No. 607,291. Patented July 12, 1898.

J. STERNFELD.

MACHINE FOR MAKING STENCILS.

(Application filed Oct. 26, 1897.)

(No Model.)

Fig. 1.

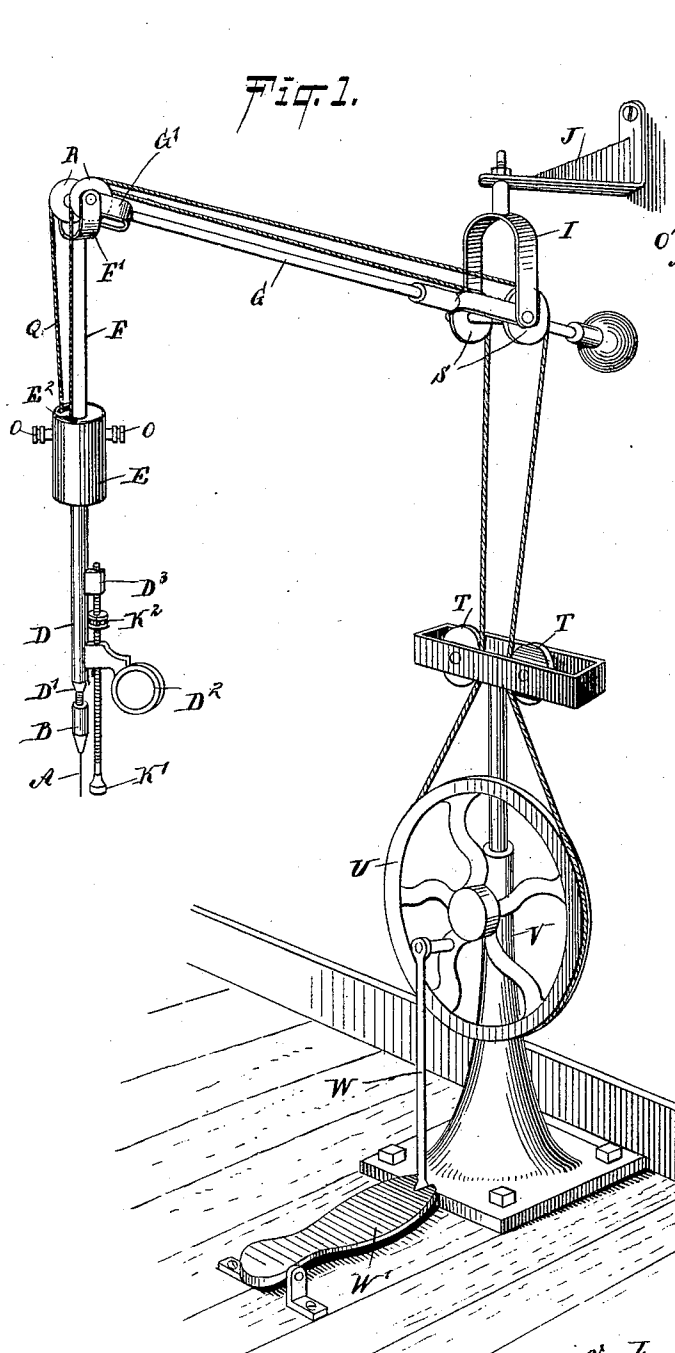


Fig. 2.

