

(No Model.)

M. SEXTON.
PIPE TESTING MACHINE.

No. 405,054.

Patented June 11, 1889.

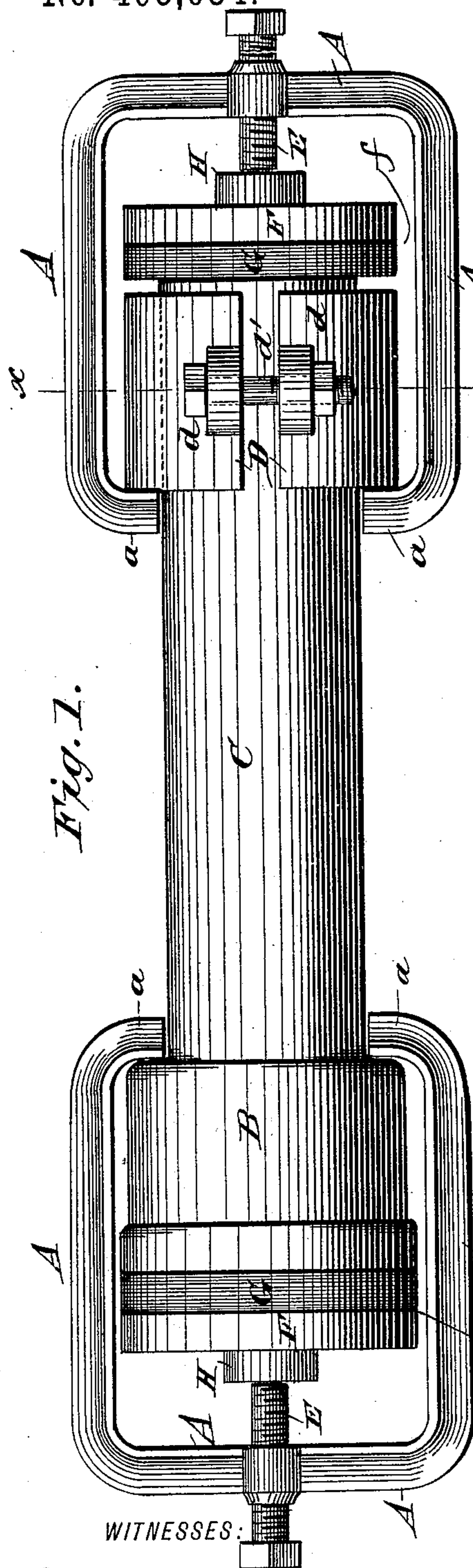


Fig. 1.

Fig. 3.

