

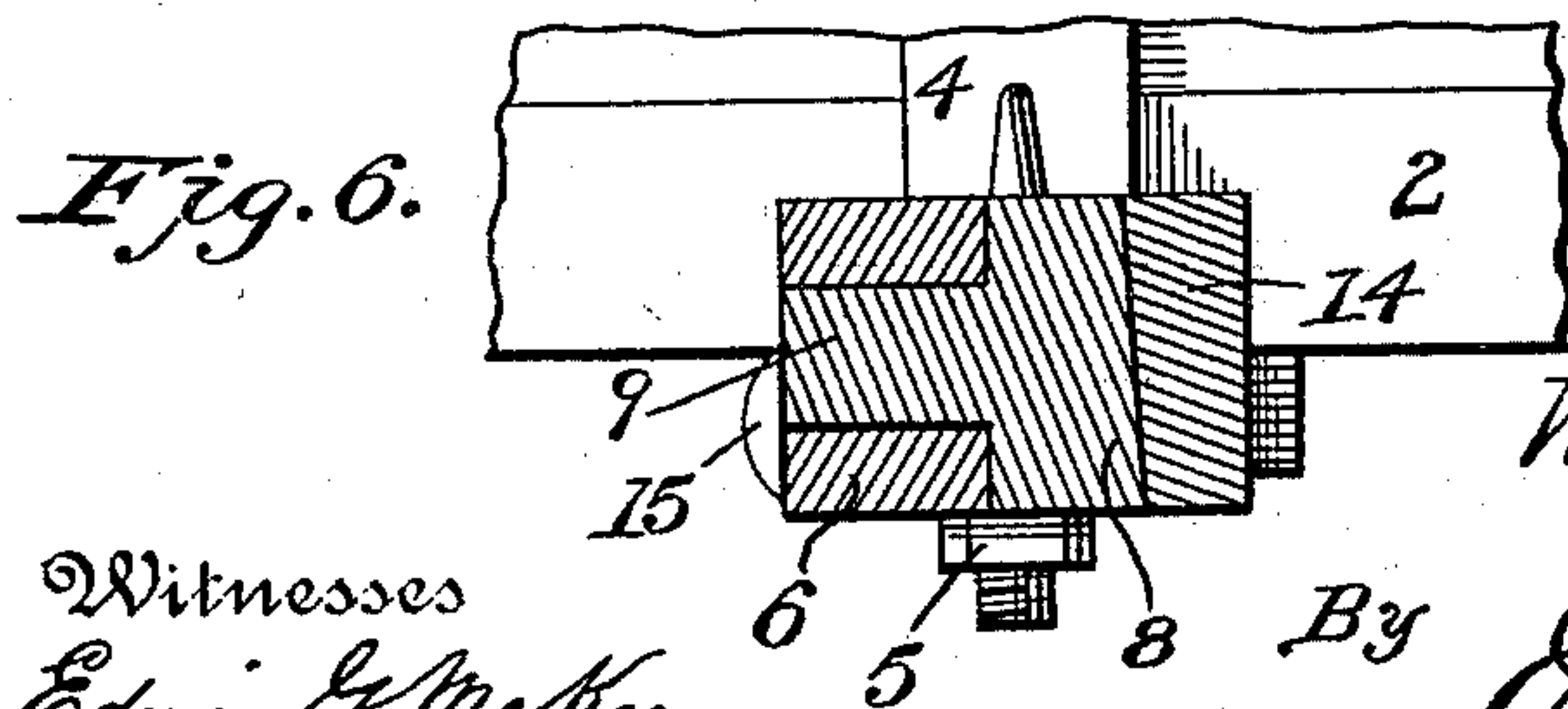
