

(No Model.)

J. WATTS.

OPTICAL ATTACHMENT FOR SEWING MACHINES.

No. 294,171.

Patented Feb. 26, 1884.

Fig. 1.

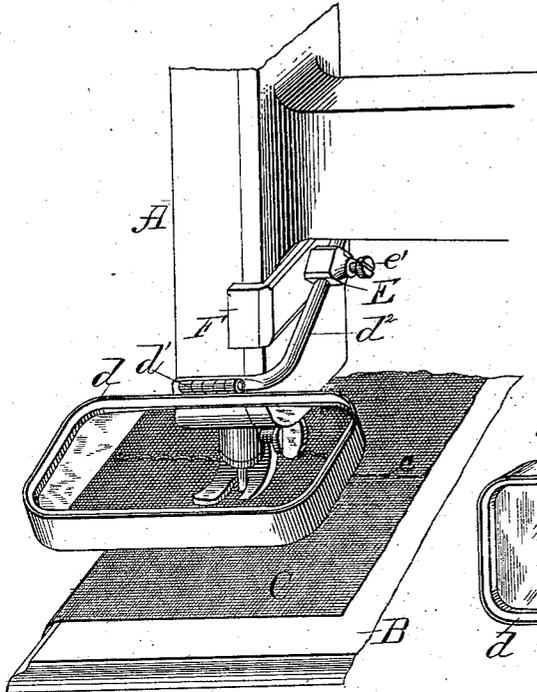


Fig. 2.

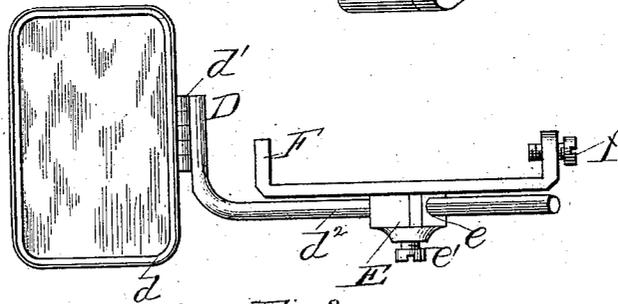
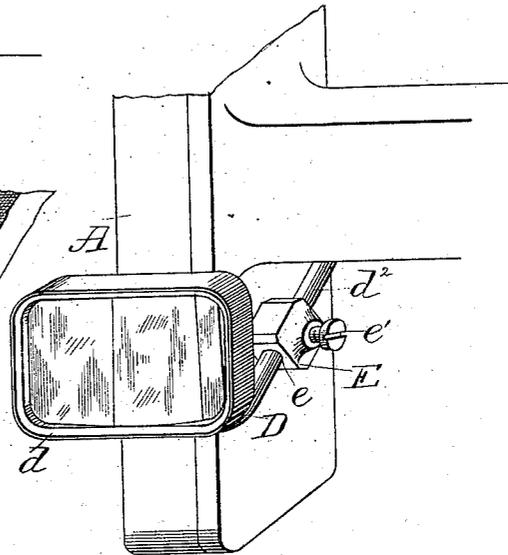


Fig. 3.

Witnesses:

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# UNITED STATES PATENT OFFICE.

JEREMIAH WATTS, OF RACINE, WISCONSIN.

## OPTICAL ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 294,171, dated February 26, 1884.

Application filed April 14, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JEREMIAH WATTS, of Racine, in the county of Racine, and in the State of Wisconsin, have invented certain new and useful Improvements in Optical Attachments for Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to sewing-machines; and it consists in an attachment thereto for the purpose of magnifying the work in the operation of sewing, as will be more fully set forth hereinafter.

In the drawings, Figure 1 is a perspective view of a portion of a sewing-machine, showing my device attached thereto by clamp and set-screw in position for use. Fig. 2 is a similar view, but showing my device attached to the machine by stud and set-screw, and showing its position turned up out of the way when not in use; and Fig. 3 is a plan view of the attachment and clamping-bracket removed from the machine.

