

I. P. NICHOLS.
LIFTER FOR PRESSER FEET FOR SEWING MACHINES.
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Patented Apr. 18, 1911.

Fig. 1.

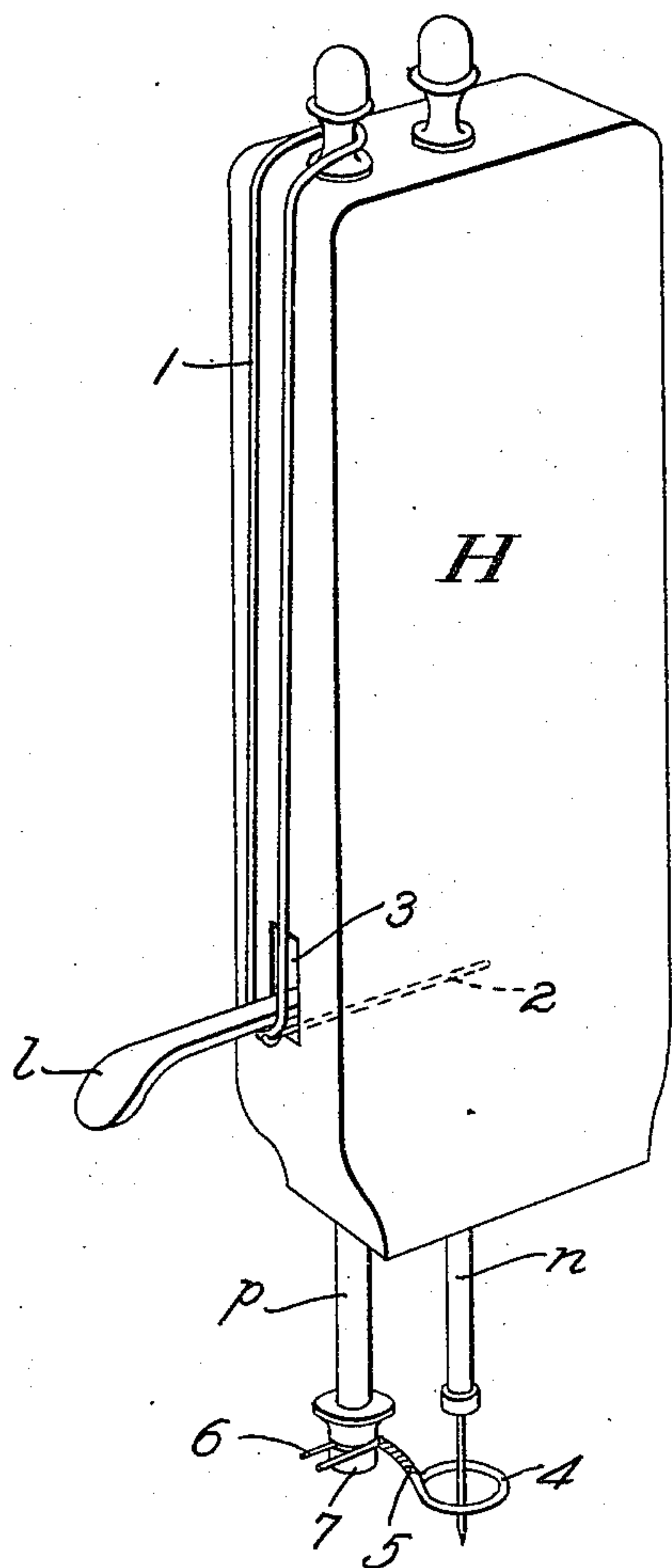
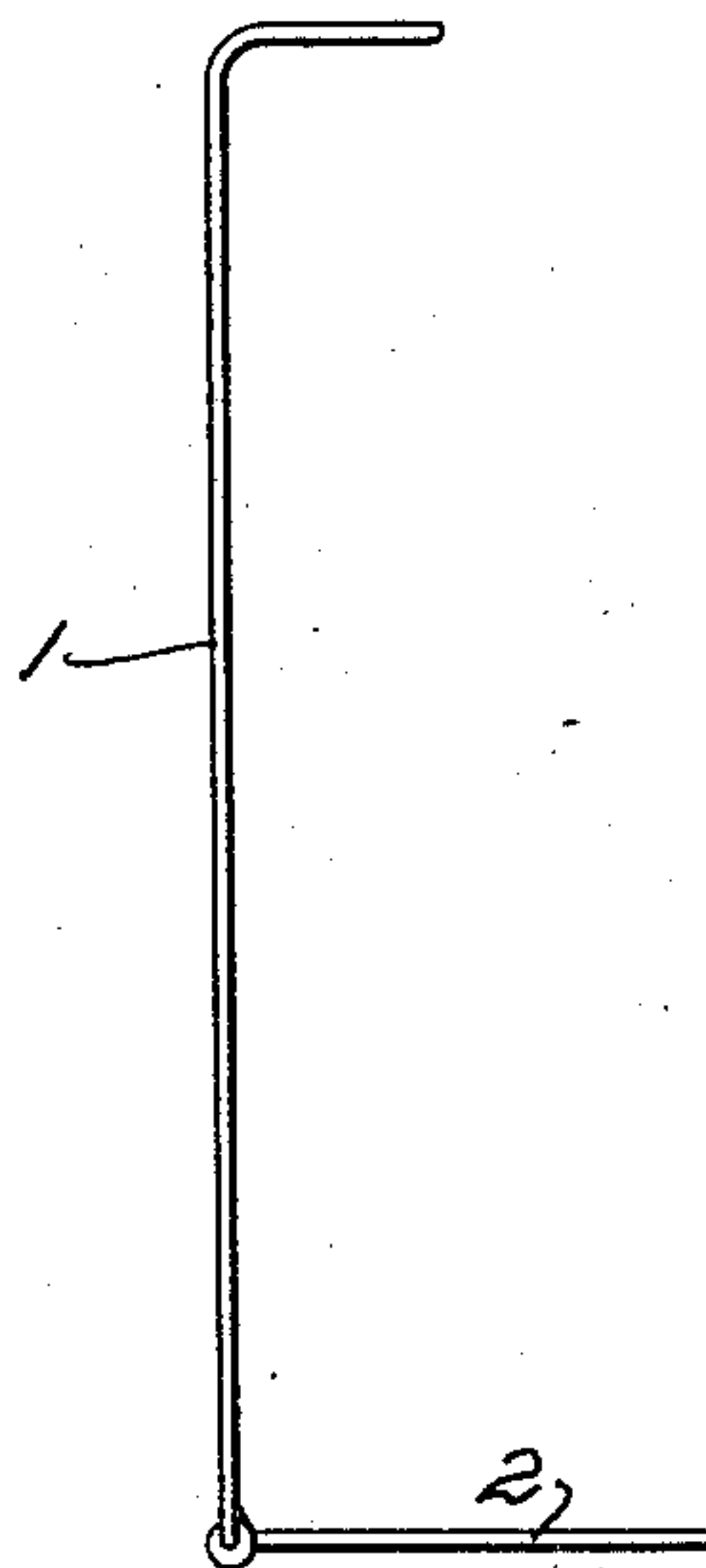


