

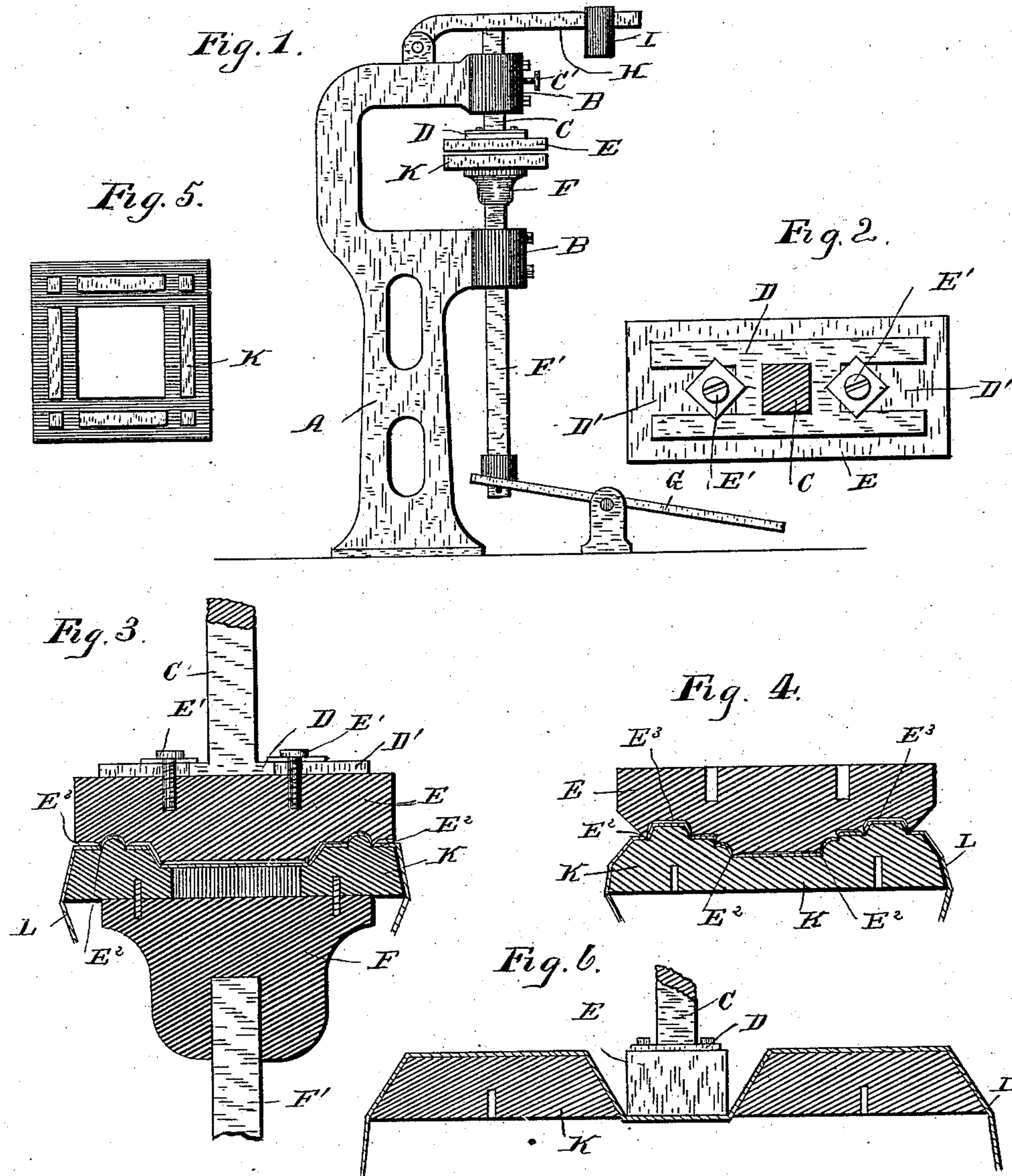
(No Model.)

D. & D. C. WHEELER.

MANUFACTURE OF COVERED FRAMES AND SIMILAR ARTICLES.

No. 308,586.

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Witnesses
W. A. Jones.
A. B. Fairchild

Inventors
Dwight Wheeler and
David C. Wheeler
by A. M. Wooster
att'y

UNITED STATES PATENT OFFICE.

DWIGHT WHEELER AND DAVID C. WHEELER, OF BRIDGEPORT, CONNECTICUT, ASSIGNORS OF ONE-THIRD TO JOHN A. CROFUT, OF SAME PLACE.

MANUFACTURE OF COVERED FRAMES AND SIMILAR ARTICLES.

SPECIFICATION forming part of Letters Patent No. 308,586, dated November 25, 1884.

Application filed March 20, 1884. (No model.)

To all whom it may concern:

Be it known that we, DWIGHT WHEELER and DAVID C. WHEELER, citizens of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Covering Irregular Surfaces with Fabrics; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to picture-frames, boxes, and other analogous articles having irregular surfaces which it is common to cover with plush, velvet, and other flexible material having an ornamental surface or finish; and it has for its objects to apply such covering materials to raised, plain, or depressed surfaces, or any combinations of surfaces, in such a manner as to secure a smooth and unwrinkled surface without cutting the goods until the operation is completed, without the employment of skilled labor, and without the waste of time and uncertain results which are unavoidable with the modes of operation now in common use. These objects we attain by the method and apparatus hereinafter fully explained, and then pointed out in the claims.