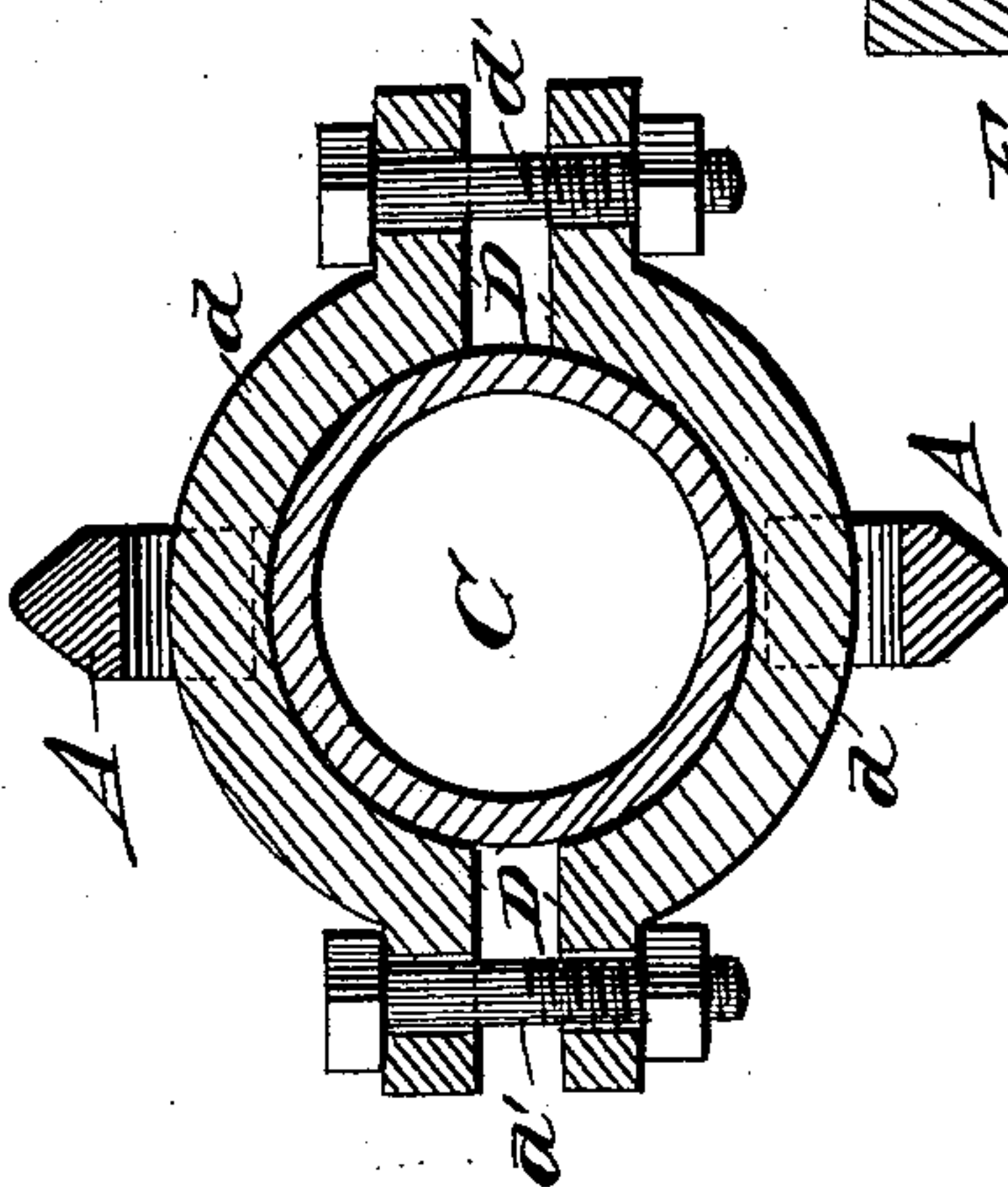


Fig. 2.

