

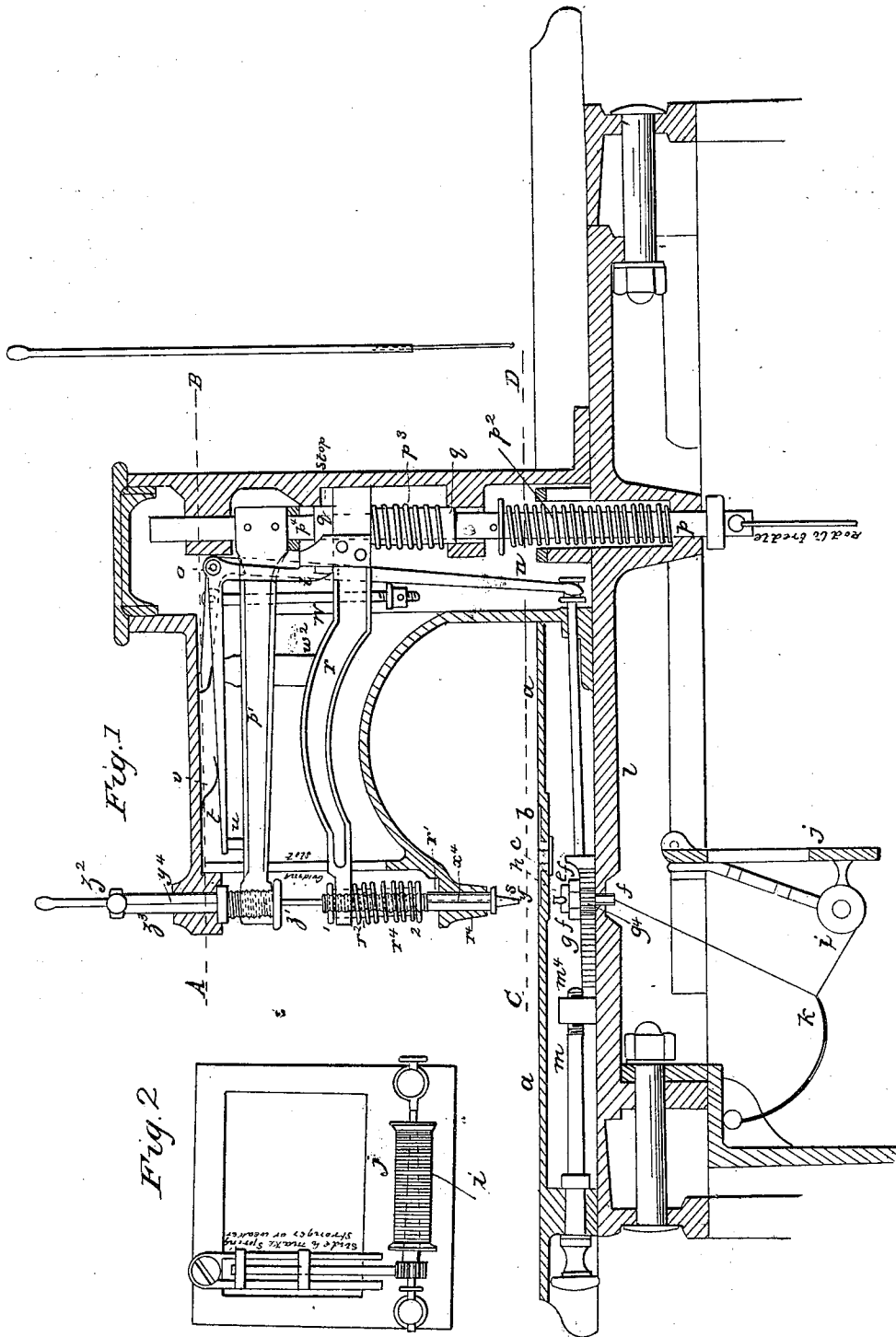
B. THIMONNIER.

2 Sheets—Sheet 1.

Sewing Machine.

No. 7,622.

Patented Sept. 3, 1850.



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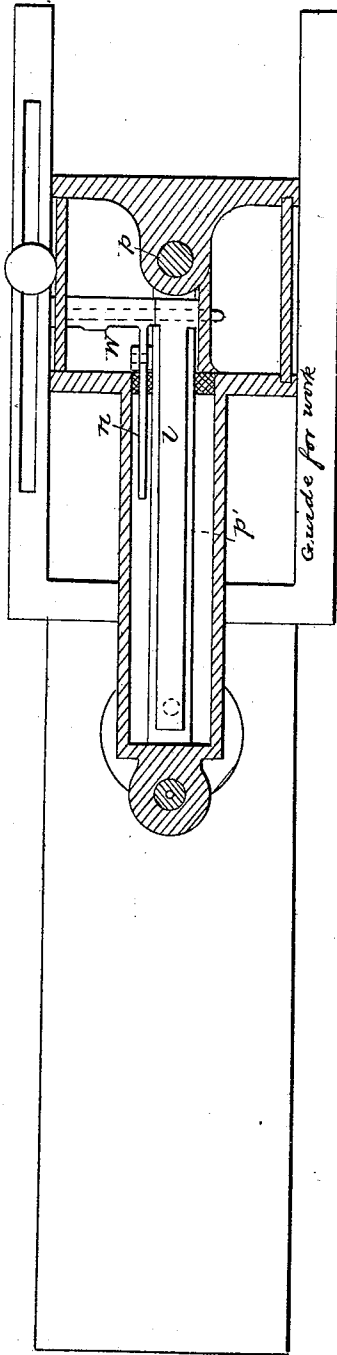


