

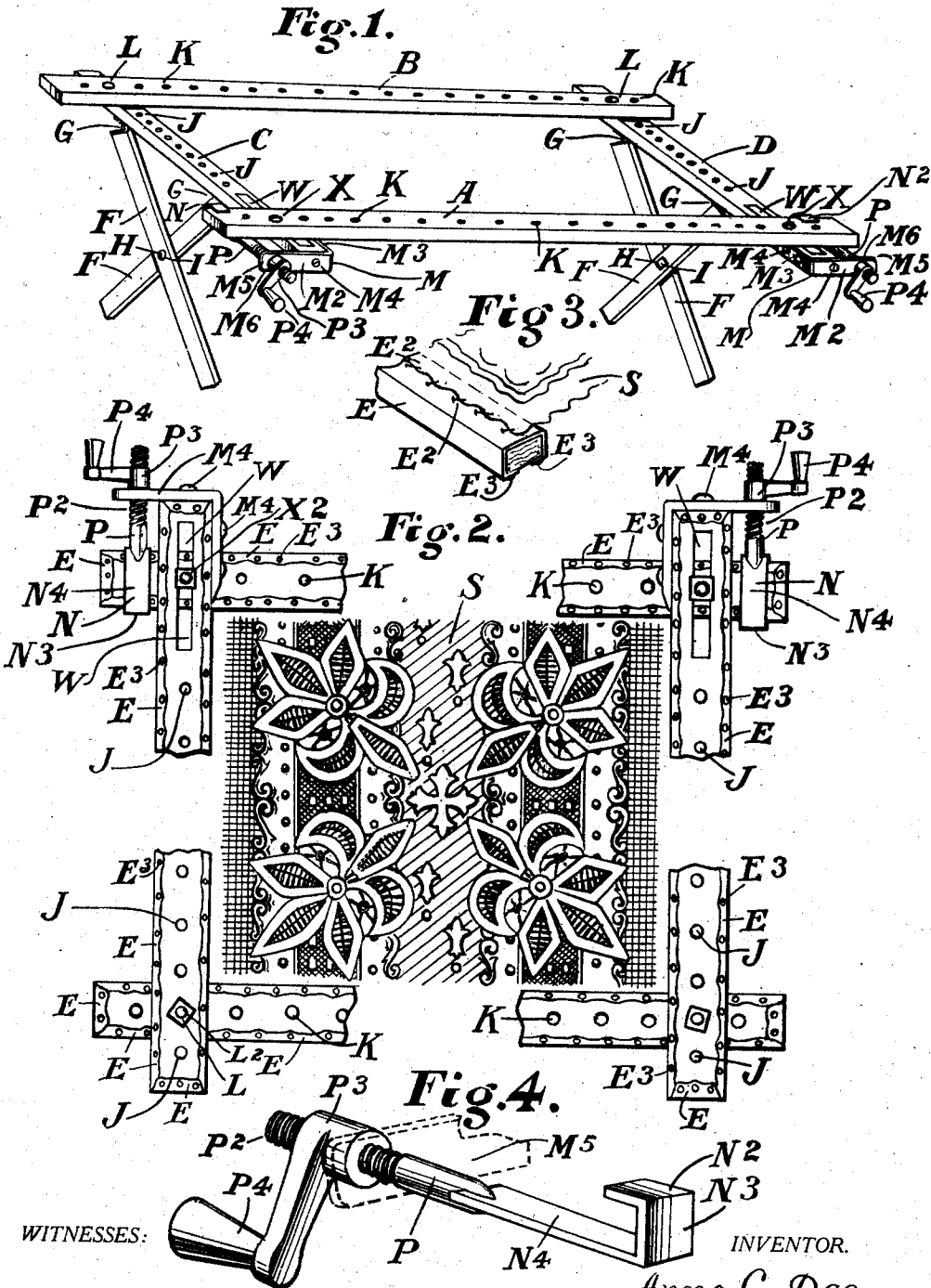
No. 878,712.

PATENTED FEB. 11, 1908.

A. C. DEE.

MACHINE FOR STRETCHING AND PRESSING LACE AND SIMILAR FABRICS.

