

No. 740,497.

PATENTED OCT. 6, 1903.

T. D. WESTBROOK.  
WELL DRIVING HAMMER.  
APPLICATION FILED JUNE 11, 1903.

NO MODEL.

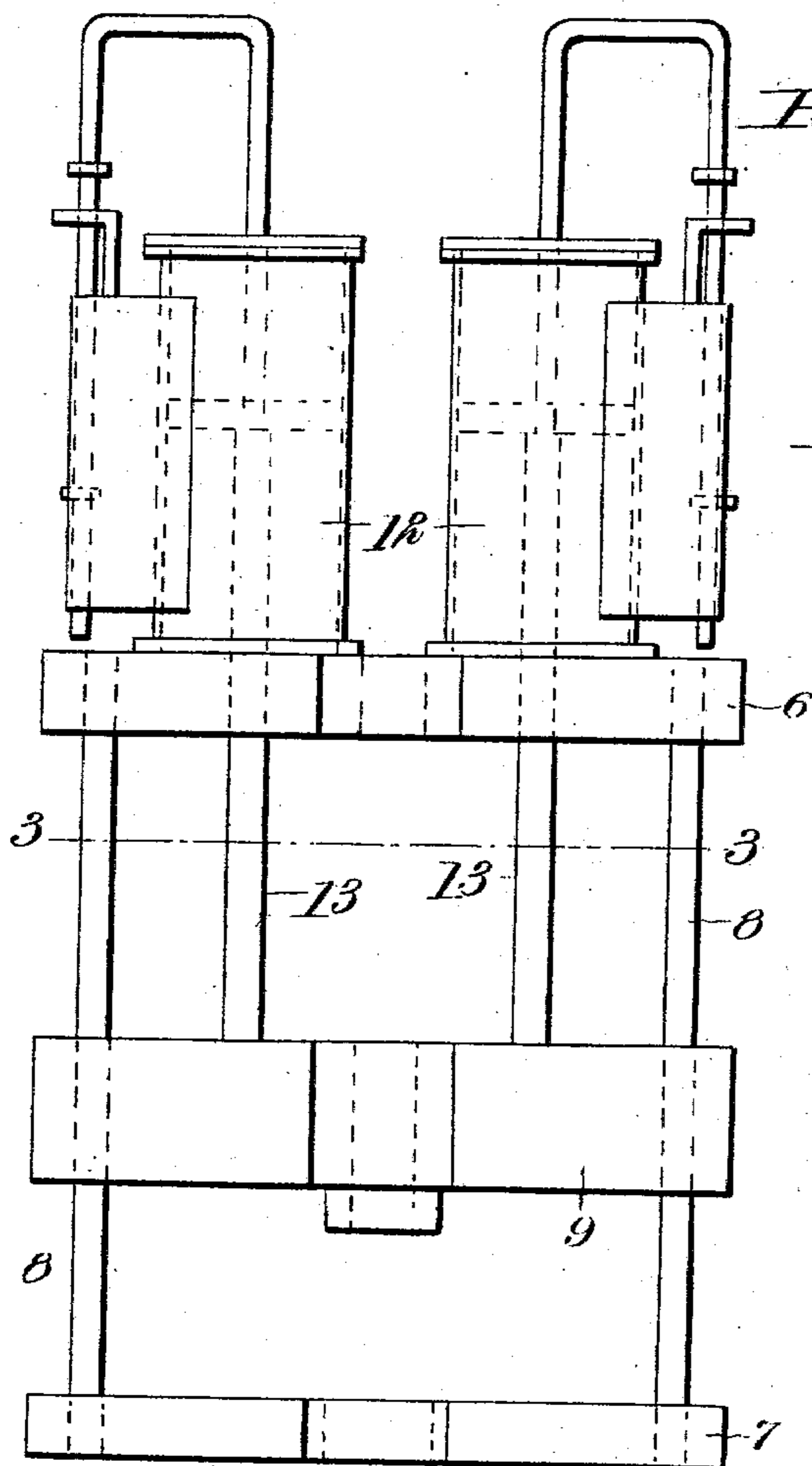


Fig. 1.

Fig. 2.

