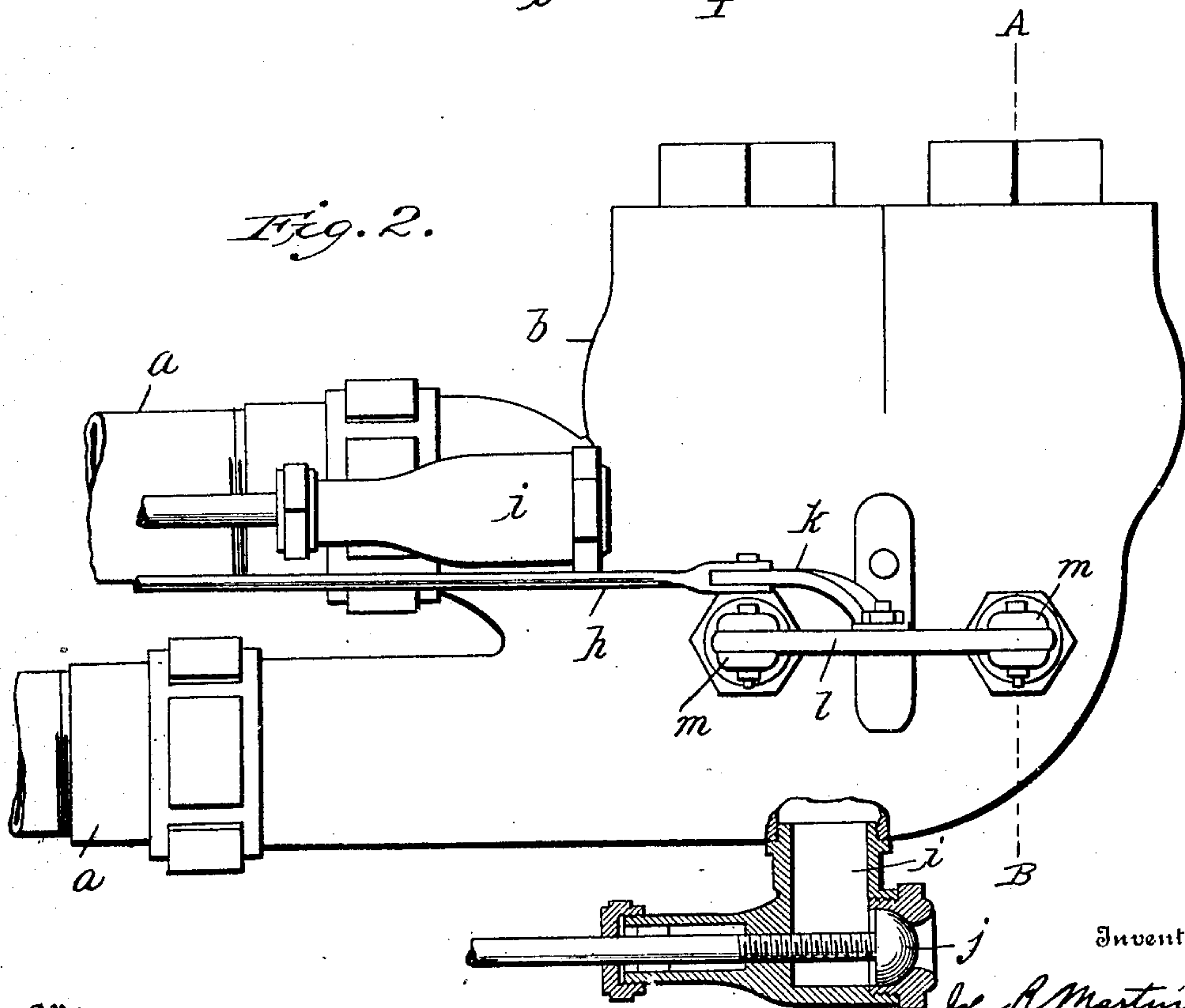
