

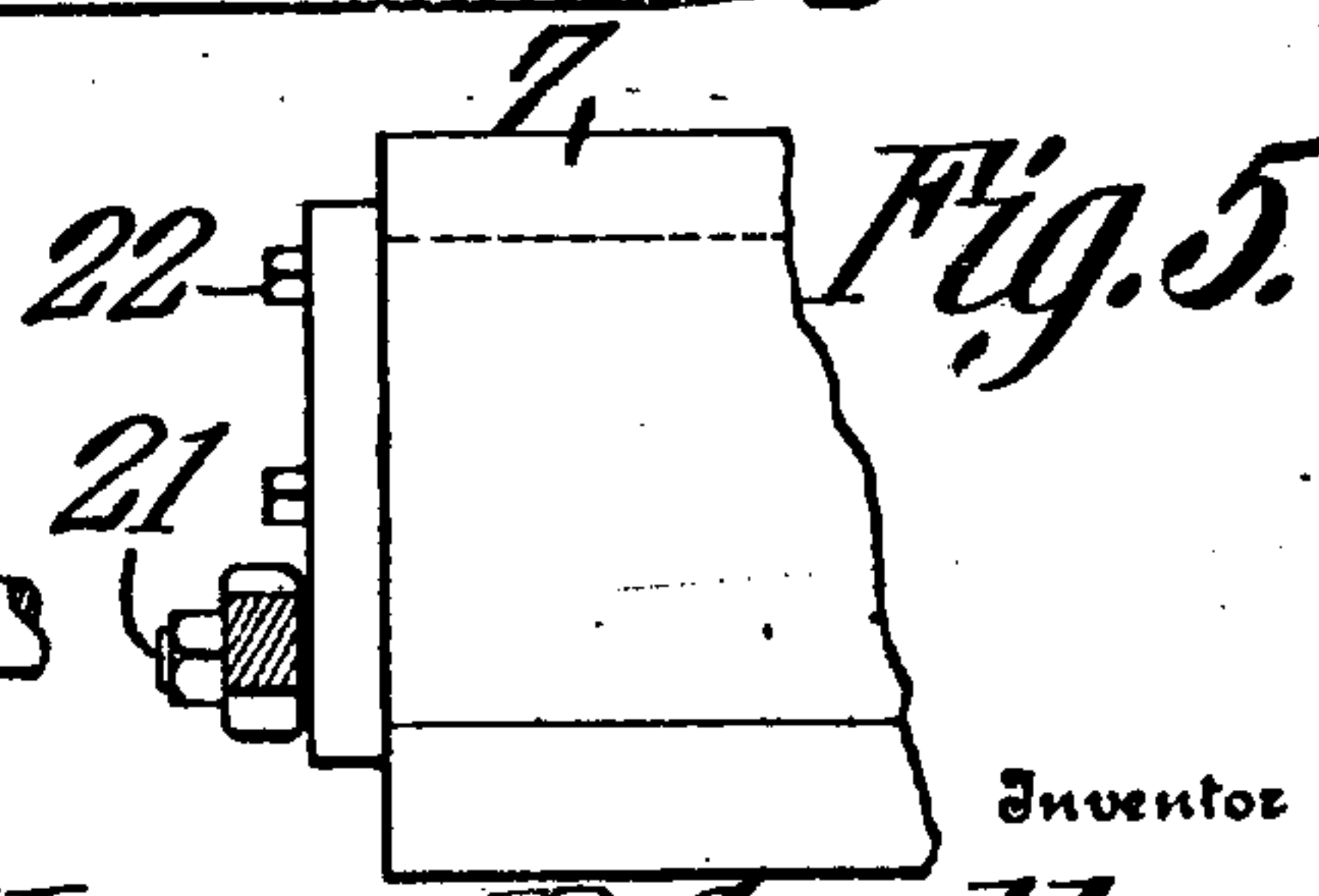
