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C. A. SANBORN.

DEVICE FOR GROOVING OR TAPPING RUBBER OR OTHER
SAP YIELDING TREES.

APPLICATION FILED MAY 19, 1904.

NO MODEL.

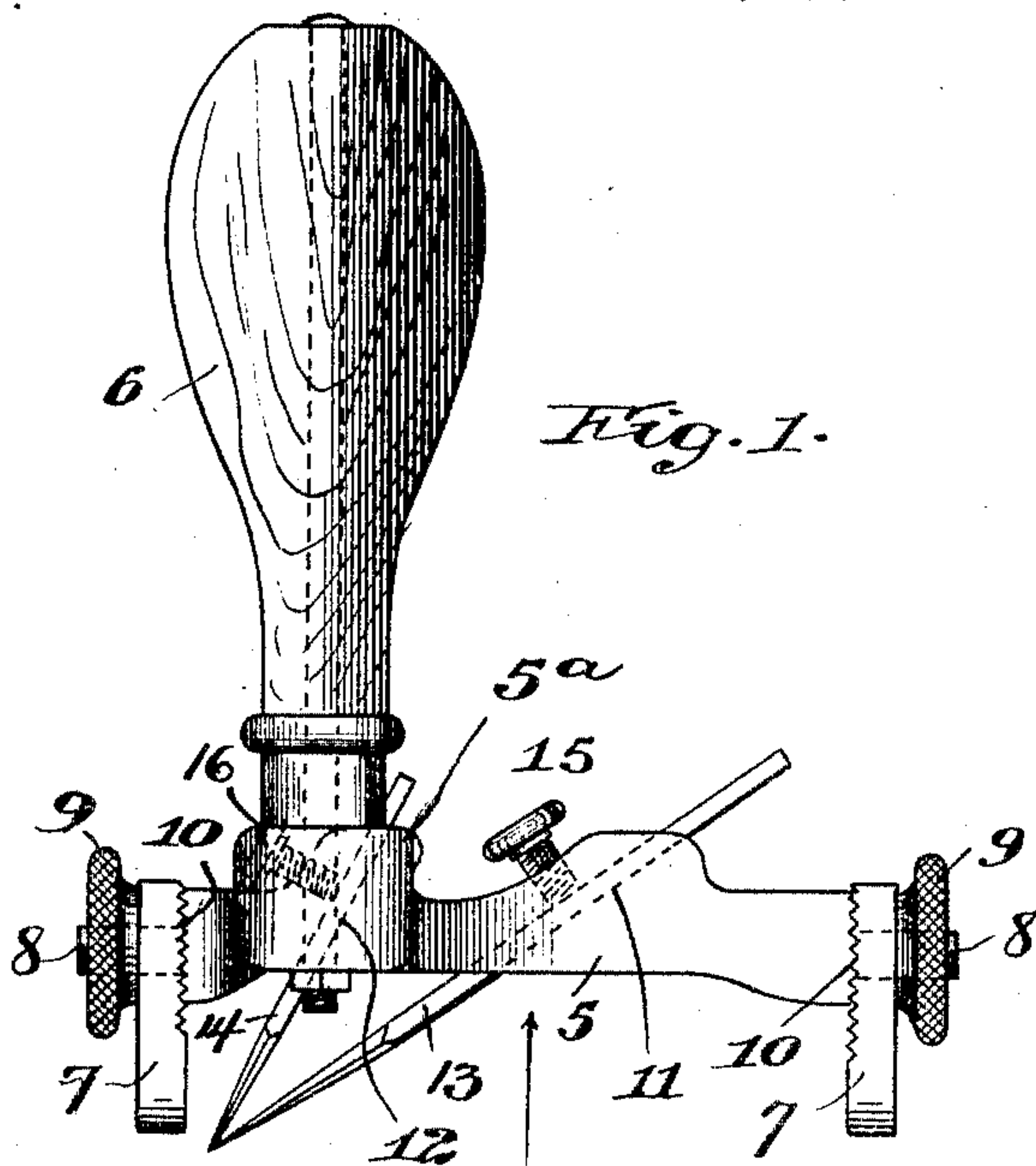


Fig. 1.

