

No. 848,759.

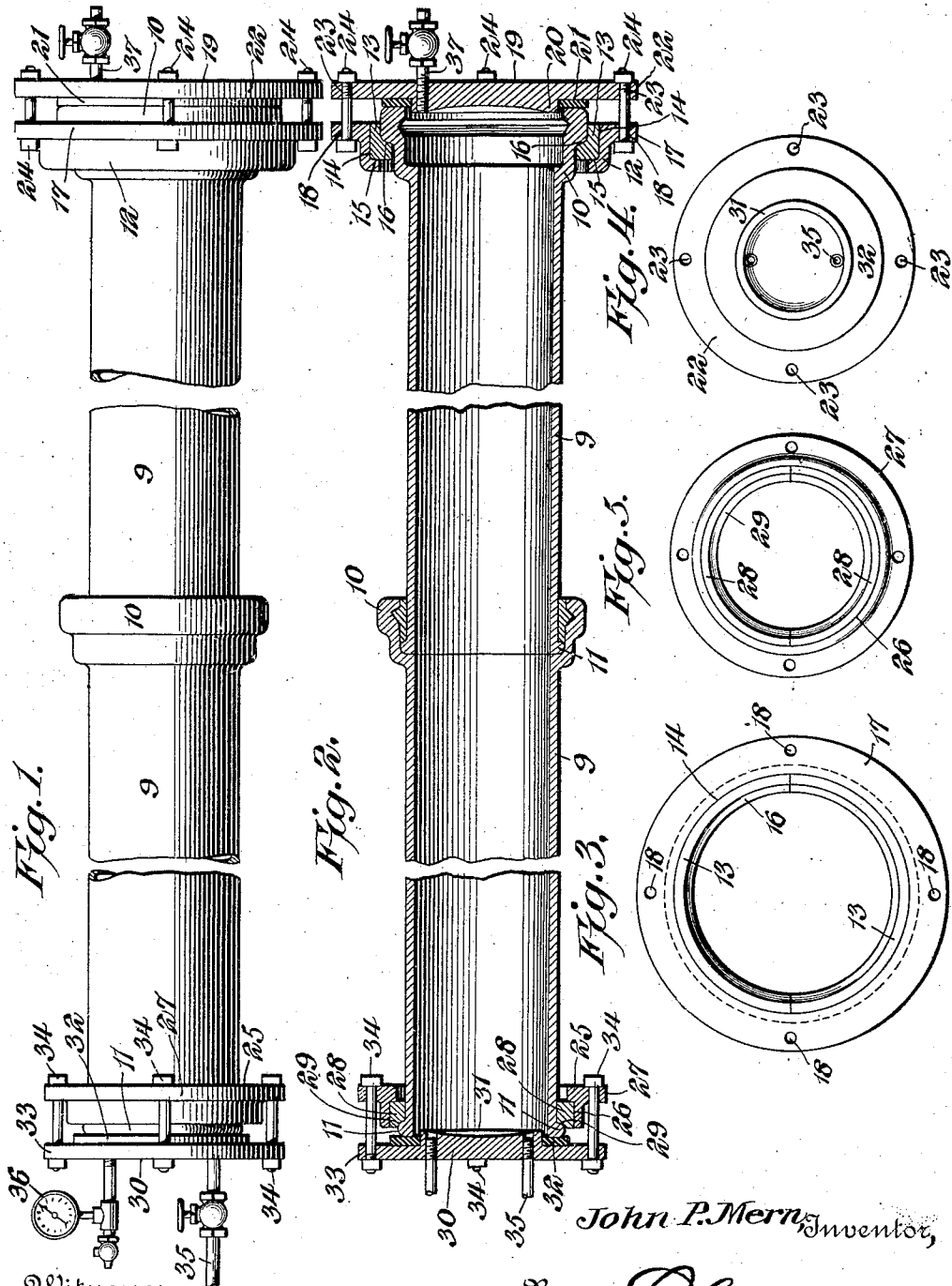
PATENTED APR. 2, 1907.

J. P. MERN.

PIPE TESTING MACHINE.

APPLICATION FILED JAN. 2, 1906.