Fig. 3

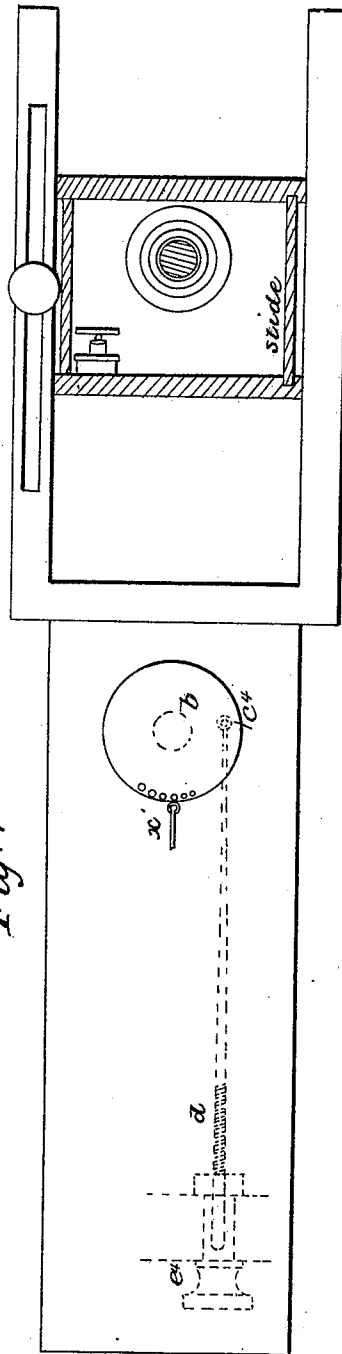


Fig. 4

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UNITED STATES PATENT OFFICE.

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PHILIP MAY, OF LONDON, ENGLAND.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 7,622, dated September 3, 1850.

To all whom it may concern:

Be it known that I, BARTHELEMY THIMONNIER, AÎNÉ, of Amplepuis, Department Du Rhône, in the Republic of France, a citizen of the Republic of France, have invented or discovered new and useful Improvements in Machinery for Forming Stitches in Fabrics for Plain and Ornamental Purposes; and I, the said BARTHELEMY THIMONNIER, AÎNÉ, do hereby declare that the nature of my said invention and the manner in which the same is to be performed are fully described and ascertained in and by the following statement thereof, reference being had to the drawings hereunto annexed, and to the figures and letters marked thereon—that is to say:

This machine mainly consists of so constructing the parts and combining them that the fabric or fabrics are to be supported on a surface through which (and opposite to the hook used to produce and draw through the stitches) there is a hole, so that the hook employed having passed through one or more thickness or thicknesses of fabric, it will pass through such hole, and when beyond the plate or surface a thread of silk, cotton, or other material will be caused to be laid partly around the stem of the hook in such manner that the hook, in passing through the fabric or fabrics, will carry with it a loop of such thread, there being a tube or instrument retaining down the fabric or fabrics till the hook has passed back. The fabric or fabrics are then to be moved a distance equal to the length of the stitch, the hook is again caused to pass through the fabrics, and the holding-down instrument holds the fabric, and the thread is again wrapped partly around the stem of the hook, which, in again going back through the fabric or fabrics, draws the new loop through the one or more thicknesses of fabric, and also through the previous loop, the work produced being what is called "tambour-stitch," and it is the combining the use of a hook with a perforated surface, against or on which the fabric is held by a tube (or other holder acting in like manner) acting with a thread-carrier which partially rotates, which constitutes the peculiar character of this invention over those machines and apparatus before made where tambour-hooks have been used. But for the better understanding of the

invention, I will now describe the drawings hereunto annexed—

Figure 1 being a section in elevation of the principal parts of a machine made according to this invention. Fig. 2 shows a plan of the apparatus for carrying the thread. Fig. 3 shows a horizontal section taken at the line A B in Fig. 1; and Fig. 4 shows another horizontal section, taken at the line C D in Fig. 1.

a a is the upper surface of the table on which the fabric or fabrics to be worked are placed and held by the workman in position, and in order that hooks of different sizes may be used according as the thread employed is coarser or finer, I use a movable plate, *b*, which I prefer to be circular and to revolve (when necessary to effect a change) on an axis, *c*, and in order to turn the plates and adjust either of the holes under the needle, I employ the screw *d*, (represented in Fig. 4,) which, passing through a fixed nut, *e*, is attached to the under side of the plate *b* by a pin, *c*, the stem of the screw being elastic near that end, and by which means the plate *b* is adjusted and retained in a proper position, there being a hole, *x*, through the plate *a* for the passage of a bent wire with a hook at the end to take the end of the thread at commencing, in order to draw the end through the plate, after which the working-hook passes through the plate so as to come in position to allow of the thread being wrapped partly around the stem.