In our description we shall refer by letters to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a press, showing a die and frame in position for use. Fig. 2 is a plan view on an enlarged scale, showing the attachment of a die to the standard. Fig. 3 is a section of the bed with a small frame thereon, showing the open center and also the die, and showing the contact-points of the die upon the frame, the standards carrying the die and bed being in elevation. Fig. 4 is a section showing the die resting upon an article having a closed center. Fig. 5 is a plan view of a completed frame; and Fig. 6 is a section illustrating a modification, which is especially adapted for covering frames or other articles with open centers, but having no depressions between the edges of the frame.

Similar letters indicate like parts in all the figures.

A represents a frame-work having guides B, in which the standards C and F' have vertical movement.

D is a cross-piece having slots D', which is rigidly secured to standard C, and to which die E is secured by bolts E'. The peculiar feature of this die is a series of contact-points, E², which bear upon the frame only in the depressions thereof, as will be more fully explained.

F is the bed, which is carried by a standard, F', which is pivoted to and operated by a foot-lever, G.

H is a lever pivoted to the frame-work, which bears upon the upper end of standard C.

I is a weight sliding on said lever, by means of which the pressure on the die is regulated.

C' is a set-screw, which bears against standard C when it is desired to hold it in any desired position.

K represents the article to be covered, and L the covering material.

The operation is as follows: The die must be accurately fitted to the article to be covered, the raised portions of one registering with the depressions in the other. It is not necessary, however, that the entire surface of the die should come in contact with the article. In practice we have found it preferable to cut out the surface of the die, as at E³, so that upon the raised portions of the frame or other article there is no contact of the die; but in all the depressions of the article it is necessary that the die should press firmly. We have therefore provided contact portions E², which are made to accurately register with the depressions in the article to be covered. It is of course not necessary that the bed should be of equal size with the article. If the article is larger than the bed, we secure a board of suitable size to the bed, upon which the article is placed. Pins projecting upward from the bed and engaging the article (or any simple equivalent device) hold the article in position to register with the die. Having adjusted the article and the die, the sheet of covering material is stretched over the article, suitable cement or glue having been applied to all the depressions in the surface, and, if necessary, to other portions there-

of. The covering material requires to be held under tension, but in such a manner as to yield somewhat when power is applied to the die. The sheet of material may be held by hand or
 5 in any suitable manner, but we preferably employ the spring-clamps shown in our Patent No. 280,981, dated July 10, 1883. In use the die may be forced into the article or the article forced against the die. For light work we
 10 ordinarily hold the die stationary by means of set-screw C', and gently press the article against the die. Where a uniform pressure is desired in covering a large number of similar articles, the pressure may be regulated by adjusting
 15 the weight upon lever H and pressing upon the foot-lever until the weight is slightly raised. As the die presses against the article to be covered, or vice versa, the covering material gradually conforms to its shape by stretching,
 20 so as to be free from wrinkles and present a smooth and even appearance, being firmly united thereto at the points where the cement has been applied. When the bed has been lowered and the clamps released, the article
 25 may be removed, it being merely necessary to trim the edges with a knife or shears, no hand-finishing whatever being required. We have shown the die as not extending down at the side of the article, this being wholly unnecessary, unless there are depressions in the edge
 30 thereof, as the clamps act to draw the cloth against the outer edge, as in our patent referred to. By this mode of operation we are enabled to dispense with the services of skilled work-
 35 men, and to apply the covering material in a small fraction of the time required to do it by hand, and with equal accuracy.

In Fig. 6 we have illustrated a modification which is specially adapted for use upon frames
 40 having no depressions but open at the center. We have found that upon this class of frames we can do equally good work by using a die just fitting the opening in the frame, the edges of the covering material being held by spring-
 45 clamps, as in the other form.

We do not desire to restrict ourselves to the exact construction shown in the drawings, as

it is evident that numerous variations may be made in the details of construction without in any way departing from the spirit of our in-
 50 vention, the gist of which lies in the use of mechanical means to stretch the covering material, thereby causing it to fit the depressions in the frame without wrinkles, without cutting the goods, and without the use of skilled labor. 55

Having thus described our invention, we claim—

1. The improvement in the manufacture of covered frames and similar articles, which consists in placing cement in the depressions in
 60 the article, then straining the covering material over the same with a yielding tension, and then mechanically stretching said covering material and forcing the same into the depres-
 65 sions in frame.

2. A die for stretching and attaching flexible covers to articles having irregular surfaces, the same consisting of a series of contact-points which bear in the depressions in
 70 the article, and having cut away portions between said contact-points, so that the covering material is stretched over the raised portions without pressure at said raised portions.

3. Die E, having contact-points E² and cut-away portions E³, and a standard to which said
 75 die is detachably secured, in combination with a standard carrying a bed, F, and means, substantially as set forth, for moving the bed toward the die.

4. The die having contact-points E², and cut-
 80 away portions E³ and the bed F, in combination with a standard operated by a foot-lever which carries the bed, a standard, C, to which the die is detachably secured, and a lever piv-
 85 oted to the frame-work which carries an adjustable weight and bears upon the end of standard C, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

DWIGHT WHEELER.
 DAVID C. WHEELER.

Witnesses:

A. M. WOOSTER,
 A. B. FAIRCHILD.