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W. H. STEDMAN.

NEEDLE PLATE AND SUPPORT FOR SEWING MACHINES.

APPLICATION FILED APR. 28, 1903.

Fig. 1.

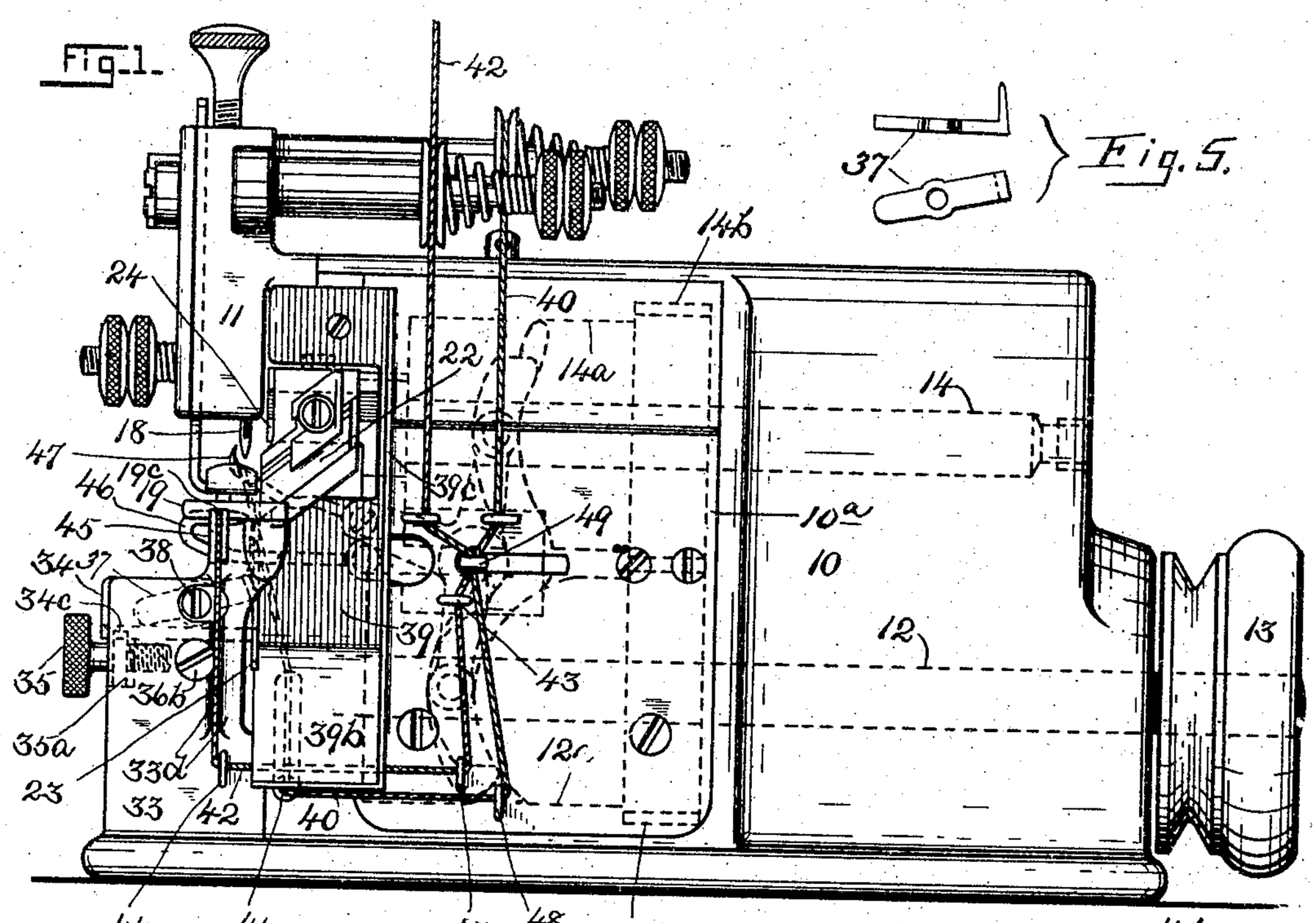



Fig. 5.

