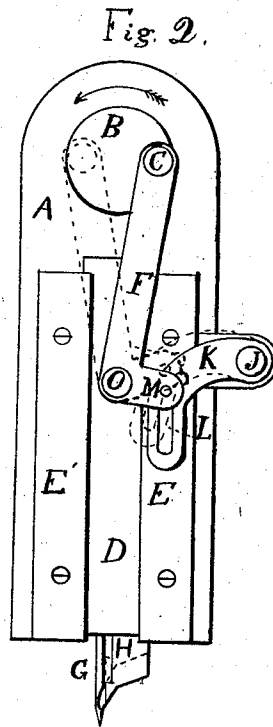
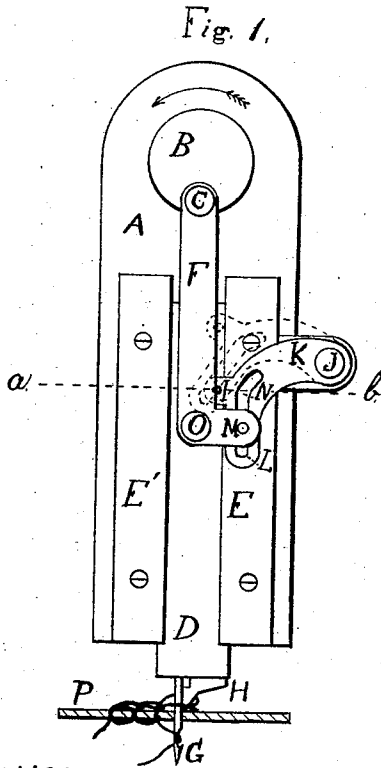
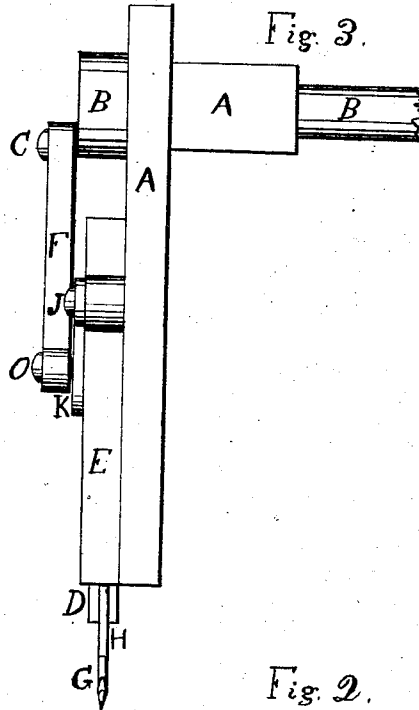
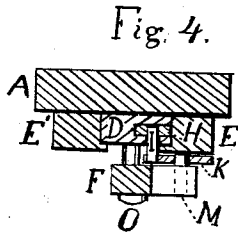


W. R. LANDFEAR.
Sewing-Machines.

No. 155,193.

Patented Sept. 22, 1874.



Witnesses:
Katie W. Landfear,
Louise B. Landfear.

Inventor:
William R. Landfear.

UNITED STATES PATENT OFFICE.

WILLIAM R. LANDFEAR, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **155,193**, dated September 22, 1874; application filed January 13, 1874.

To all whom it may concern:

Be it known that I, WILLIAM R. LANDFEAR, of Hartford, State of Connecticut, have invented an Improvement in Sewing-Machines, of which the following is a specification:

This invention relates to machines for sewing leather with a single waxed thread by means of a hook or hooked needle, which is provided with a "cast-off" or slide, which covers the hook and prevents it from catching the loop of thread which is around the needle when the needle is passing out of the leather; and consists in a new and improved method of operating the cast-off.

In the accompanying drawing, Figure 1 is a front elevation of a part of a sewing-machine containing my improvement. Fig. 2 is a similar view, but showing the moving parts in a different position. Fig. 3 is a side elevation of the same; and Fig. 4, a section taken in the line *a b*, Fig. 1.

The parts represented may be arranged either above or below the bed of the machine, so that the loops may be formed on the upper or under side of the leather, as desired, but are represented in the drawing as being above the leather, so as to draw the loops upward.

A is part of the frame of the machine, in which the shaft B has its bearings, the crank-pin C projecting from the head of the shaft. The needle-bar D is fitted to the guides E E' so as to move freely up and down, and is connected with the crank-pin C, from which it receives motion, by the link or pitman F. The hooked needle G is secured to the lower end of the needle-bar. H is the cast-off, which is fitted so as to slide freely up and down in a groove in the needle-bar, the edge of the cast-off, near its point or lower end, bearing against that side of the needle on which the hook is situated, in the usual manner. A lever, K, is hung by the fulcrum J to the frame, or to a projection from the guide E. To this lever is secured a pin, I, extending through the front of the needle-bar, and entering a hole or slot in the cast-off near its upper end, so that when the lever is moved up and down, the cast-off will be moved by it up and down in its

groove. The needle-bar is provided with a vertical slot for the pin I to move freely in.

By the revolution of the shaft in the direction of the arrow, the needle is moved up and down, and is forced into and withdrawn from the leather P; at the same time the lever K is caused to swing up and down by means of the pin M, which is secured to the pitman F, and which enters the curved slot L in the lever. This slot is so formed that when the lever is in its lowest position the lower part of the slot, which is straight, is in a perpendicular position, and, therefore, the lever is not moved by the pin M while the pin is below the curve N in the slot, and it makes no difference with the position of the lever K and the cast-off H whether the pitman and needle-bar move downward a greater or a less distance. The point of the cast-off is made to pass down just to the surface of the leather, and the necessity for readjusting the height of the cast-off whenever the length of the stroke of the needle is changed in passing from thick to thin material, and vice versa, and which is usually a source of trouble and annoyance when the cast-off is moved by means of the needle-bar, is entirely obviated by this peculiar form and construction of the slot L. The arrangement of the parts is such that while the needle is rising the pin M arrives at the curve in the slot L, and therefore begins to raise the lever K when the crank-pin C has made about one-quarter of a revolution from its lowest point, as shown in Fig. 2. The hook of the needle has now passed to the top of the leather, and has reached the point of the cast-off, which will now be raised by the lever K, and by the continued revolution of the crank-pin the needle and cast-off will both rise to their highest position.

Now, it is necessary that the needle, in descending, should pass down considerably in advance of the cast-off, so that the loop of thread, which is at this time in the eye of the needle, may pass freely out and not be confined in the eye of the needle by the cast-off, and thus be carried down into the leather.

In order to accomplish this result, the pin M is placed some distance at one side of the

pivot O, by which the link or pitman is connected to the needle-bar, and it will be observed that while the crank-pin is performing the upper part of its revolution the top of the pitman is swung from right to left by the crank-pin, and this swinging motion causes that part of the pitman to which the pin M is secured to rise considerably more than the pivot O, and thus the point of the cast-off is raised higher than the hook of the needle, and will be maintained at a greater height than the hook during the downward motion of the needle and cast-off, as indicated by the dotted lines in Fig. 2.

When the crank-pin is performing the lower

part of its revolution, the top of the pitman is swung from left to right, and the pin M resumes its former position.

I claim—

1. The swinging lever K, having a slot, L, combined with the pitman, pin M, and cast-off H, substantially as described.

2. The combination, with the slotted lever K, of the pitman F, having the pin M on one side of the pitman-pivot, as and for the purpose described.

WILLIAM R. LANDFEAR.

Witnesses:

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