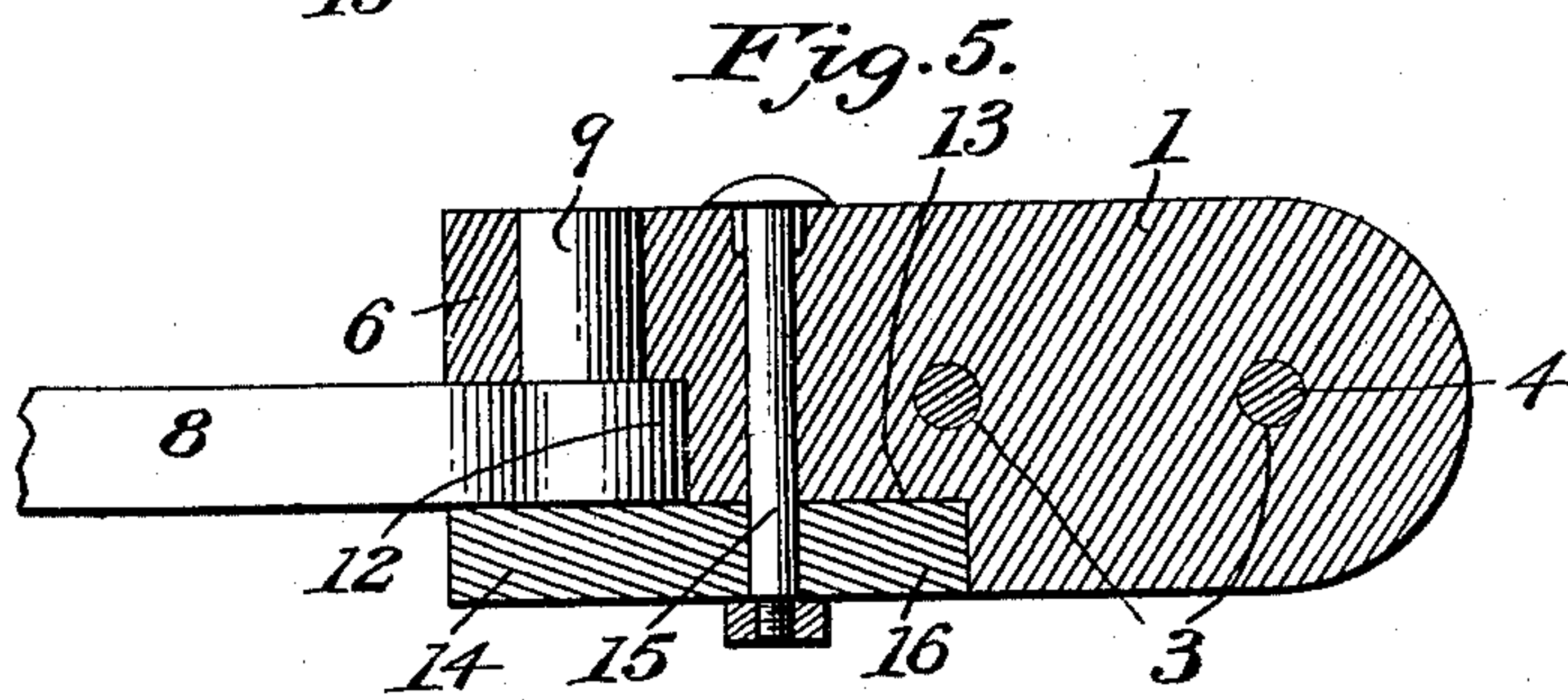
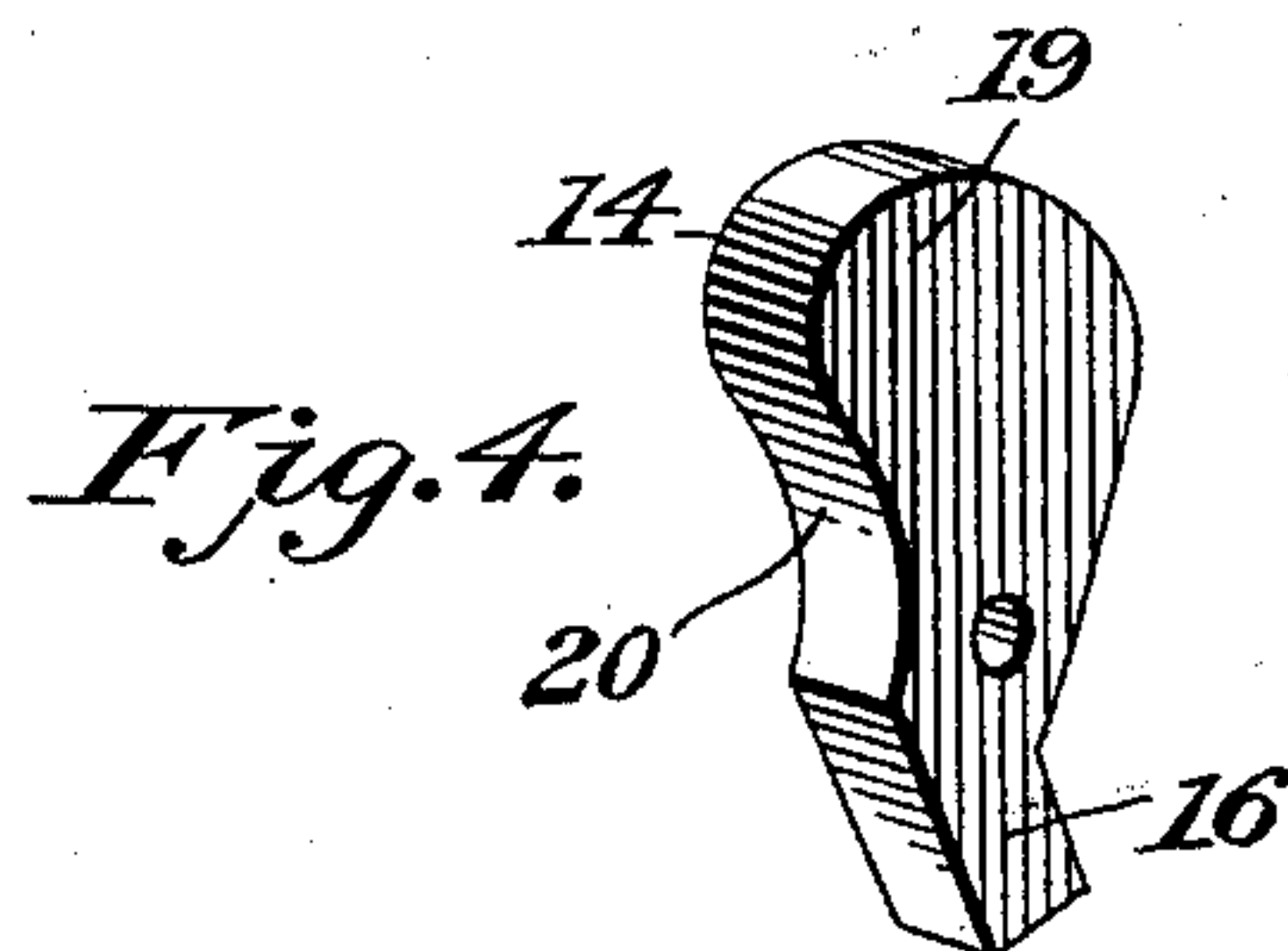