Fig. 2.

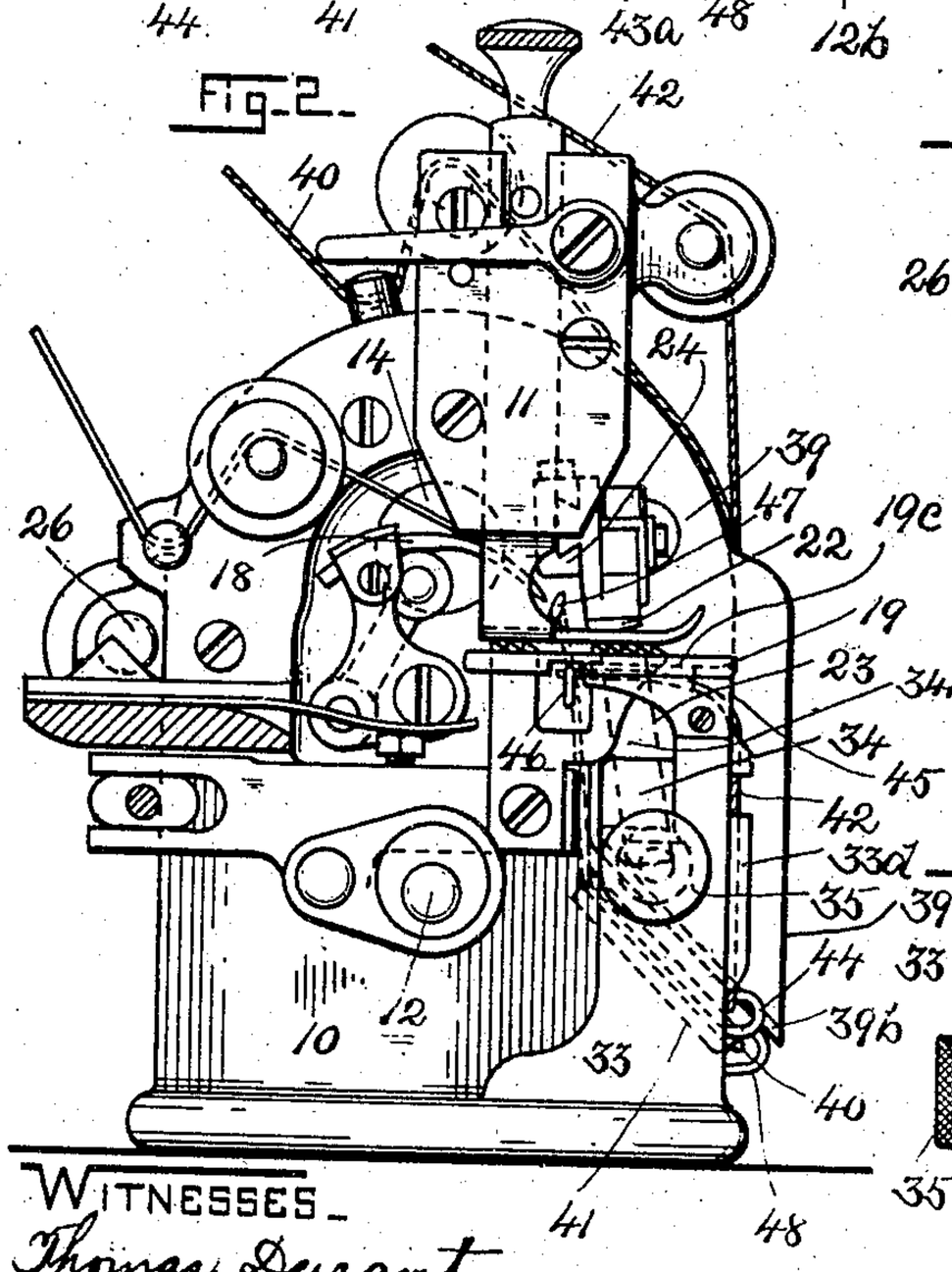



Fig. 3.

