No. 633,657. Patented Sept. 26, 1899.

B. MÜLLER.

CLAMPING APPLIANCE FOR FRAMES WITH GLUED MITERED JOINTS.

(Application filed May 19, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1

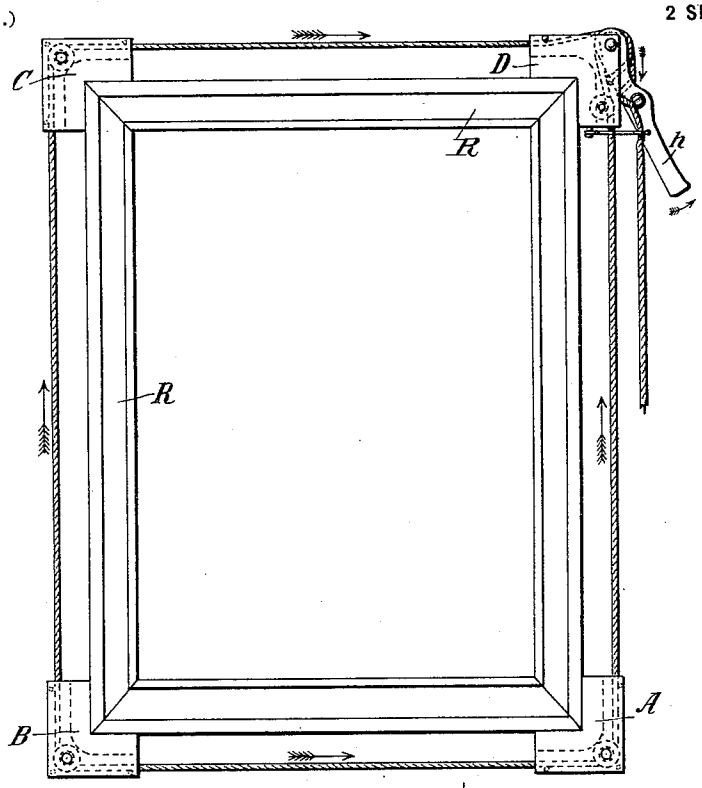


Fig. 2

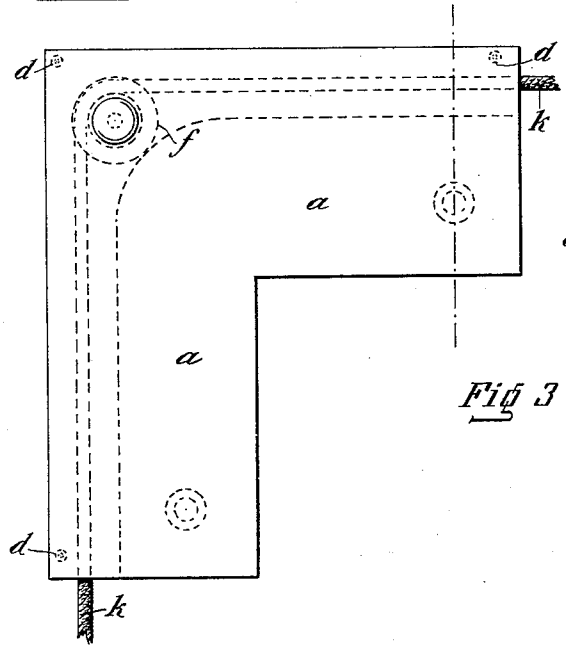
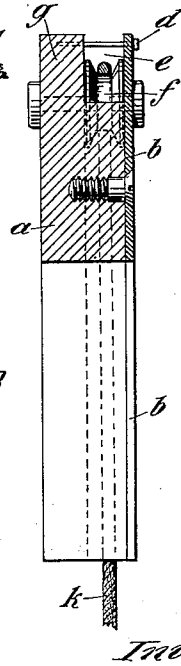


Fig 3



Witnesses.
Julius Lick.
Isaac B. Owens.

