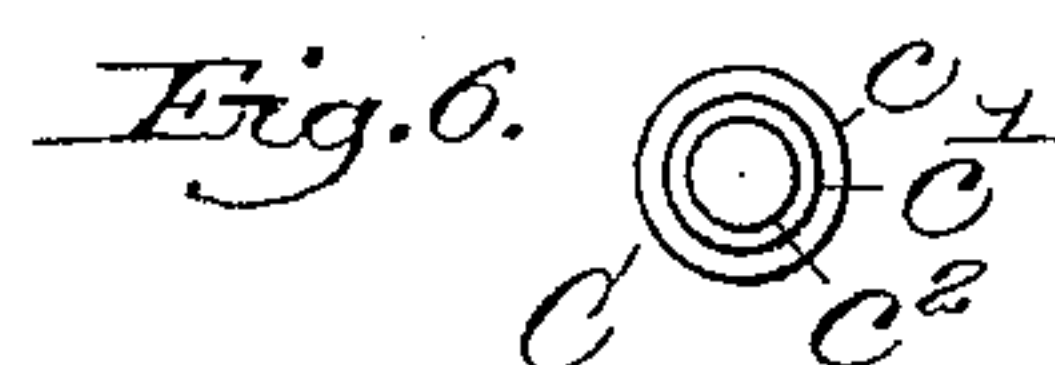
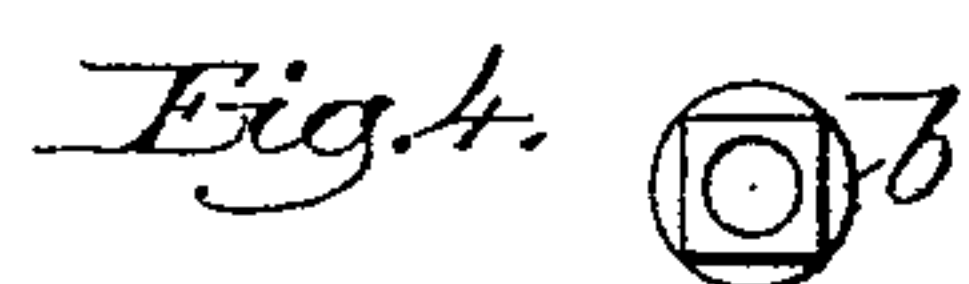
