

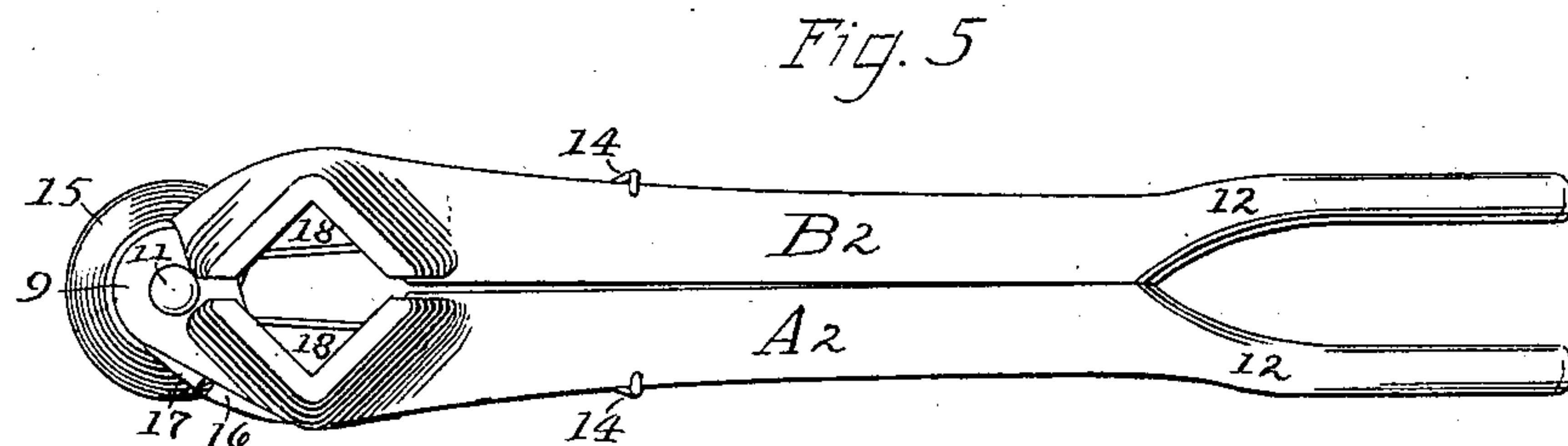
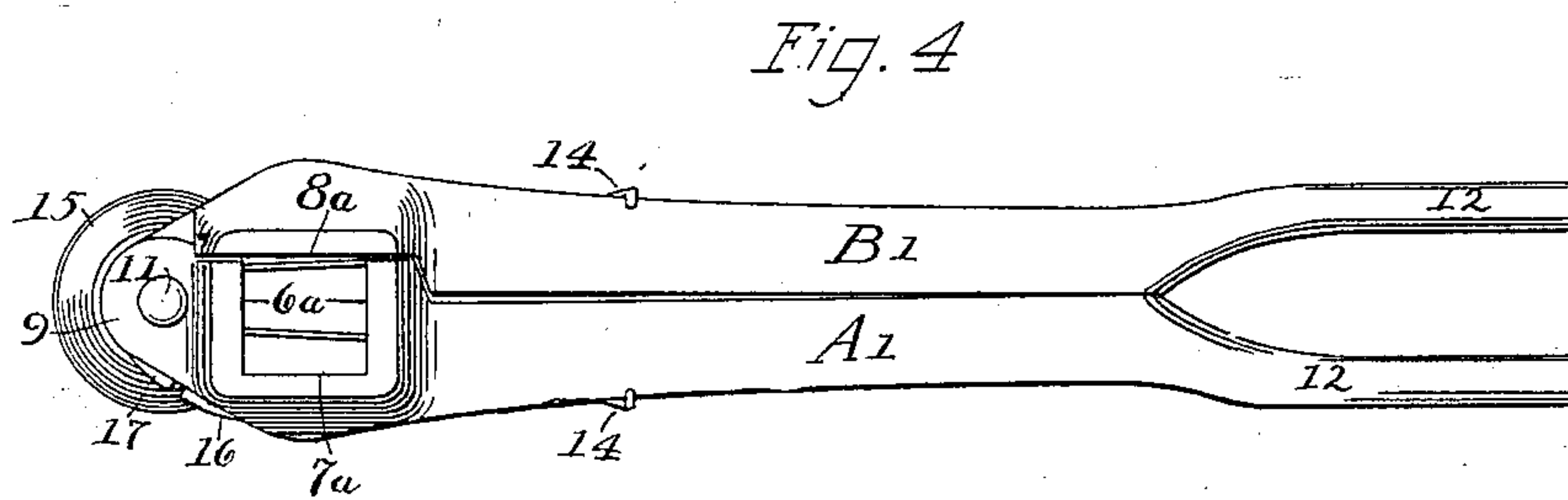
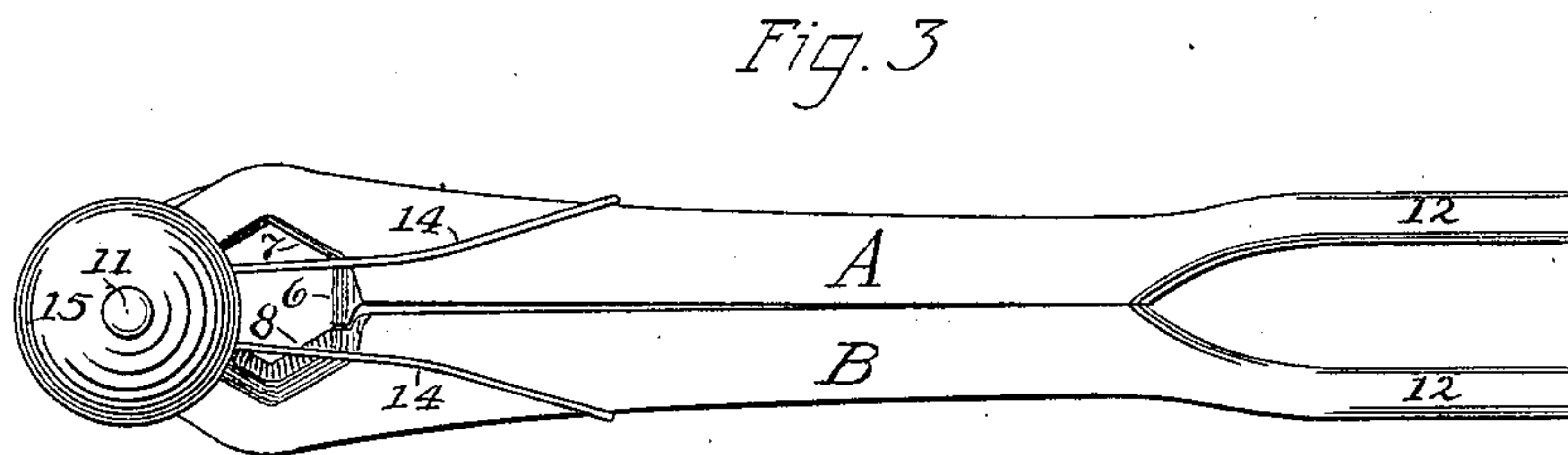