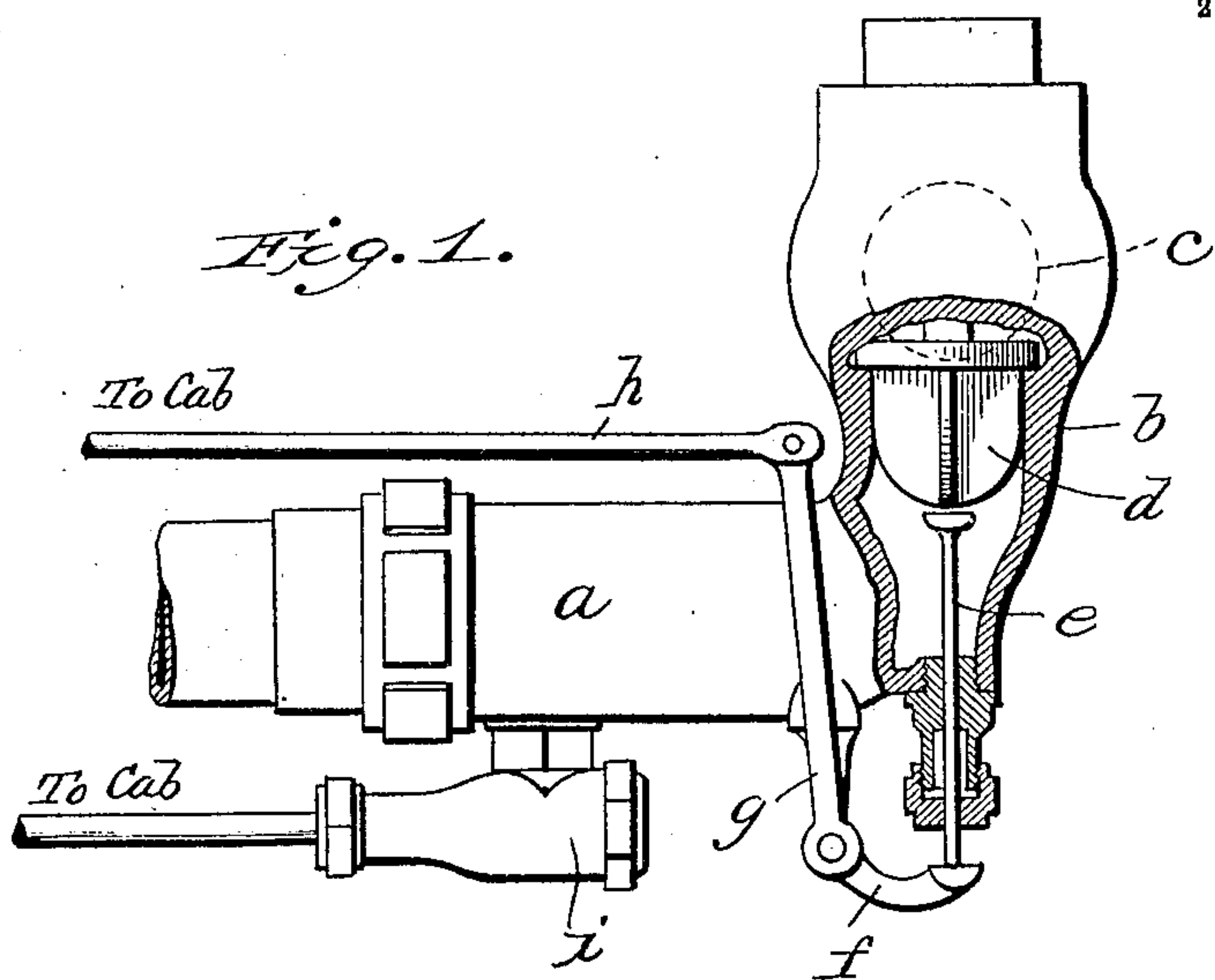