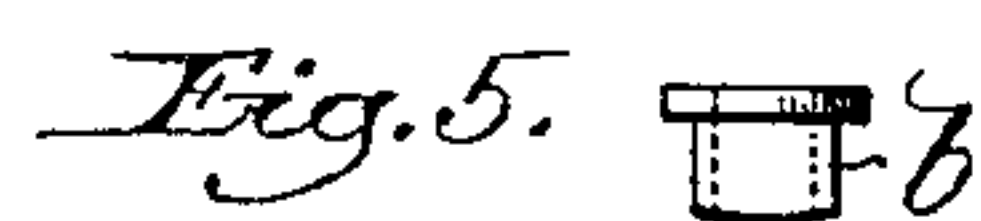
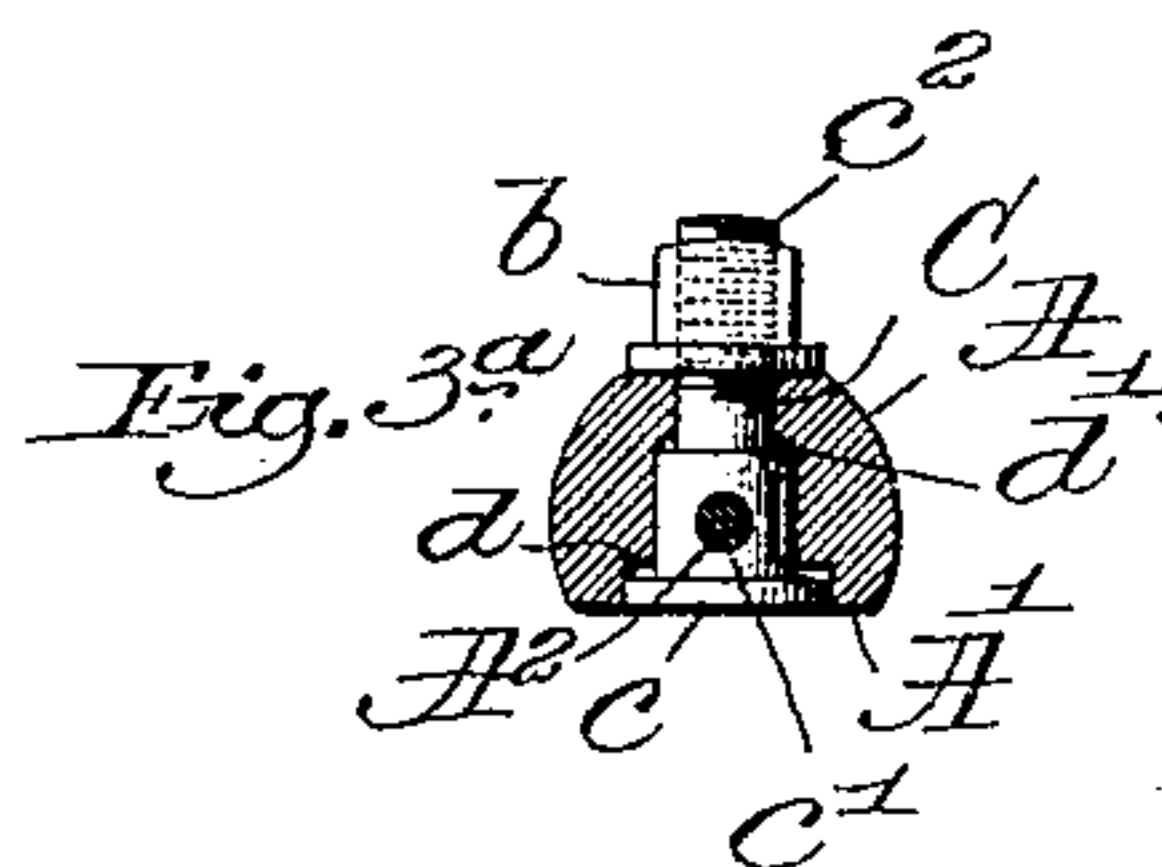
