

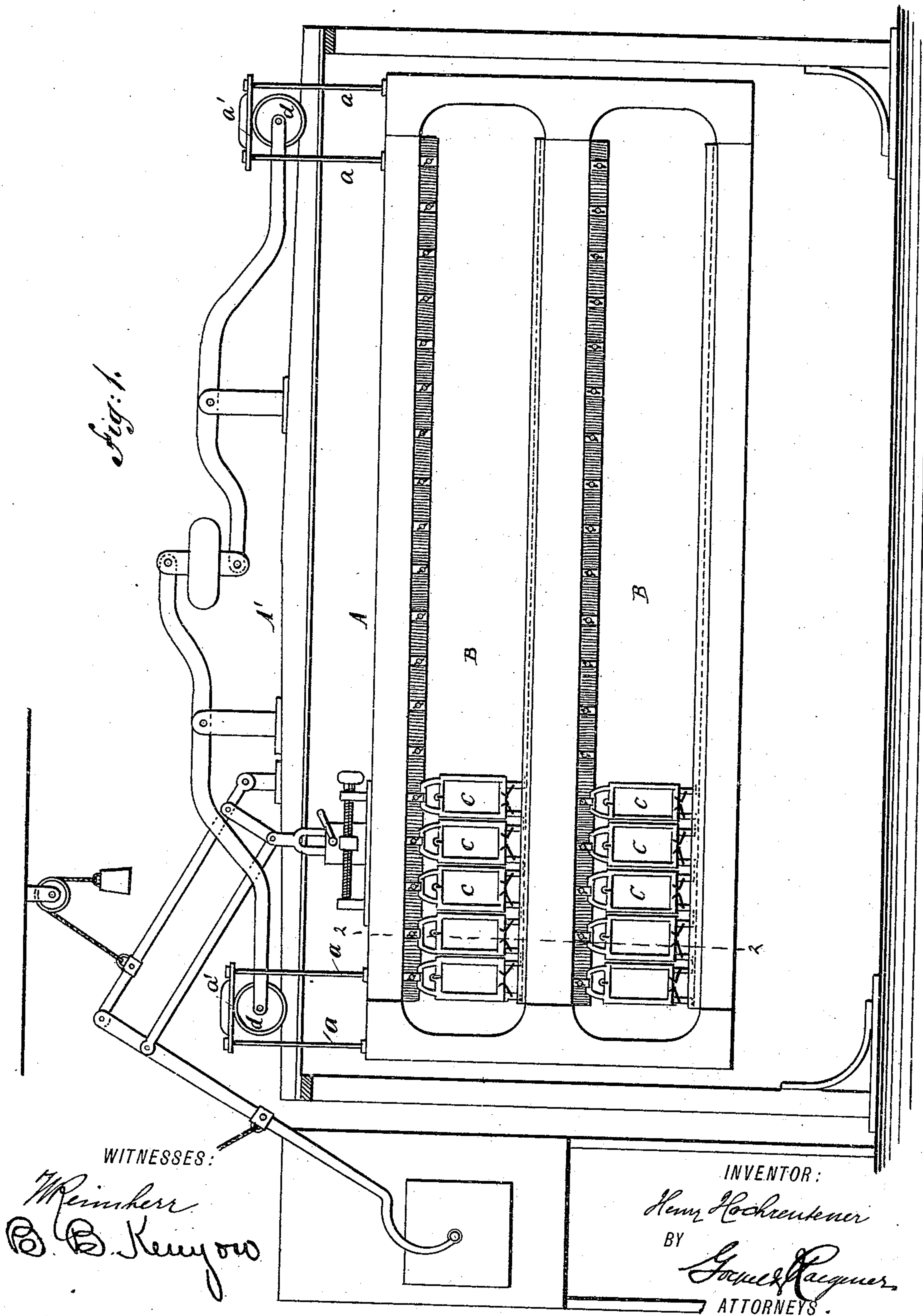
(No Model.)

H. HOCHREUTENER.
EMBROIDERING MACHINE.

2 Sheets—Sheet 1.

No. 446,184.