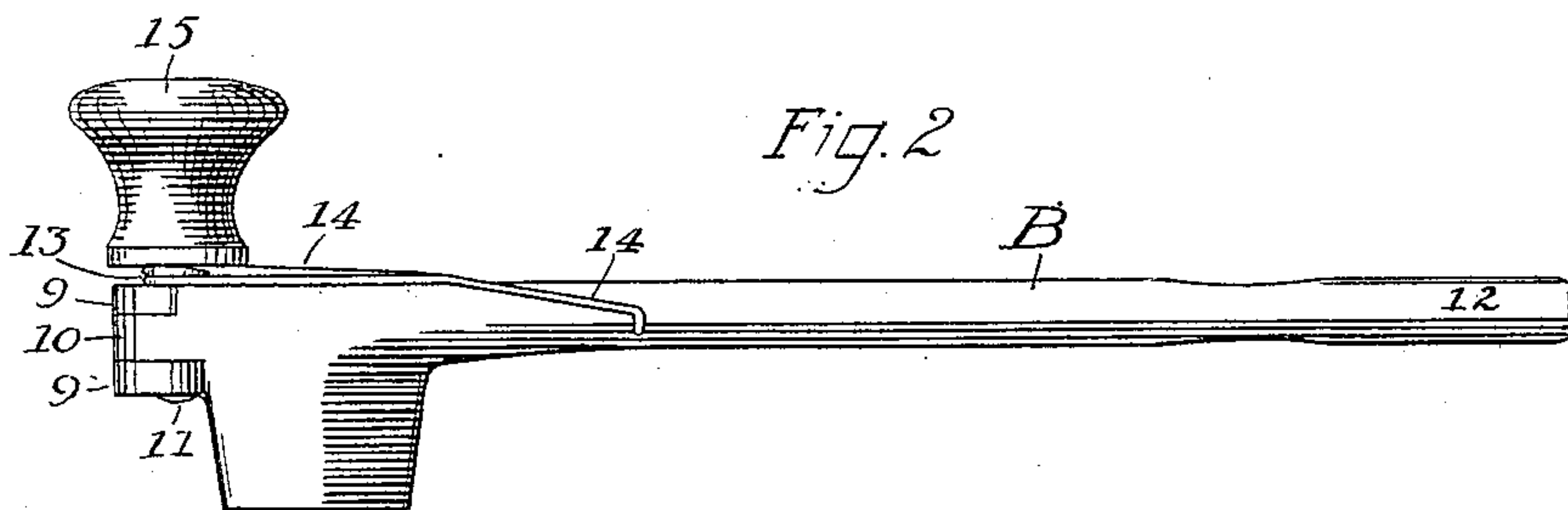
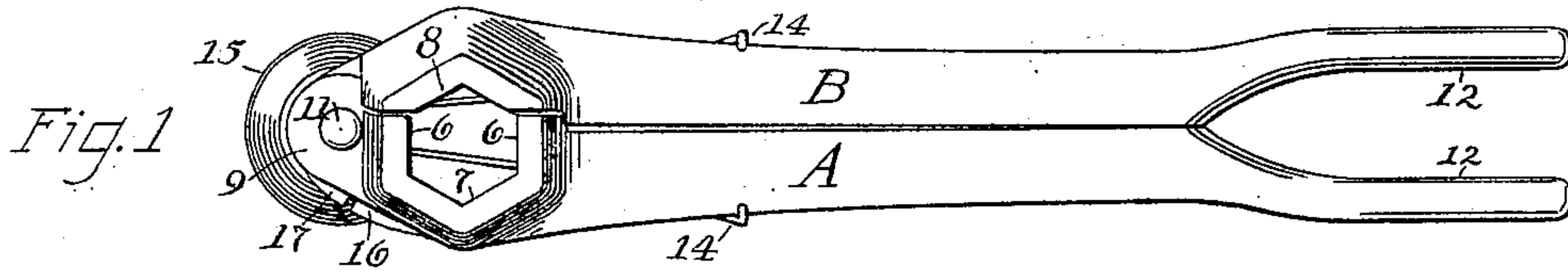
No. 658,565.