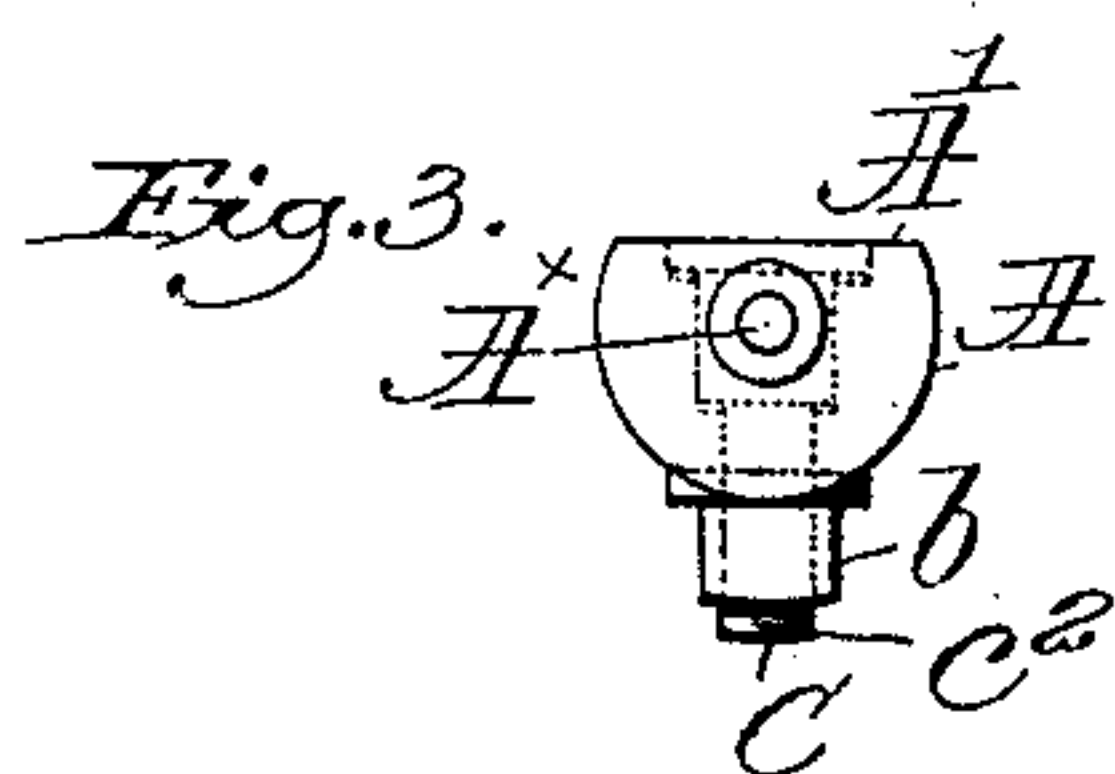