Patented Feb. 10, 1891.



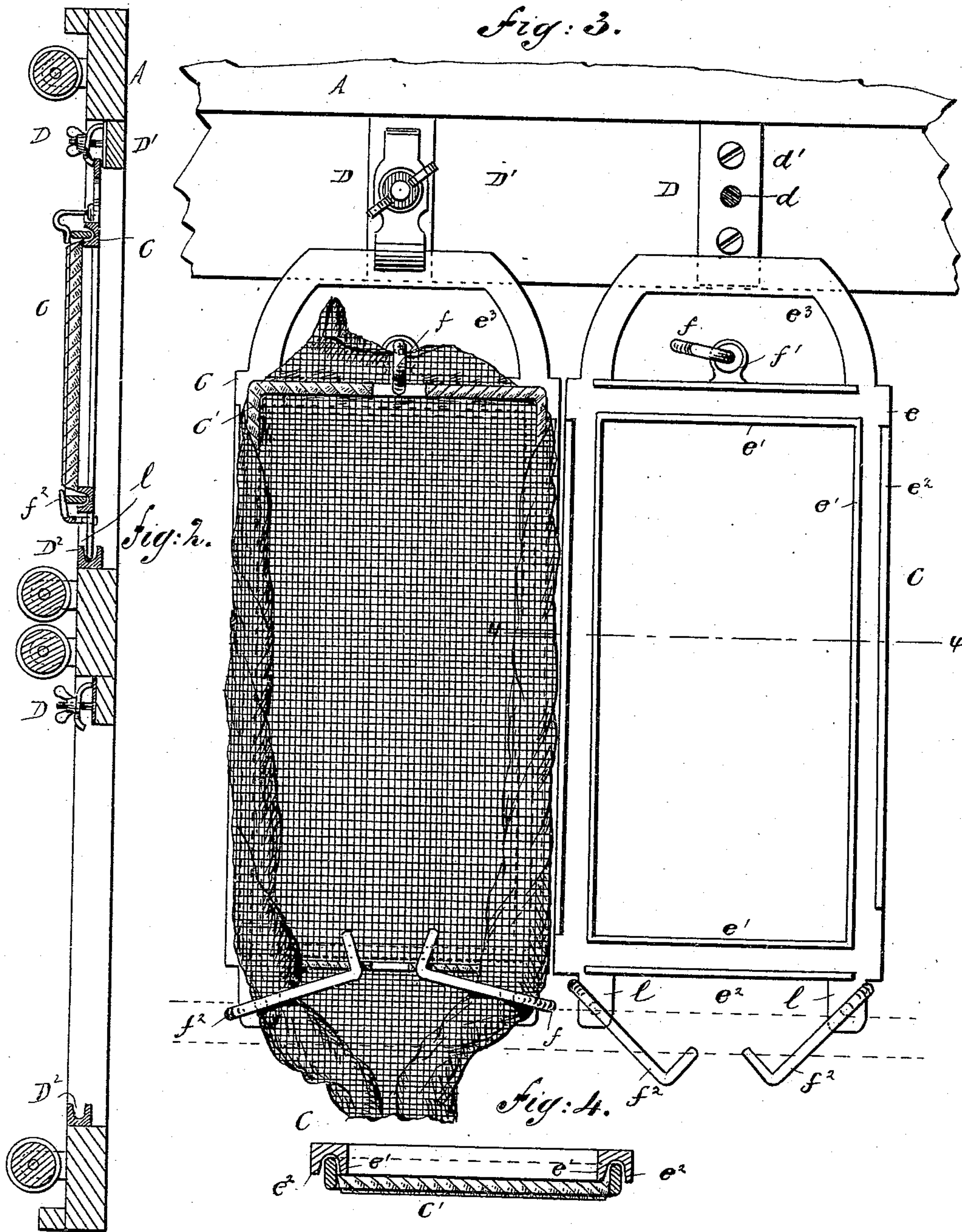
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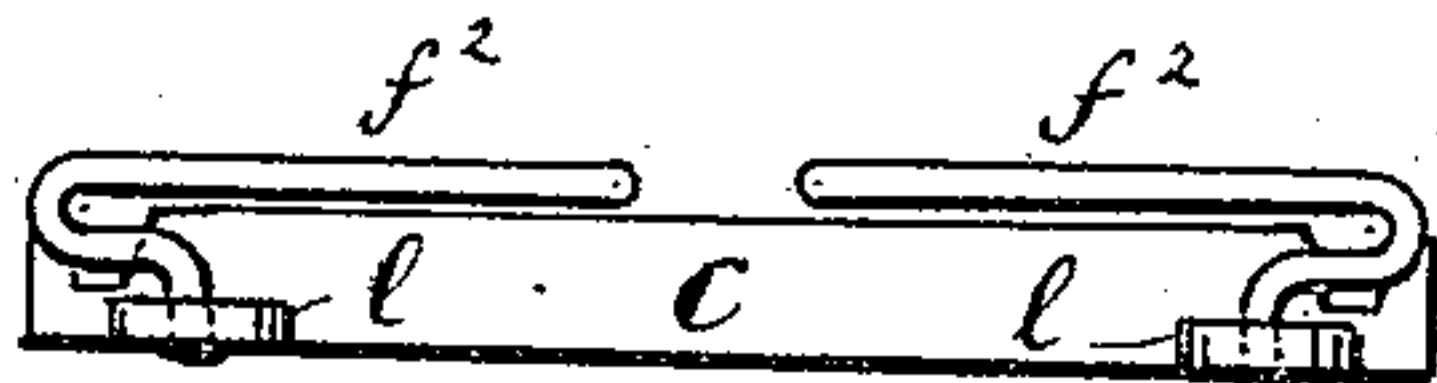
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WITNESSES:

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Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY HOCHREUTENER, OF NEW YORK, N. Y.

EMBROIDERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 446,184, dated February 10, 1891.

Application filed July 26, 1890. Serial No. 360,112. (No model.)

To all whom it may concern:

Be it known that I, HENRY HOCHREUTENER, of the city, county, and State of New York, a citizen of the United States, have invented certain new and useful Improvements in Embroidering-Machines, of which the following is a specification.

This invention has reference to certain improvements in fabric-holding frames of the well-known Heilmann embroidering-machine, commonly known as the "Swiss embroidering-machine," the improvement being designed with a view to facilitate the attachment of the fabric-holding frames to the movable frame that is operated by the pantograph.

In the accompanying drawings, Figure 1 is a front elevation of a Swiss embroidering-machine provided with my improved fabric-holding frames. Fig. 2 is a vertical transverse section of the movable main frame on the line 2 2, Fig. 1, showing the means for supporting the fabric-holding frames, said figure being drawn on a larger scale. Fig. 3 is a front view showing two fabric-holding frames drawn on a larger scale. Figs. 4 and 5 are respectively a horizontal section on the line 4 4, Fig. 3, and a bottom view of one of the fabric-holding frames.

Similar letters of reference indicate corresponding parts.

My improved fabric-holding frames are supported by a movable main frame A, which is suspended from a horizontal top rail A', above which the balancing-weight of the frame A is arranged, the main frame A being connected with the usual pantograph A³, by which the regular movement for forming the stitches in connection with the needles is imparted to the main frame A.

The embroidering-machine is of the usual well-known construction, in which, however, the carriages, the needle-holders, and the needle-releasing devices are not shown.

The main frame A is suspended by means of rods *a* and cross-pieces *a'* from rollers *d*, that are supported on the top rail A', said cross-pieces *a'* moving on the rollers *d*, so as to provide the required play for the frame A in following the motion required for making the stitches. The rollers *d* are balanced by fulcrumed and weighted levers in the usual manner.

The main frame A is provided with longitudinal openings B B, of a sufficient size for arranging the fabric-holding frames C in the same. The fabric-holding frames C are attached to a recessed rail D' at the upper edges of the openings B, while the lower ends of the fabric-holding frames C are supported in grooved rails D² at the lower edges of the openings B, as shown in Figs. 1 and 2.

