

(No Model.)

P. DIEHL.  
NEEDLE CLAMP FOR SEWING MACHINES.

No. 464,013.

Patented Dec. 1, 1891.

Fig. 1.

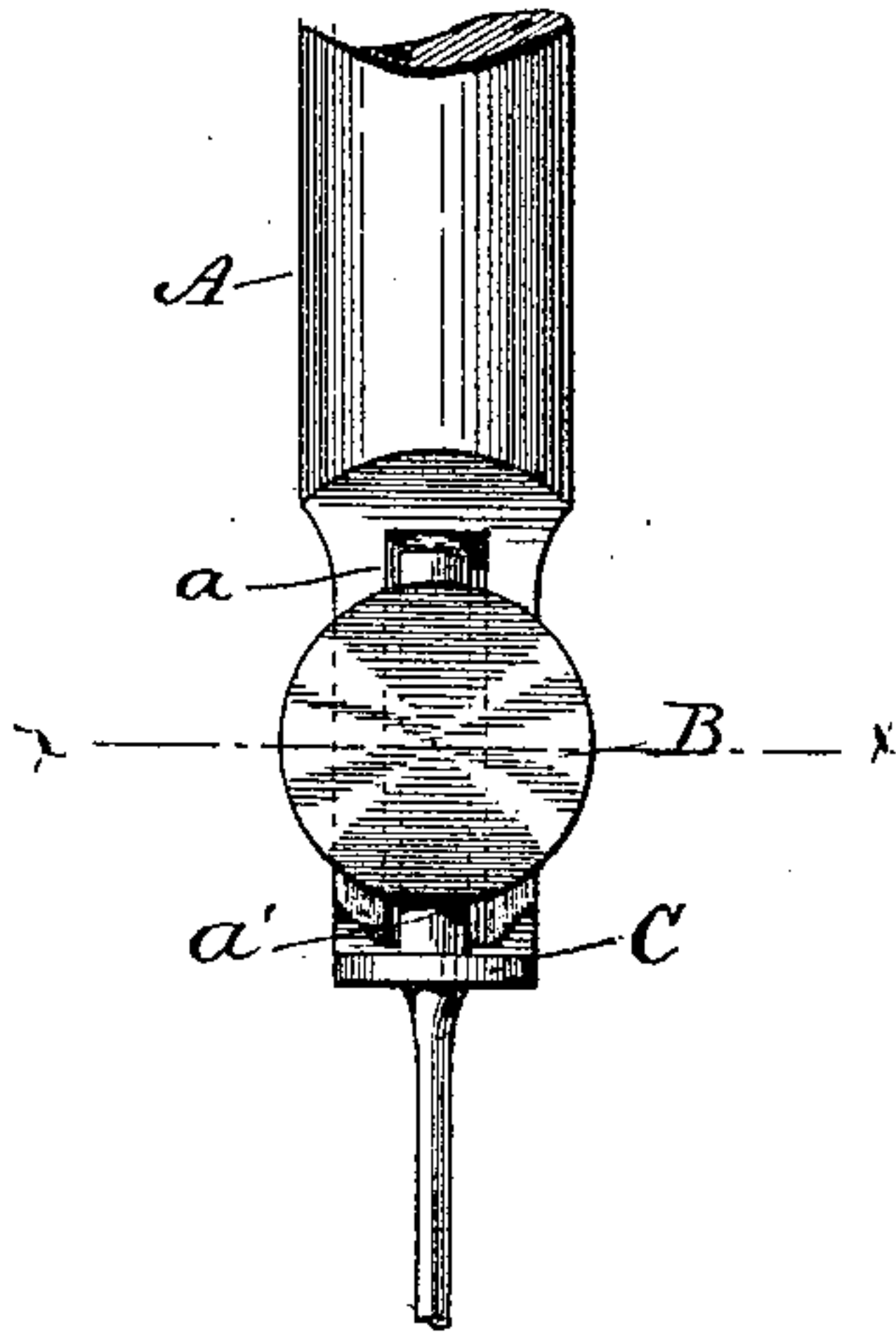


Fig. 2.

