into position to carry the leaf or shelf *h* at the desired elevation and is locked and held in that position by engaging the brace *f* with the proper notches *e*. The leaf or shelf is then turned up into a horizontal position, the loop *l* of the brace *j* sliding freely upward on the notched side piece *a*, and the upper side of said loop dropping into the next notch *n* below it and automatically locking the leaf or shelf in place when it is released by the hand. Finally the back *o* is turned up into a vertical position in which it is stopped by the cleat *p* and tongue *q* and held by the springs *s*. To fold or close the stand, the loop *l* is lifted and held out of engagement with the notches *n*, while the leaf or shelf *h* is turned down into place between the side pieces of the frame. As the leaf is brought into this position the under or rear side of said loop, which assumes an oblique position relative to the notched side piece *a*, engaging the under or rear edge of said side piece, as shown in Fig. 3, draws the upper or front side of the loop into the lowest notch, thereby stopping and holding the shelf between and substantially parallel with the side pieces of the main frame. The back *o* is then folded and held by the catch *t* against the leaf *h*. Finally, the support *c* is folded against the lower round or cross piece *b* of the main frame and the brace *f* is folded upon it and held in place by the catch *g*. When thus closed or folded the stand occupies very little room, all its movable parts are confined in place, and in this condition it can be easily carried from place to place. A number of stands can also be nested or packed snugly together within small compass for storage or transportation.

Various modifications in the details of construction and arrangement of parts may be made without departing from the principle and scope of the invention.

I claim:

1. In a folding stand the combination of a main frame, a support pivotally connected at one end with said frame about midway between the ends thereof, a brace for connecting said frame and support and limiting the extent of opening thereof, a folding shelf pivoted adjacent to its rear edge to the upper part of said frame and a brace for connecting said shelf with said frame and holding the shelf in a horizontal position.

2. In a folding stand the combination of a main frame, a support pivotally connected with said frame about midway between the ends thereof, a brace adapted to adjustably connect said frame and support and to vary the height of the stand, a folding shelf pivoted adjacent to its rear edge to the upper part of the frame and a brace adapted to adjustably connect the shelf with the frame and to hold the shelf in a horizontal position.

3. In a folding stand the combination of a main frame, a support pivotally connected with said frame, a brace for connecting said frame and support, a folding leaf pivoted to the upper part of said frame, a folding back pivotally connected with said leaf and a brace for connecting said leaf with the frame and holding the leaf in a horizontal position when the stand is spread.

4. In a folding stand the combination of a main frame, a support pivoted to said frame, a brace for connecting said frame and support and limiting the extent of their opening, a shelf pivoted in the upper part of the frame, a brace for connecting the shelf and frame and holding the shelf in a horizontal position, a folding back pivotally connected with said shelf, a stop for limiting the opening of the back and a spring tending to hold the back against said stop.

5. In a folding stand the combination of a main frame, a support pivoted to said frame, a folding brace for connecting said frame and support, a shelf pivoted to the upper part of said frame, a folding brace for con-

necting the shelf and frame and holding the shelf in a horizontal position, and catches for holding the support and shelf closed.

6. In a folding stand the combination of a main frame having a series of notches in one side, a support pivotally connected with the frame and having correspondingly spaced notches in the sides, a bail-shaped brace pivoted at the ends to the sides of the frame and adapted to be engaged with any of the notches in said support, a shelf pivoted to the upper part of the frame, and a brace pivoted to the shelf and formed with a guide loop loosely embracing one side of the frame and adapted to be engaged with any of the notches therein.

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

ROBERT L. COOLEY.

Witnesses:
CHAS. L. GOSS,
MARGARET E. DOUSMAN.