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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LIFTER FOR PRESSER-FEET FOR SEWING-MACHINES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, IDA P. NICHOLS, a citizen of the United States, and a resident of Ithaca, in the county of Tompkins and State of New York, have invented an Improvement in Lifters for Presser-Feet for Sewing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention aims to provide a novel darning attachment for sewing machines, and preferably one that may be applied to sewing machines already in use.

My invention will be best understood from a description of a convenient embodiment thereof illustrated in the accompanying drawing wherein,—

Figure 1 typifies the head of a modern sewing machine, in this instance the "Standard"; and Fig. 2, a detail showing the presser controlling portion of the device or attachment by itself.

Referring to the drawing, the head of the sewing machine is indicated at H and, so far as the present invention is concerned, may be of any desired type or construction, it being shown as provided with a usual needle bar *n* and presser bar *p*, actuated in usual or desired manner.

In the particular machine head shown the presser foot lever *l* projects from one side of the head and is arranged in usual manner to permit the presser foot bar to be raised in usual manner for introduction and removal of the work to and from position beneath the presser foot and upon the work plate of the machine, said lever permitting, as usual, the regular reciprocations of the presser foot bar to permit the work to be fed.

I have found that for the best results in darning it is important that a presser be employed, nevertheless it is equally important that the presser foot shall not press the work firmly upon the work plate of the machine as is customary in the ordinary sewing. My invention, therefore, comprehends means for restricting the drop of the presser foot to one or more positions, which preferably may be adjustable at will, and independently of the work plate or the work thereon. This may be conveniently accomplished by an attachment 1, shown as in the form of a wire loop adapted to be passed under the presser foot lever *l* to limit the

downward movement thereof, and the resultant lowermost position of the presser bar and its presser foot, said loop being constructed at its uppermost end to engage any suitable support, which may conveniently be the protruding end of the presser bar itself. This attachment 1, which for convenience I shall hereinafter refer to as the "presser drop positioning device," serves to limit the lowermost position of the lever *l* and its presser bar without interfering in the least with the otherwise normal movements of the said lever and bar, or either of them, in the ordinary running of the machine, and, by swinging the lower end of said limiting device outward away from the head H, the position in which the said lever and bar will be arrested may be varied at will within a considerable range of adjustment.

Means may be provided for retaining the lower end of the limiting device in desired position relative to the head, such means conveniently being in the form of an inwardly extended finger 2, which may enter the lever slot 3 in the machine head and, by its frictional or other engagement within the said slot, retain the limiting device in any position into which it may be moved by the operative.

It is important in connection with the limiting device 1 that a presser foot be employed that will permit the progress of the work to be observed and also permit the work to be shifted intelligently from one to another position as may be necessary for the proper progress of the darning operation. To this end I have provided a presser foot of considerable superficial dimension, but of an open structure to permit the work to be viewed therethrough. Such a presser foot is indicated in Fig. 1 and may be conveniently formed of wire, bent to present a preferably circular or loop-like foot proper, 4, with a twisted wire shank 5, having its ends open at 6 to span the lower end of the presser bar and may be retained thereon either by the inherent resiliency of its wire ends thereto or independently thereof by a usual fastening device or nut 7.

In operation, the limiting device 1 is adjusted to arrest the drop of the presser foot slightly above the upper surface of the work to be operated upon, so as to permit the work to be at all times freely shifted or adjusted upon the work plate of the machine, which is absolutely essential for successful darn-

ing, yet at the same time to prevent substantial lift of the work by the needle as it rises from the work at each reciprocation of the needle bar, the open presser foot so positioned permitting the work to be accurately placed for the necessary strokes of the needle for either regular or irregular darning, according to the requirements of the work. If the progress of the darning operation brings a thicker portion of the work into position beneath the presser foot, the operative may readily adjust the limiting device to arrest the presser foot in a higher position than before, or, conversely if the work in its progress diminishes in thickness.

My invention, obviously, is not limited to the particular construction of limiting device and presser foot shown, nor to the particular form of retaining finger or device, so long as much parts effect the substantial results hereinbefore referred to.

Claims:

1. In a sewing machine, the combination of a presser foot, a presser foot operating lever, a support and means engaging said lever and support and adapted to be slid along said lever to vary the operative level of said presser foot.

2. In a sewing machine, the combination of a presser foot, a presser foot operating lever, a support and wire loop means cooperating with said lever and support for varying the operative level of said presser foot.

3. In a sewing machine the combination

of a presser foot, a support therefor; the usual manually operable presser foot operating lever cooperating with said presser foot and a positioning device adapted at its lower end to engage said lever and at its upper end to engage said support, said device being formed to be readily applied and removed without alteration of the machine.

4. In a sewing machine, the combination of a presser foot, a presser foot bar, a presser foot operating lever and presser foot limiting means adapted at its lower end to engage said lever and at its upper end to engage said bar.

5. In a sewing machine, the combination of a presser foot, the usual manually operable presser foot operating lever, a support and adjustable presser foot limiting means engaging said lever and support, having provision for retaining said limiting means in its positions of adjustment.

6. In a sewing machine, the combination of a presser foot, a presser foot operating lever, a supporting head therefor and adjustable presser foot limiting means engaging said lever and head and having a finger cooperating with a slot in said head for retaining said means in its positions of adjustment.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

IDA P. NICHOLS.

Witnesses:

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