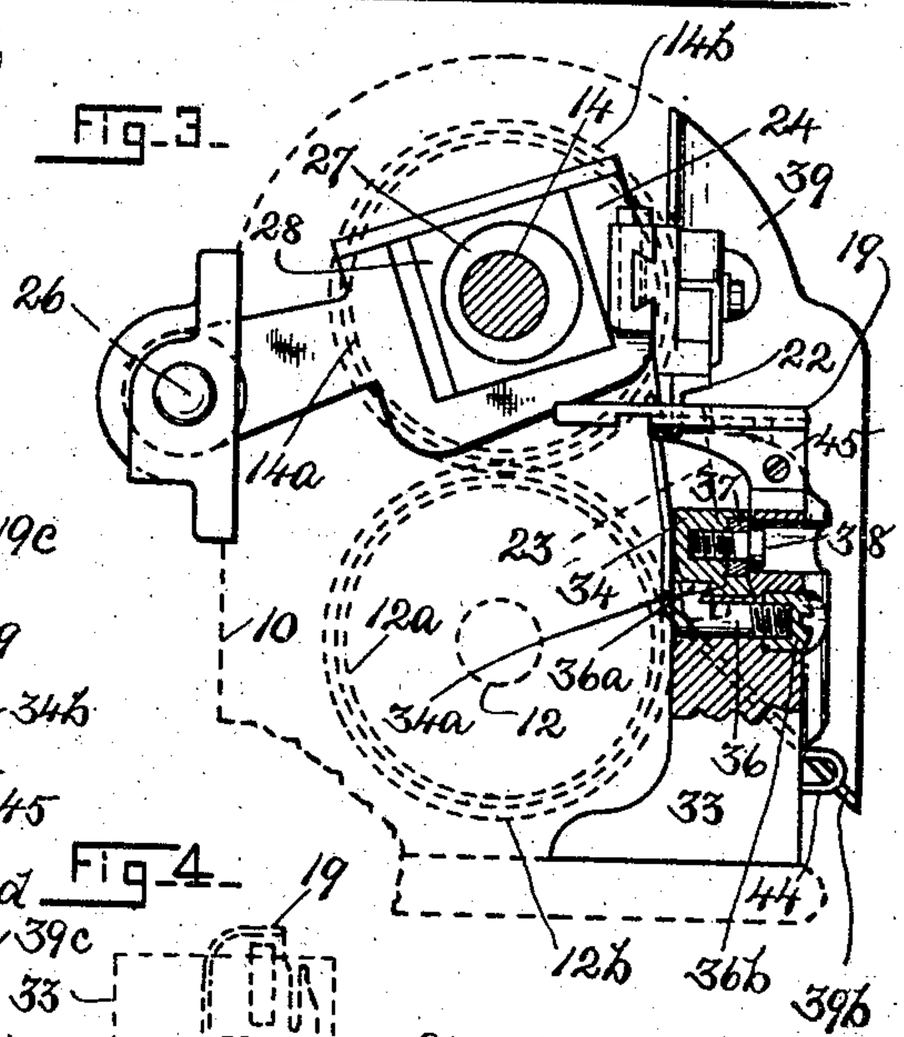
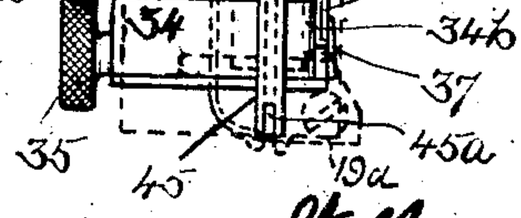



Fig. 4.




WITNESSES.

Thomas Devant

Edward Church

INVENTOR.

William H. Stedman

BY Church & Church

his ATTORNEYS.

No. 785,187. Patented March 21, 1905.

# UNITED STATES PATENT OFFICE.

WILLIAM H. STEDMAN, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE MERROW MACHINE COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF CONNECTICUT.

## NEEDLE-PLATE AND SUPPORT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 785,187, dated March 21, 1905.

Original application filed August 6, 1902, Serial No. 118,680. Divided and this application filed April 28, 1903. Serial No. 154,692.

