No. 881,894. PATENTED MAR. 17, 1908.

A. BRAUN.

HINGE BORER FOR EMBROIDERY MACHINES.

APPLICATION FILED JULY 17, 1907.

Fig. 1.

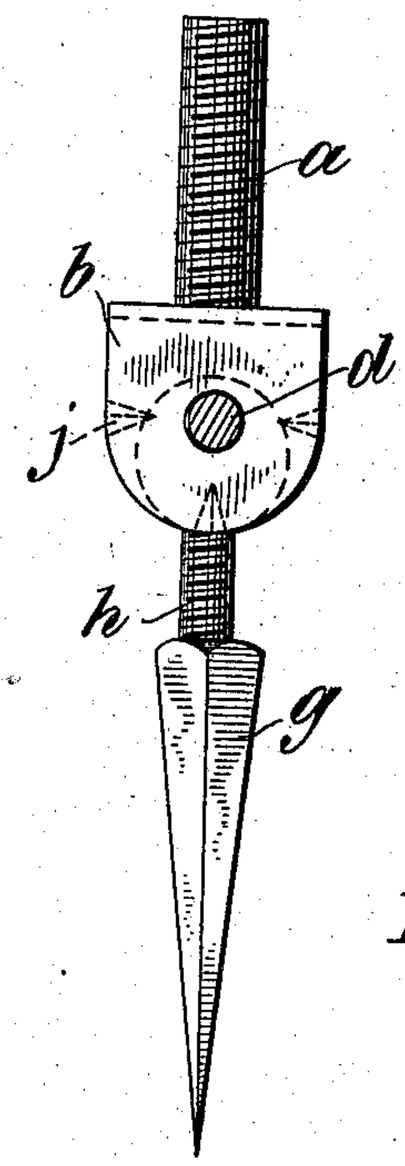


Fig. 2.

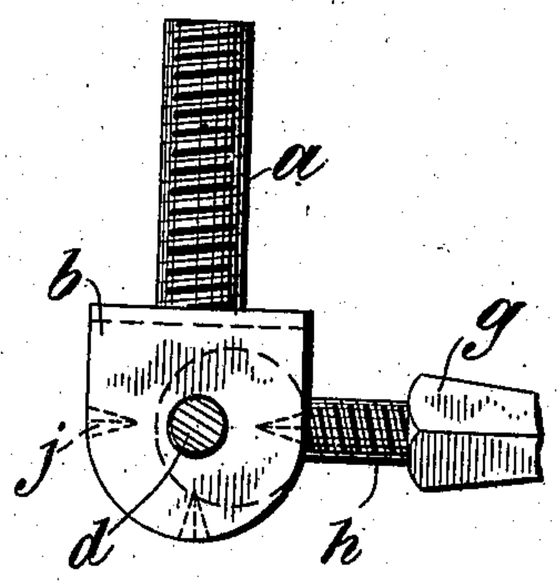


Fig. 3.

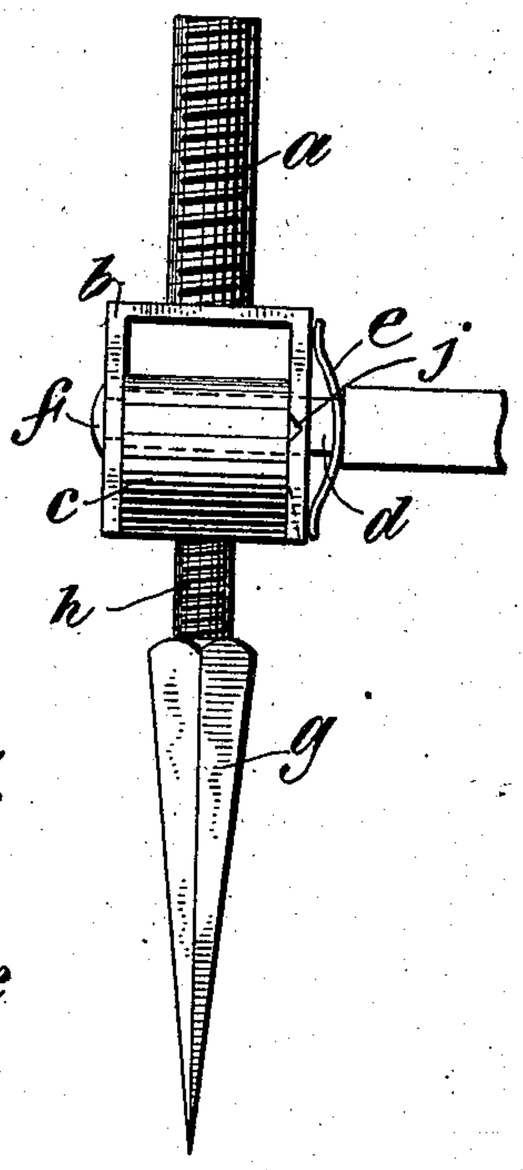


Fig. 4.