The thread-carrier *e* is hollow, moving in a suitable bearing at *f*, there being a cog-wheel, *g*, on the hollow axis of the thread-carrier, which is taken into by the teeth of the sliding rack *g*, and the thread is conducted through an eye, *h*, which eye is out of the center, so that the thread through the plate at all times stands at an angle, by which, when the hook descends, the partial rotation of the axis of the thread-carrier will lay the thread against and partly round the stem of the hook, by which the hook, in going back, will take a loop of the thread through. The thread is wound on a bobbin, *i*, mounted in the frame *j*, as shown. The thread passes through the spring-guide *k*, thence through the thread-carrier, and at commencement through the plate by the hole *x*, and it is held till several stitches have been made through the fabric or fabrics.

A portion of the upper surface or part of

the table is adjustable on the bed-plate or framing *l* by means of the screw *m* acting in the fixed nut *m*¹, the said upper surface or portion of the table, while sliding, being guided by suitable guides on the bed-plate. The rack *g*, which gives motion to the thread-carrier, is moved by the lever *n*, moving on an axis, *o*, such lever being bent forward, as shown, so that when this lever moves the rack the thread-carrier is moved or turned, and causes the thread to pass partly around the stem of the hook, the movement of the lever *n* taking place immediately the hook has passed down. *p* is a sliding bar, which has an arm, *p*¹, and is worked by a treadle, and such bar is constantly borne upward by the spring *p*², so that when left by the foot on the treadle it will assume the position shown. *p*³ is another spring, which surrounds the tube *q*, on which the arm *r* is fixed, so that the tendency of the spring *p*³ is to keep the arm *r* in its present position, and it will only descend when the hook is caused to descend by the moving of the bar by the foot; or it might be by other means. The hook *z*, which passes through the fabric, descends first, by reason of its arm *p*¹ being fixed to the bar *p*, and when it has descended a certain distance the under part, *p*⁴, of the arm, coming against the upper part of the tube on which the arm *r* is fixed, causes the two arms then to descend together, by which the tubular holder *s* will come upon the fabric and hold it down till the hook *z* ascends, in consequence of the lever-catch *t* catching hold of the projection *t*¹, and such lever-catch will be released by the pin *u* coming under the tail end of the lever-catch *t*, and the tail end of the lever *t* is kept with a downward tendency at all times by the spring *v*, and in order to give motion to the thread-carrier the rod *w* is employed attached at one end by a pin-joint to the bent lever *n*, the other end passing through the lower arm, *r*, so that when that arm descends it will put the thread-carrier in motion, and on the arm ascending the projection *w*¹ on the arm will lift the tail end of the lever *n*, and again put the thread-carrier back to its original position.

The hook *z* is screwed into a strong stem, *z*¹, which stem is held in position by a screw, *z*², in the tube *z*³, which is carried by the arm *p*¹, as shown, and the stem of the hook *z* passes through the tube *r*¹, which is formed with a thread on its outer surface to receive the tubes *r*² *r*³, the upper of which slides freely in the end of the arm *r*, but is prevented passing through the end of the arm *r* by means of the projecting ring 1, formed on the upper tube *r*². The lower tube *r*³ also has a projecting rim, 2, formed on it to receive one end of the coiled spring *r*⁴, the upper end of which presses on the under side of the end of the arm *r*. This spring *r*⁴ serves to keep the parts in position, while it allows of yielding when the arm *r* brings the instrument *s* (affixed to the tube *r*¹) down upon the fabric. The tubes *z*³ and *r*¹ are prevented turning round by means of screws passing through the framing, with the ends passing into vertical grooves *x*¹ *y*¹, formed in the tubes *z*³ and *r*¹.

It may be remarked that the thread used should be of a size large enough to so cover the hook as to enable it to freely pass through the cloth without material catching of the hook in the same; also, that the part of the needle above the hook should be made of an enlarged size, such as will open a hole in the cloth large enough for the free passage of the hook and its thread.

Having thus described the invention, I wish it to be understood that I do not claim the mechanical details of which the machine is composed; but

What I claim is—

The hook *z*, the surface *a*, the tube or holder *s*, and thread-carrier *e*, working substantially as above described.

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