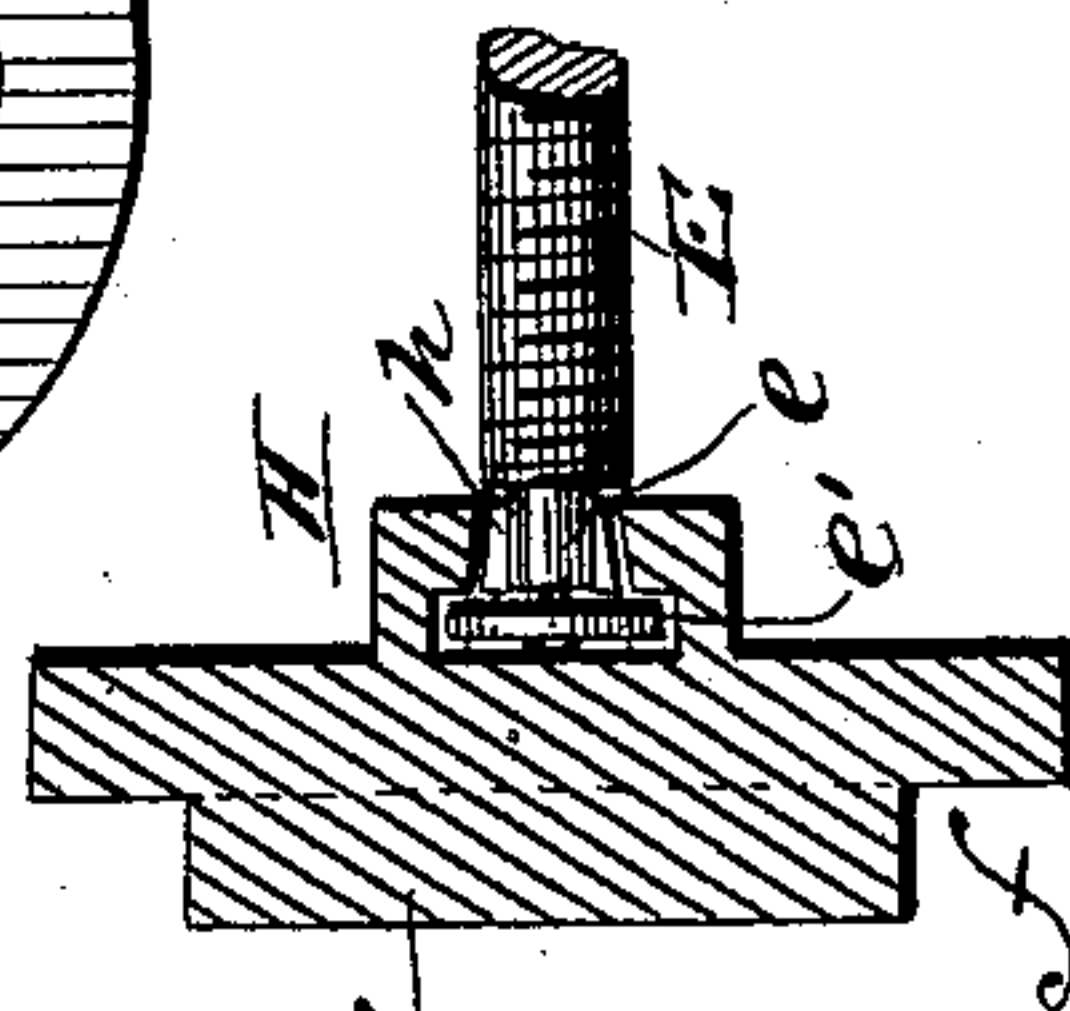
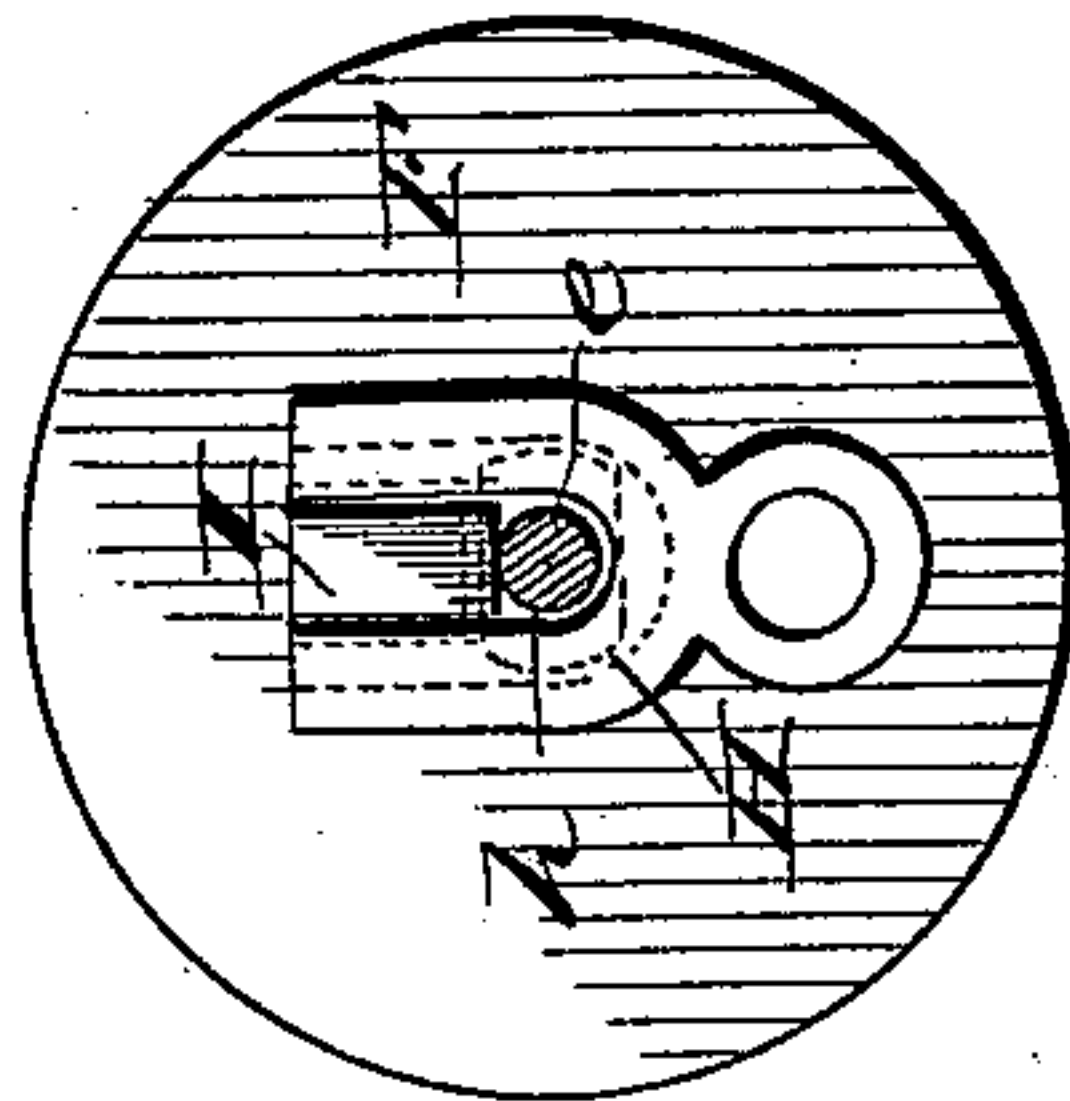