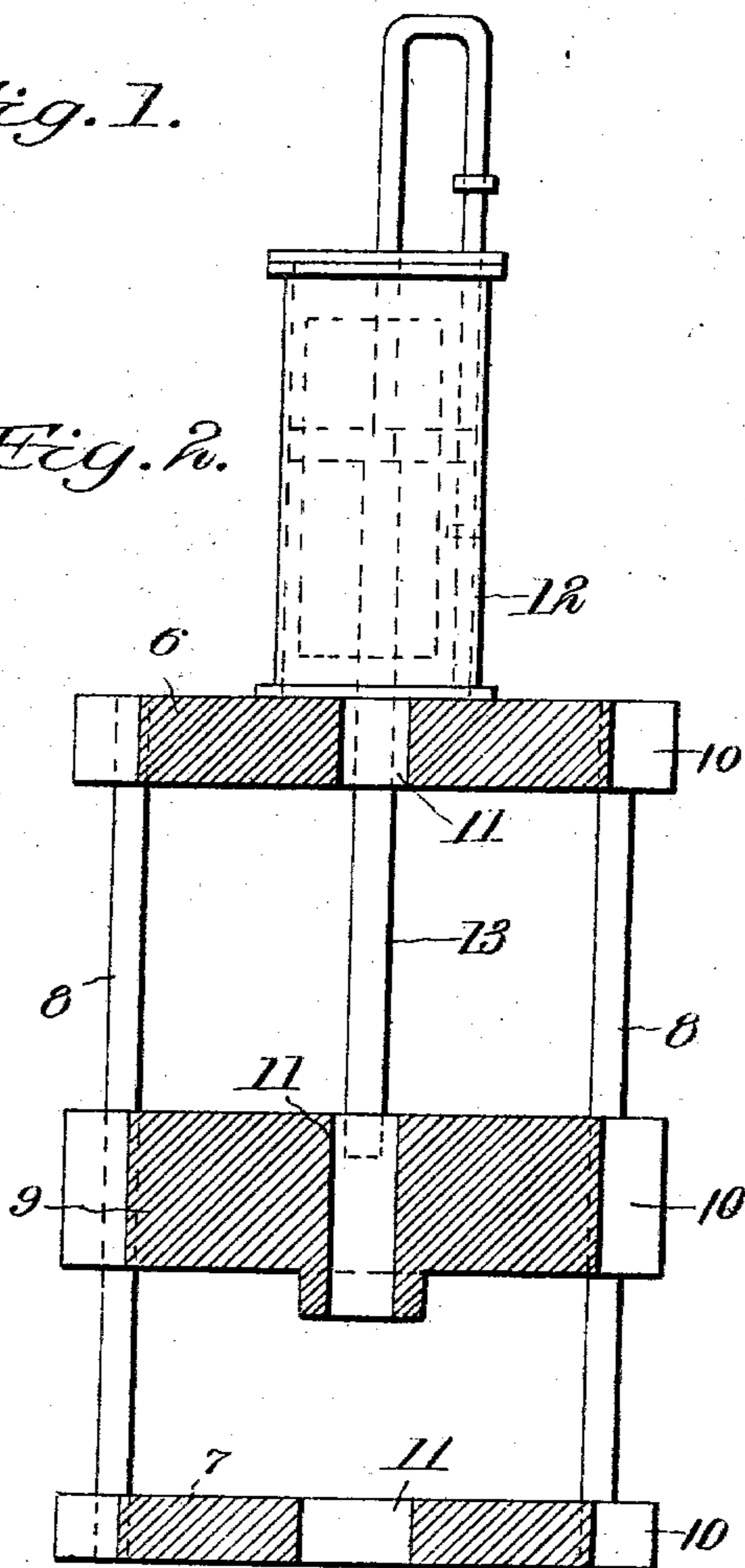
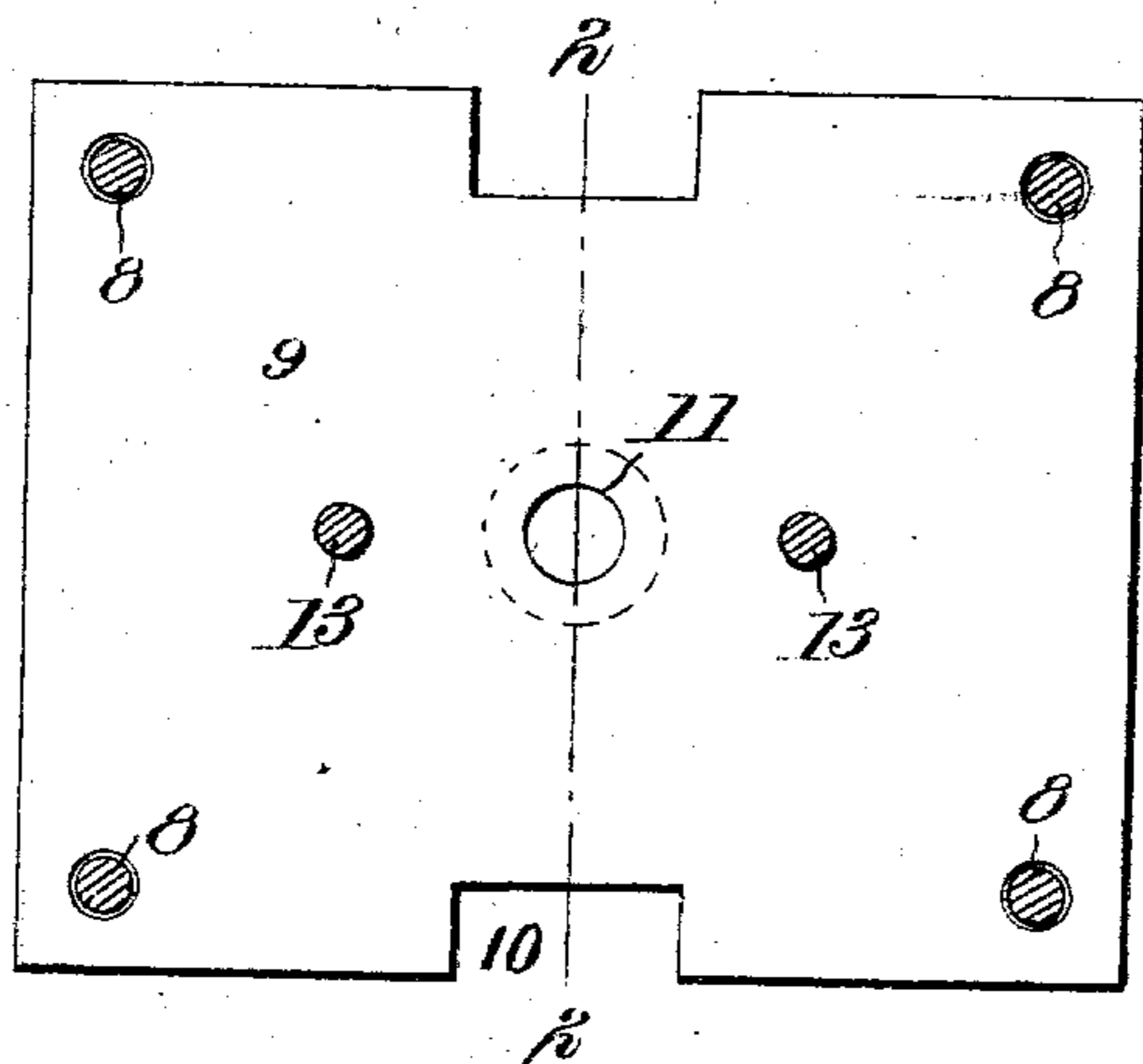


