

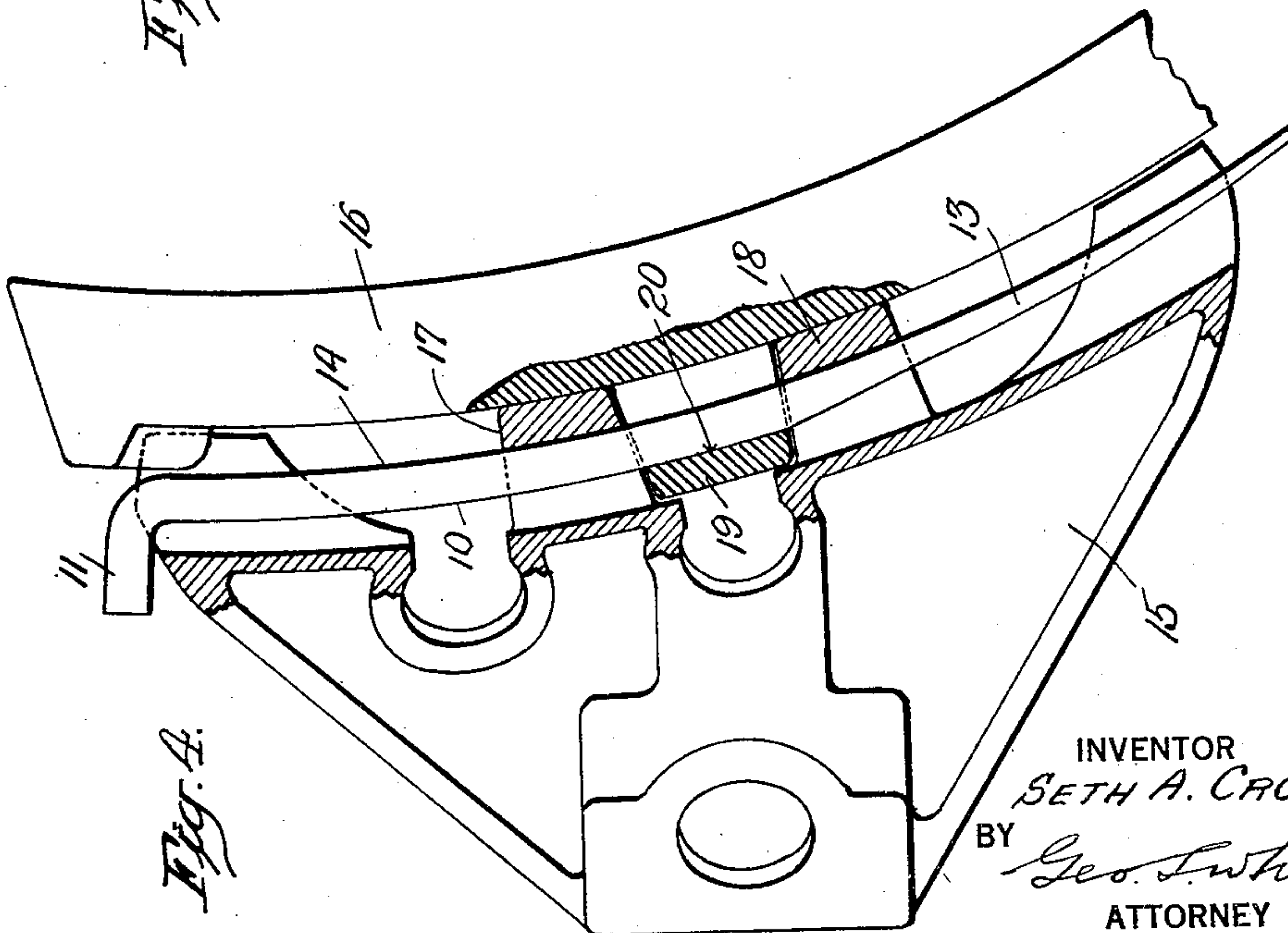
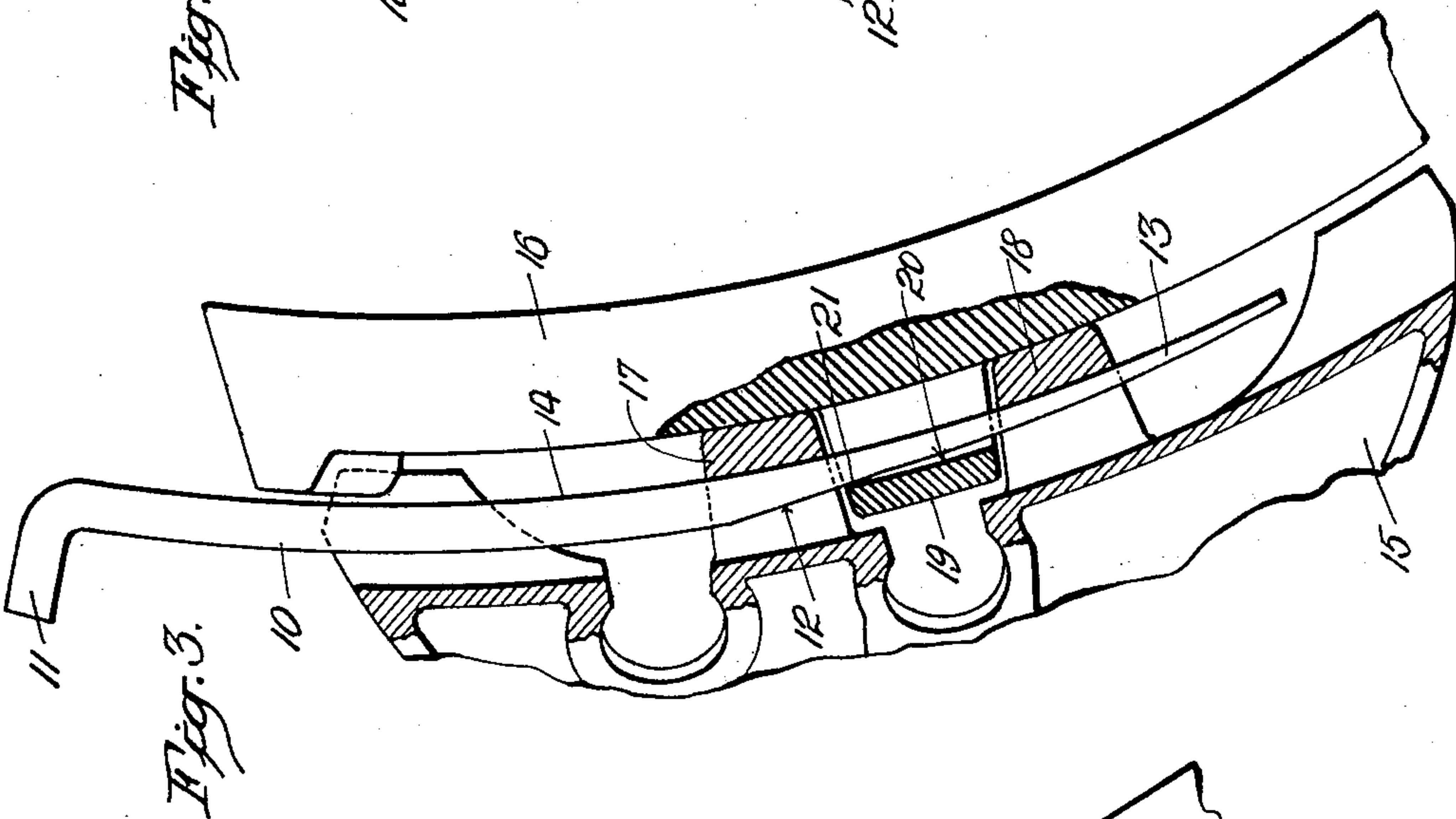