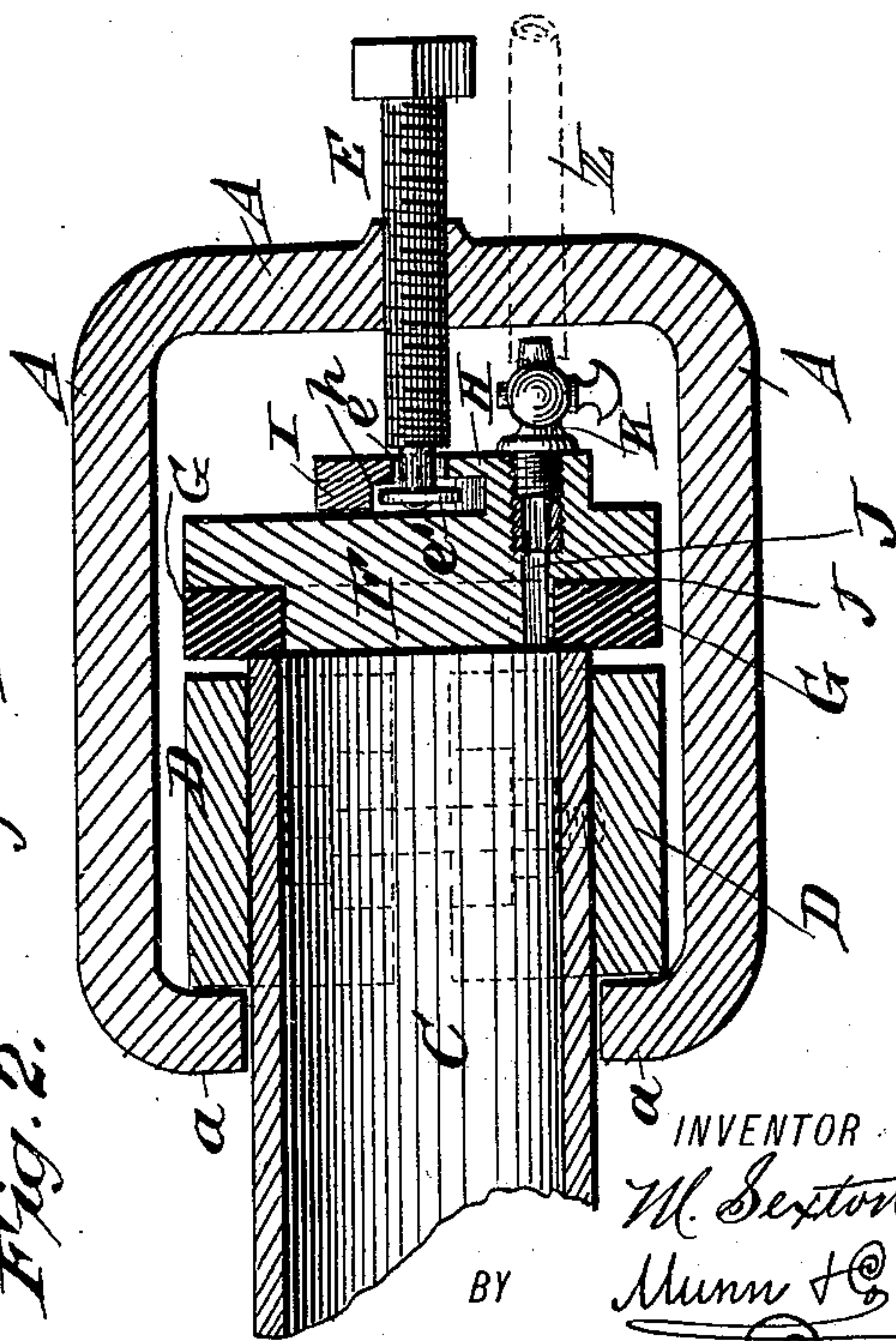


