(No Model.)

# W. L. FROSS.

## NEEDLE HOLDER ATTACHMENT FOR SEWING MACHINES.

No. 350,730. Patented Oct. 12, 1886.

Fig. 1.

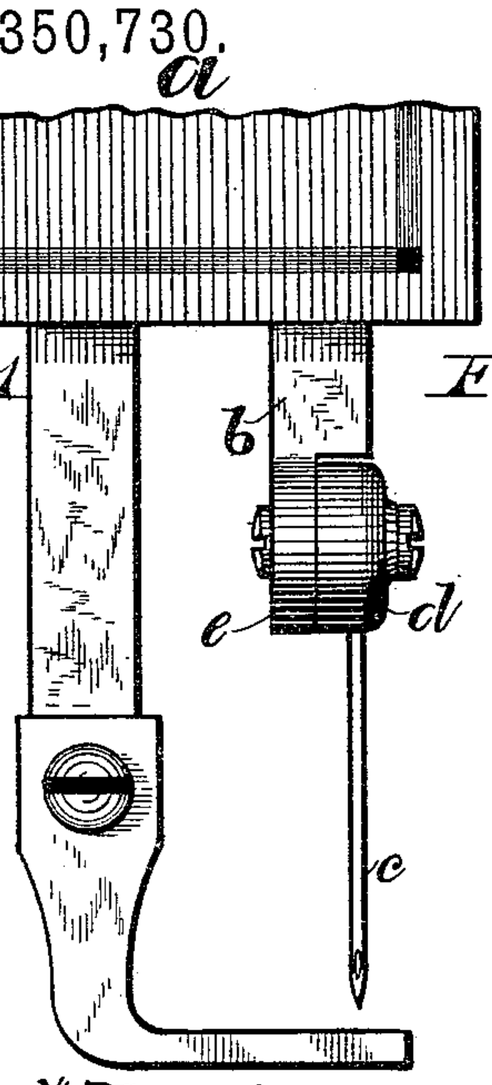



Fig. 2.

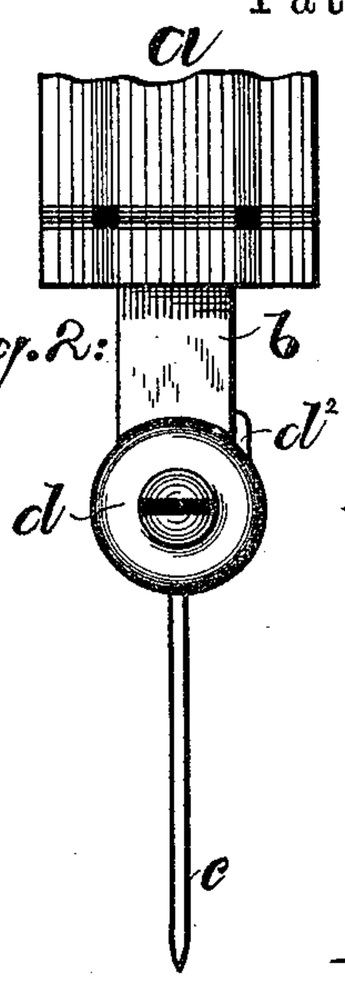



Fig. 3.

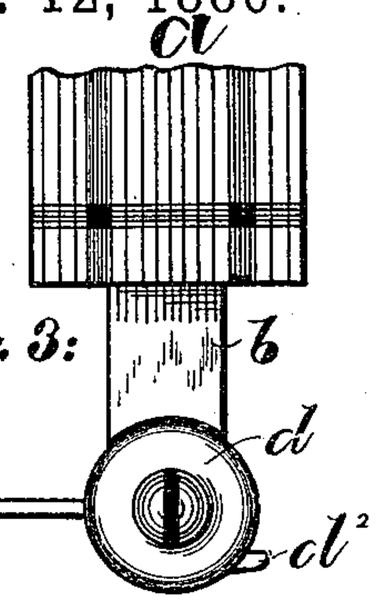



Fig. 4.

