(No Model.)

# B. F. LANDIS.

## NEEDLE GUIDE FOR SEWING MACHINES.

No. 305,936. Patented Sept. 30, 1884.

Fig. 1.

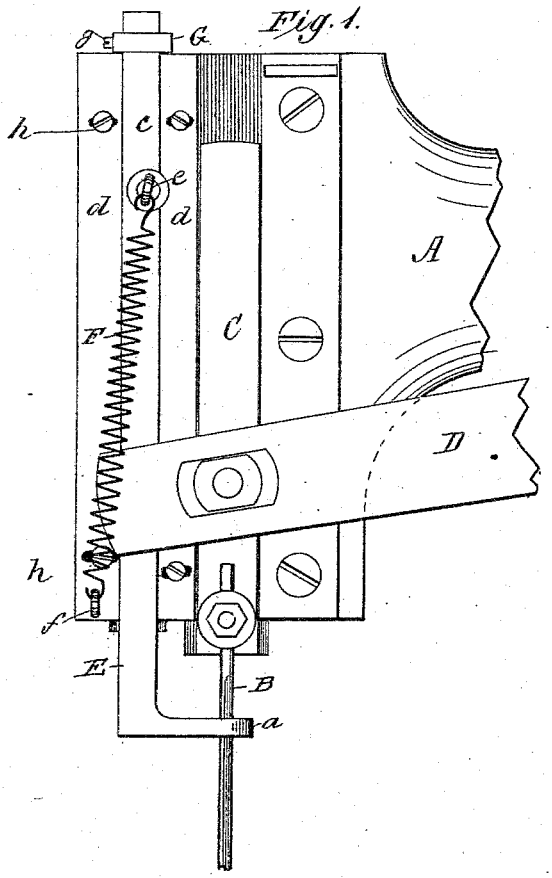



Fig. 2.

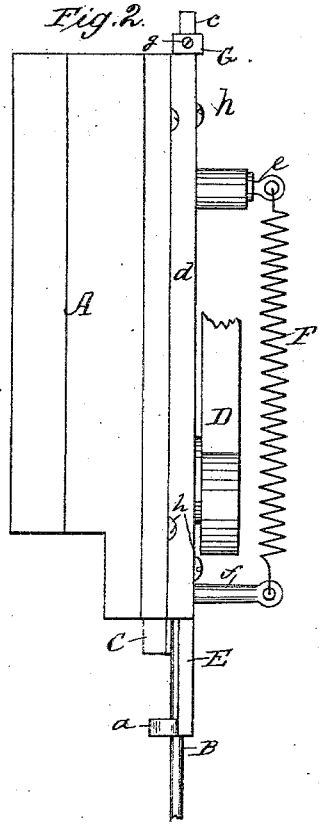
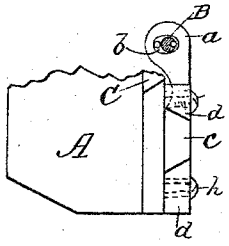



Fig. 3




WITNESSES:

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BENJAMIN F. LANDIS, OF ST. JOSEPH, MISSOURI.

## NEEDLE-GUIDE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 305,936, dated September 30, 1884.

Application filed April 21, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN F. LANDIS, a citizen of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Needle-Guides for Sewing-Machines, of which the following is a description.

The object of this invention is to guide the needle of a sewing-machine so that its point may not be pulled to one side of its path enough to strike the plate and break the needle.

It is a fact well known that sewing-machine needles are frequently broken by carelessness on the part of the operator in suddenly pulling the work to one side after the point of the needle has entered the work, thus directing the needle onto the plate. The same result is often produced by the point of the needle entering a tack-hole a little to one side of the path of the needle or by the point of the needle meeting the side of a thick seam and being crowded to one side thereby. The cause of this trouble is that the needle should be and is as light and slim as it can be made to carry the thread, and the needle is usually held and guided only by its shank leaving its body easy to be bent.

To obviate these objections my invention consists in a guide to act on the body of the needle, as hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of a sewing-machine showing my needle-guide. Fig. 2 is an end elevation; and Fig. 3 is a plan view showing the principle feature of the same.

A represents the head of the sewing-machine; B, the needle; C, the needle-carrier, and D the driving-arm, which is vertically reciprocated in any usual manner.

E is my needle-guide, consisting of a plate, *a*, having a hole, *b*, through it large enough to permit the needle and the thread carried thereby to pass freely through it, yet not large enough to permit any unnecessary sidewise play to the needle, a shank, *c*, of any suitable form, to reciprocate vertically in ways *d*, adapted to prevent the shank from twisting, in order that the plate-hole may be retained in the path of the needle.

*e* is a stud rigidly fixed in the shank *c* in the path of the needle-arm D at such a distance above the plate *a* as will raise the plate *a* nearly to the lower face of the head A when actuated by the arm D in rising to its extreme height.

F is a spring connecting the stud *e* with a stud, *f*, which is fixed in one of the stationary ways *d*. This spring acts constantly to draw the needle-guide down, so that when the needle-arm descends the guide will also descend until stopped by the block G coming in contact with the top of the head A. The block G is vertically adjustable on the shank of the guide by means of a set-screw, *g*. By this means the guide E may descend until its plate *a* rests on the goods being sewed at each movement of the needle; but I prefer to set the stop-block G to arrest the descent of the guide with the plate *a* just above the work. The stud *e* is surrounded with leather, to serve as a cushion to the arm D and prevent noise.

In operation, the action of the arm raises the guide when the eye of the needle has raised nearly up to plate *a*, so that the guide and needle rise together from that point, and when the arm descends the guide and needle descend together until the guide is arrested by the stop-block G, while the needle continues descending to do its work. Thus the guide surrounds the needle just above the eye as long as the needle is out of the work, preventing any possibility of pulling the needle sidewise, and the guide continues around the body of the needle just above the work all the time that the needle is in the work, so that any sidewise strain on the needle will be resisted by the guide, thus saving a very large percentage in the breaking of needles.

The connection between the needle and the guide may be made by any suitable mechanism that will cause the guide to follow the action of the needle in the manner described.

The guides *d* may be provided with adjusting-screws *h*, and with transversely-elongated holes therefor, whereby the guide may be set a little to one side of the path of the needle, to

pitch the needle a little one way or the other in work when the needle requires especial support on one side.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with a sewing-machine having a needle and an arm for reciprocating the same, of a plate having a hole for the needle to play through as a guide, and provided with a shank fitted to slide in a guideway, and guides therefor provided with transverse slots and binding-screws, substantially as described.

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Witnesses:
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