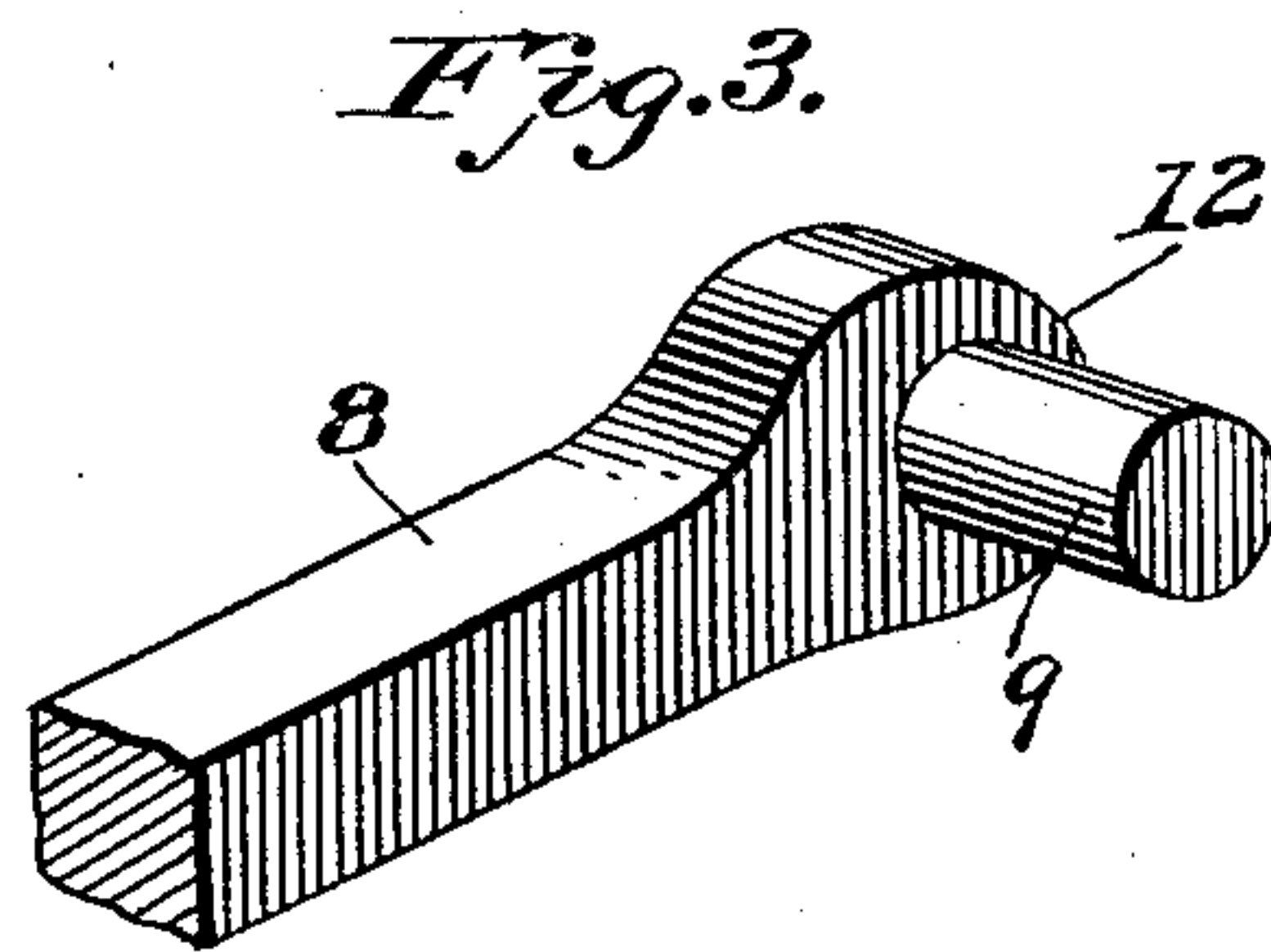