APPLICATION FILED AUG. 8, 1907.



WITNESSES:

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MACHINE FOR STRETCHING AND PRESSING LACE AND SIMILAR FABRICS.

No. 878,712.

Specification of Letters Patent.

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Application filed August 8, 1907. Serial No. 387,722.

To all whom it may concern:

Be it known that I, ANNA C. DEE, a citizen of the United States, and a resident of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Machines for Stretching and Pressing Lace and Similar Fabrics, of which the following is a specification.

Experts greatly experienced in the handling of lace curtains and like articles, and in the cleaning of such fabrics can be reasonably successful with very common and rude means for stretching such articles. For instance, they can pin or tack the same on a floor or on a rude frame, and in this manner stretch them for undergoing the operation of cleaning.

The principal object of my invention is to provide mechanism whereby those not skilled in such an art can successfully and quickly adjust the lace article to be cleaned, upon a suitable frame, and can then stretch it to a nicety in every part. Such mechanism is obviously of advantage to the expert as well as to the mere tyro in such an art.

By my invention, not only is the article more satisfactorily adjusted and cleaned, but the entire operation is more rapidly accomplished. In other words, an economy of both time and labor is effected by means of my invention.

The mechanism herein described was primarily devised and designed for use in stretching and pressing lace, but as it is capable of an application to many other kinds of textile fabrics, it is to be understood that wherever the term lace is herein employed, it stands for and comprehends such other fabrics.

For a full understanding of the invention and the merits thereof, and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is had to the following description and accompanying drawings.

Corresponding and like parts are referred to in the following description and are indicated in all the views of the drawings by the same reference characters.

Figure 1 affords a view in perspective of the machine embodying my invention. Fig. 2 is a view of my machine when the latter is turned so that the bottom side is uppermost, and this bottom presented to the inspection of the beholder. In this view, a lace article

to be operated upon has been connected to the frame. Each bar of the frame is, in this view, broken away, and the margins of the lace article are also centrally broken away so that the corners and the corner portions of the frame may be brought within the scope of the sheet of drawings. Fig. 3 is a perspective view of a detail, namely: of a portion of any one of the bars of the frame illustrating the preferred mode in which the embracing blanket or other fabric is applied to the bar, and also illustrating the preferred mode of connecting the fabric to be cleaned, etc., to such blanket fabric, etc. Fig. 4 is a view in perspective of the device whereby a more delicate and accurate adjustment of the bar for stretching in a given direction the fabric to be cleaned, is obtained.

I will proceed to describe my invention in detail. The frame consists of four bars. These bars are preferably each of one entire or integral strip of wood. Two of these bars are substantially parallel and the other two bars cross the two first named bars at substantially a right angle or nearly so. Thus A, B, indicate two bars substantially parallel, and C and D represent the other two bars also substantially parallel to one another, and at essentially right angles to the bars A and B. The top of each bar is covered with a layer of some textile fabric E, preferably such as blanket stuff or canton flannel, or the like. This fabric E, which I term the padding, is to afford a hold for the pins E² employed to securely hold the lace S to the bars at intervals more or less frequent as the case may demand. A convenient and practical mode of connecting this fabric E to the bars is to have the strip of such fabric sufficiently wide to embrace not only the top of the bar but also the sides and to be extended onto the bottom of the bar for a short distance and be there secured by tacks E³ fast to the under side of the bar. I have shown such textile fabric E enveloping the top and side edges and a part of the bottom of the bar, and secured at the last named place by tacks E³.

For convenience of support, I provide suitable legs. A convenient construction of the legs relatively to each other and to their attachment to the frame is as follows: Each of the end bars C and D has two legs F, F. Each of a pair of legs F, F, is connected to its bar by a hinge G. This hinge allows the leg to be laid up against the bar, so that

when the stretching frame is not in use, these legs can be brought up against their respective bars, and be out of the way, thus effecting a saving of room and permitting the bars to be laid closely together and in a comparatively small space.

