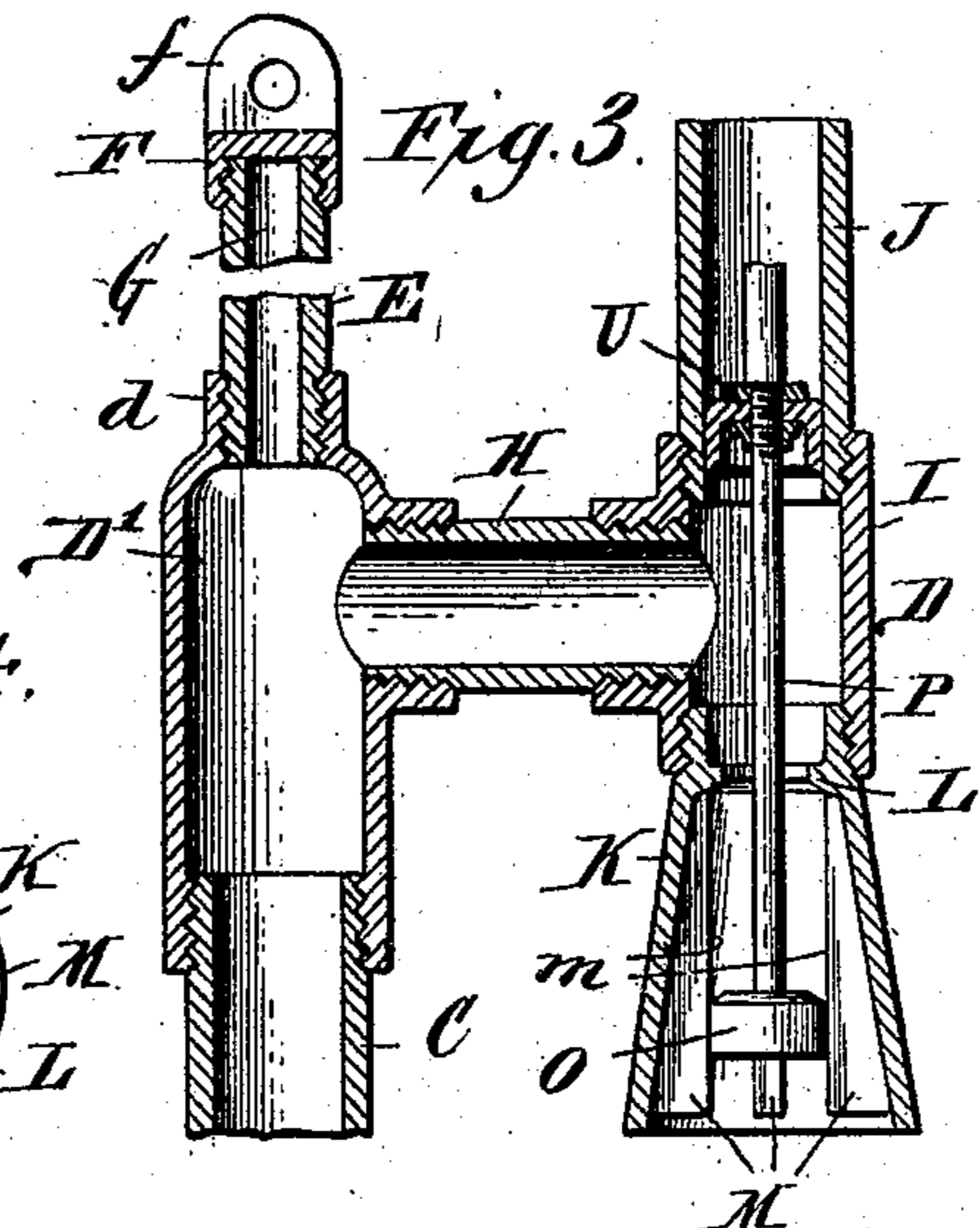
