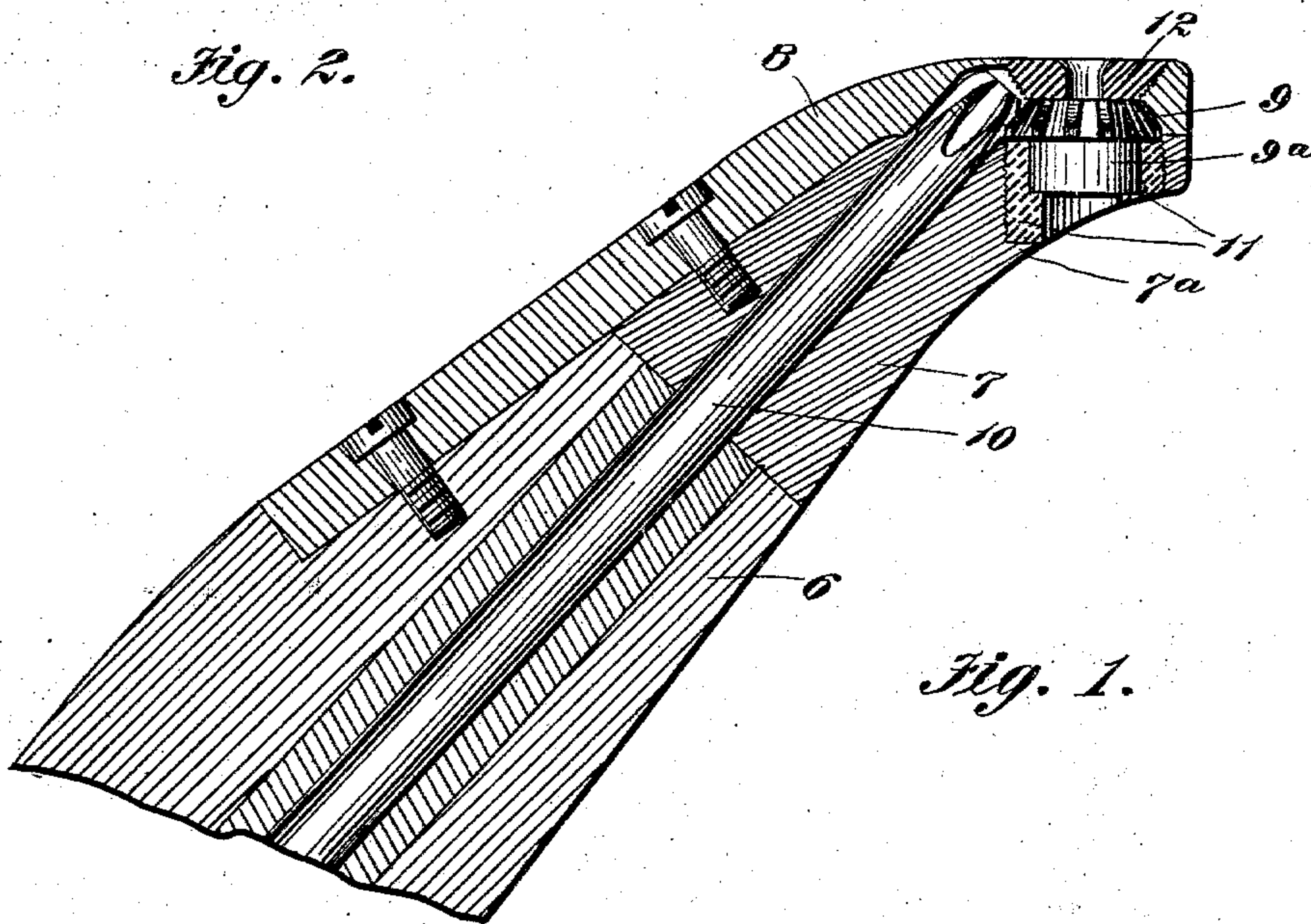
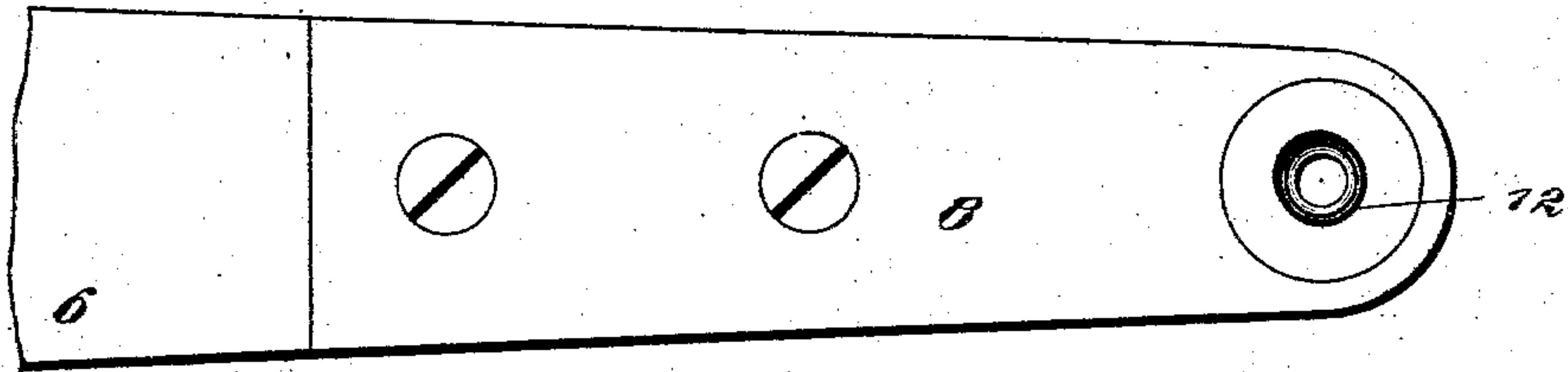