When the frame is to be used, the free end of each leg is moved away from its bar and when the legs have crossed each other, as shown in Fig. 1, a bolt H is passed through the holes at I in the legs, and the latter remain thus crossed and each pair securely supports its respective end bar. The side bars A and B are now laid on the end bars, their lengths being at substantially right angles to the lengths of the end bars. Each end bar is provided with vertical holes J and the side bars A and B are likewise respectively provided with vertical holes K. A pin or preferably a bolt L is passed down through the bar B and into the adjacent end bar, and when the connection is a bolt, a nut L² is screwed onto the lower end of the bolt beneath the end bar and securely holds the side and end bar together. A like connection is present between the side bar B and the end bar at or near the opposite end of said side bar B. The holes in the bars C and D cannot be very close together. For this reason, the adjustment of this side bar B toward or away from the other side bar A is necessarily a span of some length. Therefore the said adjustment cannot be capable of being a very close and accurate one.

I have provided an additional feature of construction whereby the required adjustment of the side bars A and B to and from each other, no matter how finely graded that adjustment must be, is readily obtained. This construction is as follows: In the fore part of each of the bars C and D there is a slot W. A bolt X from the bar A passes through the slot W of bar C and is provided with a nut X² or the like below to prevent the bar A from turning over upon the latter. A similar bolt X from the bar A in like manner secures the bar A to the bar D. Thus the bar can be moved back and forth on the bars C and D in the direction of the length of these bars C and D, the bolts X, X moving in their respective slots W, W.

On one end part of the side bar A, I locate an angle iron M, one limb M² of which fits against the front end of the bar C and the other limb M³ fits against the side edge of this bar. The limbs are secured in place and to the bar by screws M⁴. From this angle iron M there projects a lug M⁵, having a hole M⁶. As a device complementary to this, I provide a rod P, having a screw thread P². This rod P extends through the hole M⁶ of the lug M⁵. This hole is large enough to permit this rod to readily move back and forth through it, and as this hole has no screw

thread, the rod does not encounter any resistance in sliding through the lug M⁵. On that part of the rod which may be termed its free end and extends this side of the lug M⁵, a screw sleeve P³ is located and this is provided with a suitable device P⁴ for rotating it, one form of which device is shown and consists of the lever and hand grip piece. The other end of the rod P terminates in the plate N⁴, which latter is provided at its other end with the upright piece N³. The latter carries the lip or flange N² which extends forward over a part of the plate N⁴ and in a plane substantially parallel to the horizontal plane of the plate N⁴. The parts N⁴, N³ and N² may be termed a clamp N. This construction of angle iron M, M², M³, M⁴, M⁵, M⁶, clamp N, N², rod P, P², nut or sleeve P³ and handle P⁴, and their combination with each other and respectively with the bars C and A, is duplicated at the other end bar A and the adjacent end of bar D.

The operation of the machine is as follows: The bars C and D are duly erected upon their legs as heretofore specified. The bar B is located upon the bars C and D. The bar A is connected to the bars C and D through the medium of the bolts X and their securing nuts. The rods P, P, if not already moved back toward the bar B, are now so moved by properly rotating the nuts or sleeves P³, so that the main portion of their respective screw threads can be utilized in drawing the bar A forward, that is, away from bar B. The bar B is now set at approximately that distance from the bar A as the fabric S to be cleaned is wide or long as the case may be, according as the fabric is located on the machine. The bars C and D are moved toward each other as far as is necessary to accommodate the length or width of the fabric S as the case may be. The bar B is now secured in place to the bars C and D by the bolts L, L, in the manner aforementioned. The bar A is secured to the bars C and D by the bolts X, X, respectively passed through their respective adjacent slots W, W, and the nuts respectively screwed on said bolts, below the bars C and D. In making this last adjustment, namely: when the bars C and D are located as desired along the bar A relatively to the length, etc., of the fabric S, the clamps N will readily slide with their respective bars C and D along the back side of bar A. For as shown in Figs. 1 and 2, the rear edge portion of the bar A fits into the space between the parts N⁴ and N² of the clamp N, and the part N³ of the clamp comes against the back edge of the bar A. Thus the adjustment of this device for accurately and finely increasing the tension to which the fabric S is subjected is readily accomplished by comparatively simple means and in a simple manner. The said fabric S to be cleaned is now pinned to