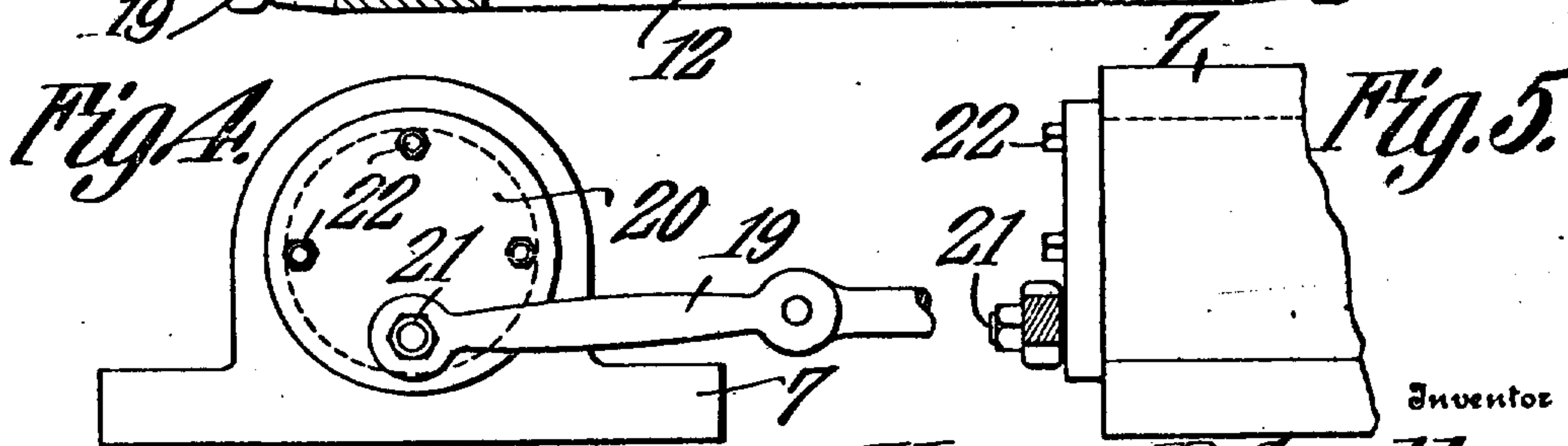
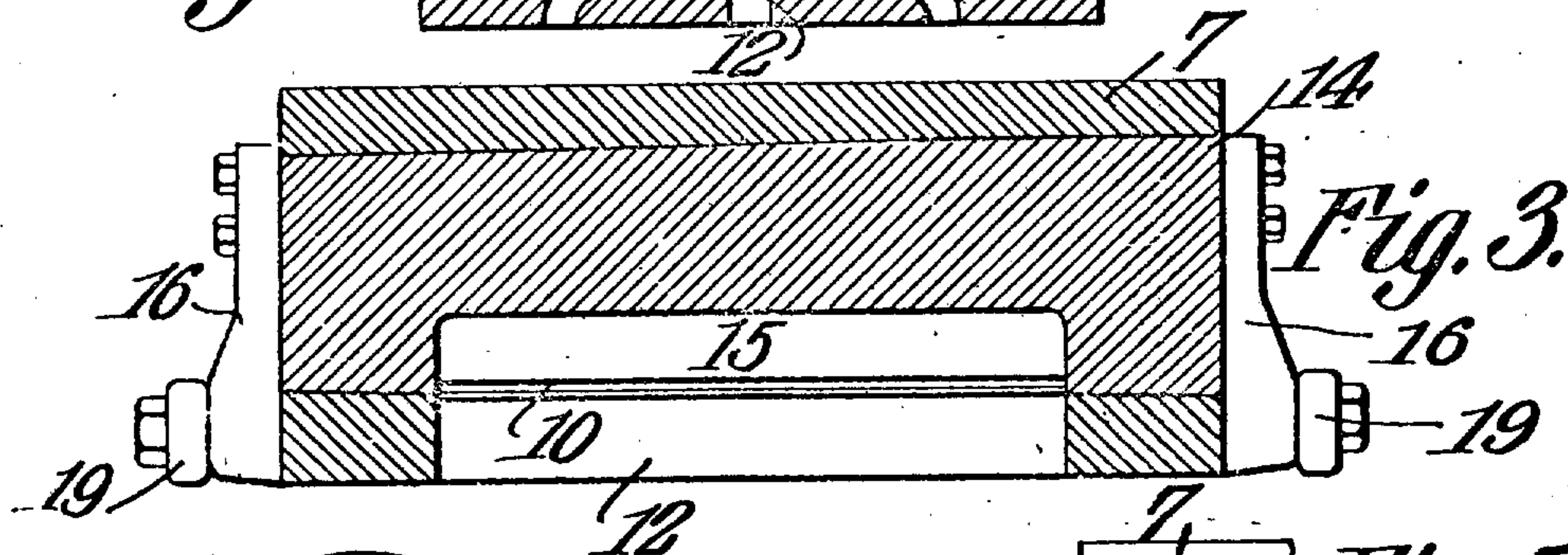