No. 740,810.

PATENTED OCT. 6, 1903.

I. A. COOK.
SEWING MACHINE HORN.
APPLICATION FILED SEPT. 20, 1902.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

IRVING A. COOK, OF LANCASTER, OHIO.

SEWING-MACHINE HORN.

SPECIFICATION forming part of Letters Patent No. 740,810, dated October 6, 1903.

Application filed September 20, 1902. Serial No. 124,124. (No model.)

To all whom it may concern:

Be it known that I, IRVING A. COOK, a citizen of the United States, residing at Lancaster, in the county of Fairfield and State of Ohio, have invented certain new and useful Improvements in Sewing-Machine Horns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to sewing-machines of the "McKay" type, in which the work is supported by a horn which enters the boot or shoe being sewed.

The object of the invention is to improve the construction and operation of the whirl and of the tip and bearings in which it is supported.

A particular object is to make a removable bearing for the whirl, so that when it wears it can be removed and renewed without renewal of the entire tip. The bearing being of such small dimensions soon wears out, causing the whirl and its driving-pinion to jump cogs and miss stitches, and in these circumstances it has heretofore been necessary to provide a new tip. This is avoided by my invention, which also provides means whereby the whirl can be got at and removed without removing its bearings. These means include a removable plug which acts as a support for the needle and a protection for the whirl.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the horn-tip and part of the horn. Fig. 2 is a top view thereof.

Referring specifically to the drawings, 6 indicates the horn, 7 the tip, and 8 the cap.

9 is the whirl, and 10 the pinion-shaft driving the same. The bearing for the whirl is indicated at 11 and consists of an annular bushing which is screwed into a threaded socket formed in the tip to receive it and stops against a shoulder 7^a, projecting from the tip. This bushing is made of brass or any other

good wearing material and when screwed into the socket against the shoulder it will not work loose, the direction of the threads being preferably the same as that of the rotation of the whirl. When worn out, it can be readily removed and renewed without removing the tip and without disconnecting the gearing of the pinion-shaft. This removal is effected by taking off the cap 8, when the whirl can be lifted out and the bushing unscrewed. It will be seen that the joint between the tip and the cap is formed at the greater diameter of the whirl, so that on removal of the cap the whirl can be lifted out. A relatively long bearing-surface, as indicated at 9^a, is given the whirl, and it is thereby prevented from rocking or jumping and lasts longer than would otherwise be the case.

At 12 is indicated a frusto-conical plug screwed into a threaded opening formed in the cap above the whirl. This plug is made of hardened steel and serves to hold the whirl in place and to protect the same against the needle and tacks. Should the needle strike the plug during the operation of the machine, its conical shape takes the strain off of its threads and prevents it being jammed down on the whirl. At the same time its threads prevent it from jumping or working loose and permit it to be easily removed and renewed when worn.

By the construction above described the bushing 11 and the plug 12 are the parts which receive all the wear or injury incident to the operation of the machine and the necessity for and expense of renewal of the tip and cap are avoided.

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

The combination with the whirl, of a separable horn-tip and cap inclosing the whirl and meeting at the largest diameter thereof, a bearing-bushing in the tip under the whirl, and an annular plug in the cap over the whirl, substantially as described.

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

IRVING A. COOK.

Witnesses:

FRANK R. MEEKER,
GEO. LEHEW.