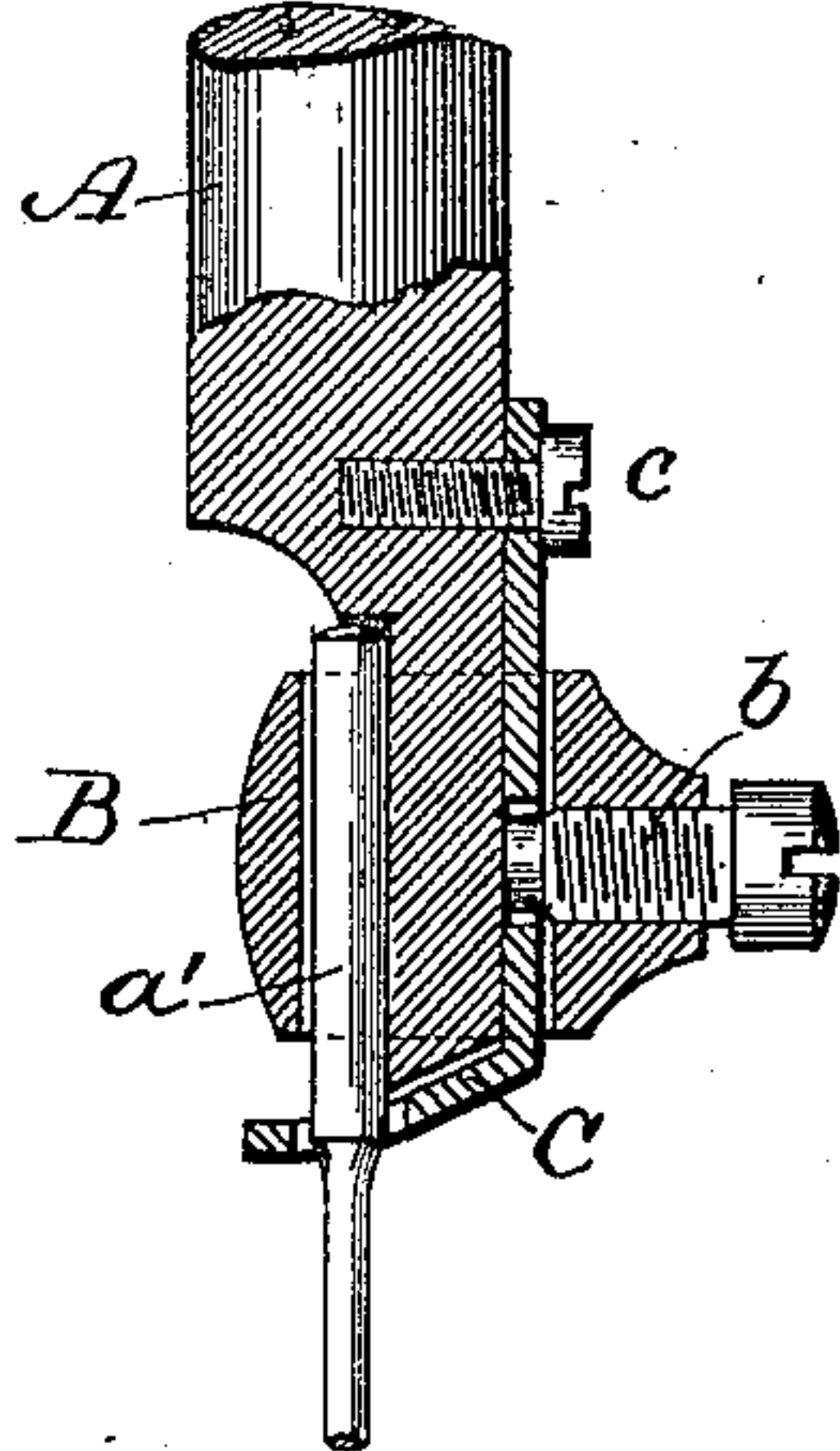


Fig. 3.

