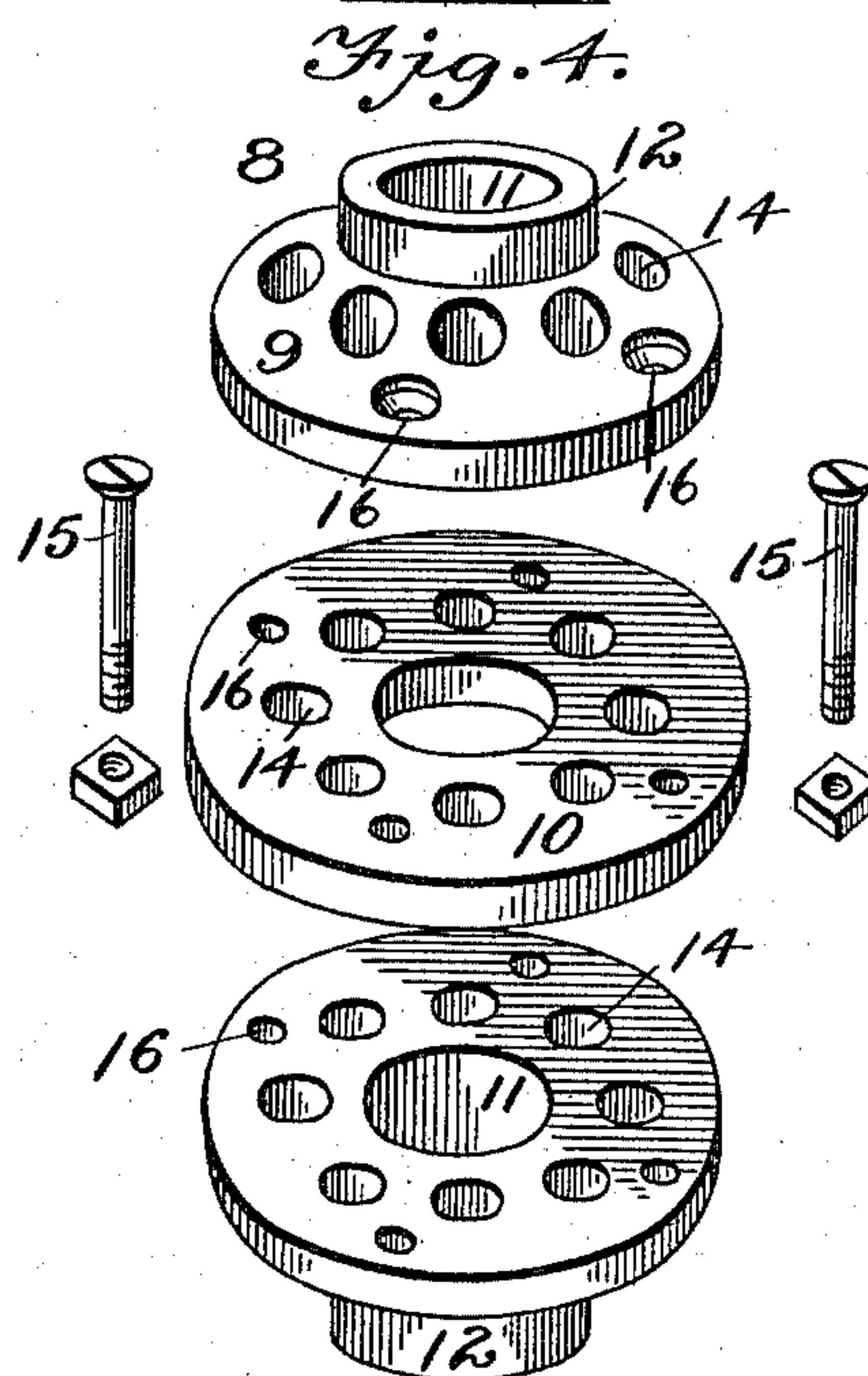
