Nov. 17, 1925.

1,562,153

A. ELBERN

DEVICE FOR TENSIONING MATERIALS ON FRAMES

Filed Feb. 27, 1925

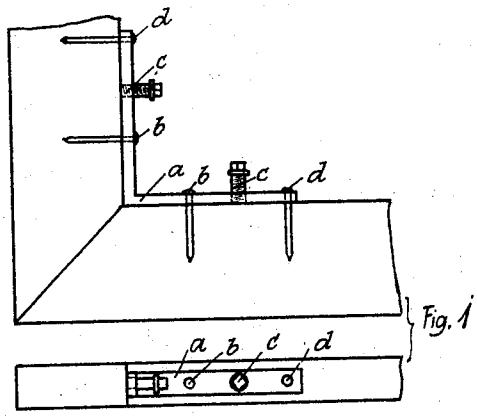


Fig. 1

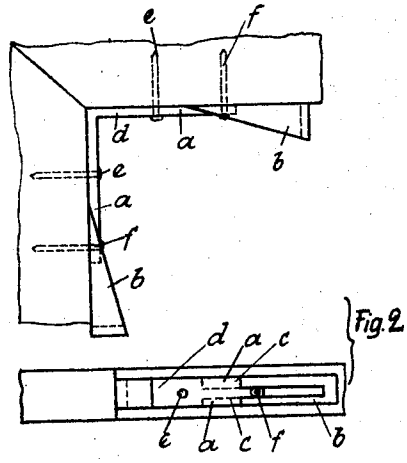


Fig. 2

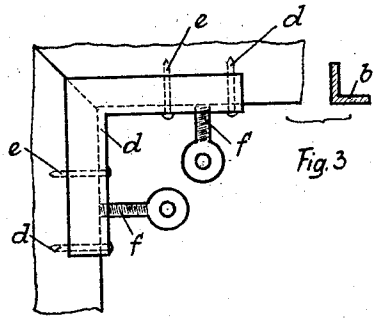


Fig. 3

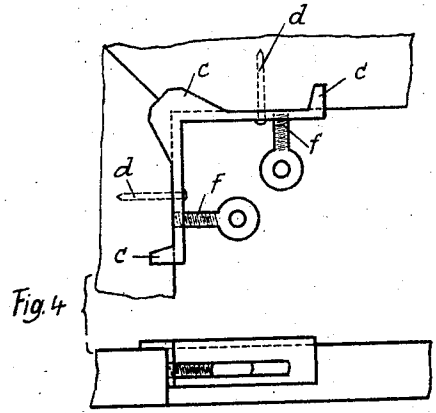


Fig. 4

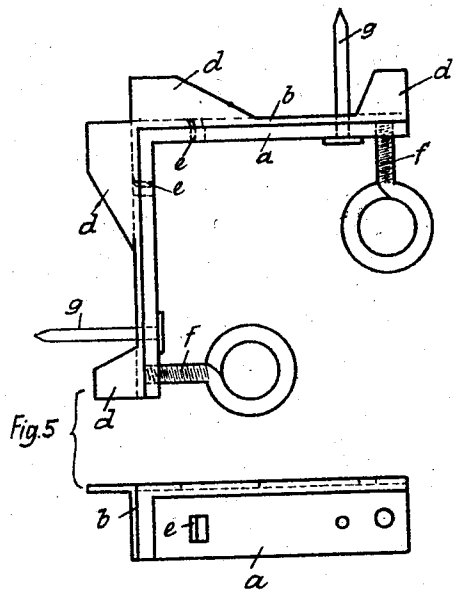


Fig. 5

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Patented Nov. 17, 1925. 1,562,153

UNITED STATES PATENT OFFICE.

ALWIN ELBERN, OF MEHLEM/RHEIN, GERMANY.

DEVICE FOR TENSIONING MATERIALS ON FRAMES.

Application filed February 27, 1925. Serial No. 12,189.

To all whom it may concern:

Be it known that I, ALWIN ELBERN, citizen of the German Republic, residing at Mehlem/Rhein, Coblenzerstrasse 88, Germany, have invented certain new and useful Improvements in or Relating to a Device for Tensioning Materials on Frames, of which the following is a specification.

The present invention relates to a device for tensioning material on a frame.

