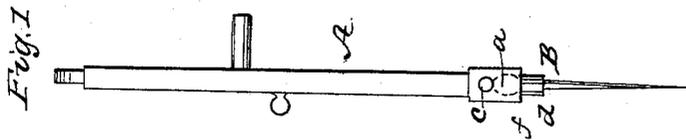
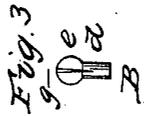
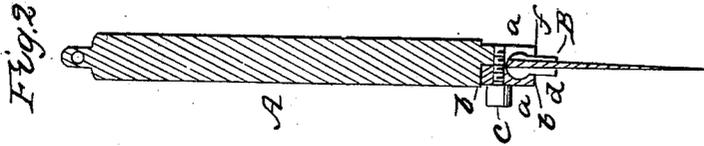


G. H. HORN.

Device for Holding and Adjusting Sewing Machine Needles.

No. 27,409.

Patented March 6, 1860.



witnesses  
F. P. [Signature]

Inventor  
Geo. H. Horn

# UNITED STATES PATENT OFFICE.

GEORGE H. HORN, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF  
AND EDWIN B. HORN, OF SAME PLACE.

## IMPROVEMENT IN THE NEEDLE-HOLDER OF SEWING-MACHINES.

Specification forming part of Letters Patent No. 27,409, dated March 6, 1860.

*To all whom it may concern:*

Be it known that I, GEORGE H. HORN, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful or Improved Device or Mechanism for Holding and Adjusting a Needle in a Sewing-Machine; and I do hereby declare the same to be fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1 denotes a side view of a sewing-machine needle-carrier fitted with my invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a separate view of the split-ball needle-holder.

The object of my invention is to enable a person to readily adjust the needle of a sewing-machine, either when such needle is first applied to the carrier or subsequently, in case of its becoming deflected out of its normal position.

Heretofore it has been customary to clamp a needle in its carrier as near to its proper position as possible, and afterward by means of pliers to bend it into its true position. As needles are usually made of steel, they are easily and often broken while being so arranged; but with my improvement no bending of a needle becomes necessary, and of course the liability of its being broken is obviated.

In the drawings, A exhibits the needle bar or carrier of a sewing-machine. It has a globular or hollow socket, *a*, formed in the lower part of it and in a clamp-block, *b*, which is separate from the part A, and is confined thereto by means of a screw, *c*, which passes through the block *b*, and is screwed into the carrier, as shown in Fig. 2.

Within the globular socket *a* a secondary needle-holder or carrier, B, is placed, the same consisting of a tube, *d*, surmounted by a sphere or ball, *e*. The mouth *f* of the spherical socket should have a diameter a little larger than that of the tube *d*, the same being in order to allow the axis of the tube to be moved into an obtuse angle with respect to that of the needle-carrier A, and to such extent as may be desirable to effect the proper adjustment of a needle while in the sewing-machine and inserted within the tube *d*. The needle may be

held in place in the said tube by friction of its sides against the bore of the tube, or by a clamp-screw passed into the tube transversely; but I prefer to make the ball *e* in two parts, with a split or saw-kerf, as shown at *g* in Fig. 3, and also so that the needle may extend into the ball or between the separated parts thereof, and be clamped in place or to the tube-holder by the contraction of the parts of the ball or the holders upon it, that may be occasioned by the pressure of the clamp-block *b* when the screw *c* is screwed up against the block. In this way the said screw *c* is made to perform the double duty of clamping the needle in its ball-holder and of confining the ball-holder fast in its socket or carrier.

With my invention a needle can be adjusted with great facility.

In the English patent of Foxwell, granted in 1855, and numbered 1,026, the needle of the sewing-machine is exhibited as held by a shaft or arbor having its axis at a right angle with that of the needle, and being made to turn in a bearing formed in the needle-carrier or vertical bar by which the needle is operated. This plan admits only of a limited adjustment of the needle, or, in other words, allows the needle to be turned only in a plane perpendicular to the axis of the arbor or shaft, whereas with my improved mechanism the needle can be adjusted in any direction whatsoever way it may be bent or deflected out of a vertical line. In the English patent of Bartlett, No. 1,894 for the year 1853, a device is shown for clamping a needle to the needle-carrier of a sewing-machine, the said device consisting not only of a perforated block and a slide plate within the same, but a screw to act against the latter, all of which differs materially from my improved mode of constructing the adjustable needle-holder—viz., with a slit or split in its ball when such ball is arranged in a socket provided with clamping devices, as specified. I therefore do not claim any of the devices above mentioned as found in either of the said English patents; but

I claim—

1. My improved device or mechanism for holding and adjusting the needle, it being composed of the secondary socketed needle-holder and its ball and supporting-socket ap-

plied to the needle-carrier and having a device or devices for clamping the ball to the carrier, substantially as specified.

2. Making the ball needle-holder with the split or slit in its ball, substantially as described, and so as to co-operate with the clamping screw or device and cause it to clamp

both the needle and the needle-holder at one and the same time, as described.

G. H. HORN.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.