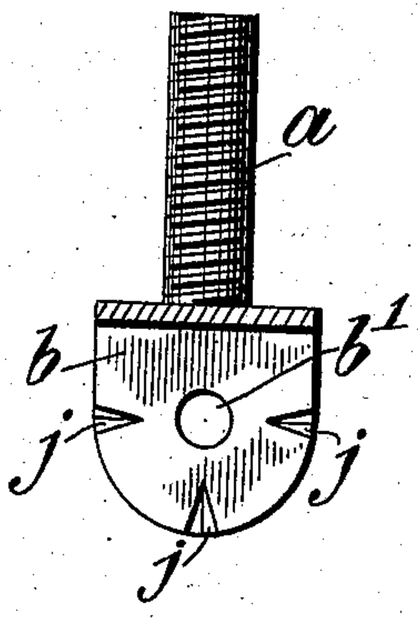


Fig. 5.

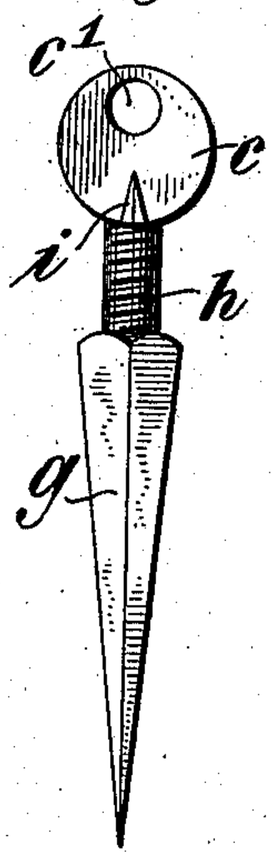


Fig. 6.

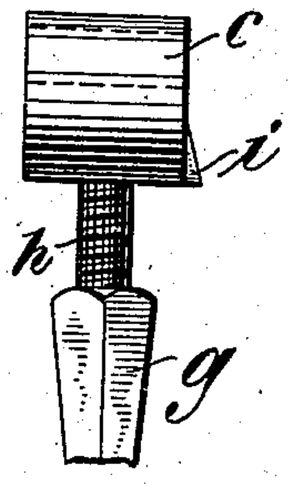


Fig. 7.

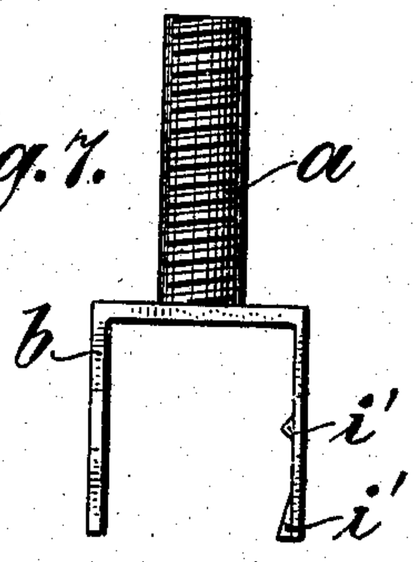
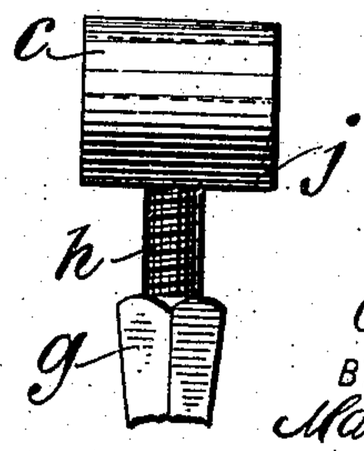


Fig. 8.



WITNESSES

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HINGE-BORER FOR EMBROIDERY-MACHINES.

No. 881,894. Specification of Letters Patent. Patented March 17, 1908.

Application filed July 17, 1907. Serial No. 384,141.