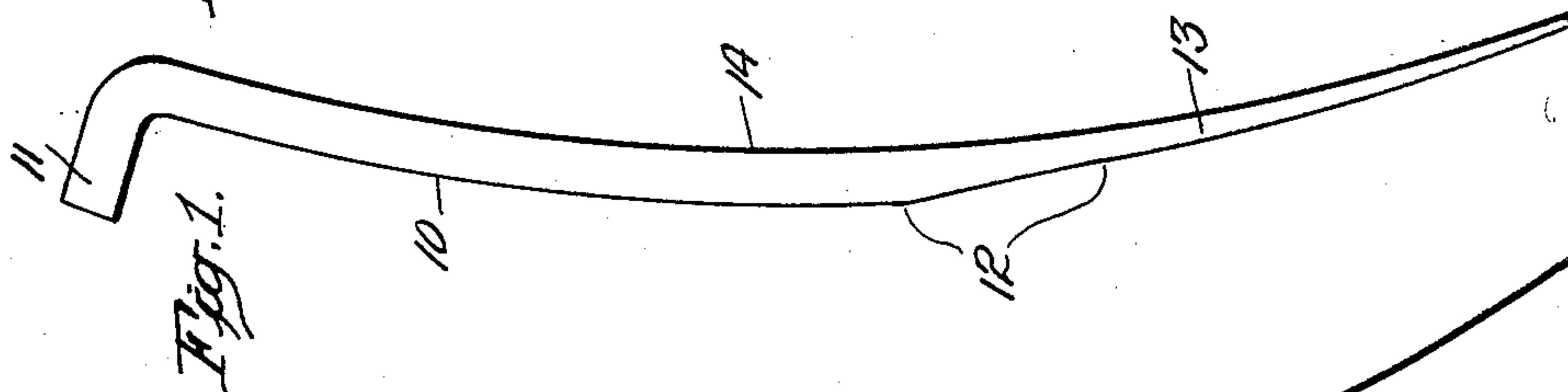
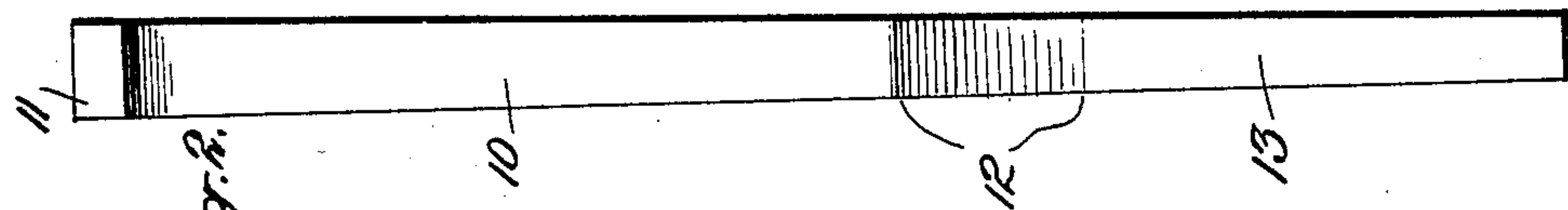
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BRAKE SHOE KEY