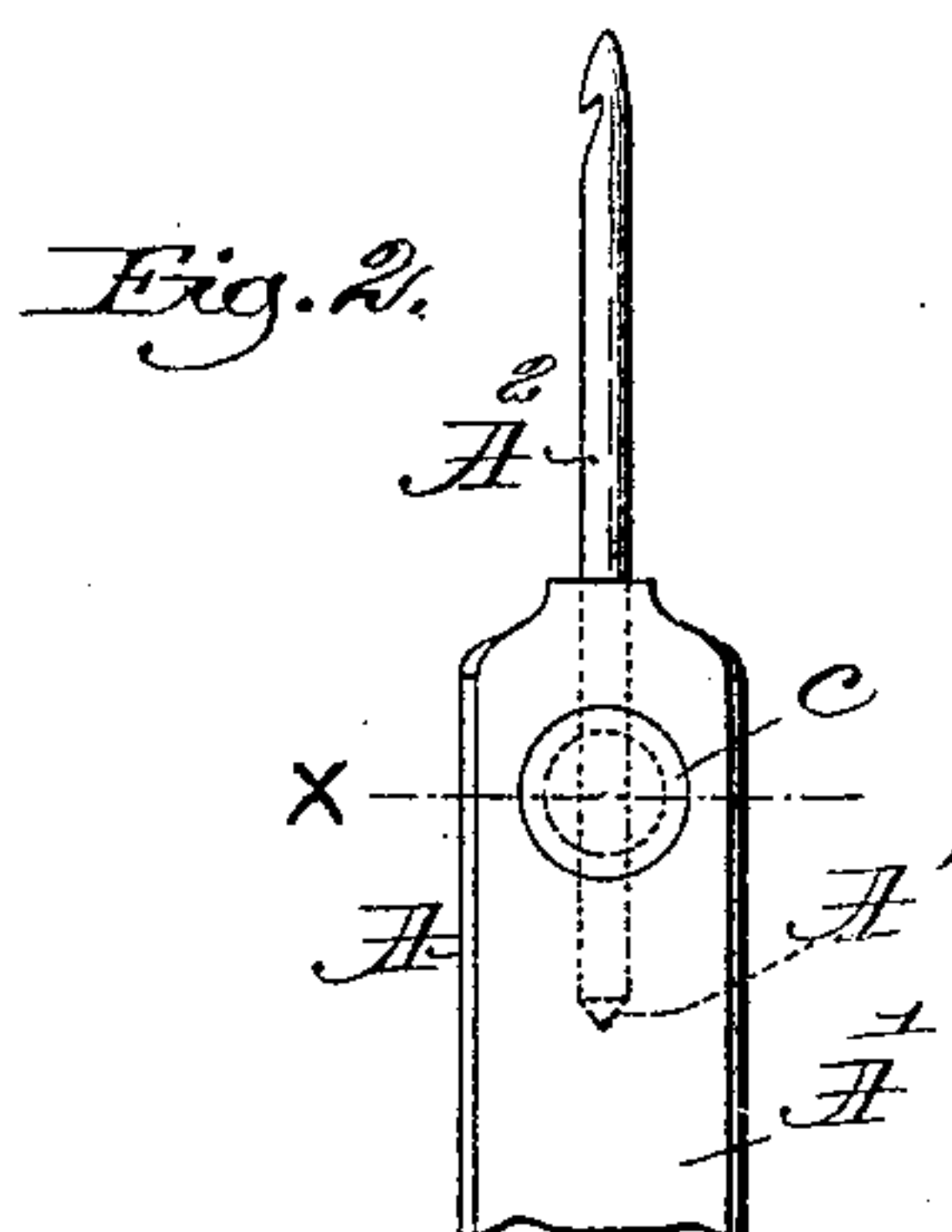
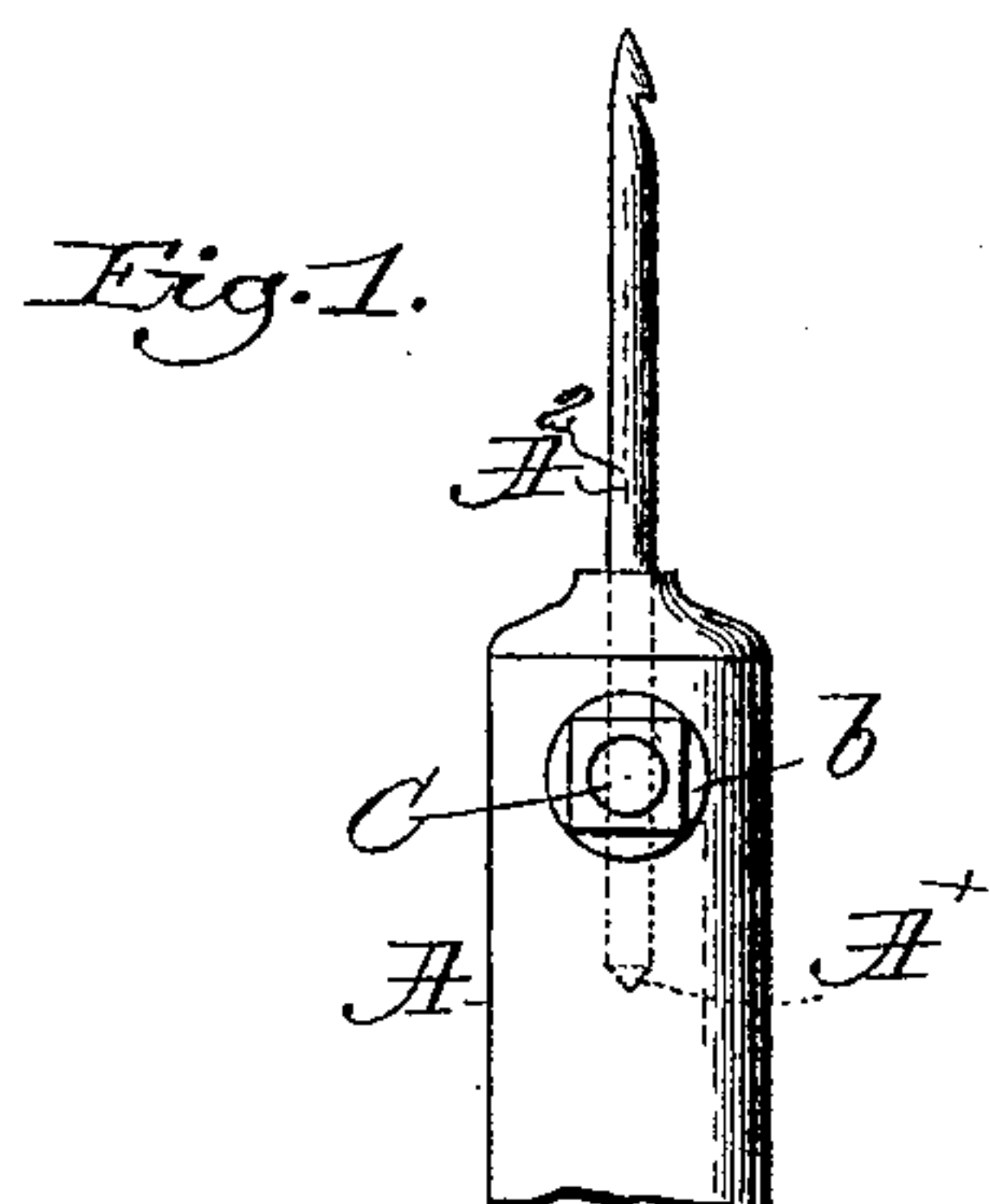


