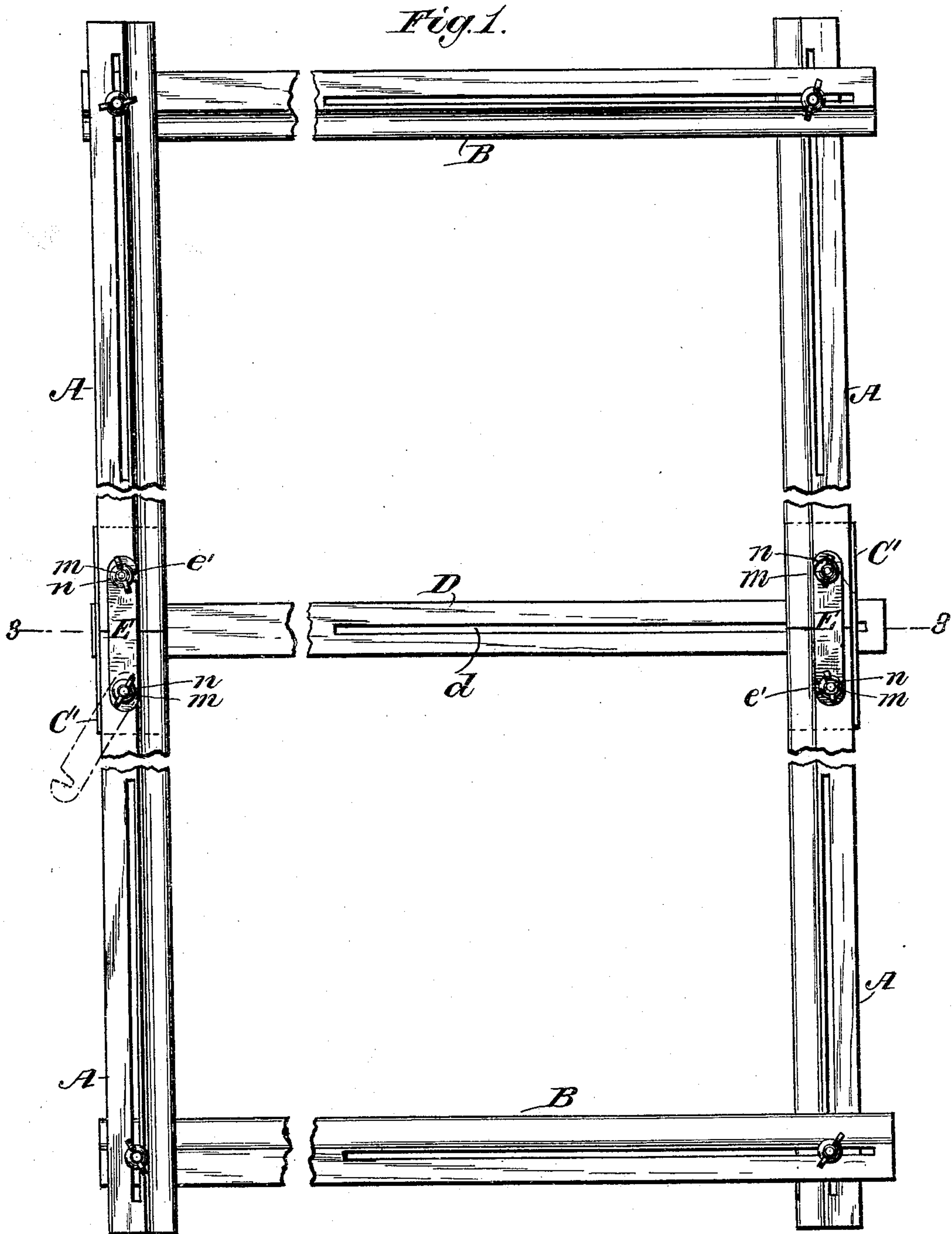


H. E. SOUTHWORTH.
CURTAIN STRETCHER.
APPLICATION FILED APR. 19, 1909.

929,991.

Patented Aug. 3, 1909.
2 SHEETS—SHEET 1.