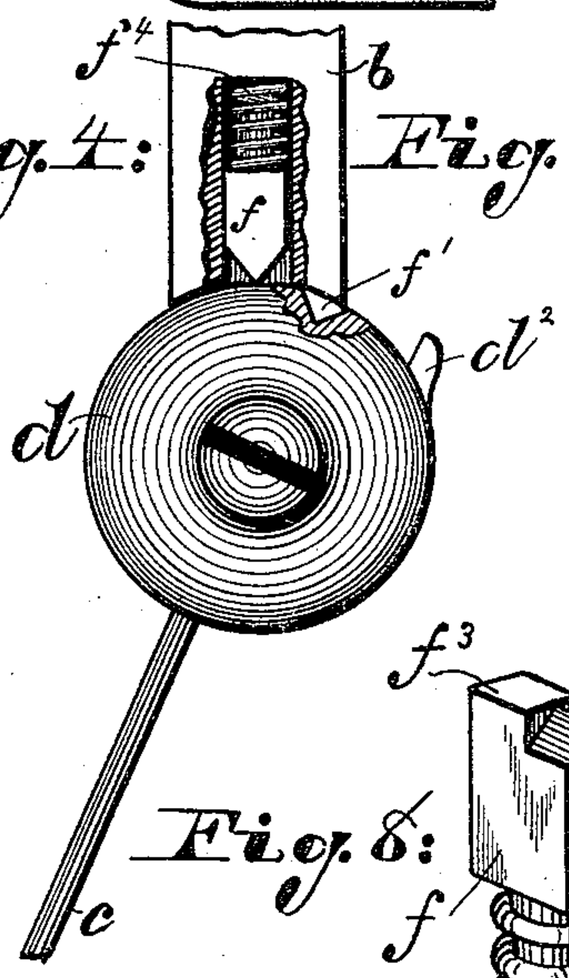



Fig. 5.

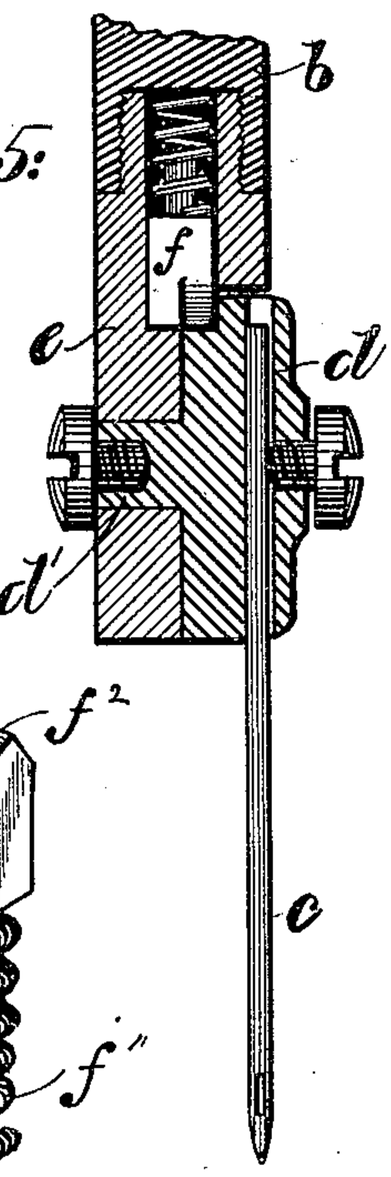



Fig. 6.

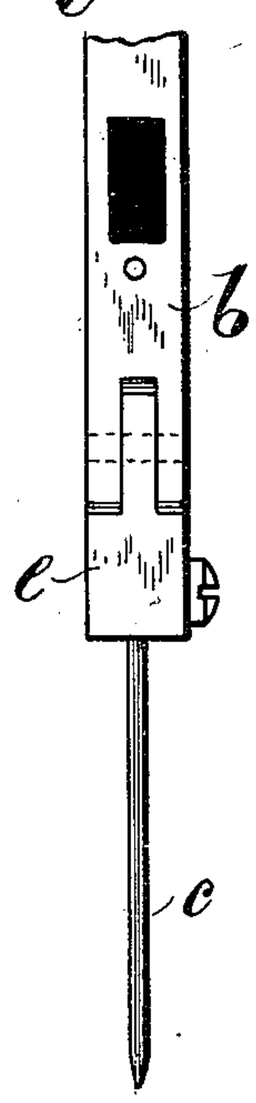



Fig. 7.

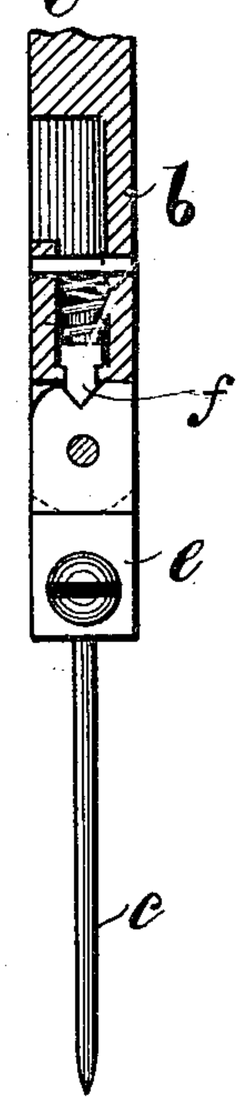
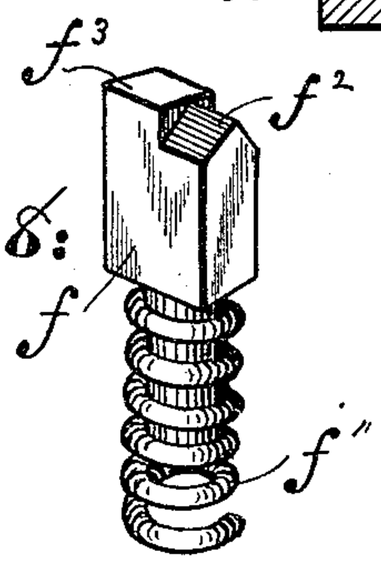



Fig. 8.