Fig. 3.



Witnesses

*C. H. Walker*  
*Geo. E. Jew*

Inventor

*Troy D. Westbrook*

*Milo R. Stevens*

Attorney

## UNITED STATES PATENT OFFICE.

TROY DANIEL WESTBROOK, OF PENSACOLA, FLORIDA.

## WELL-DRIVING HAMMER.

SPECIFICATION forming part of Letters Patent No. 740,497, dated October 6, 1903.

Application filed June 11, 1903. Serial No. 161,000. (No model.)

*To all whom it may concern:*

Be it known that I, TROY DANIEL WESTBROOK, a citizen of the United States, residing at Pensacola, in the county of Escambia and State of Florida, have invented new and useful Improvements in Well-Driving Hammers, of which the following is a specification.

This invention relates particularly to steam-hammers used for driving tubular wells, and has for its object to produce a construction whereby inner jet-tubes may be used, and this object is effected by making the hammer with a central vertical hole therethrough through which a jet-tube may be inserted and worked.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, Fig. 2 is a vertical section on the line 2 2 of Fig. 3, and Fig. 3 is a horizontal section on the line 3 3 of Fig. 1, of a steam-hammer embodying the invention.

The hammer comprises upper and lower head-blocks 6 and 7, which are connected by guide-rods 8, on which the hammer 9 reciprocates. The blocks and hammer are indicated as rectangular, with four guide-rods; but the construction may be varied in these particulars as desired. On opposite sides of the blocks and hammer are grooves 10 to receive the upright guides of the derrick, it being understood that the hammer as a whole is raised or lowered in a derrick, according to the height of the tube being driven. The hammer and blocks have registering vertical holes at the center, as indicated at 11. It is through these holes that the jet-tube extends. The hole in the lower block is larger than the others, so that it may also receive the end of the well-tube in position to be struck with the hammer.

A pair of steam-engines are conventionally indicated at 12, supported on the upper head-block, and the pistons 13 of these engines are connected to the hammer on each side of the central hole 11 therein. A pair of engines, as shown, is preferable to a single engine, because it gives an equal lift of the hammer and prevents binding thereof on the guides or side strain on the pistons.

In use the hammer as a whole is located in the derrick-guides with the upper end of the well-pipe in the lower block. A jet-tube may then be inserted through the holes in the hammer and upper block and into the well-tube to maintain a desirable water-supply. The tube fits loosely in the holes, so that the reciprocation of the hammer-head and raising or lowering of the whole hammer are not interfered with.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a pair of engines having parallel piston-rods, of a piston-hammer driven thereby and having a hole therethrough between the piston-rods, substantially as described.

2. The combination with a frame having upper and lower blocks, and a hammer reciprocating between the blocks, the blocks and hammer having registering holes, of a pair of engines supported on the frame and having pistons connected to the hammer on opposite sides of the hole therein.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

TROY DANIEL WESTBROOK.

Witnesses:

LESLIE E. BROOKS,  
U. B. ANDERSON.