*To all whom it may concern:*

Be it known that I, WILLIAM H. STEDMAN, a citizen of the United States, residing in the city and county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Needle-Plates and Supports for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, and to the figures of reference marked thereon, this application being a division of an original application for patent filed by me August 6, 1902, and bearing Serial No. 118,680, (series of 1900.)

The main object of this invention is to provide means for locating and supporting the needle-plate and for the introduction and protection of the looper-threads.

The drawings illustrate an overseaming-machine in which a looper reciprocates beneath the needle-plate and a second looper reciprocates below, around the edge of, and above the needle-plate, said loopers coöperating with a thread-carrying needle to produce an overedge stitch or seam. The loopers and needle are supported and actuated in a manner similar to that illustrated and described in United States Patent No. 591,049. The feeding mechanism is also substantially the same as shown in the said patent. In the present application, however, each looper has an eye for carrying a thread and the machine is constructed with mechanism for trimming the fabric before overseaming.

In the drawings, Figure 1 is a front elevation of the machine. Fig. 2 is a left-hand elevation of the machine. Fig. 3 illustrates details, partly in elevation and partly in section, the machine-frame and some of the mechanism being shown in dotted lines. Fig. 4 is a detached plan view of the thread-guiding block and the lower trimmer-carriage, with the needle-plate and its support in dotted lines, and shows also the clamp for the lower cutter. Fig. 5 shows the clamp for the lower cutter in top plan and side elevation.

Throughout the drawings like reference-numerals denote the same parts.

The number 10 indicates the main frame housing or casing of the machine; 11, the head; 12, the main shaft; 13, the driving-pulley, and 14 a second shaft above and parallel with the main shaft. The shafts 12 and 14 bear, respectively, cam-cylinders $12^a$ $14^a$, having intermeshing gears $12^b$ $14^b$. The shaft 14, through suitable connecting mechanism, actuates the needle 18, while the cam-cylinders $12^a$ $14^a$, through intermediate mechanism, actuate the loopers 46 and 47, which coöperate with the said needle and with each other.

The trimming mechanim embodies a vibrating and a coöperating relatively fixed cutter operating conjointly with the feeding mechanism to effect the trimming of the material. The vibrating cutter 22 is adjustably secured to the free end of a lever or arm 24, extending transversely of the shaft 14 and pivoted at its rear end upon a pin 26. The shaft 14 bears an eccentric 27, fitting and running in a block 28, that is slidably mounted in the lever 24, so that upon the rotation of the shaft through the eccentric 27 and the block 28 the carrier 24 and the cutter 22 are vibrated. The adjustment of the cutter 22 upon the carrier 24 is laterally relatively to the line of the feed to vary the distance between the line of needle penetrations and the trimmed edge of the material, and suitable means are provided to retain the said cutter 22 in an adjusted position.

In supporting the fixed cutter 23 and the needle-plate 19 a standard 33 is employed, located at the left end of the machine-frame 10 as the machine is viewed from its front side. The said cutter is secured to a carriage 34, adjustably mounted on the standard 33. The adjustment of the carriage 34 is toward and from the line of the feed to accommodate the adjustment of the cutter 22, and said adjustment of the carriage 34 is attained by a screw 35, located in the standard and having a flange $35^a$ entering a notch $34^c$ in the carriage. The carriage and standard are preferably dove-

tailed together, and means are provided for retaining the carriage in an adjusted position, such as the bolt 36, located in the standard 33 and having the head 36[a], adapted to be drawn into clamping contact with the dovetail rib 34[a] by the covered nut 36[b]. The carriage 34 has preferably an upwardly-extending portion 34[b] to provide a backing for the cutter 23, which latter is located in a groove in the said carriage and upwardly-extending portion and is held in the said groove by the clamp 37, secured to the carriage by the clamp-screw 38.

The chute 39 is provided, having the inclined wall 39[b], on which the clippings from the cutters fall and are conducted from the machine, the inclined wall projecting beyond the face of the machine and the looper-threads 40 42 rendering beneath the projecting portion of the chute and being protected thereby.