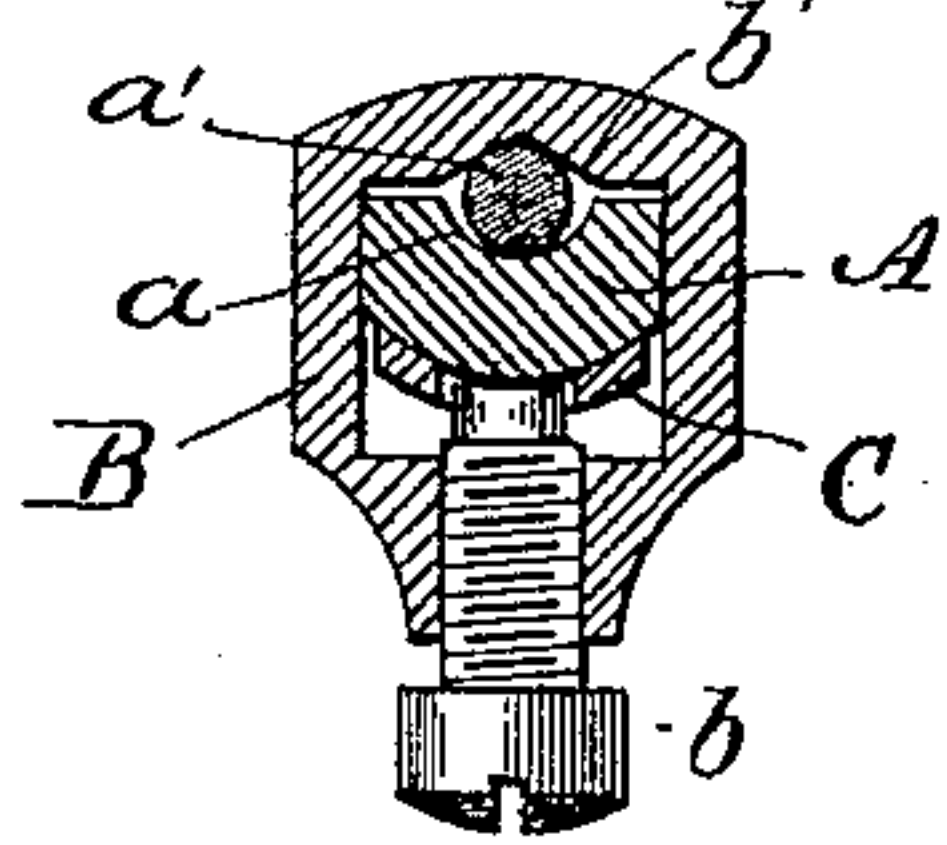


Fig. 4.