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APPLICATION FILED JUNE 29, 1907.

913,023.

Patented Feb. 23, 1909.

2 SHEETS—SHEET 1.



Witnesses:

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A. B. Bridge

Inventor

By

John R. Martin,  
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Fig. 3.

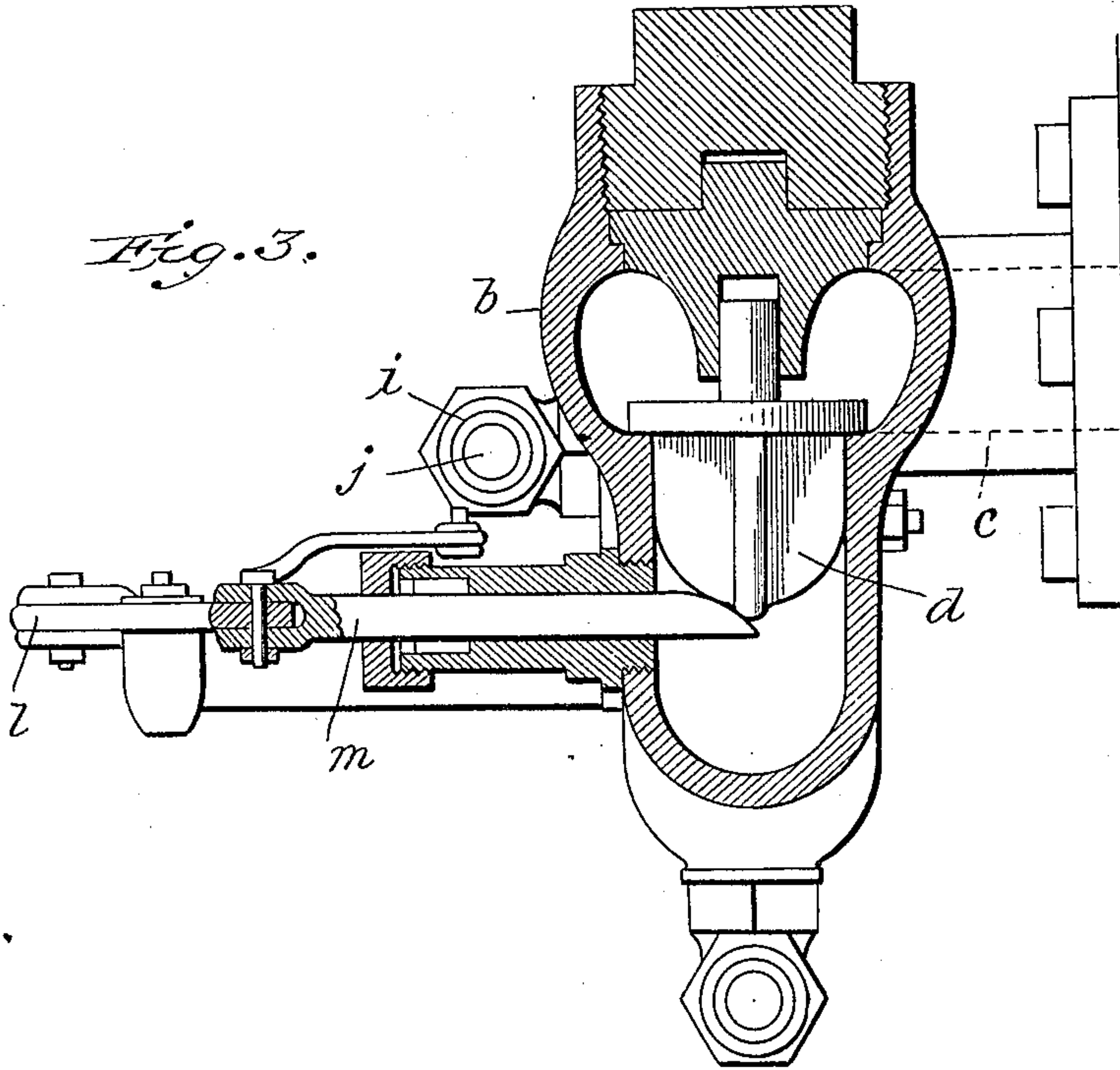
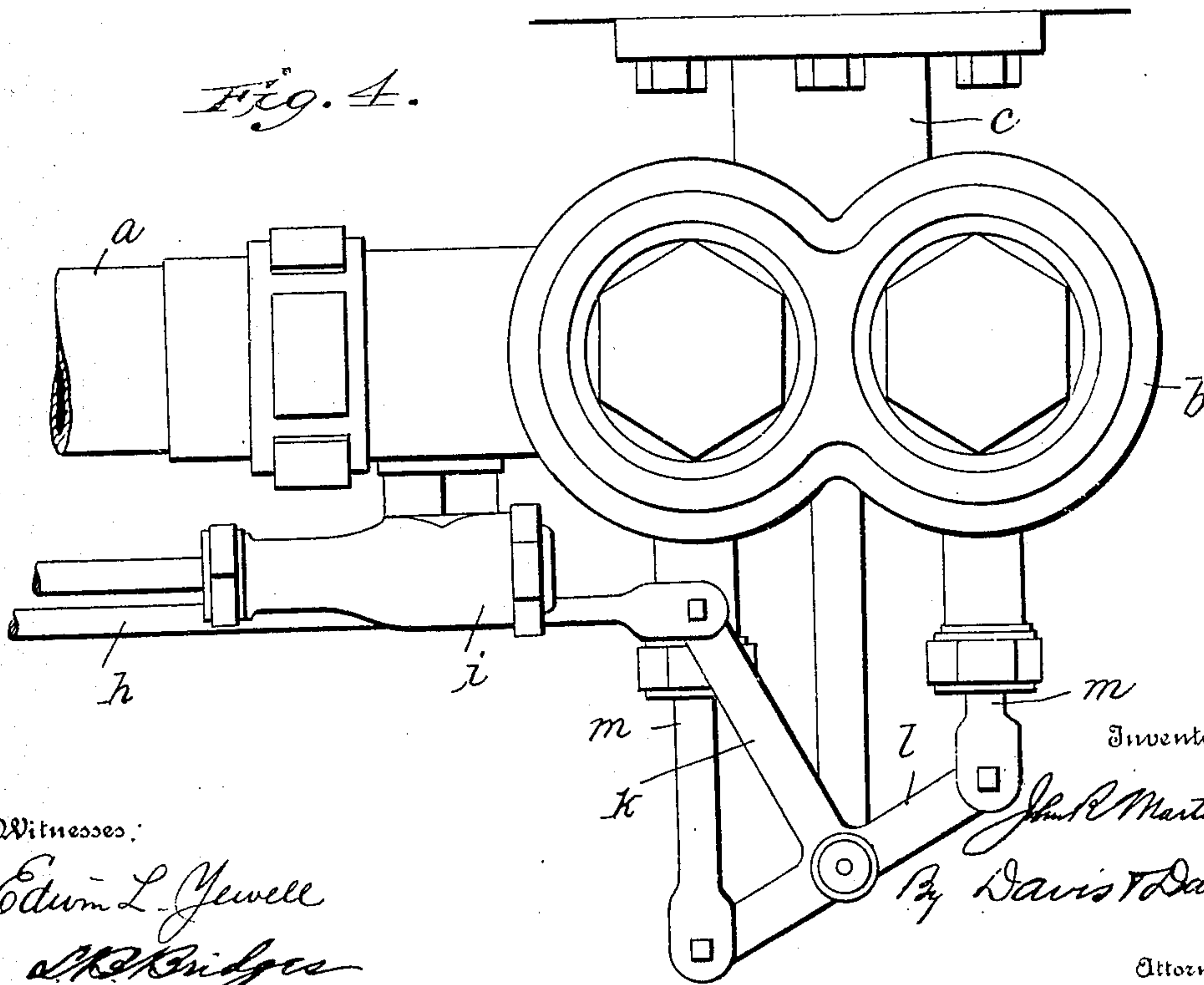