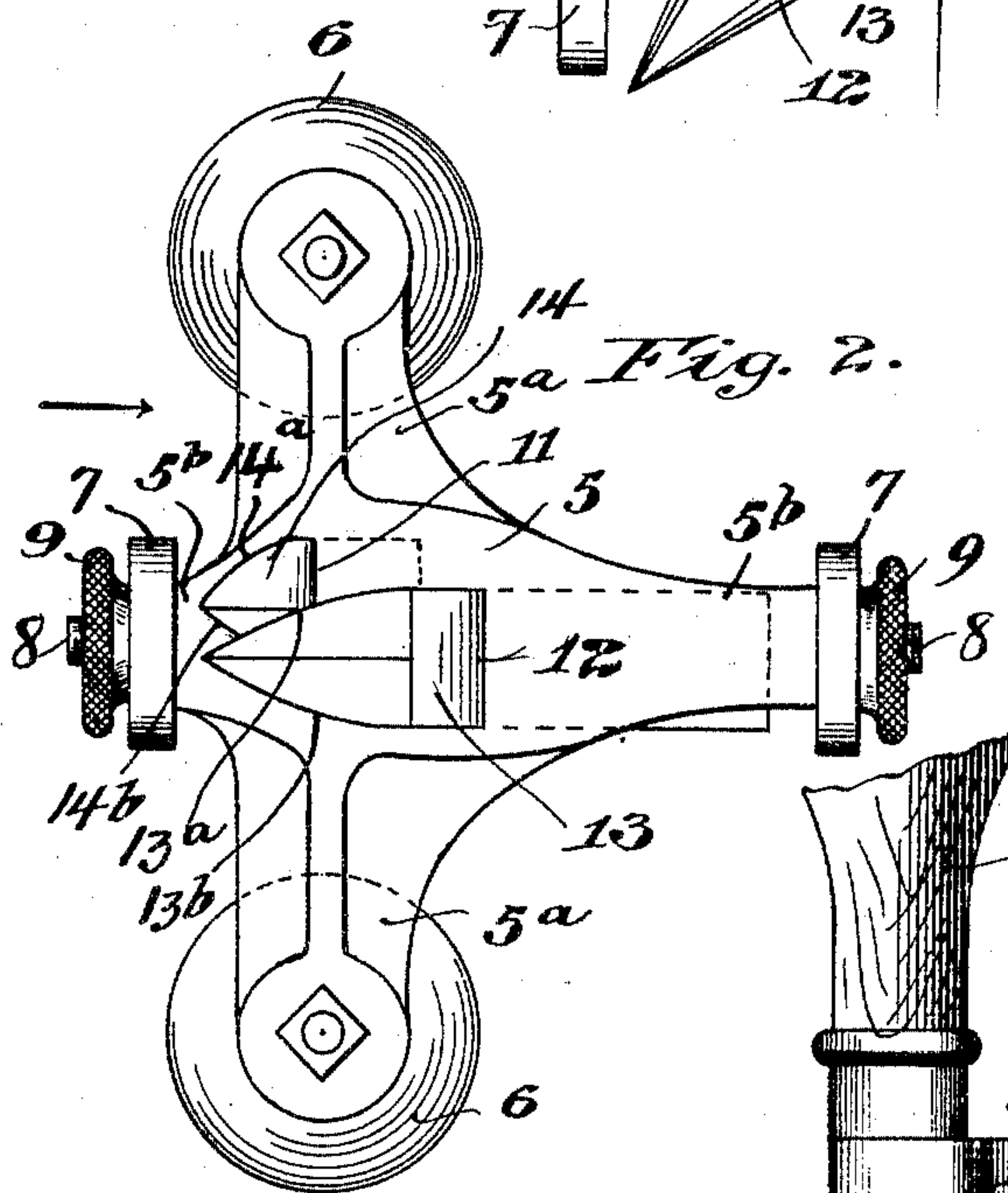


Fig. 2.