Inventor:
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Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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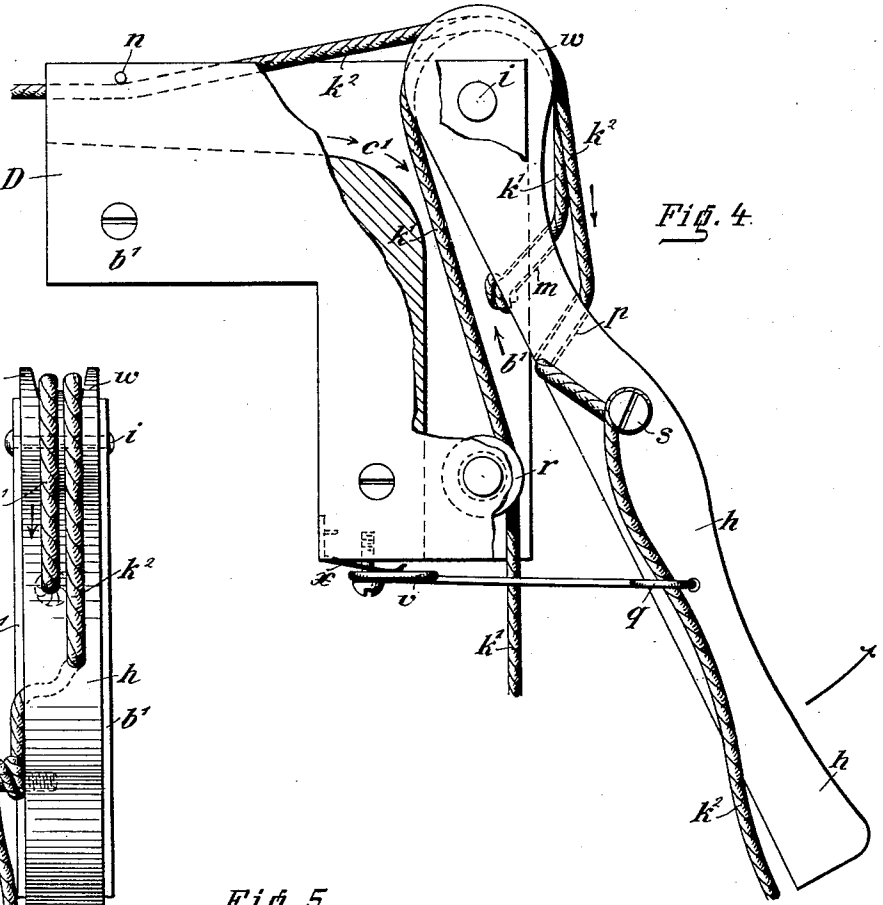


Fig. 4.

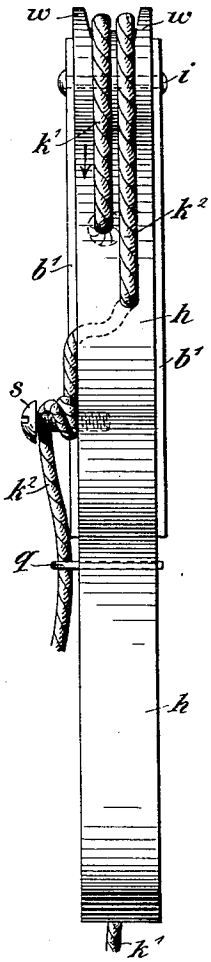


Fig. 5.

Witnesses.
Julius Lott
Isaac B. Owens

Inventor.
Barthel Müller
By Munn & Co.
Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BARTHEL MÜLLER, OF COBLENZ, GERMANY.

CLAMPING APPLIANCE FOR FRAMES WITH GLUED MITERED JOINTS.

SPECIFICATION forming part of Letters Patent No. 633,657, dated September 26, 1899.

Application filed May 19, 1898. Serial No. 681,161. (No model.)

To all whom it may concern:

Be it known that I, BARTHEL MÜLLER, a subject of the King of Prussia, Emperor of Germany, residing at Coblenz, in the Kingdom of Prussia and German Empire, have invented certain new and useful Improvements in Clamping Appliances for Frames with Glued Mitered Joints, (for which I have applied for patents in Austria, dated April 18, 1898, and in England, dated April 18, 1898, No. 9,000,) of which the following is a specification.

This invention relates to a clamping device for use in the manufacture of picture and other frames having glued miter-joints, whereby on the fitting together of the glue-coated miter edges of the parts of the frame these are pressed together with a uniform and strong pressure by the mere turning of a tightening-lever.

I will describe the said invention with reference to the accompanying drawings, in which—

Figure 1 shows the complete apparatus as applied to a rectangular frame. Figs. 2 and 3 show a front view and section of one of the angle-pieces on an enlarged scale, and Figs. 4 and 5 show a front view and end view of an angle-piece with the tightening device applied thereto.

As shown in Fig. 1, the clamping device consists of four rectangular angle-pieces A B C D, which are connected together by a cord *k*. As shown in Figs. 2 and 3, the angle-pieces consist of an accurately rectangular-shaped piece of wood *a*, strengthened by an iron plate *b*, which forms a groove *e* in combination with the notched outer edge of the wood piece. Through this groove is passed a cord *k*, which can slide therein and passes at the corner over a guide-pulley *f*, being prevented by pins *d* from falling out. The main feature of the clamping device consists of the tightening mechanism applied to the angle-piece D, as shown at Figs. 4 and 5. This angle-piece D differs from the others in that instead of having a single iron cheek *b* it has two such, *b' b'*, between which is formed a wide groove *c'*, that serves to receive the tightening-lever *h*, pivoted on a pin *i*.