Fig. 4.



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# UNITED STATES PATENT OFFICE

JOHN R. MARTIN, OF CLARKSVILLE, TENNESSEE.

## BOILER-CHECK-VALVE CLEAN-OUT.

No. 913,023.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed June 29, 1907. Serial No. 381,531.

*To all whom it may concern:*

Be it known that I, JOHN R. MARTIN, a citizen of the United States of America, and resident of Clarksville, county of Montgomery, State of Tennessee, have invented certain new and useful Improvements in Boiler-Check-Valve Clean-Outs, of which the following is a full and clear specification, reference being had to the accompanying drawing, in which—

Figure 1 is a view partly in section and partly in side elevation showing my invention applied to a single check-valve; Fig. 2 a side elevation showing the invention applied to a double or twin check valve; and Fig. 3 a vertical section of Fig. 2. Fig. 4 is a plan view of the device shown in Fig. 2.

In locomotives it is universally the practice to place a check-valve in the feed water passage leading from the injector to the boiler, to check the back flow of the water that is fed into the boiler. It frequently happens that foreign matter will get in between the valve and its seat and thus interfere with its proper opening and closing. The common practice now when the valve gets out of order in that way is to draw the fire from the engine and dismantle the valve casing and clean out the valve by hand. This involves a serious delay and loss of use of the locomotive and it is the object of my invention to apply a check-valve attachment whereby the valve seat may be cleaned out without either drawing the fire or dismantling the valve-casing, as more fully hereinafter set forth.

Referring to the drawing by reference characters, *a* designates the pipe leading from the injector to the check-valve casing *b*, and *c* designates the pipe leading from the casing to the boiler. In the casing is the usual vertically-working check-valve *d*. Passing through a stuffing-box in the bottom of the valve-casing is a vertical rod *e* which is adapted to be lifted by means of an arm *f* pivoted upon a support attached to the pipe *a*, the pivot being provided with an up-standing arm *g* whose upper end is pivotally connected to a rod *h*, which rod may extend back to the cab so as to be within convenient reach of the engineer. At a suitable point adjacent to and below the check-valve the inlet pipe *a* is provided with a blow-out passage *i*, which is controlled by a valve *j*, the stem of which may be extended

backwardly far enough to be within convenient reach of the engineer.

With my attachment, when the valve gets stuck or is leaking and it is therefore desirable to clean off the seat, the engineer simply opens blow-out valve *j* and then pulls on rod *h*, thus lifting the check-valve and permitting the pressure in the boiler to force steam or water down past the valve and out through the blow-out. This rushing of the water or steam down around the valve and seat will effectually and instantaneously clean it out. In the other figures the invention is shown applied to a double or twin check-valve which is in use in some types of locomotives. In this construction the operating rod *h* is connected to an arm *k* which is connected to a lever *l* whose ends are respectively connected to horizontal rods *m* which work through the stuffing boxes in the sides of the valve casing and as the rod *h* is reciprocated these rods *m* serve to alternately lift the valves off their seats. In this construction the blow-out devices *i* and *j* are duplicated. It will be obvious that the means for lifting the valve may be greatly varied without departing from the spirit of the invention.

It will be observed that a feature of importance lies in so constructing and arranging the valve lifting devices that they may be operated by reciprocating a rod which may be extended back horizontally to the cab of the locomotive, and by employing a lifting rod passing freely through a stuffing box in the valve casing it will be observed that the valve may be given a succession of quick lifting movements in order to more effectually wash off the scale and other foreign matters from the valve seat. It will be observed also that the blow-out is so constructed and arranged that the valve-stem thereof may be extended horizontally back to the cab and be convenient for the engineer.

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

1. In a device of the class set forth, the combination of the valve casing provided with an inlet and an outlet and inclosing a vertically reciprocable valve, a valve-lifting rod working freely through a stuffing box in the casing and having its inner end adapted to engage and lift the valve when the rod is pushed inwardly, an angle lever pivoted on



the valve casing and adapted to engage the outer end of said lifting rod, a blow-out connected to the bottom of the valve casing, a valve for closing and opening the blow-out, 5 and operating rods for said valve and said angle lever, said rods lying parallel and extending in the same direction.

2. In a device of the class set forth, the combination of a twin valve casing having 10 two independent inlets and an outlet and inclosing two independent vertically reciprocable valves, a valve lifting rod for each valve working through a stuffing box in the casing and having its inner edge adapted to 15 engage and lift the valve when the rod is

pushed inwardly, a lever pivoted on the casing and connecting the outer ends of the two rods, a reciprocable operating rod connected to said lever, a blow-out for each valve, and a valve and an operating rod for each blow-out, substantially as and for the purpose set forth. 20

In testimony whereof I hereunto affix my signature in the presence of two witnesses this 25 day of June 1907.

JOHN R. MARTIN.

Witnesses:

FRANK F. HODGSON,  
J. H. AHEARN.