The clamping devices D for the cloth-holding frames C consist of a fixed screw-post *d*, that is attached by a bottom plate *d'* to the top rail D'. On the screw-post is arranged a curved U-shaped clamping-piece *d*², one end of which rests against the recessed rail D', while the upper end presses on the upper end of the fabric-holding frame C, and is tightly applied thereto by means of a thumb-nut *d*³, which screws on the outer threaded end of the fixed screw-post *d*, as shown in Figs. 2 and 3.

For attaching the fabric-holding frames, the lugs *l* at the lower ends of the same are first inserted into the grooved rail D² at the lower edge of the opening B, after which the upper ends of the frames C are placed against the rail D' and firmly attached thereto by means of the clamping device D.

The fabric-holding frame C is formed of a main part *e*, which is provided with an oblong opening and outwardly-projecting flange *e'*, extending around the oblong opening, and with outer flanges *e*², extending parallel to the inner flanges *e'*, but being cut short at the ends, so as to provide openings at the corners of the outer flanges. The upper end *e*³ of each frame is extended above the flanged upper part of the same, and is engaged by the clamping device in such a manner that the said clamping device does not interfere with the fabric on the individual frames C. The inner and outer flanges *e'* and *e*², the lower lugs *l*, and the upper extension *e*³ of the main part *e* of the fabric-carrying frame are preferably made from one integral piece of metal, either cast or bent up by suitable dies. The fabric M is firmly retained in the grooves formed by the inner and outer flanges *e'* *e*² by means of a detachable retaining-frame C', preferably covered with spirally-wound braids, which retaining-frame C' is pressed into the spaces between the flanges, so as to

be retained in the same by pressure exerted on the spirally-wound covering-braid. This braid also produces a certain friction on the fabric stretched into the fabric-holding frame, so that the same does not "give," but is retained in tightly-stretched position in the grooved main part *e*. The retaining-frame *C'* is held in place also by a pivoted hook or clasp *f*, that is applied to the lug *f'* at the upper end of the main part *e*, and by pivoted retaining-arms *f*², that are pivoted to lugs *l*, and are placed into position over the lower part of the retaining-frame *C'*, as shown clearly in Figs. 3 and 5.

For stretching the portion of the fabric to be embroidered on the holding-frame *C*, the fabric is first placed over the frame *C*. Then the oblong retaining-frame *C'* is placed into the grooves of the holding-frame *C*, so that the fabric is drawn taut by the pressing in of the retaining-frame *C'*, whereupon the latter is firmly locked in position in the holding-frame *C* by the retaining devices *f f'* described. When all the frames *C* are thus provided with stretched fabrics, they are placed in position in the supporting main frame *A* and submitted to the action of the embroidering-machine in the usual manner. After the fabrics are embroidered the same are removed with the frames and another set of fabric-holding frames inserted into the machine end, and so on.

My improved fabric-holding frame has, first, the advantage that the fabrics may be quickly placed in position on the same and held in tightly-stretched position for partaking of the motion of the machine, and, secondly, that

the frames with their fabrics can be quickly placed in position, one independently of the other, in the main frame of the machine, and that the frame can be quickly removed for replacing new fabrics on the same.

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

1. In a Swiss embroidering-machine, the combination of a main frame having a longitudinal opening, a grooved rail at the bottom of said opening, spring-clamps on the main frame near the top of said opening, and fabric-holding frames having lugs at their lower ends engaging said grooved rail and extensions at their upper ends engaging said spring-clamps, substantially as set forth.

2. A fabric-holding frame for embroidering-machines, consisting of a skeleton frame provided with flanges at its inner and outer edges and with extensions at its upper and lower ends for attachment to the tambour-frame, a retaining-frame adapted to fit between the flanges of the skeleton frame for clamping the fabric, and latching devices at the upper and lower ends of the skeleton frame for holding the retaining-frame thereon, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

HENRY HOCHREUTENER.

Witnesses:

PAUL GOEPEL,
MARTIN PETRY.