

(No Model.)

H. F. GRAY.
STRETCHER FRAME.

No. 371,933.

Patented Oct. 25, 1887.

FIG. 1.

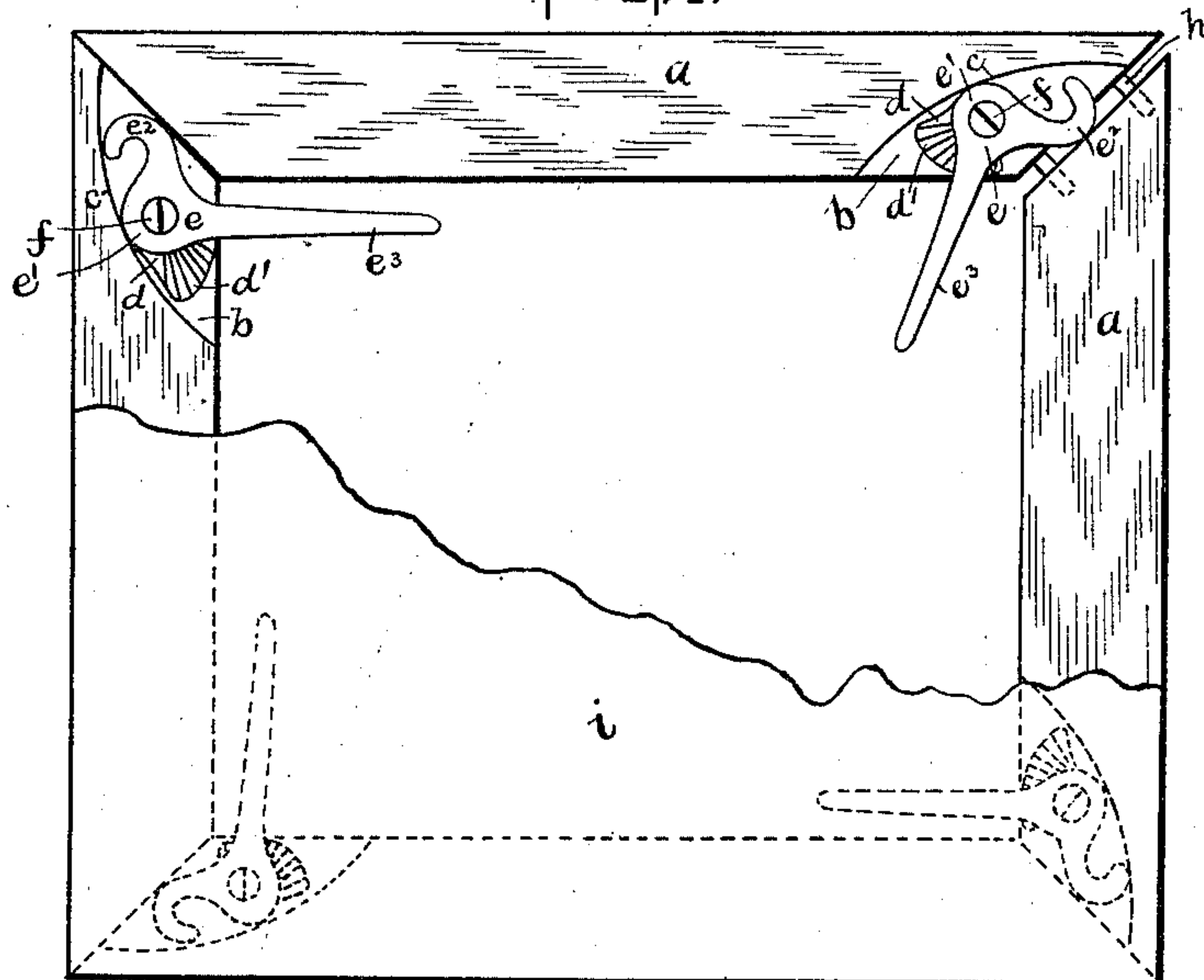


FIG. 2.