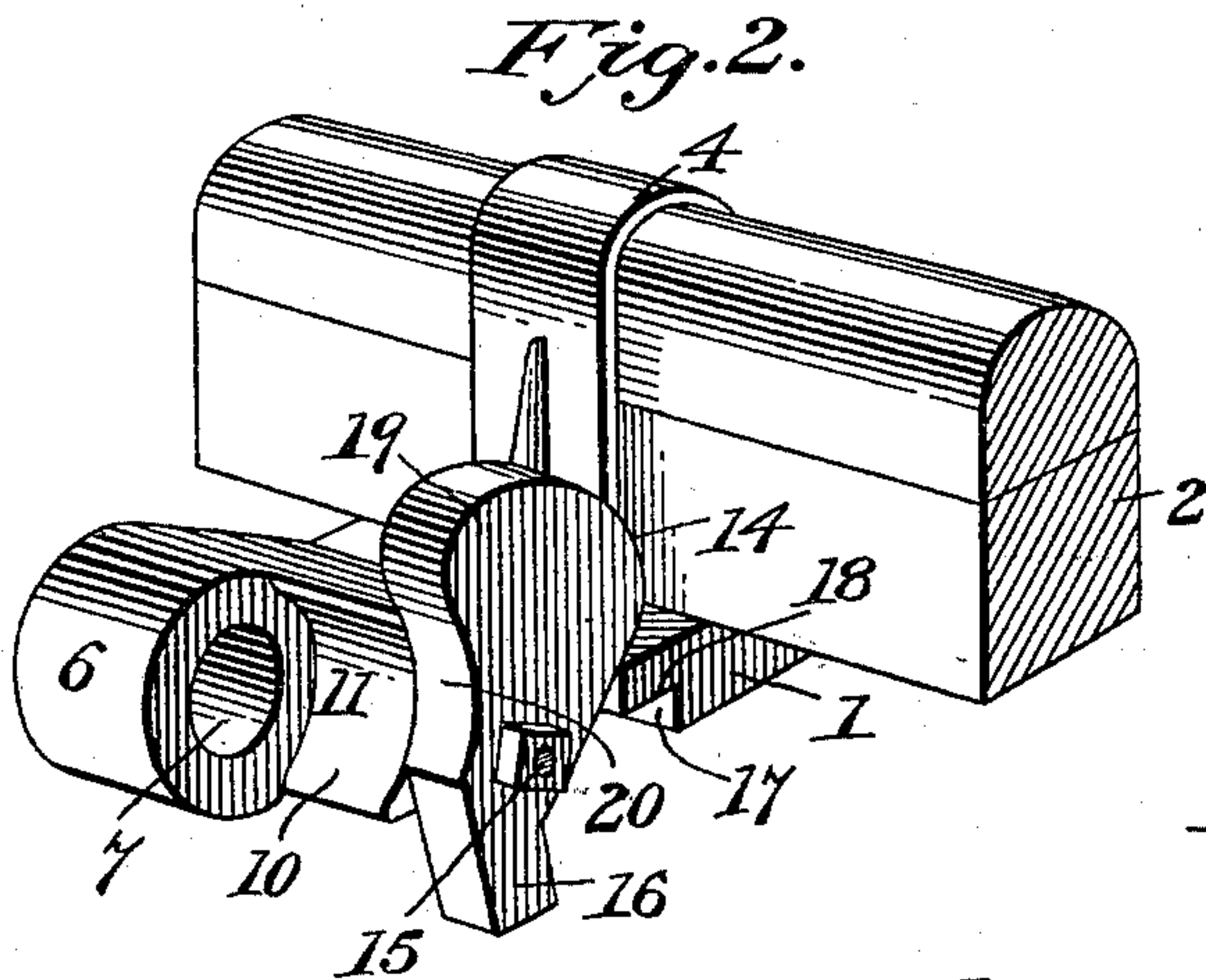