The object of the invention is to provide a device whereby a frame, for artists' canvases for example, can be tensioned without using the ordinary commercial machine-made wedge frames. A further object of the invention is to provide a tensioning device which can be applied to a frame of any size. The ordinary machine-made wedge frames are only made in standard sizes while the present invention permits any size to be made by an unskilled person since the joints do not need to be cut accurately. A still further object is to cause a resilient tension in the canvas or other material on the frame. These and other objects will appear from the following description of the accompanying drawings.

In the drawings Figures 1 to 5 show various constructions of the frame tensioning device according to the invention.

Referring firstly to Figure 1, the tensioning device consists of an angle piece *a* arranged within a corner of the frame, and connected to the same by nails *b* and *d*. Instead of nails spikes may be stamped out of the angle piece *a* or fastened to or made integral therewith in any suitable way. A screw *c* passes through a threaded hole in each arm of the angle piece *a* and abuts against the inner side of the frame. When the canvas or other material to be tensioned is attached to the frame it is tensioned by turning the screws *c*, which force the sides of the frame apart.

Figure 2 shows a modification of the device in which the screws are replaced by horse-shoe shaped wedges *b*, which pass beneath sloping surfaces *a* formed on each arm of the angle piece *d*. The angle piece *d* is connected to the frame by nails or the like *e* and *f*. The tensioning is effected in this case by thrusting the wedges *b*, further in under the surfaces *a*. The wedges are guided by side surfaces *c* on the arms of the angle pieces.

Figure 3 shows a similar device to Figure 1, but in this case the angle piece *a* is of angular cross section. One side of the angle piece lies flat, against the side of the frame thus keeping it in satisfactory alignment. The angle piece *a* is attached to the frame by nails *e* and *d*, and the tensioning is effected by means of the screws *f* in the same way as Figure 1.

Figure 4 shows a similar device to Figure 3, but in this case the angle piece *a* is provided with tongues *c* which lie flat on the side of the frame, and only one nail *d* is provided for each arm of the angle piece, thus saving time in securing the device.

Figure 5 shows a tensioning device according to the invention in which an angular strip of hard material *b*, for example of metal, is interposed between the angle piece *a* and the frame. Tongues *e* engage with the strip *b* and the angle piece *a*. The angle piece *a* and the strip *b* can be bent together and the tongues *k* hold them together, without further work being necessary.

The nails *g* pass through holes in the angle piece *a* and through registering holes or slots in the strip *b* and enter to the inner sides of the frame. The tensioning screws *f* abut in this case against the strip *b* and thus cannot enter the wood of the frame. For this reason the screws *f* in this case may be made smaller than in the other constructions. In this case tongues *d* may be formed on the strip *b* which are bent to lie against the flat surface of the side of the frame. These tongues fulfil the same purpose as the tongues *c* in Figure 4. The strip member *h* causes the device to be resilient, since the screws can slide on the strip. Any fault in the tensioned material likely to occur with changes in temperature and moisture is prevented by the resilience of the device.

What I claim is: —

1. A device for tensioning material on a frame comprising an angle piece disposed in an angle of the frame, means for each arm of said angle piece adapted to prevent longitudinal sliding relative to its frame member and a screw having a blunt bearing surface contacting with a frame member in each arm of said angle piece adapted to press the inner sides of the frame away from each arm of the angle piece.

2. A device for tensioning material on a frame comprising an angle piece disposed

in an angle of the frame, a pointed member for each arm of said angle piece adapted to enter one of the inner sides of the frame and a screw having a blunt bearing surface contacting with a frame member in each arm of said angle piece adapted to press the inner sides of the frame away from each arm of the angle piece.

3. A device for tensioning material on a frame comprising an angle piece disposed in an angle of the frame, a nail for each arm of said angle piece adapted to enter one of the inner sides of the frame and a screw having a blunt bearing surface contacting with a frame member in each arm of said angle piece adapted to press the inner sides of the frame away from each arm of the angle piece.

4. A device for tensioning material on a frame comprising a flanged angle piece disposed in an angle of the frame, means for each arm of said angle piece adapted to prevent longitudinal sliding relative to its frame member and means adapted to press the inner sides of the frame away from each arm of the angle piece.

In testimony whereof I affix my signature.

ALWIN ELBERN.