the bar B by the pins E² or catches, which catch the fabric and engage the layer E of fabric forming a part of said bar B. In like manner, the fabric S after being gently extended, but not fully stretched is pinned to the bar A. The handles P⁴, P⁴ of the respective nuts P³ are now rotated, so as to move the bar A away from bar B. This movement serves to stretch the fabric S not only evenly, but very accurately to the precise amount of tension required. The fabric S is now cleaned. Thereafter the rods P, P are rotated in an opposite direction and the bar A moved toward the bar B. The fabric S is now no longer taut and the securing pins E² can now be readily removed. Then the fabric S may be removed. But usually the padding becomes of advantage as a foundation for the operation of pressing which can now take place, and which is as follows: As the pins E² are removed from the fabric S and from the padding E, the operator employs a hot iron, and irons the edge portion of the lace upon and against the padding, and thus rubs (that is, irons) out the impressions made by the securing pins E² and also imparts to the edge of the lace any desired smoothness and evenness of surface. The machine is now ready for another piece of textile fabric to be cleaned. It is now adjusted in the manner described to receive and adjust, stretch and hold this new textile fabric. Where the screws and their angle irons M and the clamps N are omitted, an inferior adjustment can be made by moving the bar A to or from the bar B and fastening it by bolts L through holes through bar A and bars C and D, but this is not as an efficient a method as the screw mechanism already described, particularly in the case of those not experienced in the business, because in the event of an attempted adjustment by the bolts L, and the separated holes therefor, all taut adjustments of the fabric S must be made by means of an expert pinning the fabric S to the blanket, etc., fabric E.

What I claim as new, and of my invention and desire to secure by Letters Patent, is:—

1. In a machine for stretching fabrics, the combination of the four bars A, B, C and D, each bar provided with holes, bolts L for adjustably connecting the bars B and C, D, by means of said holes, the lugs M⁵ respectively connected to said bars C and D, and the plates N to the respective end portions of the bar A and the screw rods respectively fixedly journaled in plate N, and their screws re-

spectively engaging screw threads in said lugs M⁵, the bars C and D provided with slots, 60 and the bolts X fixed in the bar A and respectively extending through said slots and through holes in the bar A, substantially as and for the purposes specified.

2. In a machine for stretching fabrics, the combination of four bars, one pair crossing the other at right angles, each pair provided with a longitudinal line of successive holes, and bolts adapted to connect the respective bars through the medium of the said holes, 65 each bar combined with an envelop of textile fabric covering the top of the bar and its side edges, and adapted to enable the textile fabric to be stretched to be readily connected by pins or catches to this enveloping fabric, and at each end of the bar A combined with the following named device, to wit: the angulated arm M, M², M³, with lug M⁵ and screw threaded opening M⁶, this arm 70 connected to the end of the adjacent cross bar, and the clamp N connected to the adjacent bar, and the screw threaded rod P, P², extended through the lug M⁵, and the nut P³, P⁴ engaging this screw threaded rod P, substantially as and for the purposes specified. 85

3. In a machine for stretching textile fabrics, the combination of four bars, one pair crossing the other at right angles, each pair provided with a longitudinal line of successive holes, and bolts adapted to connect the respective bars through the medium of the said holes, each bar combined with an envelop of textile fabric covering the top of the bar and its side edges, and adapted to 95 enable the textile fabric to be stretched to be readily connected by pins or catches to this enveloping fabric, and at each end of the bar A combined with the following named device, to wit: the angulated arm M, M², M³, 100 with lug M⁵ and screw threaded opening M⁶, this arm connected to the end of the adjacent cross bar, and the clamp N connected to the adjacent bar, and the screw threaded rod P, P², P³, P⁴, journaled in the clamp N, 105 and engaging the screw threaded opening M⁶, and the crossed legs, one pair for each of an opposing pair of bars, and hinged to their respective bars, and at their crossing united by a pin or bolt, the latter removable, 110 substantially as and for the purposes specified.

ANNA C. DEE.

Witnesses:

STARBUCK SMITH,
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