Fig. 5.

WITNESSES:

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MICHAEL SEXTON, OF NEW YORK, N. Y.

PIPE-TESTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 405,054, dated June 11, 1889.

Application filed January 25, 1889. Serial No. 297,514. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL SEXTON, of the city, county, and State of New York, have invented a new and Improved Pipe-Testing Apparatus, of which the following is a full, clear, and exact description.

My invention relates to an apparatus for testing cast or wrought metal or other pipes used by plumbers, gas-fitters, and others in the useful arts to discover sand or blow holes or splits, which would make them unsuitable for the purposes for which they were designed; and the invention has for its object to provide a simple, inexpensive, and efficient apparatus of this character.

The invention consists in certain novel features of construction and combinations of parts of the testing apparatus of itself, and relatively with the pipe being tested, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which the same letters of reference indicate the same or corresponding parts in all the figures.

Figure 1 is a side elevation of a section of ordinary cast-metal pipe with my improved testing apparatus applied thereto. Fig. 2 is a detail longitudinal sectional view of one end of the pipe and that part of the testing apparatus applied thereto. This view also shows the testing-fluid inlet to the pipe. Fig. 3 is a cross-sectional view taken on the line $x x$ in Fig. 1, and Figs. 4 and 5 are detail outside face and sectional views of one of the gasket or packing-holding heads of the apparatus.