2 SHEETS—SHEET 1.



Witnesses
Howard D. Carr
B. G. Foster

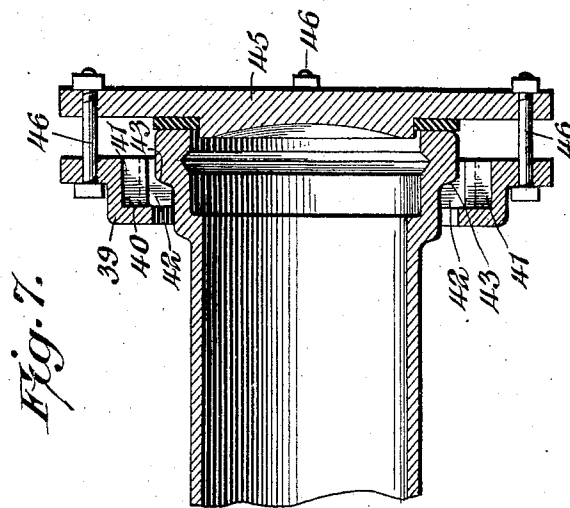
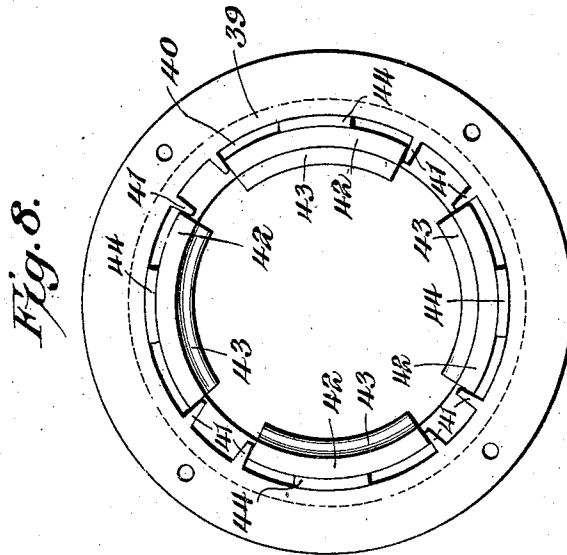
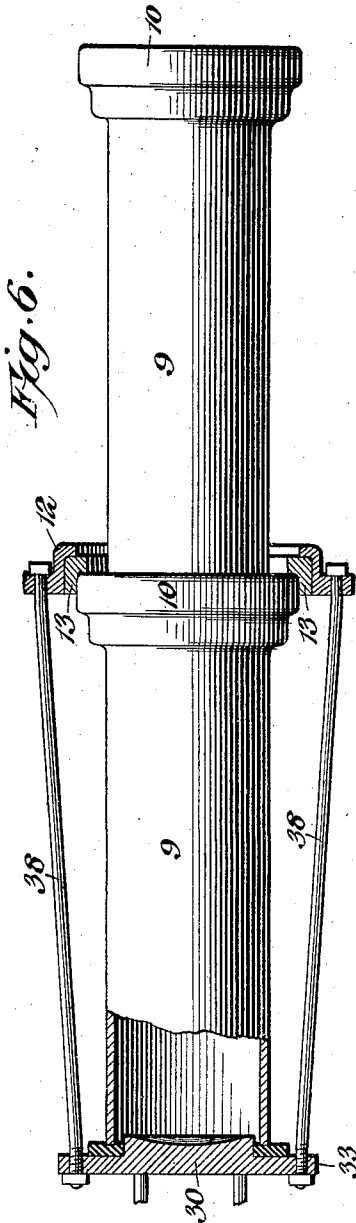
John P. Merny, Inventor,
By E. G. Siggers,
Attorney

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UNITED STATES PATENT OFFICE.

JOHN P. MERN, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF
TO C. H. BULL, OF BROOKLYN, NEW YORK.

PIPE-TESTING MACHINE.

No. 848,759.

Specification of Letters Patent.

Patented April 2, 1907.

Application filed January 2, 1906. Serial No. 294,253.

To all whom it may concern:

Be it known that I, JOHN P. MERN, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Pipe-Testing Machine, of which the following is a specification.

This invention relates to means for testing water and similar pipes by internal pressure, and has more particular reference to the means for closing the ends of the pipes.

The object is to provide a simple and novel structure that is exceedingly strong to withstand the force exerted thereagainst, can be applied to and removed from pipes of different shapes and characters with ease and expedition, and when in place will engage the pipe in a manner that will eliminate the danger of the closure being forced from its proper and operative position.

In the drawings, Figure 1 is a side elevation of the piping, showing the improved closure in place thereon. Fig. 2 is a longitudinal sectional view through the same. Fig. 3 is a view in elevation of the pipe-engaging member employed at the hub end of the pipe. Fig. 4 is a similar view of the closure. Fig. 5 is a view in elevation of the holding member employed at the spigot end of the pipe. Fig. 6 is a view, partly in elevation and partly in section, showing the manner of using the mechanism to close the spigot end of a pipe on which there is no bead. Fig. 7 is a detail sectional view showing a modified form of structure. Fig. 8 is a view in elevation of the pipe-engaging member illustrated in Fig. 7.