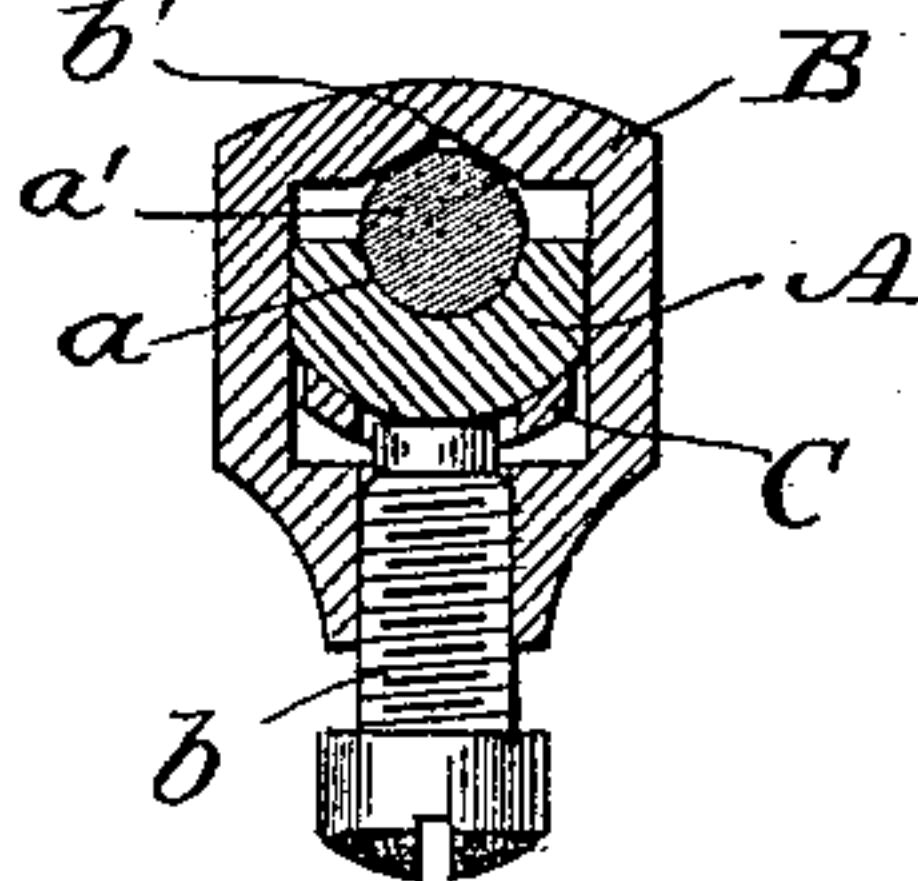
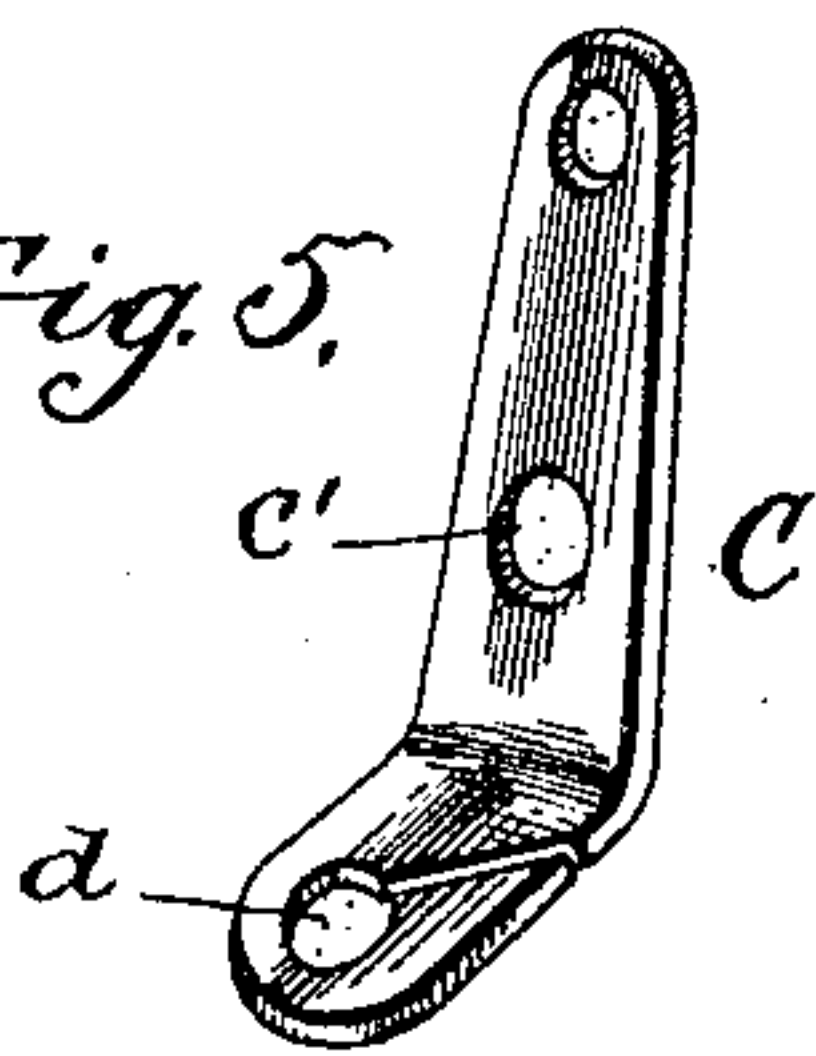


Fig. 5.