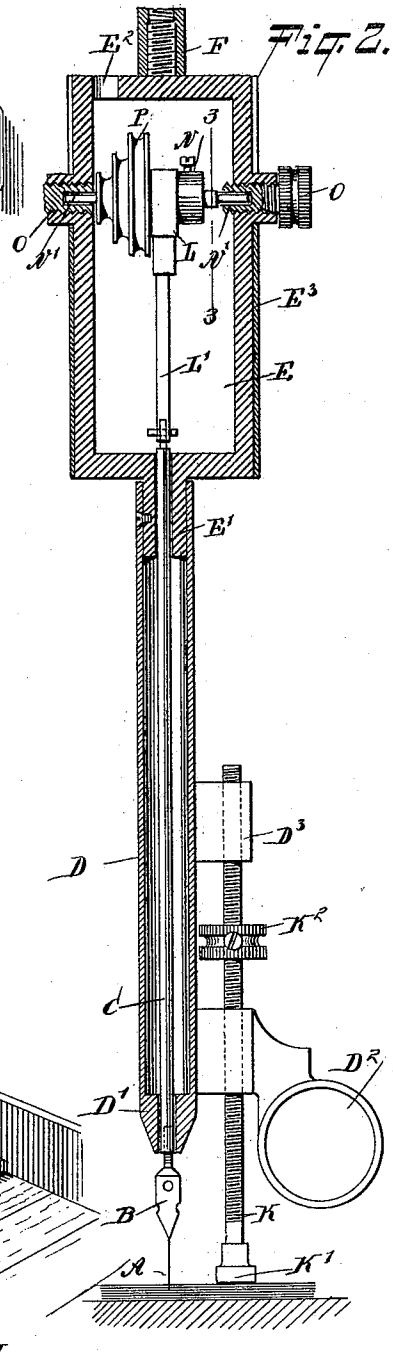
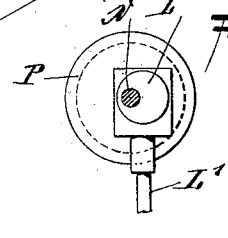


Fig. 3.



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JULIUS STERNFELD, OF NEW YORK, N. Y.

MACHINE FOR MAKING STENCILS.

SPECIFICATION forming part of Letters Patent No. 607,291, dated July 12, 1898.

Application filed October 26, 1897. Serial No. 656,447. (No model.)

To all whom it may concern:

Be it known that I, JULIUS STERNFELD, of New York city, in the county and State of New York, have invented a new and Improved Machine for Making Stencils, of which the following is a full, clear, and exact description.

The invention relates to paper stencils used for marking outlines of monograms and the like on linen or other fabrics, the stencils being formed by punctures produced by a needle or like instrument.

The object of the invention is to provide a new and improved machine for accurately puncturing the paper and forming the desired stencil, the machine being arranged to permit the operator to form any desired number of stencils at the same time.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improvement. Fig. 2 is an enlarged sectional side elevation of part of the improvement, and Fig. 3 is a transverse section of the same on the line 3 3 of Fig. 2.

A long and very fine needle A is secured in a chuck B, attached to the lower end of a rod C, fitted to slide near its lower end in a bearing D′, formed in a tube D, and at its upper end the said rod is fitted to slide in a bearing E′, attached to a casing E, supporting the said tube D, as is plainly shown in Fig. 2. The casing E is provided with a removable shell E^3 and is attached to the lower end of a rod F, formed at its upper end with a fork F′, pivotally connected with the outer forked end G′ of a counterbalancing-arm G, fulcrumed in a bearing I, depending from a bracket J, and mounted to turn therein to bring the arm G and the parts supported thereby to the desired position. The bracket J is attached to a wall or other suitable support to bring the needle A over a suitable table adapted to contain the paper to be formed into stencils by puncturing the paper, as hereinafter more fully described.

The tube D is provided on one side with a finger-piece D^2, adapted to be taken hold of by the operator, preferably with the thumb and forefinger, so as to guide the point of the needle A over the paper to be formed into a stencil according to the lines of the design drawn on the said paper.

Now in order to allow of perforating or puncturing a desired number of sheets of paper placed one on the top of the other to form a number of stencils of the same pattern at the same time I provide an adjusting device consisting of a screw-rod K, screwing in nuts formed in the shank of the finger-piece D^2 and in a lug D^3, likewise attached to the tube D, the said screw-rod being provided at its lower end with a foot-piece K′, adapted to rest on the upper surface of the top sheet of the pile of paper to be formed into stencils.

On the screw-rod K, between the two nuts, is secured a knurled or roughened collar K^2 for allowing the operator to conveniently turn the screw-rod, so as to adjust the same up or down to bring the foot K′ into proper position, according to the number of sheets of paper to be perforated at one time.