Witnesses:
Robert E. Smith.
H. Lee Stevens

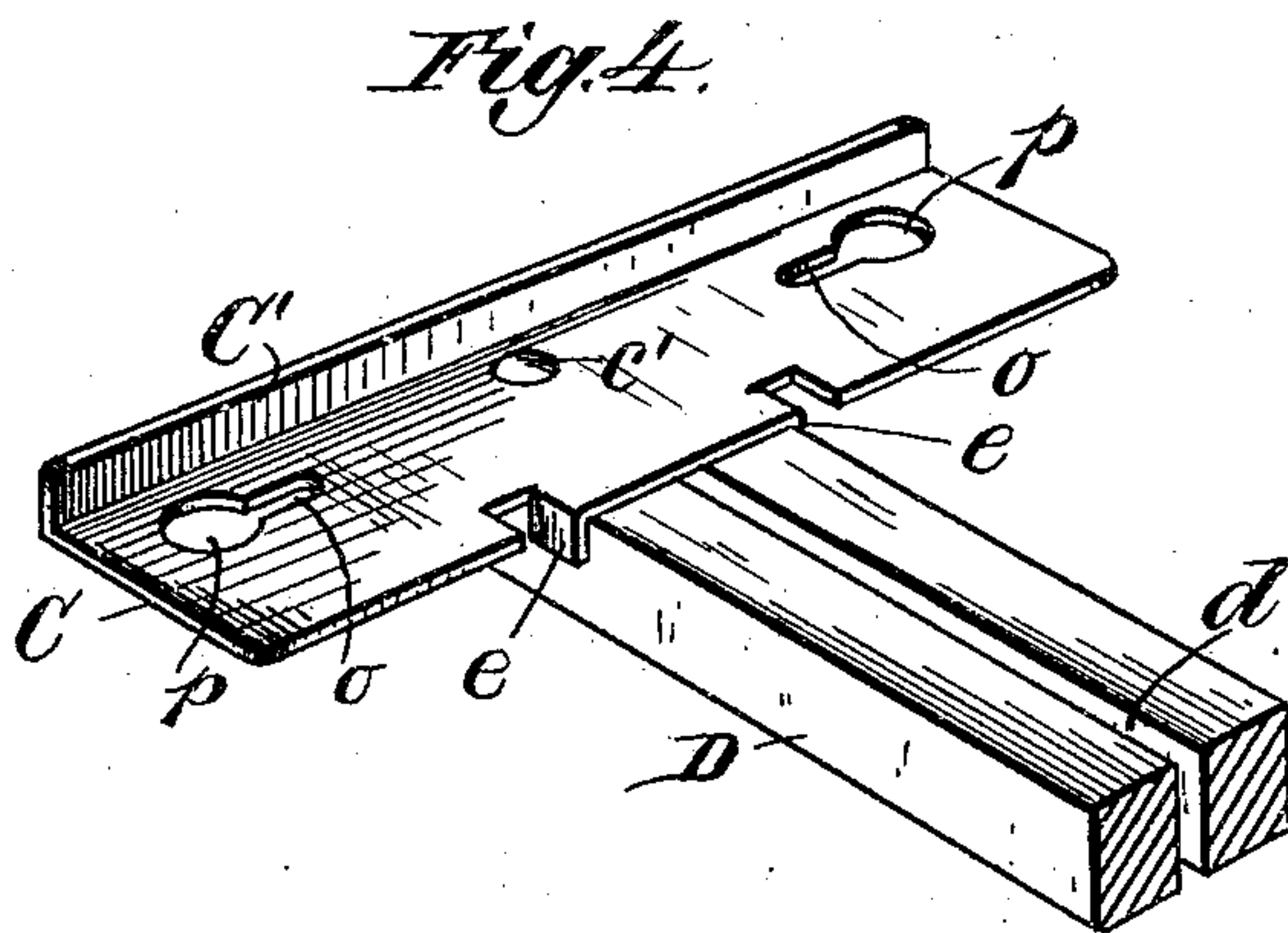
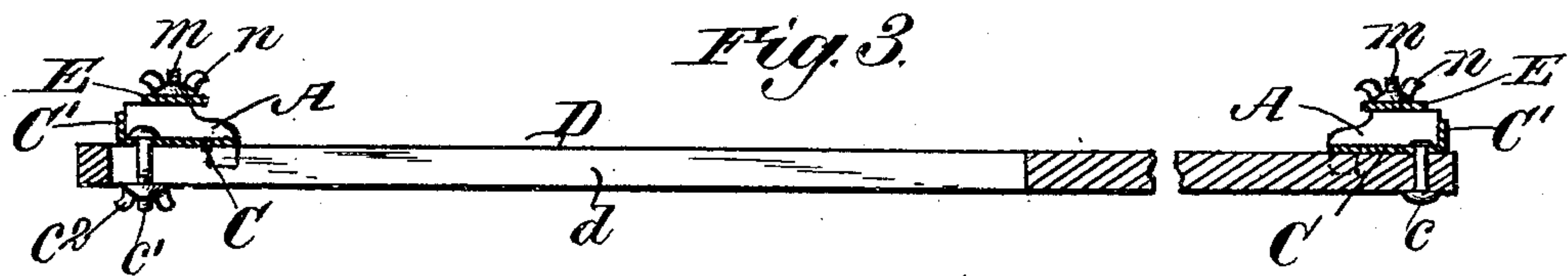
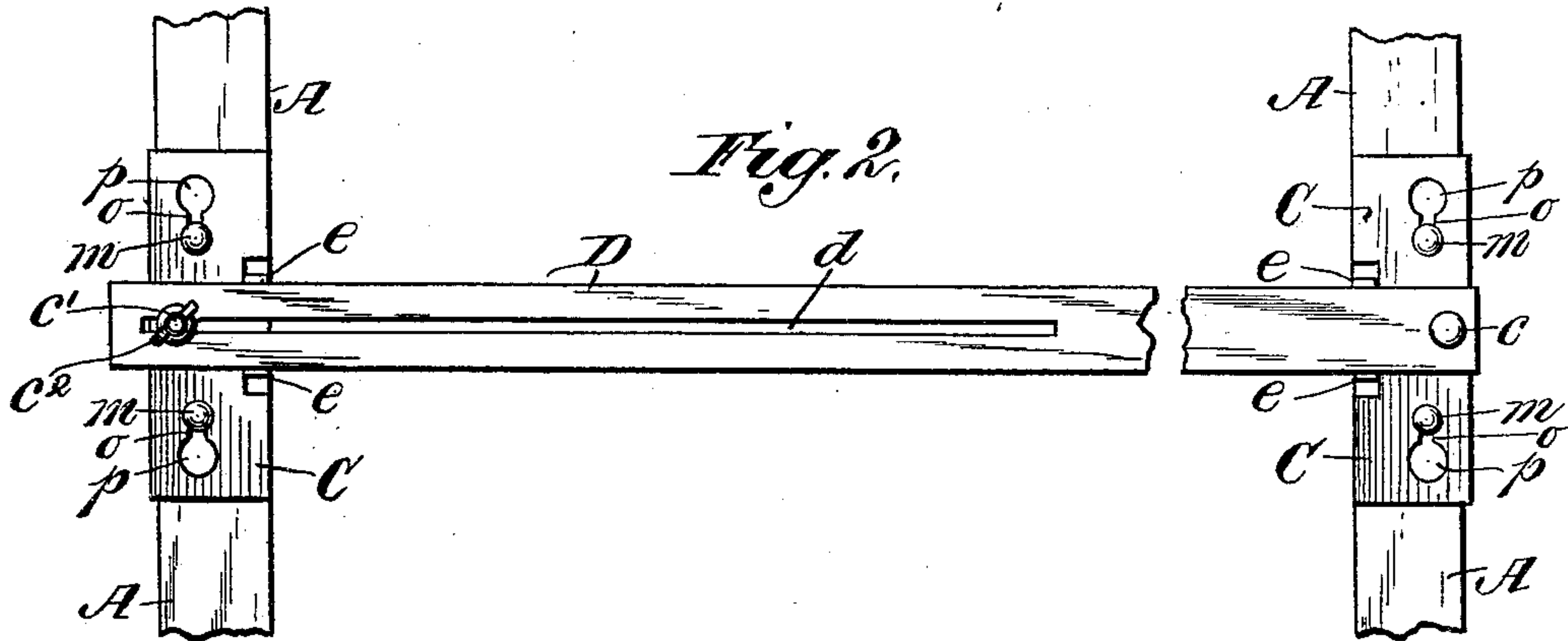
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Henry E. Southworth.
By *Manuel J. Daley*
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CURTAIN STRETCHER.
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2 SHEETS—SHEET 2.