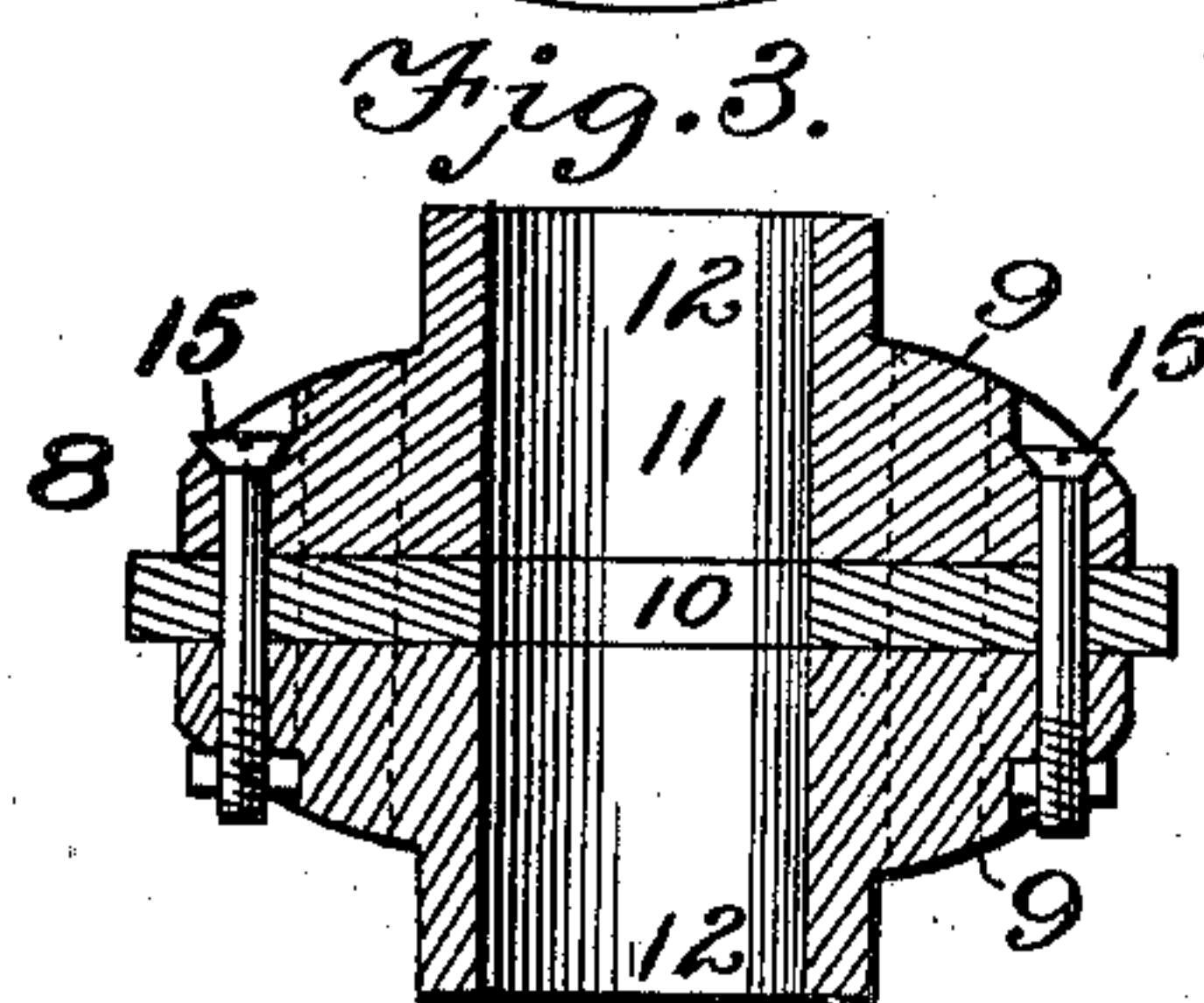