When the clamping device has been fitted upon a frame, as shown by way of example in Fig. 1, the angle-piece D with the tightening device will be situated at the upper right-hand corner. The cord *k* has its one end *k'*, which is tied into a knot, secured to the lever *h* by being passed through a hole *m* therein, and passes thence first over the grooved and circularly-curved end *w* of the lever and then over the roller *r* downward and successively over the grooves and rollers of the angle-pieces A B C and under the pin *n* of piece *d*, and finally back again to the lever end *w*. Here the part k^2 is passed in the contrary direction to its commencement *k'* around the lever end *w* and through the hole *p* of the lever *h*, and after being twisted around the projecting screw or stud *s* it is finally passed under the loop *q* of the spring-hook *v*, attached at *x* to the piece D, the free end k^2 of the cord being allowed to hang down, as shown.

This clamping appliance is used as follows: The parts of the frame cut with miter ends after having their miter-surfaces coated with glue are fitted together and have the separate angle-pieces A B C D applied to the corners. The tightening-lever *h* is then turned up, so as to be about parallel with the miter, to an angle of about forty-five degrees. The end k^2 of the cord is then drawn tight by hand and secured tightly around the screws. The lever *h* is then turned downward, whereby the two parts *k'* and k^2 of the cord *k* will be wound up around the pulley-shaped end *w* of the lever *h*, and thus exert a strong pull upon the part of the cord extending around the angle-pieces A B C D, which are in consequence pressed with considerable force and great uniformity against the outer surfaces of the frame-corners, by which means any distortion of the frame is effectually avoided.

By means of the hook *v*, which can be conveniently attached by a screw to the lower end of the angle-piece D, as shown, the lever *h* is prevented from turning back out of the tightening position, so that the frame can be secured under pressure for any length of time by the said clamping device. The loop *q* of the spring-hook *o* at the same time serves, as above described, to nip the end k^2 of the cord against the lever *h*, and thus prevent any loosening thereof.

By means of the above-described clamping device, therefore, it renders possible to

draw together the freshly-glued parts of a frame in such manner that all the eight glued surfaces are pressed together in a perfectly uniform manner without the possibility of the frame being in any way damaged, which was practically unavoidable with the usual appliance for this purpose.

The appliance operates rapidly, reliably, and conveniently and can be applied to frames of any size.

Although by way of example I have shown the invention as applied to a rectangular frame, it will be obvious that it is equally applicable to any frames composed of three, four, or more parts joined together by glued miter edges, the shape of the angle-pieces being varied accordingly.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. An appliance for tightening the sections of frames, consisting of a series of angle-pieces, adapted to be applied to the corners of the frames, the said angle-pieces having grooved outer edges, a lever pivoted near one end in the groove of one of said angle-pieces, a cord having one end attached to the lever, the said cord passing over the fulcrumed end of the lever and over pulleys located in the grooves of the several angle-pieces, the other end of said cord passing over the fulcrumed end of the lever in a reverse direction and a locking device adapted to connect the lever and the angle-piece to hold the lever in the tightening position, the said locking device also serving to hold the end of the cord, substantially as described.

2. The combination of an angle-piece having a grooved outer edge, a lever pivoted near one end in said groove, a cord having one end extending through a hole in the lever and fastened thereto, the said cord passing over the fulcrumed end of the lever, the other end of said cord passing over the end of the lever in a reverse direction and thence through a hole in the said lever, a projection on the side of the lever around which the said cord is passed, and a locking device comprising a spring-hook connected with the angle-piece and adapted to engage the lever to hold the same in the tightening position, the said spring-hook also serving to hold the said end of the cord against the lever substantially as described.

3. The combination of an angle-piece, having metal side pieces with a groove between the side pieces, a pulley located in the groove near one end of said angle-piece, a pin located near the outer angle of said piece, a lever fulcrumed near one end on said pin, a cord having one end attached to the lever, the said cord passing over the fulcrumed end of the lever, a screw or stud projecting from the side of the lever and around which the other end of said cord is passed, and a locking device comprising a spring-hook attached to one end of the angle-piece and adapted to engage an opening in the lever, to hold the same in position, the said spring-hook also serving to hold the end of the cord, substantially as described.

4. The combination of a series of angle-pieces, a lever mounted on one of said pieces, a cord connected with the lever and rove over said pieces, and a locking device adapted to connect the angle-piece and lever, to hold the lever in the tightening position, the said locking device also serving to hold the end of the cord, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

BARTHEL MÜLLER.

Witnesses:

WILLIAM H. MADDEN,

GERTRUD STENZ.