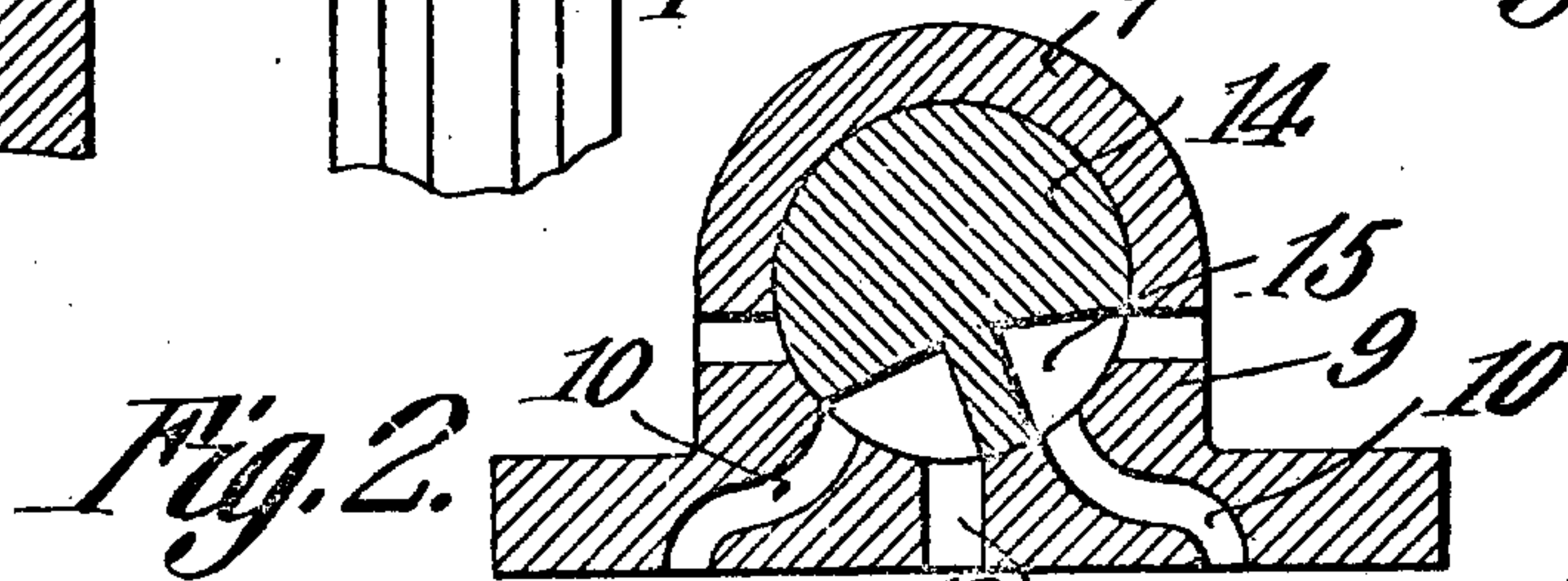