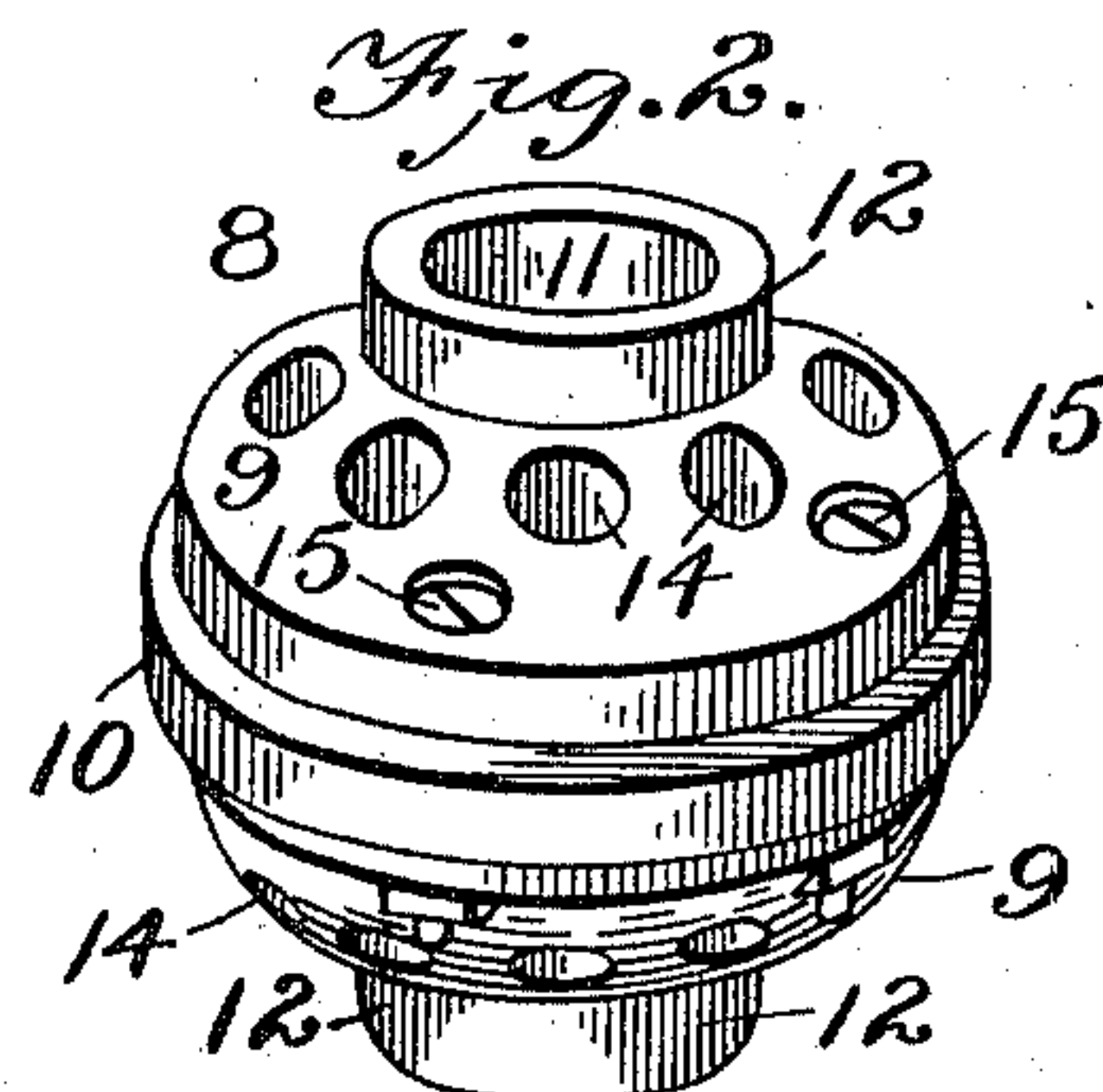