Witnesses.
Robert Corbett,
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UNITED STATES PATENT OFFICE.

HENRY E. SOUTHWORTH, OF COLCHESTER, VERMONT, ASSIGNOR TO PORTER SCREEN MANUFACTURING COMPANY, OF BURLINGTON, VERMONT.

CURTAIN-STRETCHER.

No. 929,991.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed April 19, 1909. Serial No. 490,797.

To all whom it may concern:

Be it known that I, HENRY E. SOUTHWORTH, a citizen of the United States, residing at Colchester, in the county of Chittenden and State of Vermont, have invented a new and useful Improvement in Curtain-Stretchers, of which the following is a specification.

My invention relates to that class of curtain stretchers in which the side rails are composed each of two sections, the abutting ends of which are connected to stiffening plates to which are secured the ends of a center brace extending across between the two rails, in order to stiffen the frame and prevent it from sagging; and it has more particular reference to that kind of such stretchers, wherein the two sections of each side rail are not permanently hinged together, but are each detachably connected to, and individually removable from, the stiffener plate through the medium of which they are held together—as illustrated for example in my prior patent No. 855,908 of June 4, 1907.

The invention consists in certain improvements in this kind of curtain stretcher—having reference more particularly to the means for the better holding of the sectional side bars to their stiffener plates and for their more convenient and expeditious removal therefrom—which will first be described in connection with the accompanying drawings, and will then be more particularly pointed out in the claims.

In the drawings—Figure 1 is a front view of a curtain stretcher embodying my improvements. Fig. 2 is a view of the opposite face of the central portion of said stretcher, embracing the abutting ends of the side rails, the stiffener plates and the central cross bar. Fig. 3 is a section on line 3—3, Fig. 1. Fig. 4 is a perspective view of one of the stiffener plates, together with the end of the center brace attached to the same.

The stretcher frame consists of side rails A and end rails B, united at the corners of the frame where they overlap, by the usual slot bolt and wing nut connections, to permit the length and width of the frame to be varied as desired. The side rails consist each of two separate and disconnected sections put together end to end. The frame rails are put together so that the end rails B overlap at one end the side rails, and are overlapped by the side rails at the other end, thus per-

mitting each half of the frame to be folded compactly, as illustrated and described in my Patent No. 855,908.

The metallic stiffening plates, which connect the meeting ends of the side rail sections, are shown at C. These plates extend across the joints between meeting ends of the side rail sections, and are carried by the center brace D, to the opposite ends of which they are secured. One of the plates is fixedly secured to the center brace by a rivet or bolt *c*, as shown in Figs. 2 and 3. The other plate is adjustably secured to the other end of the center brace by a headed bolt *c'*, the screw threaded shank of which extends through a slot *d* formed in and lengthwise of the center brace, and is there held in adjusted position by a wing nut *c*².

In order to prevent any swiveling movement of the plates C on bolts *c*, *c'*, and to enable the parts to more effectively resist any such strains, the bolts *c*, *c'* are located each near one edge of its plate, while at or near the opposite edge of said plate there are ears or flanges *e* punched from the body of the plate and bent rearwardly so as to embrace and bear against the center brace from opposite sides. In this way the center brace and plate are held together against any swiveling movement whatever. The sections of the side rails A are detachably secured to their stiffener plates by bolts and wing nuts *m*, *n*. In each plate on each side of where the center brace comes, is formed a slot *o*, extending lengthwise of the plate and terminating at its outer end in an enlarged opening *p* of sufficient size to allow the head of a bolt *m* to pass through it. The shanks of the bolts *m* extend through the side rail sections from rear (where the stiffener plates are) to front. In fitting the sections together and to their stiffener plates, the heads of the bolts are passed from front to rear through the openings *p* and then the sections are slid inwardly upon the plates C until their ends abut, and the shanks of the bolts *m* enter the slots *o*. Then by a turn or two of the wing nuts all the parts will be secured together, and the stretcher will be set up. On the other hand, to take the stretcher down all that is needed is to loosen slightly the wing nuts *n*, after which the two halves of the frame can be drawn apart until the heads of the bolts *m* reach the openings *p*, and then the side rail sections can be lifted away from the stiffener