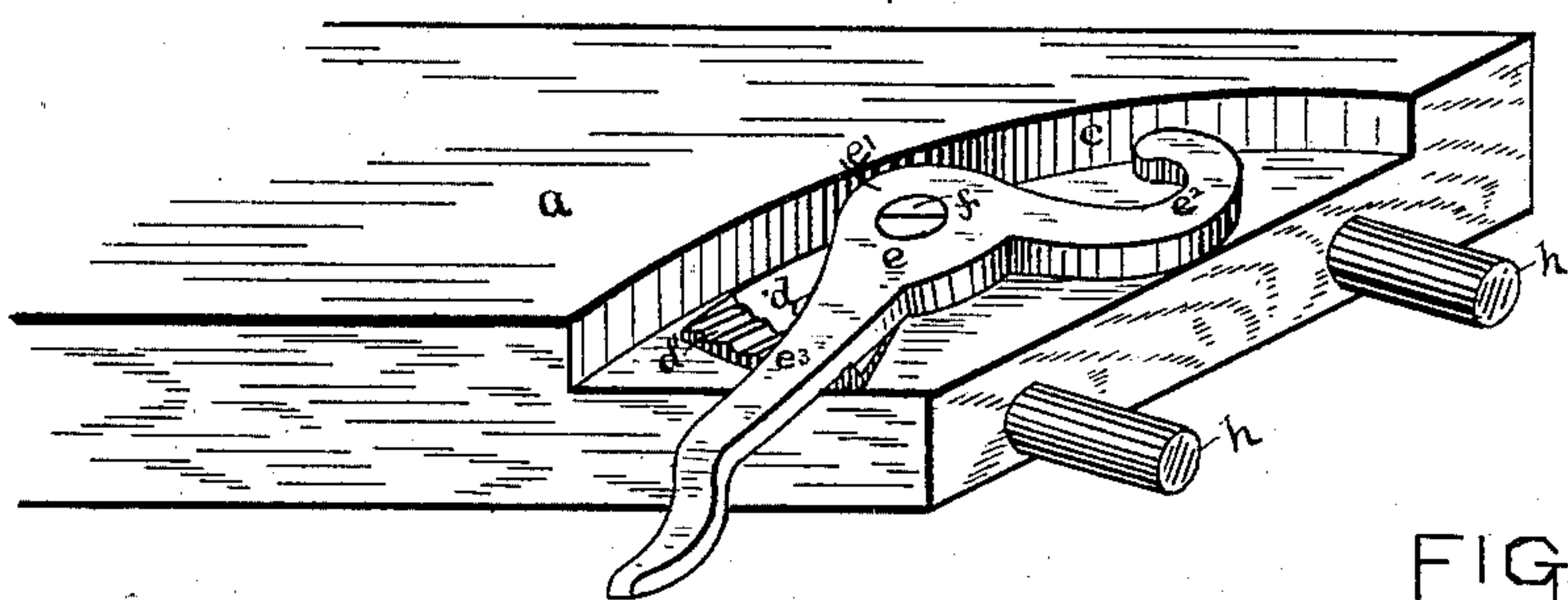


FIG. 3.



FIG. 4.

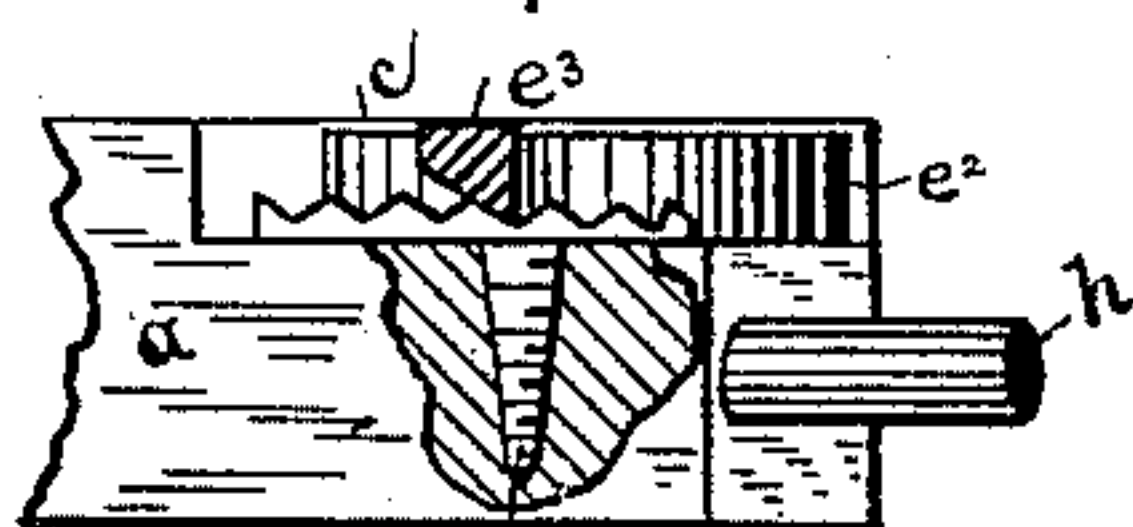
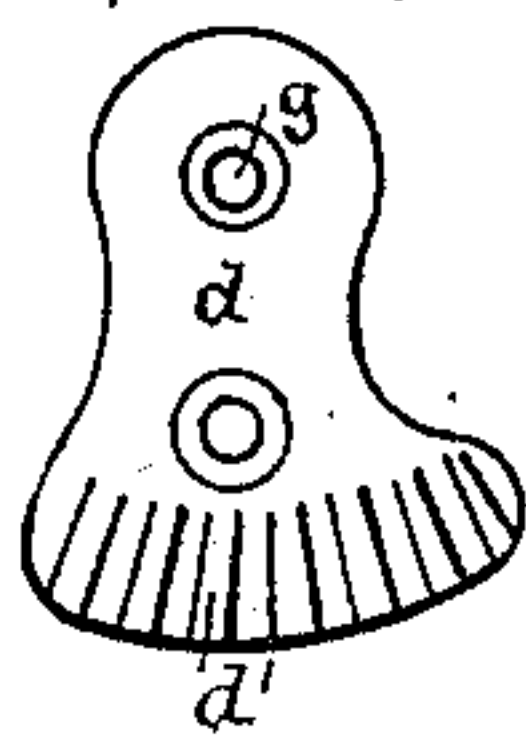


FIG. 5.