A represents the arm of a sewing-machine of any ordinary construction. B is a portion of the table, and C represents cloth or other fabric resting thereon while being stitched. D is the optical attachment, consisting, primarily, of magnifying-glass  $d$ , hinge  $d'$ , and stem  $d''$ . E is a stud, which is either secured to the clamp F, to adapt it to machines already in the market, as in Fig. 1, or else directly to the arm A itself, as in Fig. 2, in machines constructed with especial reference to my attachment. In either case the said stud is provided with a transverse perforation,  $e$ , (running diagonally of the upright portion of the arm A of the machine,) to receive the stem  $d''$  of the attachment, and with the set-screw  $e'$ , to secure said stem when it is in the desired position.

As indicated above, when the sewing-machine is newly constructed with reference to this attachment, or when it can be otherwise conveniently done, the stud E is cast with or secured directly to the upright portion of the arm A of the machine; but in order to accommodate those who have already procured their machines, and who cannot without much inconvenience have the arm drilled to receive

the said stud, I have devised the above-named clamp F, which is preferably of the form shown in Fig. 3, and which has the set-screw  $f$  in one end, (so as to hold it rigid when it has been adjusted to the proper place on the arm,) and which bears the stud E, projecting from its center, as shown.

In Fig. 1 the effect of the attachment upon the work beneath it is well shown. The seam  $c$  shown therein is of course one previously made, as the seam just being made by the needle is concealed behind the arm A; but the drawings illustrate the relative appearance of the work with and without the glass.

The operation of my device will be clearly understood from the foregoing. When the bracket or clamp bearing the stud has been secured to place, and the stem  $d''$  of the attachment pushed through the hole  $e$  in the said stud, the stem is moved back or forth until the operator obtains the needed focus through the lens  $d$ , and then the set-screw  $e'$  is tightened against the stem  $d''$ , and the attachment is in position for use. When not in use, it is not necessary to detach the stem from the stud, (nor to loosen the clamp F, if that be used;) but by reason of the hinge  $d'$  the lens  $d$  can be simply turned up against the said arm A, as shown in Fig. 2, and thus be out of the way.

The utility and convenience of a device of this character will be apparent to all who use sewing-machines. In dark rooms or on dull days it is often difficult to see the work satisfactorily, even when the operator is keen-eyed; but to those who are obliged ordinarily to wear eyeglasses or spectacles (especially when sewing) it will be particularly useful. The motion of the treadle communicates an unconscious jar or motion to the operator, who thus slightly moves his or her head and body with the reciprocations of the treadle. This, in the case of one wearing glasses, results in constantly changing the focal point of the lens, and is not only an obstruction or interference to the rapid and continuous observation, but it often results in severe headache, owing to the sensitiveness of the human eye. With my device the work is always so greatly magnified that it will show the seams, &c., clearly on a dark day or in an imperfectly-lighted room,

and, furthermore, the operator can dispense with eyeglasses or spectacles, and merely depend on the lens *d* for inspection of the work at any time.

- 5 My stud *E* may be cast rigidly with the arm *A* or with the clamp *F*; or it may be formed with a shoulder adapted to fit tightly within a round hole bored in the arm or clamp, and yet be capable of being turned therein, and  
 10 this latter construction is a decided advantage, inasmuch as the angle of the diagonal perforation *e* in said stud may thereby be changed to vary the inclination of the stem *d*<sup>2</sup> of the attachment, and yet the stud will be  
 15 always held by friction to whatever adjustment it has been turned.

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

- 20 1. In a sewing-machine, the combination of the needle, needle-bar, the head, a clamp upon

the head, an adjustable arm held by the clamp, and a magnifying-glass and frame therefor, the said frame being jointed to the adjustable arm, whereby the position of the glass may be  
 25 controlled upon the end of the arm with reference to the work under the needle, substantially as set forth.

2. In combination with the head of a sewing-machine, a magnifying-glass held by an  
 30 adjustable arm secured thereto, and provided with a hinge, whereby it may be turned up against the said part when not in use, as set forth.

In testimony that I claim the foregoing I  
 35 have hereunto set my hand, on this 5th day of July, 1882, in the presence of two witnesses.

JEREMIAH WATTS.

Witnesses:

S. S. STOUT,

HAROLD G. UNDERWOOD.