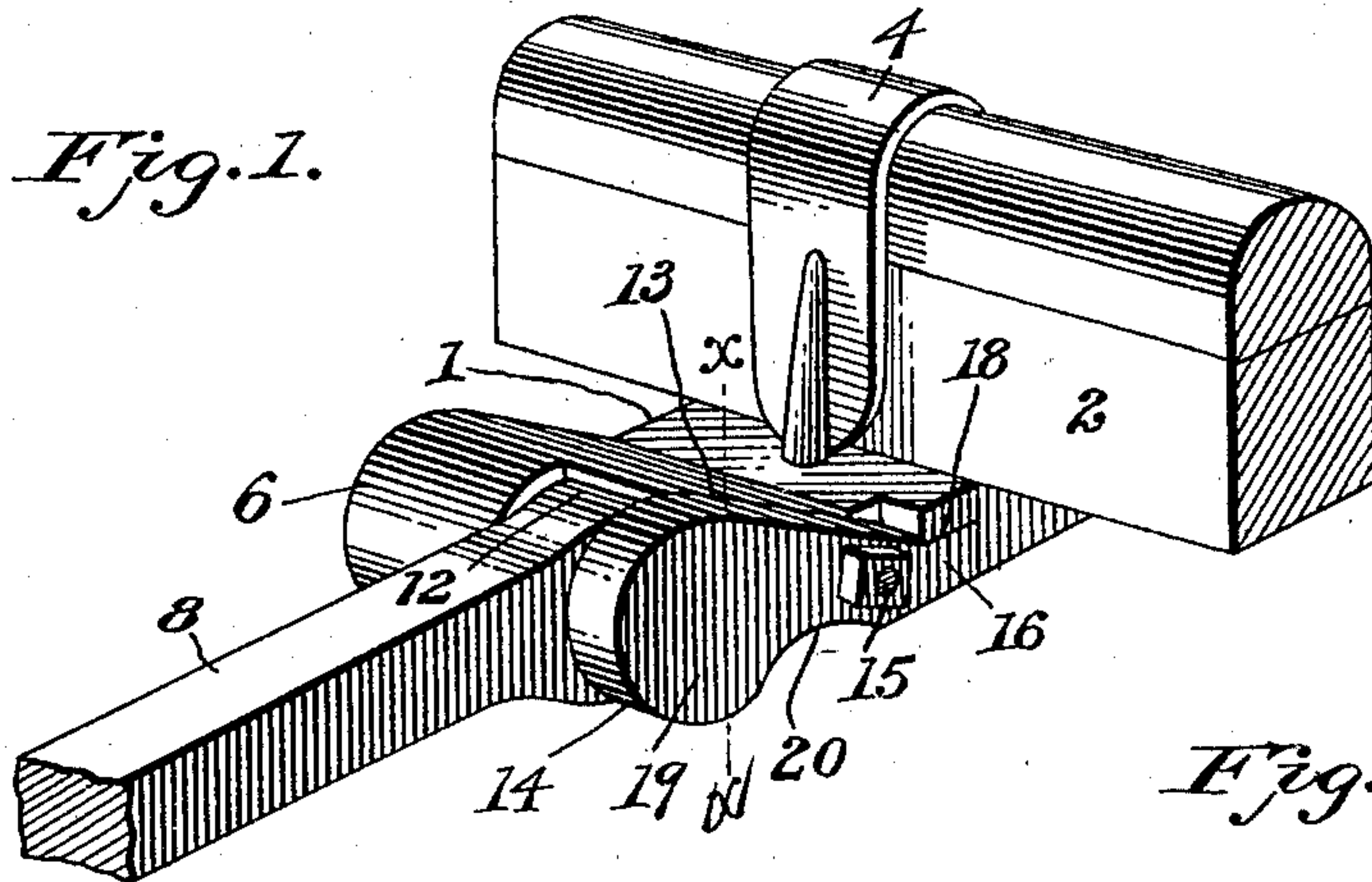
No. 638,109.