Patented Sept. 25, 1900.

J. DEEBLE.
AXLE NUT WRENCH.

(Application filed Feb. 19, 1900.)

(No Model.)



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AXLE-NUT WRENCH.

SPECIFICATION forming part of Letters Patent No. 658,565, dated September 25, 1900.

Application filed February 19, 1900. Serial No. 5,858. (No model.)

To all whom it may concern:

Be it known that I, JOHN DEEBLE, a citizen of the United States, residing at Southington, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Axle-Nut Wrenches, of which the following is a specification.

My invention relates to improvements in axle-nut wrenches; and the objects of my improvement are simplicity and economy in construction and convenience and efficiency in use.

In the accompanying drawings, Figure 1 is a front elevation of my wrench. Fig. 2 is a plan view. Fig. 3 is a rear elevation. Fig. 4 is a front elevation of my wrench with the jaws adapted for a square nut instead of a hexagonal nut, as in the preceding views. Fig. 5 is a like view with jaws for a square wrench differently arranged.

My wrench is of the class where the wrench-socket is formed on the laterally-projecting sides of two levers pivoted together. I pivot the levers together as nearly at their ends as is practical and from the wrench-socket on the levers a short distance from the pivot on the handle side thereof, whereby a good leverage is obtained for firmly grasping the nut. In the preferred form, however, I do not depend on the grip of the levers for holding the nut from rotation within the socket, as I form one part of the socket with opposing parallel faces, so that it is impossible for the nut to turn therein.