WITNESSES

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STRETCHER-FRAME.

SPECIFICATION forming part of Letters Patent No. 371,933, dated October 25, 1887.

Application filed April 18, 1887. Serial No. 235,161. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. GRAY, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Stretcher-Frames, of which the following is a specification.

My invention relates to the improvement of frames over which artists' canvas or other similar material is stretched; and the objects of my invention are to produce a simple, neat, and effective device of this class by means of which the sides and ends of the frame may readily and easily be separated and held in the desired position. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a front view of the frame, showing the canvas thereon broken away. Fig. 2 is a perspective view of one end of one of the pieces forming the frame. Fig. 3 is a sectional view, partially in section, of one corner of the frame. Fig. 4 is an inner side view of one end of one of the frame-pieces, showing a transverse section of the frame separating lever-handle; and Fig. 5 is a plan view of the notched plate with which said lever-handle is intended to engage.

Similar letters refer to similar parts throughout the several views.

a represents the four pieces forming the frame, said pieces being mitered at their ends in the usual manner to form a miter-joint at each corner of the frame, as shown. The front surface of each of the frame-pieces *a* adjoining one of its ends is cut away to form a depression, *b*, therein and a curved shoulder, *c*.

The formation and arrangement of each of the pieces *a* being alike, I will, for convenience, describe the upper end piece of the frame and its connection with one of the side pieces.

d represents a thin metallic plate screwed or otherwise secured within the depression *b*, and having formed on its front surface adjoining its lower end notched or elongated teeth *d'*. Loosely pivoted within the depression *b*, against the front surface of the plate *d*, is a cam-lever, *e*, the front surface of which is slightly in rear of the line of the corresponding surface of the piece *a*. Said cam-lever is pivoted in this position by means of a pivot-

screw, *f*, made to pass through a screw-hole, *g*, formed in the upper end of said plate *d*, into the depressed surface of the piece *a*. Made to project toward the adjoining end of the frame-piece *a* in an outward, upward, and inward curve from the cam-head *e'*, through which passes the screw *f*, is a cam-arm, *e''*, which, when the mitered ends of the top and side pieces are joined, has its outer central portion bearing against the upper end of said side piece, while the upper end of said arm and the rounded head *e'* will bear lightly against the curved shoulder *c*. Made to extend downwardly from the head *e'* of the cam-lever *e* is a lever-handle, *e'''*, which, projecting over the lower edge of the piece *a*, is preferably bent slightly rearwardly, as shown. This handle *e'''* has one of its sides beveled, as shown, to form an edge on its rear side, adapted to enter and engage with the notches *d'* on the plate *d*. Made to project from the end of the piece *a* below the surface of the depression *b* are dowel-pins *h*, which are adapted to enter corresponding holes formed in the end of the adjoining side piece.

The operation of my device is as follows: The parts of the frame being joined, as above described, the canvas *i* is secured to the front sides of the frame-pieces in the usual manner. The parts of the frame may then be easily and gradually separated to stretch the canvas the desired distance by pressure on the lever-handles from the rear. One of the latter having first been slightly raised until its rear edge is disengaged from the notches of the plate *d*, is pressed inward or downward, as the case may be, until the pressure of the cam-arm *e''* against the end of the adjoining piece has caused a sufficient separation of the parts, and the lower edge of the lever-handle may again be allowed to engage with the notches *d'*, thus locking the parts in the desired position. The rearward bend in the handles *e'''*, as will be seen, facilitates the handling of the same.

While the parts are being separated, as above described, it will be seen that the dowel-pins will form guides on which the moving frame-piece may slide. It will also be seen that the well-known fault in stretcher-frames, consisting of a tendency of the jointed parts to pinch toward each other at their front edges and leave a gap at the rear edges, is remedied

by having the separating or stretching lever-cams bearing against the parts near their upper surface.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a stretcher-frame, the combination of the frame-pieces *a*, each having a depression, *b*, shoulder *c*, and notched plate *d*, with a pivoted cam-lever, *e*, having its handle adapted to engage with the notches *d'*, and having an arm adapted to bear against the adjoining frame-piece, substantially as and for the purpose specified.

2. In a stretcher-frame, the combination of the mitered frame-pieces *a*, each having dowel-pins *h*, depressions *b*, shoulder *c*, notched plates *d*, pivoted cam-lever *e*, having its handle adapted to engage with the notches *d'*, and having an arm, *e'*, with the mitered connecting frame-pieces having dowel-holes therein, substantially as and for the purpose specified.

HENRY F. GRAY.

Attest:

C. R. GILMORE,
G. W. DEVORE.