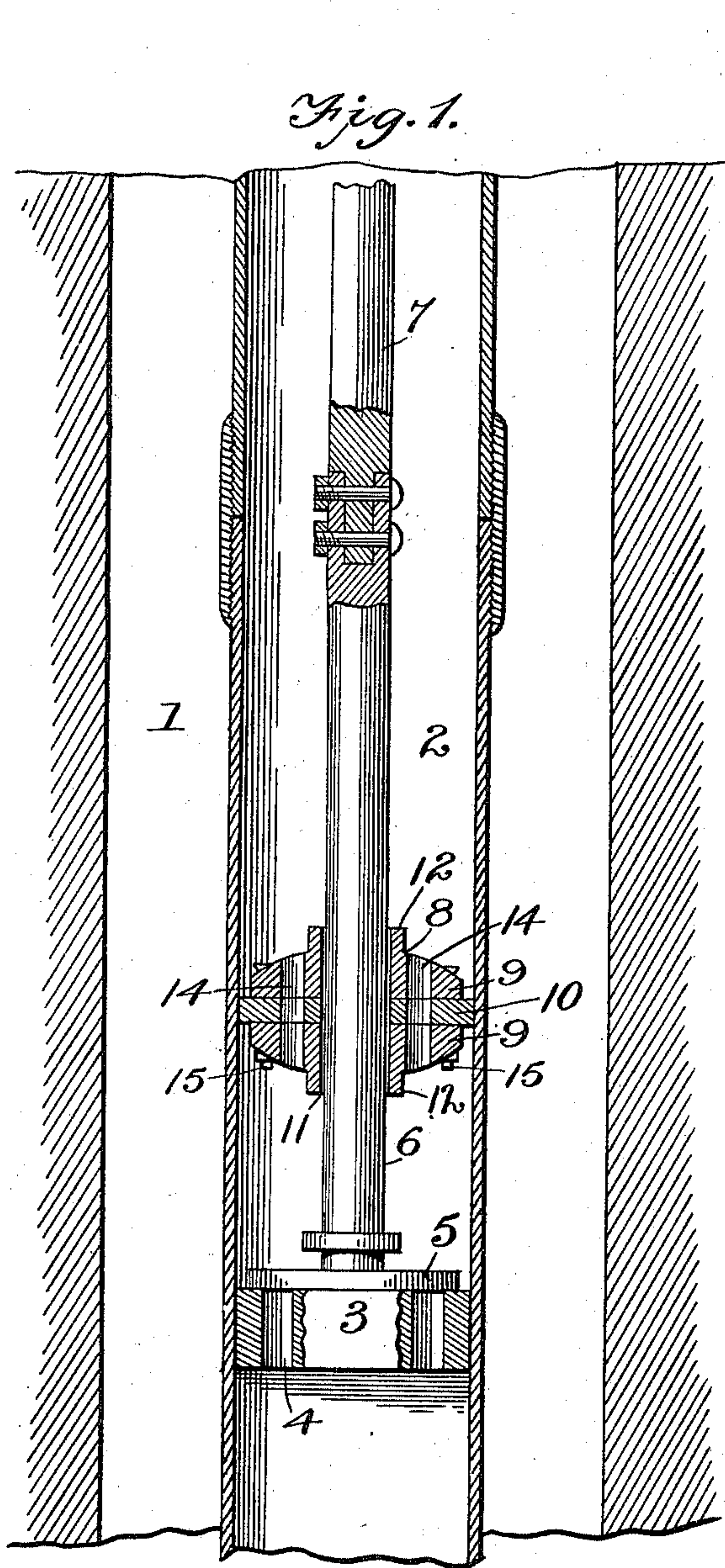