The needle A, with its chuck B and rod C, receives a reciprocating motion, and for this purpose I connect the upper end of the rod C with the eccentric-rod L′ of an eccentric L, secured on a shaft N, having its reduced ends N′ journaled in screws O, screwing in the sides of the casing E, as is plainly indicated in Fig. 2.

On the shaft N, inside of the casing E, is secured a cone-pulley P, over which passes a cord or belt Q, extending upwardly through openings E^2 in the top of the casing E to pass over pulleys R, journaled on the pivot connecting the forks F′ and G′ with each other. The runs of the cord or belt Q then extend transversely over pulleys S, journaled on the pivot for the arm G in the bearing I, and the runs then extend downwardly to pass over tightening-pulleys T, and finally over a driven wheel U, mounted to turn on a stud projecting from a standard V, resting on the floor or other suitable foundation. The wheel U is connected by a link W with a treadle W′ under the control of the operator for imparting a rotary motion to the wheel U to set the belt or cord Q in motion to rotate the pulley P and the shaft N, so that the eccentric L im-

parts a reciprocating motion to the rod C, the chuck B, and the needle A.

Now it is evident that the stroke of the needle A is uniform, and when it is desired to perforate a pile of sheets of paper less in height than the said stroke then it is necessary to move the foot K′ farther downward, so as to prevent the point of the needle from passing into the support for the paper, and if but one or a few sheets of paper are to be perforated the said foot is moved still farther down, so that the needle in its descent only passes through the said sheets and not down into the support for the paper.

It is evident that by the arrangement described the operator, having made the proper adjustment of the foot K′ according to the height of the pile of paper under treatment, simply takes hold of the finger-piece D^2 to move the tube D and casing E with their contents, so as to bring the needle A over the outlines of the desired design, the rapid strokes of the needle puncturing the paper as the needle passes over the same in following the contour or outline of the design.

As the arm G is sufficiently weighted at its rear end to properly counterbalance the parts suspended from the forward end of the said arm, it is evident that the operator can accurately move the point of the needle A along the design on the top of the sheets of paper to produce the desired result with the greatest accuracy.

As the shaft N is run at a very high rate of speed, it is desirable that the bearings for the shaft may be readily reached for lubrication, repairs, and the like, it being understood that the construction described for this purpose fully allows the operator the desired access, as the screws O can be readily removed from the casing E whenever desired.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A machine of the class described, comprising a depending bearing mounted to turn, a counterbalanced arm pivoted in said bearing and having a forked outer end, pulleys on the pivot of the arm and bearing, a rod having a forked upper end and pivoted to the forked end of the arm, pulleys on the pivot of the arm and rod, a casing carried by the rod and having a tube projecting downwardly therefrom, a pulley mounted in the casing, a driven pulley, an endless belt passing over said pulleys, and a needle-carrying rod operated by an eccentric from the shaft of the pulley in the casing, substantially as described.

2. A machine of the class described, comprising a depending bearing mounted to turn, a counterbalanced arm pivoted in the bearing, a casing provided with a rod projecting from its upper face and pivoted to the arm, and with a tube projecting from its lower face, a cone-pulley mounted in the casing, an eccentric on the shaft of the pulley, a needle-carrying rod connected with the said eccentric and projecting out through the tube, pulleys on the counterbalanced arm, a driven pulley mounted in a support below the counterbalanced arm, an endless belt passing around said pulleys and tightening-pulleys carried by the support of the driven pulley, substantially as described.

3. A machine of the class described, comprising a pendent bearing mounted to turn, a counterbalancing-arm pivoted in the said bearing, a rod pivotally connected with the outer end of the said arm, a casing carried by the said rod and provided with a downwardly-projecting tube, a shaft journaled in the said casing and tube and receiving a rotary motion from a traveling belt passing over pulleys supported on the said arm, a rod fitted to slide in the said casing, and receiving its reciprocating motion from the said shaft by an eccentric, and an adjustable foot-piece carried by the said tube, and adapted to rest on the paper, to regulate the depth the needle is to pass into the paper, the needle being supported by the said rod, substantially as shown and described.

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