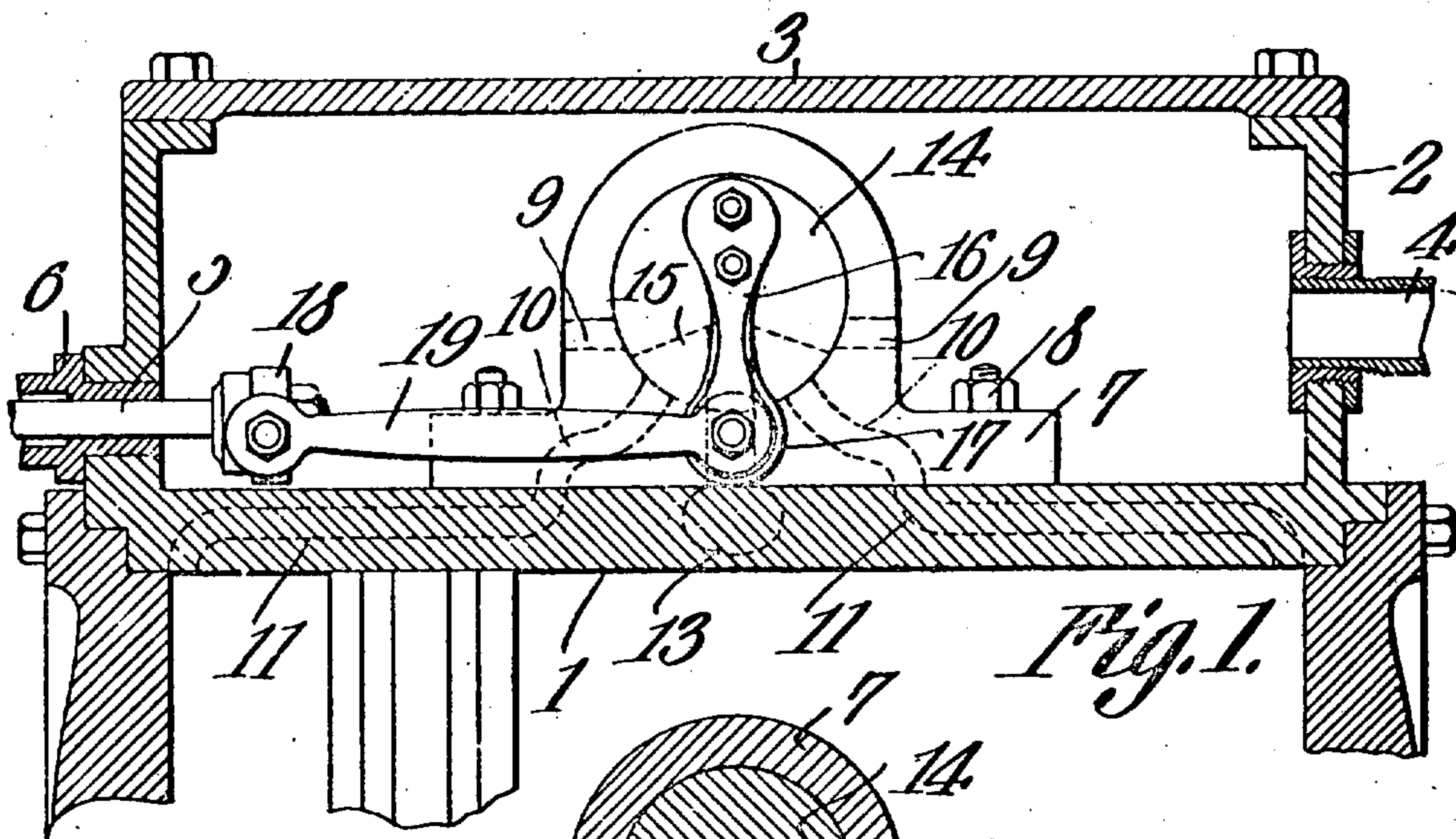
H. D. SNELL.