Witnesses:  
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Philip Diehl  
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# UNITED STATES PATENT OFFICE.

PHILIP DIEHL, OF ELIZABETH, NEW JERSEY, ASSIGNOR TO THE SINGER  
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## NEEDLE-CLAMP FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 464,013, dated December 1, 1891.

Application filed July 24, 1891. Serial No. 400,576. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIP DIEHL, a citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Needle-Clamps for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has for its object to provide an improved needle-clamp and thread-guide for sewing-machine needle-bars of such construction that different-sized needles may be securely held in place by the clamp, and the clamp be retained on the needle-bar by the thread-guide so that the said clamp cannot slip off from the said bar when the needle is loosened. To this end I attach to the lower end of the needle-bar a thread-guide having an eye through which the needle loosely passes, and which is slotted so as to be easily threaded, said thread-guide extending beneath the needle-clamping collar in such a manner as to prevent the said collar from coming off the needle-bar when the set-screw is loosened, and the needle-clamp or clamping-collar is provided with a V-shaped groove to co-operate with the needle-receiving groove formed in the needle-bar, all as will herein-  
after be more fully described.

In the accompanying drawings, Figure 1 shows a portion of a needle-bar with my improvement applied thereto and with the needle in position. Fig. 2 is a vertical section of the same. Figs. 3 and 4 are horizontal sections on line *x x*, Fig. 1, showing different-sized needles in the clamp; and Fig. 5 is a detail perspective view of the thread-guide and its shank.

A denotes a needle-bar partly cut away at its lower end and provided on one face with a concave groove *a* for the reception of the shank of the needle *a'*. The needle is secured to the needle-bar by a clamp or clamping-collar B, held in place by the set-screw *b*, the said clamp or clamping-collar having in its inner

face a vertical V-shaped groove *b'*, which is opposite the groove *a* in the needle-bar.

C is the thread-guide, the shank of which is attached to the needle-bar by the set-screw *c*, the said thread-guide being bent nearly at a right angle to its shank so as to extend beneath the needle-clamp and the lower end of the said needle-bar, the said bent portion being provided with an eye *d* loosely surrounding the needle and preferably open or slotted, as shown, so that the thread may be readily drawn into the same. The thread-guide, extending thus beneath the needle-clamp, serves to prevent the latter from slipping off from the said bar when the set-screw *b* is loosened for the purpose of removing the needle, and the inconvenience heretofore frequently arising with needle-clamps similar to that herein shown will thus be avoided.

The V-shaped groove *b'* in the needle-clamp co-operating with the rounded or concave groove *a* in the needle-bar enables needles having different-sized shanks to be properly centered and to be securely held in place, as will be readily understood by reference to Figs. 3 and 4.

The shank of the thread-guide C is preferably provided with a hole *c'* opposite the clamp-holding set-screw *b*, and into and through which the inner end of the said set-screw extends to impinge against the needle-bar, and when thus constructed the engagement of the said inner end of the said screw with the shank of the thread-guide will prevent the needle-clamp from dropping when said set-screw is but slightly loosened; but should the said set-screw be accidentally turned out far enough to disengage its inner end from the said hole *c'* the thread-guide extending beneath the said clamp will prevent the latter from dropping off from the needle-bar, as hereinbefore described.

I claim and desire to secure by Letters Patent—

1. The combination, with the needle-bar partly cut away at its lower end and provided



with a needle-receiving groove or recess, of a needle-clamp, a set-screw for tightening the same, and a thread-guide attached to the said needle-bar and extending beneath the said clamp and the lower end of the needle-bar, and having an eye through which the needle loosely passes.

2. The combination, with the needle-bar A, of the needle-clamp B, having the set-screw *b*,

and the thread-guide C, attached to said needle-bar and provided with the hole *c'* opposite said set-screw.

In testimony whereof I affix my signature in presence of two witnesses.

PHILIP DIEHL.

Witnesses:

J. G. GREENE,

J. SAULS.