When a machine and trimming mechanism of the types shown are assembled, certain arrangements of the threads are desirable to facilitate the threading of the looper or loopers. The thread 40, which is conducted to the looper 47, is introduced to the interior of the machine through a diagonal tube 41, a suitable guide-eye 48 being properly located to guide the thread from the moving take-up 49 to the said tube, the latter being placed low enough to carry the thread 40 beneath the lower end of the chute 39. The looper-thread 42 renders from the moving take-up 49 through suitable guide-eyes 43 43[a] 44 and is led upward to a block 45, secured to the standard 33 and extending over the cutter-carriage 34, the said block having a passage 45[a] therein, Fig. 4, through which the thread renders to the looper 46, which reciprocates horizontally beneath the needle-plate 19 in a path at the rear end of the block 45. The block or arm 45 is preferably made separable and detachable from its support 33 and serves not only to conduct the thread, but also constitutes a means whereby the needle-plate 19 may be readily positioned on the standard 33, the upper edge of the block extending into a groove 19[c], Figs. 1 and 2, in the under side of the needle-plate to locate the same laterally, as shown in Figs. 1, 2, and 3, and it also forms a support for the said needle-plate directly under the presser-foot and in proximity to the needle-hole, the said needle-plate being secured to the standard 33 by a screw 19[a]. (Shown in dotted lines in Fig. 4.) The thread-passage through the block 45 is preferably so located as to register with the eye of the looper 46 when the latter is at or near its extreme left-hand or outward position, so that the thread may be guided and directed by the thread-passage in the block directly through the eye of the looper 46. The lower end of the chute 39 projects beyond the machine-frame 10 to protect the threads 40 and 42, passing beneath the same, and as a further protection for the thread 42 the standard 33 is provided with ribs 33[d], between which the said thread renders in its course from the eye 44 to the block 45. The vertical wall of the chute is also formed to project beyond the face of the door 10[a], as at 39[c], to provide a further protection for the thread from contact with the clippings.

The machine shown in the drawings is arranged to trim and finish small tubular fabric, and when thus arranged the described support for the needle-plate is desirable, inasmuch as the principal support for the said plate is far forward of the needle-hole to accommodate the adjustable lower cutter as well as the feed. In order to leave the desired space under the outside edge of the needle-plate for the returning edge of small tubular work, this block 45 is placed as near to the feed and is made as thin as possible.

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

1. In a sewing-machine, the combination with a needle-plate and trimming mechanism including a movable and a coöperating relatively fixed laterally-adjustable cutter, of a carriage for the fixed cutter, a support for the carriage and needle-plate of the machine, a block on the support extending over the path of the carriage and having a thread-passage therethrough extending transversely of the said path, substantially as described.

2. In a sewing-machine, the combination of a needle-plate, stitch-forming mechanism including a needle and a looper, trimming mechanism including a vibrating cutter laterally adjustable relatively to the needle, a coöperating relatively fixed cutter, a carriage for the fixed cutter, a common support for the said carriage and the needle-plate, means of adjustment for the carriage relatively to the needle comprising a screw located in the support and engaging the carriage and a block having a thread-passage therein secured to the said support and set into the under face of the needle-plate, substantially as described.

3. In a sewing-machine, the combination of a needle-plate, stitch-forming mechanism including a needle and one or more loopers, trimming mechanism including a vibrating and a relatively fixed cutter, a chute to receive the clippings from the cutters, the lower end of the chute projecting beyond the front face of the machine to protect the threads which pass thereunder, a common support for the fixed cutter and the needle-plate, means for conducting the looper-threads beneath the chute and means on the support for protecting the threads from a point near the lower end of the chute to a point near the under side of the needle-plate, substantially as described.

4. In a sewing-machine, in combination a needle-plate having its under face grooved or

channeled, a support therefor, a screw for securing the needle-plate to the support, a separable block or arm secured to the support and let into the groove or channel of the needle-plate to prevent lateral displacement of the latter and extending beneath the needle-plate to a point in proximity to the needle-hole to support the needle-plate near the said needle-hole, substantially as described.

WILLIAM H. STEDMAN.

Witnesses:
W. A. W. STEWART,
ALONZO M. LUTHER.