To all whom it may concern:

Be it known that I, AUGUST BRAUN, a subject of the German Emperor, and a resident of West Hoboken, county of Hudson, State of New Jersey, have invented certain new and useful Improvements in Hinge-Borers, of which the following is a specification.

The present invention pertains to hinge borers used with embroidery machines for the purpose of piercing through holes in fabric around which the embroidery is to be made, and the object of this invention is to provide a simplified construction that will allow of the borer being readily and easily raised from its working position and without the necessity of previously slackening a nut or doing other additional work.

Hinge borers, with embroidery machines, as ordinarily used, are arranged in a row and according to the desired intervals between the holes in the fabric to be embroidered the distance between two succeeding borers may be increased by lifting one or more of them out of their working position.

The hitherto used hinge borers are held in working position either by a strong spring arranged between the two hinge members or by a pressure nut. Neither of these constructions is satisfactory. In the first case, the spring requires considerable force to lift or turn the borer against the tension of the spring and the latter frequently breaks, and in the second case, the slackening of the pressure nut is necessary previous to enabling to lift the borer. To overcome these drawbacks, I provide a construction which consists in the arrangement of a catch or a nose projecting from one of the hinge members towards the other and of notches in the said other member, the catch being adapted to engage into either of the notches, whereby the borer will be secured in working and lifted position. The shape of the catch and notch is such that by a slight lateral pressure on the borer, the latter will be released and capable of being turned around its hinge.

My invention will be more fully understood from the accompanying drawing, in which similar reference letters denote corresponding parts and in which

Figure 1 is a side elevation of the hinge borer showing the latter in working position; Fig. 2 is a similar view showing the borer in lifted position; Fig. 3 is a front elevation thereof; Fig. 4 is a vertical section through the upper hinge member; Fig. 5 is a side elevation of the member carrying the borer; Fig. 6 is a front elevation of the same, part of the borer being broken away, and Figs. 7 and 8 show a modified form of construction.

With reference to the drawing, *a* denotes the threaded stem projecting from the frame *b* and serving for the attachment of the hinge borer to the embroidery machine.

c is a cylindrical body in which the borer *g* is screwed or otherwise secured, and which is provided with a transversal bore *c'*. Through the bores *b'*, *b'* in the lateral flaps or ears of the member or frame *b* and through the bore *c'* of the body *c*, a pin *d* is passed whereby the two members are hinged to one another.

The flaps or ears of the member or frame *b* are made to be slightly resilient, and, in order to hold the two members tightly against one another, the pin *d* is rigidly secured to one of the lateral flaps of the frame *b*, as at *f*, and carries a plate spring *e* that acts against the other flap of said frame, and thus insures a tight contact between said members.

The side surface of the cylindrical body opposite the spring actuated flap or ear of the frame is provided with a prismatically shaped nose or catch *i*, which projects towards the spring actuated flap or ear, and the apex of which is directed towards the axis of the body *c*. The spring actuated flap, on the other hand, is provided with correspondingly shaped notches *j*, *j* arranged at a right angle to one another and adapted to engage the nose or catch to lock the borer in vertical or working position, and in raised position, respectively.

Owing to the peculiar shape of the nose and to the resiliency of the flaps or ears of the frame *b*, the borer can be readily released from its locked position by the exertion of a slight pressure thereon.

In Figs. 7 and 8 a modification is shown in which noses or catches *i'* are provided on the yielding flange of the member *b* to project towards the member *c*, and the latter has a notch *j'*. By this arrangement, the construction is more simplified.

What I claim and desire to secure by Letters Patent is:

1. In a hinge borer for embroidery machines, a borer, a member carrying the borer, a frame having resilient flaps or ears laterally

embracing said member and being pivotally connected therewith, a prismatically shaped nose projecting laterally from one of said members towards the other, and correspondingly shaped notches in the said other member to engage the said nose and to lock the borer in vertical and raised positions.

2. In a hinge borer for embroidery machines, a borer, a member carrying the borer, a frame having resilient flaps or ears laterally embracing said member and pivotally connected therewith, a spring holding the two members in tight contact with one another, a prismatically shaped nose projecting laterally from one of said members towards the other, and correspondingly shaped notches in the said other member to engage said catch or nose and to lock the borer in vertical and raised positions.

Signed at West Hoboken this 15th day of July 1907.

AUGUST BRAUN.

Witnesses:
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