Patented Nov. 28, 1899.

W. GEPFORD.  
THILL COUPLING.

(Application filed Sept. 28, 1899.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM GEPFORD, OF WEST SALEM, OHIO.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 638,109, dated November 28, 1899.

Application filed September 28, 1899. Serial No. 731,952. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM GEPFORD, a citizen of the United States, residing at West Salem, in the county of Wayne and State of Ohio, have invented a new and useful Thill-Coupling, of which the following is a specification.

This invention relates to thill-couplings, and has for its object to provide a simple, durable, and efficient thill-coupling by means of which a pair of shafts may be easily and quickly detached from a vehicle and a pole applied to the vehicle in lieu thereof, or vice versa.

It is also an object of the invention to provide a thill-coupling in which the thills may be quickly attached or detached without the use of a wrench or other tool, the parts being so combined and arranged that the device which retains the thills in place may be operated by hand.

The detailed objects and advantages of the invention will appear more fully in the course of the ensuing description.

The invention consists in a thill-coupling embodying certain novel features of construction and arrangement of parts, as hereinafter described, illustrated in the drawings, and incorporated in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a thill-coupling constructed in accordance with this invention, showing the several parts of the thill-coupling in their normal positions. Fig. 2 is a similar view of the axle member of the coupling with the latch thrown back and the thill detached. Fig. 3 is a detail perspective view of the rear terminal portion of one of the thill-irons, showing the attached coupling-pin. Fig. 4 is a detail perspective view of the latch. Fig. 5 is a horizontal section through the complete device, showing the relation of the thill-iron to the axle member of the coupling and the retaining-latch. Fig. 6 is a detail vertical section on the line X X of Fig. 1.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

The thill-coupling contemplated in this invention comprises a body portion 1, which is oblong in form and extends beneath the axle, (indicated at 2) the said body being provided

with a pair of openings 3 to receive an ordinary axle-clip 4, passing over the axle and having its terminal portions passed through the openings 3 and threaded to receive securing-nuts 5, by means of which the body 1 is fastened rigidly to the axle.