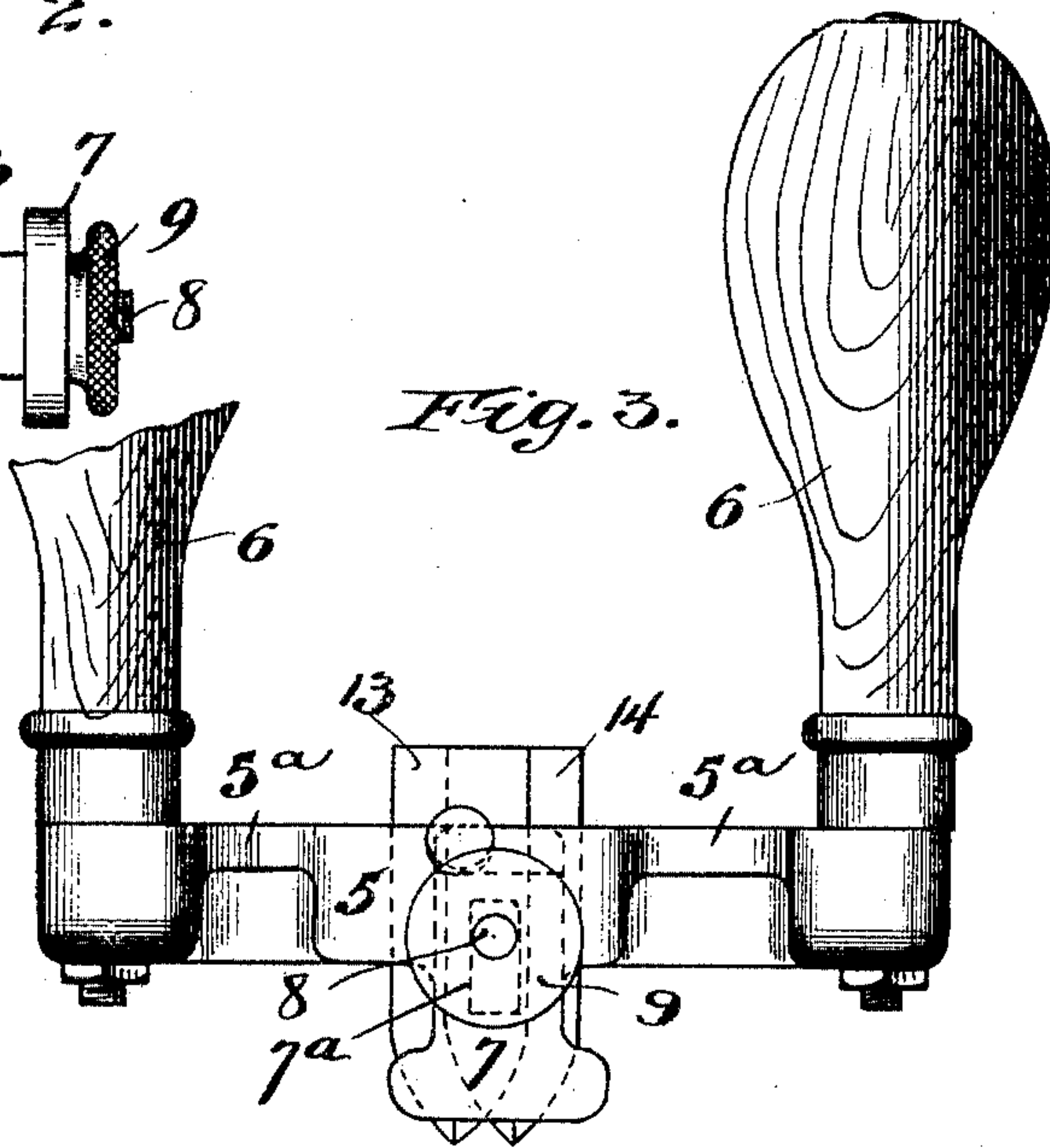


Fig. 3.

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UNITED STATES PATENT OFFICE.

CORA A. SANBORN, OF CHICAGO, ILLINOIS.

DEVICE FOR GROOVING OR TAPPING RUBBER OR OTHER SAP-YIELDING TREES.

SPECIFICATION forming part of Letters Patent No. 776,691, dated December 6, 1904.

Application filed May 19, 1904. Serial No. 208,698. (No model.)

To all whom it may concern:

Be it known that I, CORA A. SANBORN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Devices for Grooving or Tapping Rubber or other Sap-Yielding Trees, of which the following is a specification.

My invention relates to instruments for effecting the grooving or tapping of sap-yielding trees, more particularly the rubber-tree, and is of the general type illustrated in Letters Patent heretofore granted to me on the 22d day of March, 1904, No. 755,248, being designed as an improvement upon the device disclosed in the aforesaid patent, partly in the way of effecting a sharper and cleaner cut and simultaneously expelling the strip of bark grooved out by the cutter and partly in the way of increasing the capacity of the tool by rendering it double acting—that is, capable of cutting either a right or left hand groove by simply inverting the tool.

With these and other minor advantages, hereinafter mentioned, in view my invention resides in a novel instrument for the purpose stated, possessing the structural and functional characteristics substantially as herein-after more particularly described, and pointed out in the claims.

My invention in its preferred form is illustrated in the accompanying drawings, wherein—

Figure 1 is a top plan view of the complete instrument. Fig. 2 is a front or face view thereof viewed in the direction indicated by the arrow in Fig. 1, and Fig. 3 is a side elevational view in the direction of the arrow in Fig. 2.