Witnesses:

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# UNITED STATES PATENT OFFICE.

WILLIAM L. FROSS, OF SPRINGFIELD, OHIO.

## NEEDLE-HOLDER ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 350,730, dated October 12, 1886.

Application filed February 25, 1886. Serial No. 193,251. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM L. FROSS, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Needle-Holder Attachments for Sewing-Machines, of which the following is a specification.

My invention relates to that class of needle-holders which are adapted to be turned from a normal position to an angular position, more convenient for threading the needle.

My invention consists in the constructions and combinations of parts, hereinafter described and claimed.

In the accompanying drawings, Figures 1 and 2 are a side and front elevation view, respectively, of a device embodying my invention, showing the needle and holder in the normal position. Fig. 3 is a front elevation view of the same, showing the needle and holder turned to an angular position for threading the needle. Fig. 4 is a front elevation of the same, partly in section, showing the spring-catch, the holder being slightly turned from the normal position. Fig. 5 is a sectional elevation showing the holder and catch in the normal position. Figs. 6 and 7 are views showing a modification of the catch, and Fig. 8 is a view of the catch in detail.

Like parts throughout the several views are indicated by similar letters of reference.

In the said drawings, *a* represents the front part or head of a sewing-machine of an ordinary type. *b* is the reciprocating needle-bar, and *c* the needle secured therein.

The needle *c* is adapted to be secured to the lower end of the needle-bar by a needle-holding device, which is hinged to the needle-bar in such a manner that it can be turned to an angle with said bar without loosening the needle therein. This needle-holding device consists, preferably, of a disk, *d*, provided on one side with a suitable clamping device for holding the needle, and on the other with a journal or trunnion, *d'*, which fits in a bearing in a supporting-head, *e*, on the lower end of the needle-bar *b*, a screw, $d^2$, serving to hold the trunnion in place in its bearing. In the head *e*, immediately above the disk *d*, is a spring-catch, *f*, the lower end of which is beveled off, and adapted, when the holder is turned to its normal position, to engage in a notch, *f'*, in the periphery of the disk *d*. The spring-catch *f*, instead of being beveled off at its lower end entirely across the face thereof, is preferably carried down square on one side, as shown at $f^3$ in Fig. 8. This square portion $f^3$ is adapted to fit in a straight or rectangular notch in the head *e* when the beveled portion $f^2$ is engaged with the V-shaped notch *f'* in the disk *d*. It will be seen that by this construction the needle-holder is held firmly in place when turned to a normal position, but by applying an unusual lateral strain thereto the holder may be turned to an angular position, as indicated in Fig. 3, the spring-catch being forced out of the notch *f'*. A lug, $d^2$, on the disk *d* is adapted to come against the head *e* and form a stop to arrest the disk when turned to its normal position and hold it from turning in one direction.

The head *e* is preferably made separate from the needle-bar *b*, and is adapted to be secured therein, as shown in Fig. 5, the spring-catch in this case being inserted from the top of the said head, which is bored out to receive it, the end of the spring $f^4$ being adapted to bear against the needle-bar when the head *e* is screwed therein. If desired, however, the head *e* may be made solid with the needle-bar, in which case the spring-catch may be inserted from the bottom, suitable means being provided for holding the catch from dropping out when the holder is turned; or, if desired, the holder may be connected to the lower end of the needle-bar, as shown in Figs. 6 and 7, in which case the spring-catch may be inserted through an opening in the side of the bar and a pin inserted over the spring, as shown. This device, it will be seen, is very simple and effective. The spring-catch, being entirely within the holder or needle-bar, is kept free from dirt and dust and is not likely to get out of order. By having one side of the catch straight and adapted to fit snugly in a notch in the immovable part of the head the spring-catch will be held firmly against any lateral movement when engaged with the holder. If desired, this straight or square portion of the

catch may be made slightly tapered and adapted to fit in a tapered notch or recess, so that it will always fit snugly therein.

The periphery of the turning-disk *d* is preferably made concentric with the trunnion *d'*, so that as the spring-catch is forced out of the notch *f'* by turning the holder the spring-catch will bear on the periphery of the disk with a uniform pressure, which will cause sufficient friction thereon to hold the needle at any desired angle for threading.

Having thus described my invention, I claim—

1. The combination, with the needle-bar and the needle-holding device adapted to turn to different angular positions, as described, of the spring-catch *f*, inclosed in the lower part of said bar and provided with a double-beveled portion adapted to engage a V-shaped notch in the movable part of the holder, and a square portion adapted to engage a straight notch in the immovable part of the bar, substantially as set forth.

2. The combination, with the needle-bar, of the head *e* on the lower end thereof, the disk *d*, having a trunnion, *d'*, notch *f'*, and lug $d^2$, and the spring-catch *f* in said head, said catch being provided at one end with the beveled portion $f^2$ and straight portion $f^3$, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 16th day of February, A. D. 1886.

WILLIAM L. FROSS.

Witnesses:
CHASE STEWART,
PAUL A. STALEY.