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# UNITED STATES PATENT OFFICE

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## BRAKE-SHOE KEY

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This invention relates to improvements in keys which are employed for holding a brake-shoe upon the brake-head. Such keys have usually been made with a constant taper from end to end, and do not act any quicker than the very slight taper permits.

An object of the present invention is to so improve a brake-shoe key that it will act quickly and efficiently along a specially constructed mid-length portion thereof.

Another object of the invention is to provide for rapid adjustment between the brake-shoe and the head by compensating for the wear on the adjacent faces of the head and shoe, from a new head and shoe to the maximum limit of wear.

Another object of the invention is to provide an efficient key for properly holding together either a new head and shoe, or such parts if the shoe has become worn within reasonable limits.

Another object of the invention is to provide a brake-shoe key which by reason of its weight and its preferred construction will automatically tighten the shoe on the head as wear occurs.

A further object of the invention is to provide such a key that when the limit of adjustment is reached and the key is forced to the extreme position of travel, the key, head and shoe then have the maximum of contact-surface, for the wear provided from then on until a new shoe is necessary.

Other objects and advantages will appear herefrom.

These being among the objects of the present invention, the same consists of certain features of construction and combinations of parts to be hereinafter described and then claimed with reference to the accompanying drawing illustrating a preferred embodiment of the invention and in which:

Figure 1 is an edge elevation of the improved key;

Fig. 2 is an elevation of the front face of the key;

Fig. 3 is a broken sectional elevation of a head and brake-shoe as locked rigidly together by means of the improved key, and

Fig. 4 is a similar view showing the parts after the shoe has been worn and when the maximum of contact surface for the wear has been exhausted.

Referring to Figs. 1 and 2, the improved key is shown to comprise a main upper portion 10 terminated by a lug or head 11, an intermediate portion 12 and a terminal portion 13. It will be seen that the main upper portion 10, the intermediate portion 12 and the tapering tail portion 13 are defined at the back of the key by a constantly curved longitudinal surface 14, from end to end of the key, the curvature being in a direction to substantially conform with the curvature of the brake-shoe side of the key.

The main upper portion 10 is of equal thickness from the top of the key to approximately the mid-length thereof, and inwardly inclined with respect to the front surface of the main portion 10 the intermediate portion 12 is inclined, so that the key is wedge-shaped for a relatively short length of the key, the inclined front surface of the intermediate portion 12 being inclined on a straight line and the back of such intermediate portion including a length of the curved back surface 14 of the key. Preferably the inclination or taper of the intermediate portion 12 is one-eighth of an inch in one and three-quarters of an inch to the tapering curve of the terminal portion 13, which curve corresponds with the taper and curve of the conventional type of key. The inclination of the front surface of the intermediate portion 12 is also relative to the outward curve of the terminal portion 13 at the same side.

In Fig. 3 the improved key is shown in operative association with a brake-shoe head 15 and brake-shoe 16. When the head and



shoe are new, or old, the improved brake-shoe key is threaded through the lugs and apertures such as are customarily provided. Usually the head 15 is to that end provided with a pair of apertured lugs 17, 18 which are spaced apart so as to receive between them the apertured lug 19 on the brake shoe 16. When the parts are new, the key will be driven in until the inclined surface of the portion 12 bears at its lower end at 21 upon the underside of the lug 18, thereby drawing the brake-shoe firmly up to the head. The action is quick and positive, and due to the abnormal inclination of the bearing surface of the intermediate portion 12 of the key, as wear occurs, the key will enter further by its own gravity and keep the parts drawn together. A tap on the head of lug 11 may be resorted to if necessary. This action may continue until the inclined surface of the intermediate portion 12 passes the bearing surface 20 of lug 18, and then the key will fall into the position shown in Fig. 4, at which time the wear indicates that a new brake-shoe is necessary.

Obviously the invention is susceptible to modification without departing from the scope of the appended claims.

What I claim as new is,—

1. A brake-shoe key having a bearing surface extending for a relatively short distance intermediately of its length, such surface being inclined relatively to those longitudinal surfaces of the key located at the same side therewith and which are above and below such surface, the inclination of the bearing surface being inwardly with respect to the surface above it.

2. A brake-shoe key, including a main upper portion, substantially of one thickness throughout, a tapering portion forming the leading end of the key, and a relatively short intermediate portion, located at about midway of the key, and having a longitudinal bearing surface which is inclined relatively to those longitudinal surfaces of the other portions located at the same side therewith, and which are above and below such surface.

3. A brake-shoe key, the key being curved from end to end, and including a main upper portion substantially of one thickness throughout, a tapering portion forming the leading end of the key, and a relatively short intermediate portion, located at about midway of the key, and having a longitudinal bearing surface which is inclined relatively to those longitudinal surfaces of the other portions located at the same side therewith, and which are above and below such surface, the curve of the key being continuous along the opposite surface thereof.

4. The combination with a brake-shoe and its head, the head having a pair of apertured lugs and the shoe resting against the pair of

lugs at its back and having an apertured lug for entering between the lugs of such pair, of a brake-shoe key passing snugly through all of the apertures and having a bearing surface extending for a relatively short distance intermediately of its length, and bearing against the shoe-lug and pressing the shoe toward the head, such bearing surface being inclined relatively to those longitudinal surfaces of the key which are above and below it at the same side of the key, and such bearing surface being inclined inwardly of the key with respect to the surface above it.

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