(No Model)

F. W. BALLARD.
CLEANER FOR OIL WELL TUBING.

No. 586,001.

Patented July 6, 1897.



Inventor

Frank W. Ballard

Witnesses

Edwin G. McKee
Edwin Luce.

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

FRANK W. BALLARD, OF ALLENTOWN, NEW YORK.

CLEANER FOR OIL-WELL TUBING.

SPECIFICATION forming part of Letters Patent No. 586,001, dated July 6, 1897.

Application filed March 16, 1897. Serial No. 627,873. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. BALLARD, a citizen of the United States, residing at Allentown, in the county of Allegany and State of New York, have invented a new and useful Cleaner for Oil-Well Tubing, of which the following is a specification.

This invention relates to cleaning devices for oil-well tubing, its object being to provide a device of this character which will not only serve efficiently to clean the tubing, but also as a protector to the working parts of the pump.

The invention consists in the details of construction and combination of parts herein-after fully described, and particularly pointed out in the claim.

In the drawings, Figure 1 is a sectional view of a portion of an oil-well and its tubing, including the pump and a portion of the pump-rod, with my cleaning device applied thereto. Fig. 2 is a perspective view of the cleaning device detached. Fig. 3 is a sectional view of the cleaning device. Fig. 4 is a group of the parts of the cleaning device separated.

Similar reference-numerals indicate similar parts in the several figures.

1 represents the sides of an ordinary oil-well, and 2 the tubing. 3 represents the pump-barrel, and 4 the inlet-valve. The pump-valve is indicated by 5, and 6 is the valve-stem. These parts may be of any ordinary and usual construction commonly used in oil-wells. The upper end of the valve-stem is connected to the pump-rod 7, which extends upwardly through the tubing 2 to the pump-operating mechanism. (Not shown.)

8 represents the cleaning device, and consists of two metal caps 9 and a leather disk 10, interposed between them. The caps 8 and the leather disk are bored out centrally, as indicated at 11, and each of the caps is provided with a collar 12 around its bore 11. The caps and the disks are also each provided with a series of openings 14, which register with each other when the parts are secured in position and are designed for the upward passage of the oil when the pump is working. The caps are clamped together, with the

leather disk between them, by means of a series of bolts (indicated by 15) which may pass through some of the openings 14 or, preferably, through openings 16, specially bored for them. The leather disk will be of such diameter as to fit the interior of the tube snugly, and the central bores of the caps and the leather disk will be of such diameter that the valve-stem 6 will work freely in them. When in position, the cleaning device will be fitted over the valve-stem and lie between the upper face of the valve and the joint between the stem and the rod 7.

When the pump is working, the cleaning device will hold itself in position by frictional engagement with the tube 2, and the pump-valve will be free to work up and down, and the oil as it is lifted will pass upwardly through the openings 14. When the rod is withdrawn, the pump-valve will follow it and by its engagement with the lower face of the cleaning device will move the latter up also, and in this upward movement the cleaner will remove all the paraffin and other impurities which have accumulated on the interior of the tubing.

It frequently happens that the pump-rod 7 becomes broken at its joints, and when such an accident occurs the rivets or bolts which hold the sections together are liable to fall to the bottom of the tubing and interfere with the working of the valves.

My device will effectually prevent any trouble of this sort, as the rivets or bolts will not be able to pass below it, and consequently will not reach the valves.

It will be seen that the device is exceedingly simple and may be manufactured at a very low cost, and that as soon as the leather disk becomes worn to such an extent as to be inefficient for thoroughly cleaning the tube it can be replaced with another at very little expense.

Having thus described my invention, what I claim is—

A cleaning device for oil-well tubing consisting of two metal caps and a leather disk clamped between them, the leather disk being of such diameter as to fit snugly within

the tubing, the caps and the leather disk being centrally bored to fit loosely over the stem of the pump-valve and also provided with a series of perforations through which the oil
5 passes upwardly when the pump is working, substantially as described.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in the presence of two witnesses.

FRANK W. BALLARD.

Witnesses:

A. D. ELLIOTT,
THERON CROSS.