I employ at each end of the pipe to be tested a frame carrying a clamp-screw provided with a packed head, adapted to be pressed to the end of the pipe by the screw, while the frame takes hold of the pipe-hub or a collar clamped to the pipe. Except that one of the two clamp-heads of the apparatus is provided with a testing-fluid inlet, both are made alike; hence a detailed description of one will suffice for both, as follows:

The clamp-head frame A is made preferably of iron or steel and in general rectangular form, cut away at one end to provide opposite jaws $a a$, which are adapted to hook

behind the hub B at one end of a pipe C to be tested or behind an open or split collar D, clamped to the other or spigot end of the pipe. The outer cross-bar of the clamp-frame is fitted with a heavy screw E, which at its inner end carries a head-plate F, which may fit by a ground-joint directly against the end of the pipe C, but which is preferably provided with a peripheral rabbet f , into which a rubber or other suitable packing G is held so as to bear on the end of the pipe. The split collar D may be made in two halves $d d$, provided with lugs at each end to receive bolts d' for clamping the collar to the spigot end of the pipe; or, if preferred, the two parts $d d$ may be hinged together at one end and but one bolt may be applied to their other ends to clamp the collar to the pipe.

Figs. 2, 4, and 5 of the drawings illustrate the preferred manner of connecting the clamp head-plates F with the clamp-screws, which is done by providing at the back of the plate a projection or lug H, formed with a T-shaped slot h , opening at one end and at the outer face of the lug and terminating about at the center of the head-plate. Into this slot is slipped the reduced inner end e of the clamp-screw E, which carries at its extremity a washer e' , larger than the end e , and which loosely fits the broader inner part of the slot. After the screw is turned into the clamp-frame A, and the head-plate slot is engaged with the inner end of the screw, a bit or wedge I, which fits the slot quite closely, is driven into it behind the screw, thus making a simple swivel-connection of the head-plate and screw, which prevents their accidental separation, but allows uncoupling of them by driving out the wedge should any part break or another size or form of head-plate be required on the screw. The screw may be turned in the clamp-frame while the head-plate is pressed tightly by it to the end of the pipe.

One of the head-plates F of the apparatus is provided with a passage J, which opens to the interior of the pipe, and to which will be connected any suitable valve K, and pipe L, by means of which water, steam, air, or other testing-fluid may be forced into the pipe under any required pressure from a fluid-com-

pressing apparatus of any character to which the pipe will be connected.

The operation of the apparatus is very simple and effective, as follows: After the clamp-frames and heads are applied to the ends of the pipe and the pipe-hub and collar, as shown in Fig. 1 of the drawings, the testing-fluid will be admitted through the inlet L, and should the pipe C have blow holes or splits or be otherwise defective the testing-fluid will be forced through it to the outside to betray or prove the imperfection, and the pipe may, if necessary, be rejected for the special use for which it was designed. Should the pipes be plain at both ends or be devoid of hubs B, a collar D will be used at each end of the pipe.

This testing apparatus may be made of any required size to suit sizes of pipes to be operated upon, as will readily be understood.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A pipe-testing apparatus consisting of clamping devices comprising open-ended frames adapted to hook onto or grip the pipe or a collar thereon, screws fitted at the outer ends of the clamp-frames, and head-plates swiveled to the screws and adapted to close the ends of the pipe, one of said head-plates having a testing-fluid inlet, substantially as herein set forth.

2. In pipe-testing apparatus, the combination, with a clamp-frame A, having hooks *a* at its open end, of a screw E, fitted at the opposite end of the clamp-frame, and a head-plate swiveled to the screw and adapted to bear directly or by a packing onto the end of a pipe, substantially as herein set forth.

3. In pipe-testing apparatus, the combination, with a pipe, of a collar clamped thereto, a clamp-frame A, having hooks *a*, engaging the collar, a screw fitted in the clamp-frame, and a head-plate swiveled to the screw and adapted to bear directly or by a packing onto the end of the pipe, substantially as herein set forth.

4. In pipe-testing apparatus, the combination, with a clamp-frame adapted to grip the pipe, and a screw E, fitted in said frame and having a reduced end *e* and washer *e'*, of a head-plate having a T-shaped slot *h*, into which the parts *e e'* are passed, and a bit or wedge I, inserted in the slot behind the screw, substantially as described, for the purposes set forth.

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Witnesses:

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