A designates the levers having the main portion of the wrench-socket—that is to say, it has one open side and two opposing parallel faces 6 6, extending transversely to the levers, and a bottom face 7. In a hexagonal wrench-socket the bottom face 7 is composed of two inclines, as shown in Fig. 1. B designates the companion lever, having a holding-face 8 directly opposite the open side of the main portion of the socket in the lever A. These levers are provided with an ordinary form of knuckle-joint, the two knuckles 9 9 in the particular form of joint shown being on the lever A and the single or middle knuckle 10 being formed on the lever B, the said knuckles being pivoted together by means of the pin 11. The outer ends of the levers are provided with handles 12. The

pintle projects at one side—the side opposite the wrench-socket—a sufficient distance to form a support for the coils 13 of the spring-arms 14, the said arms extending toward the handles, with their ends hooked over the backs of the levers A B under tension, so as to have a tendency to force the said handles together. In the constructions illustrated in Figs. 1 to 4 the wrench is designed only for a given size of nut, and the levers and nut-sockets are so formed that when the wrench is normally closed under the action of the spring-arms 14, as shown, the socket from the holding-face 8 to the bottom face 7 measures a little less than the dimensions of the nut to be received therein. Consequently the levers must be spread apart slightly against the force of the spring-arms before the socket will receive the nut intended for it.

If desired, a knob 15 may be placed on the end of the pintle 11 to serve as a crank for working the wrench in unscrewing or screwing on a nut; but such use of a knob is old, and consequently of itself is not claimed by me. In order to prevent the levers from being forced open so far as to unduly strain the spring, I provide the knuckles with stop-shoulders 16 and 17, the shoulder 16 being on the lever A and the shoulder 17 being on the lever B.

In Fig. 4 the lever A' has the main portion of the socket with the two opposing transverse faces 6^a and bottom face 7^a. The lever B' has the holding-face 8^a, all the other parts being the same as in the preceding figures.

In Fig. 5 the wrench-socket is divided evenly between the two levers A² and B², each part of the socket consisting of the two V-shaped jaws 18, whereby the wrench may hold nuts of varying sizes within certain limits; but in this construction the act of turning the nut has a tendency to force the jaws open. This tendency, however, can be easily overcome by the grasp of the user's hand on the handles, owing to the short leverage obtained by placing the socket on the levers just inside of their pivot. The other parts of this wrench, Fig. 5, are the same as the construction first described.

In all of the constructions shown the office of the spring is mainly to retain the nut against accidentally falling out of the jaws

when the nut is removed from the axle. In Fig. 5 the wrench-socket on both of the levers is relied on to prevent the nut from turning therein, while in the constructions shown in Figs. 1 to 4 the socket on the lever A is mainly relied on to prevent the nut from turning, while the holding-face of lever B is merely to keep the nut from working out of the socket in lever A and to hold it against accidentally falling out when the nut is removed from the axle.

I claim as my invention—

1. The combination of the lever having the main portion of the wrench-socket formed thereon, the said socket having two parallel transverse faces and a bottom face, with the companion lever pivoted to the said first lever and having a holding-face opposite the open space between the said two parallel faces for retaining the nut in the socket portion of the said first lever, substantially as described.

2. The combination of the two levers pivoted together as nearly at their ends as is practical and having the wrench-socket and

stop-shoulders 16, 17, formed thereon, the said wrench-socket being just inside of the said pivoted ends, with the spring acting to normally close the wrench-socket of the said levers, the said stop-shoulders acting to limit the separation of the said levers, substantially as described.

3. The combination of the two levers A, B, having rounded knuckle-lugs at their extreme outer ends by means of which lugs they are pivoted together, a handle projecting to one side of the said pivotal lugs and serving as a crank, the laterally-projecting wrench-socket formed on the handle portion of the said levers, and means for holding the said wrench-socket on the nut, whereby the crank-handle is at one extreme end of the two levers instead of at the middle portion between their ends, substantially as described.

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Witnesses:

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