No. 805,721.

PATENTED NOV. 28, 1905.

J. GRUBB.
NEEDLE CLAMP.
APPLICATION FILED NOV. 4, 1901.



Witnesses:
Fred S. Grubb,
J. William Lutton

Inventor.
James Grubb,
By D. B. Gregory,
attys.

UNITED STATES PATENT OFFICE.

JAMES GRUBB, OF MELBOURNE, VICTORIA, AUSTRALIA, ASSIGNOR
TO STANLEY MANUFACTURING COMPANY, OF BOSTON, MASSA-
CHUSETTS, (F. F. STANLEY, PRINCIPAL TRUSTEE.)

NEEDLE-CLAMP.

No. 805,721.

Specification of Letters Patent.

Patented Nov. 28, 1905.

Application filed November 4, 1901. Serial No. 81,157.

To all whom it may concern:

Be it known that I, JAMES GRUBB, a subject of the King of Great Britain, residing at Melbourne, in the county of Bourke, Victoria, Australia, have invented a new and useful Device for Securing Needles in Needle-Bars of Boot and Shoe Machinery, of which the following is a specification.

My invention relates to an improvement for securing the needle in the needle-bar of sewing-machines and to facilitate the removal of the shank of the needle in the event of a needle breaking.

Figure 1 is a side elevation of part of a needle-bar and needle. Fig. 2 is an opposite view of said needle-bar and needle. Fig. 3 is a view of the lower end of the needle-bar. Fig. 3^a is a section on the line x , Fig. 2. Fig. 4 shows the face of the nut detached. Fig. 5 shows the nut in side elevation. Fig. 6 shows the clamping-bolt in plan view, and Fig. 7 shows the clamping-bolt in end view.

The needle-bar A, shown as a block of metal slabbed off at A' in the direction of its length, is provided with a longitudinal bore A^x for the reception of the shank of the needle A², herein illustrated as of the hooked variety. The needle-bar is provided with a diametrical bore, the shape of which is delineated by dotted lines, Fig. 3. This diametrical bore is represented as of three different diameters, and where said bore intersects the longitudinal bore A^x the diametrical bore is the larger in diameter. The diametrical bore of the needle-bar is shown of greatest diameter at the slabbed side of said bar, the diameter of the bore being then decreased to leave the shoulder d , and the depth of said larger part of the bore is sufficient to receive flush the head c of a clamping-bolt C. The diametrical bore has a second shoulder d' , and beyond said shoulder the bore is yet smaller in diameter. The body c' of the clamping-bolt is of smaller diameter than the head, and the threaded shank c^2 of the clamping-bolt is of yet smaller diameter. This clamping-bolt has a diametrical needle-hole c^3 . The head of the clamping-bolt enters the larger recess in the slabbed side A' of the needle-bar, and the body of the bolt en-

ters the part of the diametrical bore in line with the longitudinal bore A^x. When the hole c^3 in the clamping-bolt is exactly in line with the bore A^x, the inner side of the head of the clamping-bolt will not bottom snugly in the larger part of the diametrical bore of the needle-bar, nor will the inner end of the body of said bolt bottom snugly in the inner end of the diametrical bore intersecting the longitudinal bore. Consequently when the shank of the needle has been inserted in the bore A^x and the hole c^3 and the nut b applied to the threaded shank of the bolt the rotation of the nut will cause the bolt to be moved longitudinally sufficiently to clamp the shank of the needle firmly and frictionally in the needle-bar, so that it cannot be pulled out when the machine is in use.

I am aware that a bolt with a diametrical hole has been extended through an L-shaped clamp embracing the lower end of a needle-bar, and then the shank of the bolt is made to extend through the diametrical hole in the needle-bar, but the head of the bolt projects outside of the clamp and forms an objectionable projection.

What I claim as my invention, and desire to secure by Letters Patent, is—

A needle-bar slabbed off at its front and rear sides to form parallel faces, and having a longitudinal bore and an intersecting diametrical bore of three different diameters, the diametrical bore being larger at one than at its opposite end, and a threaded needle-clamping bolt having a transverse bore to receive the shank of the needle, and provided at one end with a screw-thread, and a nut applied to the threaded part of said bolt, the head of the bolt entering the larger part of the diametrical bore, the bolt forcing the sides of the needle against the sides of the longitudinal bore.

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

JAMES GRUBB.

Witnesses:

ARTHUR PHILPOTT,
JOEL MOSS.