Extending forward from the body 1 is a thill-eye 6 in the form of an ear having a transverse opening 7 for the reception of the coupling pin or pintle on the thill-iron. The thill-iron 8 is provided with a coupling pin or pintle 9, which is connected fixedly to and carried by the thill-iron and of a length approximately equal to the thickness of the eye or ear 6. A recess 10 is formed at one side of the eye 6, said recess having a concaved rear wall or abutment 11, against which the round extremity 12 of the thill-iron may bear when the latter is inserted therein and the pintle 9 passed through the opening 7. The body 1 is also cut away to leave a shoulder 13 flush with the side face of the thill-iron 8, and in the recess formed by the cutting away of the body 1 there is mounted a retaining-latch 14, the same being secured pivotally in place by means of a pin or bolt 15, passing through the body 1 in rear of the eye 6 and also through the latch 14 at a point between the ends of the latter. The inner end of the latch 14 is reduced to form a rigid tongue 16, which when the latch is in its operative position engages in a recess 17, formed in the body 1, and cooperates with a shoulder 18 for the purpose of limiting the downward movement of the outer or heavier end of the latch. The outer or free end of the latch is considerably enlarged, as shown at 19, and practically covers the enlarged rear end of the thill-iron 8 when the parts are in their operative position. The latch is also cut away to form a concaved recess 20, which when the latch is thrown upward and backward aligns with the concaved abutment 11 above referred to, thereby enabling the thill-iron to be placed in position or removed therefrom. The meeting faces of the thill-iron 8 and the latch 14 are also correspondingly beveled or inclined, as shown in Fig. 6, so that when the free end of the latch is moved downward it operates with a cam or wedging action against the thill-iron, forcing the latter in the direction of the eye 6 and keeping the pintle 9 firmly seated in



the opening 7 of the eye 6. As the forward or free end of the latch is of considerably greater weight than its rear end, it always works downward alongside of the thill-iron 5 8 and crowds the latter laterally against the eye or ear 6. A constant pressure and engagement is thus maintained between the thill-iron and the retaining-latch, and this serves to prevent any rattling of the parts of 10 the thill-coupling.

When considerable wear takes place in the coupling, a washer of metal, leather, or other suitable material may be inserted between the thill-iron and the ear or eye 6 in order to 15 compensate for such wear.

The operation of the device is as follows: The free end of the latch 14 is thrown upward and rearward, as shown at Fig. 2, and the thill-iron is associated with the coupling in 20 such manner that the pin or pintle 9 will pass through the opening 7 in the ear 6. The latch is then thrown downward or allowed to fall by gravity until it moves into engagement with the thill-iron, thus securely retaining the latter in position. In order to detach 25 the thill, the operation just described is reversed.

The thill-coupling hereinabove described combines simplicity and durability, is economical in construction, and will be found 30 efficient and reliable in practice.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will 35 be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from 40 the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

45 1. In a thill-coupling, the combination with

an axle clip or member having an eye, of a thill-iron having a rigid pintle projecting laterally from one side thereof and insertible through said eye, and a latch pivotally mounted on the axle member, and adapted to close 50 downward behind and against the opposite side of the thill-iron, and hold the latter in place, substantially as described.

2. In a thill-coupling, the combination with an axle member having an eye and a recess 55 at one side of the eye terminating in a concaved abutment, of a thill-iron having a rounded extremity corresponding to the shape of said abutment, and provided with a laterally-projecting rigidly-attached pintle insertible 60 through said eye, and a latch pivotally mounted intermediate its ends on the axle member, and having an enlarged free end adapted to close downward behind the thill-iron for holding the latter in place, and also provided in 65 rear of its pivot with a shoulder cooperating with another shoulder on the axle member, substantially as described.

3. In a thill-coupling, an axle member having an eye and a recess at one side thereof 70 terminating in a concaved abutment, in combination with a thill-iron fitting said recess and provided with a rigid lateral pintle insertible through the eye, and a latch pivotally mounted on the axle member, and adapted 75 to close down behind the thill-iron for holding the latter in place, the cooperating faces of the thill-iron and latch being beveled to produce a wedging action, and the latch being cut away to form a concaved recess which 80 aligns with the concaved abutment of the axle member when the latch is thrown back on its pivot, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature 85 in the presence of two witnesses.

WILLIAM GEPFORD.

Witnesses:

JOHN KEELER,  
F. M. SMITH.