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

Referring first to the embodiment illustrated in Figs. 1 to 5, inclusive, the pipes are designated generally by the reference-numeral 9 and may be of any desired configuration, each pipe having at one end the usual hub 10 and at the other end a bead 11. For the purpose of closing the hub end of the pipe a pipe-engaging member is employed, comprising an outer ring 12 and an inner bearing-ring that is composed of sections 13. The outer ring 12 is continuous and is in one piece. The diameter thereof is sufficient to permit it to pass freely over the hub 10 of the pipe. It is provided with

an internal annular recess seat 14, forming at its inner end an annular shoulder 15. The sections 13 of the bearing-ring fit in the seat against the shoulder 15, and their inner sides are provided with annular recessed seats 16, that receive the hub of the pipe, as fully shown in Fig. 2. An outstanding annular flange 17 is carried by the outer ring and is provided with openings 18. A closure 19, comprising a disk or circular plate, has a centrally-disposed inwardly-extending boss 20, that is arranged to fit within the pipe-hub and is surrounded by a suitable gasket 21. This closure is also provided with an annular flange portion 22, having openings 23, that aline with the openings 18 of the outer ring-flange 17. Tie-bolts 24 pass through the alined openings.

In closing the hub end of a pipe the ring-sections 13 are removed from the outer ring and said ring is slipped over the hub. The ring-sections 13 are then placed in position and the holding member thus formed is abutted against the hub. The closure is then placed in position and the bolts are passed through the alined openings, the nuts thereof being screwed down until the parts are rigidly clamped. For the spigot end of the pipe a very similar structure is employed. An outer ring 25 is provided, having an internal seat 26 and an outstanding flange 27. Ring-sections 28 are detachably fitted within the seat 26 and have seats 29 to receive the bead 11. A closure 30 has a centrally-disposed inwardly-extending boss 31, which is provided with a gasket 32 and has an outstanding flange 33. The flanges 27 and 33 are connected by tie-bolts 34. The manner of applying this closure is exactly the same as that for the one above set forth, and no further description is therefore believed to be necessary. The usual connections may be made with the closures. For instance, a supply-pipe 35 can be attached to the lower portion of the spigot-closure, while a pressure-gage 36 may be connected to the upper portion thereof. In like manner the closure 19 for the hub end may be provided with an air-vent 37. It will be observed that with both closures a continuous outer ring is employed and that the sections are inclosed thereby, so that when the parts are in position they are firmly clamped. By this means an outer sectional ring is entirely dispensed

with and there is no danger of the parts being forced from their positions, as they are very securely engaged upon the pipe. Moreover, the devices can be readily mounted upon
5 pipes of different shapes, as will be apparent.

In case a line of pipe is to be tested in which there is no bead on the spigot end the arrangement of parts disclosed in Fig. 6 can be successfully employed. In this case the
10 holding member for the hub end is used and the closure for the spigot end is connected thereto. For this purpose the outer ring 12 is first passed over the hub of the pipe and the ring-sections 13 are placed in position,
15 after which the holding member is engaged against the outer end of the pipe-section, as shown in Fig. 6. The closure 30 is then placed against the unbeaded spigot end of the pipe, and tie-bolts 38 connect the outer
20 ring 12 and the flange 33 of the closure 30. As it sometimes happens that the outside diameters of the pipes vary slightly, a structure of the character disclosed in Figs. 7 and 8 may be advantageously used. In this em-
25 bodiment of the invention an outer ring 39 is employed which has the usual annular recessed seat 40, forming an annular internal shoulder. In this seat are located spaced
30 inwardly-extending flanges 41, constituting guides for the ring-sections 42, that are employed and are provided with seats 43 for receiving the outstanding shoulder of the pipe-hub. Wedges 44 are arranged to be driven
35 either between the outer ring and the sections 42 or between the pipe and said sections. A closure 45 is arranged to be placed against the end of the pipe and is connected to the outer ring 39 by tie-bolts 46. It will thus be
40 apparent that the device can be readily fitted to pipes which vary slightly in diameter by shimming the ring-sections either in or out. Of course it will be apparent that for larger
45 pipes the rings may be cut into more sections than shown, in which case the number of guides will be correspondingly increased.

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

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

1. In mechanism of the class described, the combination with a pipe-surrounding
60 ring of sufficient diameter to pass over the enlarged end of a pipe, said ring having an annular recessed seat in its inner side, of a bearing-ring comprising sections that detachably fit in the seat and have their outer
65 faces substantially flush with the outer face of the ring, a closure comprising a disk having an inwardly-extending boss of less diameter than the rings, said boss being arranged to be located in the end of the pipe, a pack-
70 ing-gasket surrounding and held in place by the boss, and bolts connecting the disk and pipe-surrounding ring to draw the same together.

2. In mechanism of the class described, the
75 combination with a ring, of a pipe-closure, tie-bolts connecting the ring and closure, said ring having an annular seat, guides located in the ring, and a bearing-ring comprising sections that detachably fit in the
80 seat between the guides, and are arranged to engage the pipe.

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

JOHN P. MERN.

Witnesses:

WILLIAM HILTZ,
JOHN R. CONRON.