VALVE.

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899,079.

Patented Sept. 22, 1908.



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UNITED STATES PATENT OFFICE

HENRY D. SNELL, OF MAWRGLEN, PENNSYLVANIA.

VALVE.

No. 899,079.

Specification of Letters Patent.

Patented Sept. 22, 1908.

Application filed April 30, 1908. Serial No. 430,157.

To all whom it may concern:

Be it known that I, HENRY D. SNELL, a citizen of the United States, residing at Mawrglen post-office, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Valve, of which the following is a specification.

My invention relates to engines, and its object is to provide an improved form of valve for use in reciprocating engines.

A further object is to provide a form of rocker valve which may be used in connection with the steam chest of an ordinary slide valve engine.

My invention consists in certain novel arrangement of parts and combination of details hereinafter more fully set forth and claimed.

In the drawings:—Figure 1 is a longitudinal section through an engine cylinder and steam chest showing my valve in position. Fig. 2 is a transverse section through my valve casing and valve. Fig. 3 is a longitudinal section of the same. Fig. 4 is a side elevation of a modified form of my valve. Fig. 5 is a partial end elevation of the same.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The numeral 1 indicates the cylinder of an engine having thereon a steam chest 2 provided with a cover 3. The steam pipe 4 affords means for the admission of steam in the steam chest 2. A valve stem 5 passes through a bushing 6, and is actuated in any of the usual manners to reciprocate through said bushing. I provide in my special form of valve a casing 7 preferably bolted as at 8 to the cylinder 1. The casing 7 is provided with steam ports 9 and steam passages 10 which are so arranged that the ends of said passages 10 will be in alinement with the steam ports 11 of the cylinder 1. The casing 10 is further provided with an exhaust port 12 connecting with exhaust passage 13 of the cylinder 1. In this casing is mounted a rotary valve 14 provided with steam passages 15 so arranged that when one passage is in position to connect steam port 9 and steam passage 10, the other passage will connect

steam passage 10 with the exhaust passage 12. This valve has mounted on the end thereof, rocker arms 16 which preferably have their ends extending over the casing, as shown at 17, and serve to hold the valve in position in the casing. On the valve stem 5 is mounted a yoke 18 and the rocker arm 16 is connected with the yoke 18 by rocker bars 19.

In the form of my device shown in Figs. 4 and 5 the rocker arm 16 is replaced by a plate 20 having a pin 21 thereof, and securely bolted to the valve as at 22.

In the operation of my device, steam being admitted through the pipe 4 by opening a valve not being necessary here to illustrate, it passes through one of the steam ports 9, the steam passage 15, passages 10 and 11, and into the cylinder. The exhaust steam from the opposite end of the cylinder passes out through the passages 11, 10 and 15 on the opposite side of the valve and through the exhaust passages 12 and 13. It will be observed that with this form of rocker valve by reason of its being entirely surrounded by steam, any leakage due to wear is rendered innocuous. It will further be observed that at any time that it is desired to remove my valve for repairs of any sort, the steam chest may be opened, the entire valve and casing withdrawn therefrom, repaired and replaced with great ease and convenience. It will still further be noted that should it be necessary or advisable to convert the ordinary slide valve engine into a rotary valve all that will be required is one of my valves, which will be arranged so that the ports 10 and 12 come opposite the ports 11 and 13 in the old steam chest and need simply to be bolted in position, the same valve stem being adaptable to be used in connection therewith.

I claim:—

1. In an engine, a steam chest, a valve casing detachably mounted therein, a rotary valve held in said casing, a retaining and rocking member secured to each end of said valve lying and bearing against the ends of said casing, a valve stem, a yoke mounted on said valve stem, and rods connecting said rocker arms with said yoke.

2. In an engine, a steam chest, a valve cas-

ing detachably mounted therein, a rotary valve held in said casing, a pair of rocker arms secured to said valve and having their ends overlying and bearing against the ends of said casing, a valve stem, a yoke mounted on said valve stem, and rods connecting said rocker arms with said yoke.

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

HENRY D. SNELL.

Witnesses:

DAVID TEMPLE,
JOHN MCBRIDE.