plates, thus separating the frame into two halves, the three parts of each of which can be folded together without disturbing any of the adjustments of the frame, or manipulating any other nuts or bolts.

In order to enhance the stiffness of the central joints, I prefer to form the stiffener plates with flanges *C'* on their outer edges which fit against the outer edges of the side rail sections; but this construction is not indispensable. So also with a view to the greater solidity and stiffness of the joint, I may swivel on the shank of the bolt *m* of one side rail section, a metal strap *E* which extends across the joint between the two sections of the side rail and has in its edge a slot *e'*, which, when the strap is turned in the proper direction, will be entered by the shank of the bolt *m* on the contiguous section as represented in Fig. 1. When the strap is in this position, it will be held rigidly by tightening the nuts *n*. As soon as the nuts are loosened, then the strap, as shown in dotted lines in Fig. 1, can, like a latch, be swung back on bolt *m* on which it is swiveled, so as to be disengaged from the other bolt. This construction also is a nicety rather than a necessity, and can be dispensed with if desired.

With stiffening plates thus formed, it is an easy and simple matter to set up and take down the stretcher frame; and after the frame is once adjusted to any desired size, it can be maintained indefinitely of that size, whether it be set up or taken down, without disturbing any one of the bolts and nuts which unite the side and end rails at the corners, and the stiffener plates with the center brace. All that is needed is the tightening and loosening of the nuts *n* of the bolts *m* which unite the side rail sections with their stiffening plates. In setting up the frame, the side rail sections attached to the respective end rails, can be unfolded and laid flat against their stiffener plates in position for the heads of the bolts *m* to enter and pass through the openings *p*. Then, by a slight sliding movement of the two sections of each rail toward each other, their ends can be brought together, and the shanks of the bolts *m* caused to enter the slots *o*. And then by a mere turn or two of the nuts *n*, the whole frame thus set up becomes a practically rigid

construction. The slots and openings *o*, *p*, are formed within the limits or borders of the stiffener plate, which thus retains its strength unimpaired.

Having described my improvements and the best way now known to me of carrying the same into effect I state in conclusion that I do not limit myself narrowly to the structural details hereinbefore set forth, since manifestly the same can be varied to some extent without departure from my invention; but

What I claim herein as new and desire to secure by Letters Patent is—

1. In a curtain stretcher of the kind hereinbefore referred to, a center brace; stiffener plates *C* secured to and carried by the center brace, adjustable one to and from the other, and formed each with a longitudinal slot *o* and opening *p* communicating therewith, on each side of where the center brace comes; and sectional side rails composed each of two separate and independent sections provided at their abutting ends with bolts *m* having heads adapted to pass through the openings *p*, and shanks adapted to enter the slots *o*, and nuts *n* whereby said sections are detachably held to their respective stiffener plates, substantially as hereinbefore set forth.

2. In a curtain stretcher of the kind hereinbefore referred to, a center brace, a stiffener plate secured to the same formed with a longitudinal slot *o* and communicating opening *p* on each side of where the center brace comes, a side rail composed of two separate and independent sections provided at their abutting ends with bolts and nuts *m n* whereby they are detachably secured to the stiffener plate, and a latch strap on the face of the sectional side rail opposite to that on which the stiffener plate is located, swiveled on one of the bolts *m*, formed with a slot to engage the shank of the other bolt, and clamped in place by the same nuts *n* by which the side rail sections are clamped to the stiffener plate, substantially as and for the purpose hereinbefore set forth.

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

HENRY E. SOUTHWORTH.

Witnesses:

J. H. JACOBS,

JAMES O. WALKER.