

(No Model.)

J. H. TROWBRIDGE.
PULL-OFF FOR SEWING MACHINES.

No. 539,908.

Patented May 28, 1895.

Fig. 1.

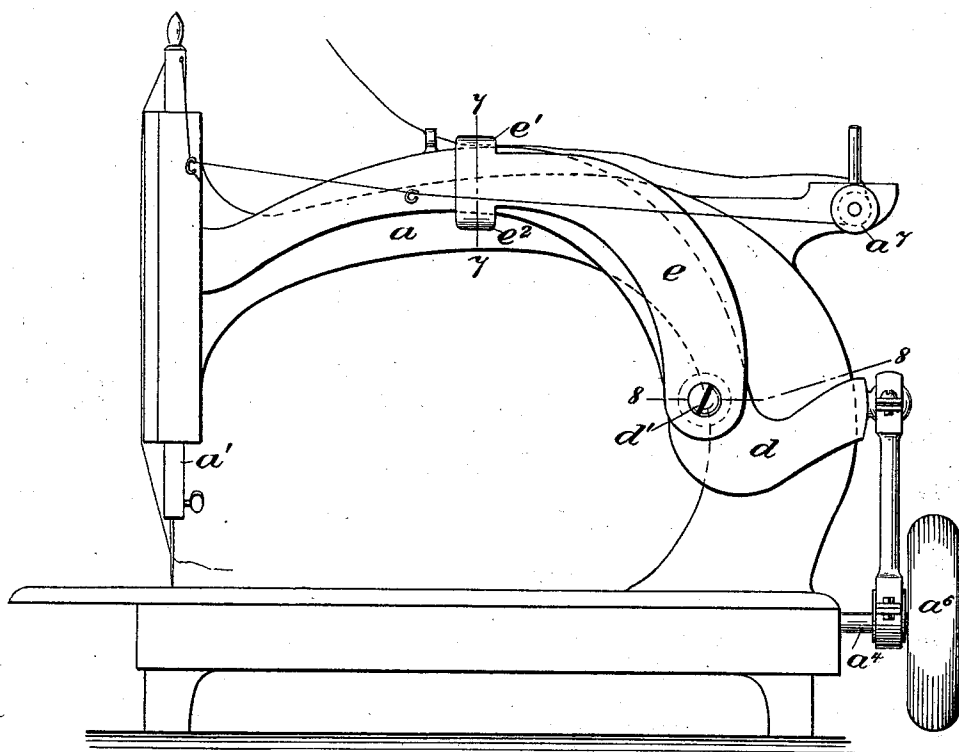
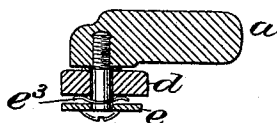


Fig. 2,



Fig.3.



Witnesses:-

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Inventor:-

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UNITED STATES PATENT OFFICE.

JOHN H. TROWBRIDGE, OF NEWARK, NEW JERSEY.

PULL-OFF FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 539,908, dated May 28, 1895.

Application filed December 26, 1893. Serial No. 494,617. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. TROWBRIDGE, a citizen of the United States, and a resident of the city of Newark, county of Essex, and State of New Jersey, have invented new and useful Improvements in Pull-Offs for Sewing-Machines, of which the following description, taken in connection with the drawings herewith accompanying, is a specification.

My invention has for its object to provide a device or means for automatically drawing or taking the thread from the spool or other thread supply as it is required during the operation of sewing, in a manner whereby the thread is always loose or slack at a point between such spool and a tension device in order to relieve all undue strain or tension on the thread except such as is produced by the tension device, and thus secure an absolutely accurate and uniform tension on the thread to insure perfect stitching. This object I secure by means of the construction and combination of parts hereinafter set forth in detail and pointed out in the claim.

Referring to the accompanying drawings, Figure 1 represents a side elevation of a machine embodying my invention. Figs. 2 and 3 are views through lines 7 7 and 8 8 of Fig. 1.

Referring to Fig. 1, the needle-bar a' is operated by an arm d , which is pivoted at a point d' on the exterior of the machine arm, and I have applied my device for operating in combination with this vertically moving member, for the purpose of taking the thread from the spool. I have to that effect provided an arm e which is pivoted at one end upon the face of the lever d at the pivot point of the latter, and at its opposite end is provided with two arms or flanges e' and e'' , which partially embrace the upper and lower edges of

the lever d to engage and operate in combination with the latter. The space between these engaging arms is somewhat greater than the width of the lever d as shown in Fig. 2, in order that the upper arm e' may engage with the upper surface of the lever d on the upward stroke of the latter and impinge the thread which is guided between the same as shown in Fig. 1, to draw it from the spool for the purpose as set forth. The lever d on its down stroke moves from contact with the upper thread impinging arm e' to release the thread, and moves the arm e by engaging with its lower flange e'' .

A spring-washer e^3 acts upon or against the arm e with sufficient pressure to hold it from movement except as it is moved by lever d in order that the thread may be caught between the impinging arms e' and e'' , and the upper and lower surfaces of lever d at its up and down stroke for the purpose as described, as clearly shown in Fig. 3.

Having thus described and illustrated my invention as applied to sewing machines it will be obvious that the same may be otherwise arranged and modified without departing from the spirit of my invention, for

What I then claim, and desire to secure by Letters Patent of the United States, is—

The combination in a sewing machine, having a needle bar operating lever, of a catch arm pivoted upon said lever and provided with two prongs embracing the upper and lower surfaces of said lever and a spring interposed between the lever and catch arm, substantially as described.

JOHN H. TROWBRIDGE.

Witnesses:

CHAS. F. DANE,
A. L. HAYES.