Referring to the drawings, 5 designates as an entirety the head-stock of the tool, which consists of a casting having four projections extending at substantially right angles to each other in the same plane, two of the oppositely-disposed projections, 5^a, carrying handles 6, mounted on their extremities, and the other two projections, 5^b, having secured thereto forwardly-projecting guides 7, these latter being preferably longitudinally slotted, as shown at 7^a, Fig. 3, and mounted on spin-

dles 8, projecting from the ends of the arms 5^b and secured in adjusted position by milled nuts 9, the contacting faces of the guides and arms being serrated, as shown at 10 in Fig. 1, for increased rigidity and uniformity of adjustment.

Through the central part of the head-stock 5 are formed a pair of oblique slots 11 and 12, disposed at an angle to each other, in which slots are mounted, respectively, a pair of knives 13 and 14, being secured in adjusted position by set-screws 15 and 16, tapped in against their stems or shanks. The cutting ends of the knives 13 and 14 are each tapered down to a point substantially in the longitudinal axis of the knife and are beveled off on each side of the longitudinal axis to provide double cutting edges 13^a and 13^b and 14^a and 14^b, respectively. The knives are so positioned that their points converge in a line formed by the intersection of the planes of the two knives, but are separated vertically, as shown in Fig. 2, so that the cutting-point of one knife has a lead over the cutting-point of the other.

In use the tool is grasped in the two hands of the operator by means of the handle 6 and is pressed against the bark of the tree with the outer faces of the guides 7 in sliding contact with the latter, thus limiting and rendering uniform the depth of the incision, which depends upon the relative adjustments of the guides to the head-stock. As the tool is then drawn downwardly the two knives between them cut out of the bark a V-shaped strip, leaving a correspondingly-shaped channel which forms a trough for the collection and discharge of the sap into a main longitudinal groove, such as is illustrated in Fig. 7 of my former patent hereinabove referred to. By giving the cutting-point of one knife a slight lead over that of the other a very clean and sharp cut is effected, and the excised strip is readily expelled inwardly between the knives by reason of the natural elasticity of the steel of the latter and their relative angular disposition. By reason of the double-edged formation of the knives and their angular disposition relatively to the head-stock it is evident that the tool can be used one side up to

cut a right-hand oblique groove and the other end up to cut a left-hand oblique groove without the necessity of adjusting or replacing the knives in the head-stock. The adjustment of the guides 7, which determine the depth of the incision, can be easily and quickly made, and by reason of the interlocking serrations on the meeting-faces of the guides and the head-stock the two guides can be adjusted inwardly and outwardly of the latter to exactly the same extent. A simple turn on the set-screws 15 and 16 enables the knives to be withdrawn to be sharpened or replaced by others when worn out.

It is evident that the invention as herein shown and described might be varied in respect to unimportant details without departing from the invention or sacrificing any of the advantages thereof. Hence I do not limit the invention to the particular construction and relative arrangement of the parts as shown except to the extent indicated in specific claims.

I claim—

1. In an instrument for the purpose described, the combination with a head-stock and one or more operating-handles, of a pair of knives secured in said head-stock at an angle to each other and at their cutting-points converging in a line formed by the intersection of the planes of the knives, substantially as described.

2. In an instrument for the purpose described, the combination with a head-stock and one or more operating-handles, of a pair of knives secured in said head-stock at an angle to each other and having their cutting-points disposed one above the other and converging in a line formed by the intersection of the planes of the knives, substantially as described.

3. In an instrument for the purpose de-

scribed, the combination with a head-stock and one or more operating-handles, of a pair of knives secured in said head-stock at an angle to each other and having their cutting-points disposed one above the other and converging in a line formed by the intersection of the planes of the knives, and guides carried by the head-stock and limiting the incision of the knives, substantially as described.

4. In an instrument for the purpose described, the combination with a head-stock and one or more operating-handles, of a pair of separate pointed knife-blades adjustably secured in said head-stock at an angle to each other and converging toward their points, substantially as described.

5. In an instrument for the purpose described, the combination with a head-stock and one or more operating-handles, of a pair of knife-blades adjustably secured in said head-stock at an angle to each other, said blades having their cutting-end portions double-edged and converging at their points in a line formed by the intersection of the planes of the knives, substantially as described.

6. In an instrument for the purpose described, the combination with a head-stock and one or more operating-handles, of a generally V-shaped cutter mounted in said head-stock, and guides mounted on either side of the cutter on the ends of the head-stock and adjustable transversely of the latter to limit the depth of the incision, substantially as described.

7. An implement for tapping trees having two inclined blades, the edges of which are inclined at different angles, one of said blades being in advance of the other.

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