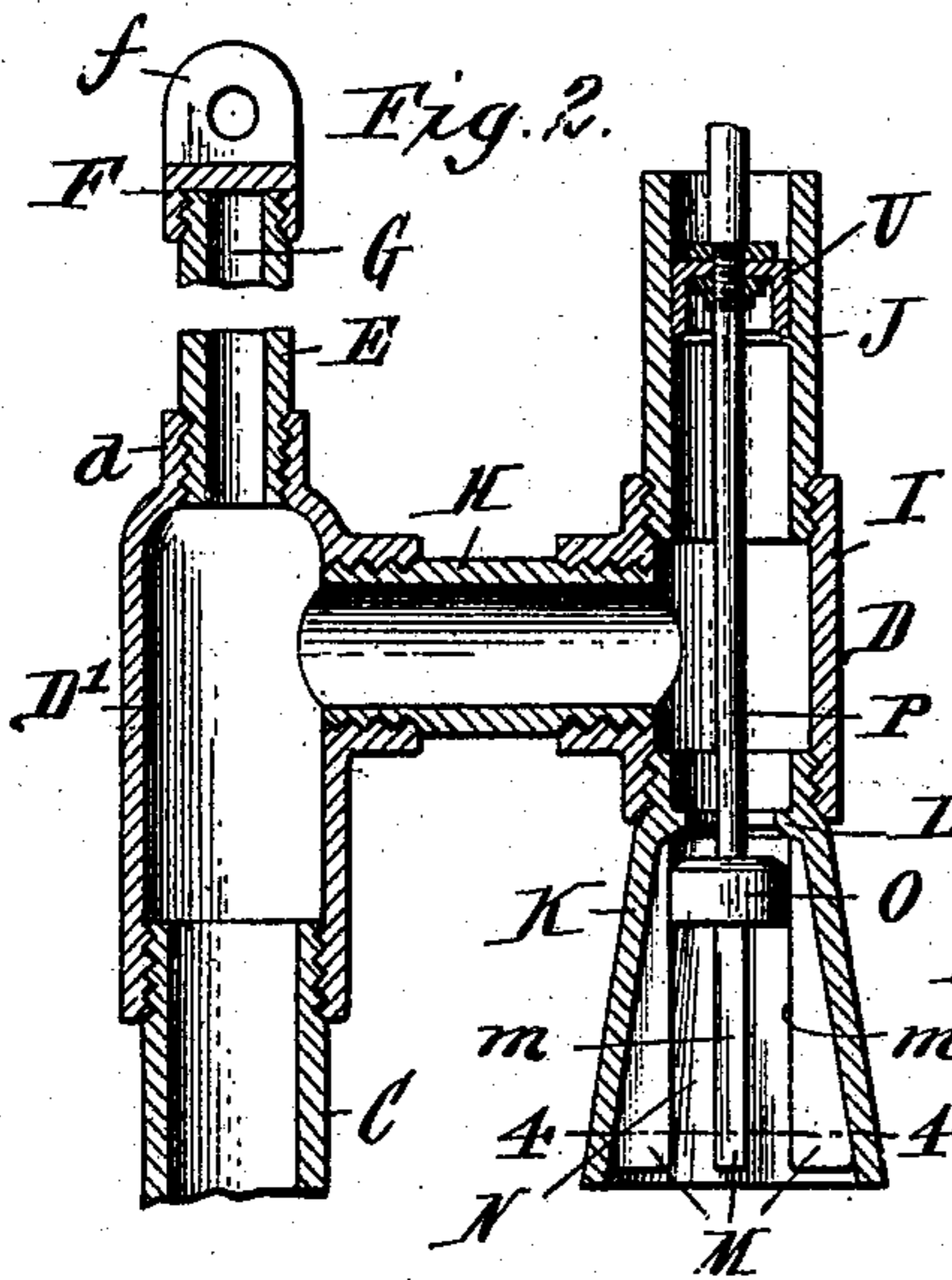
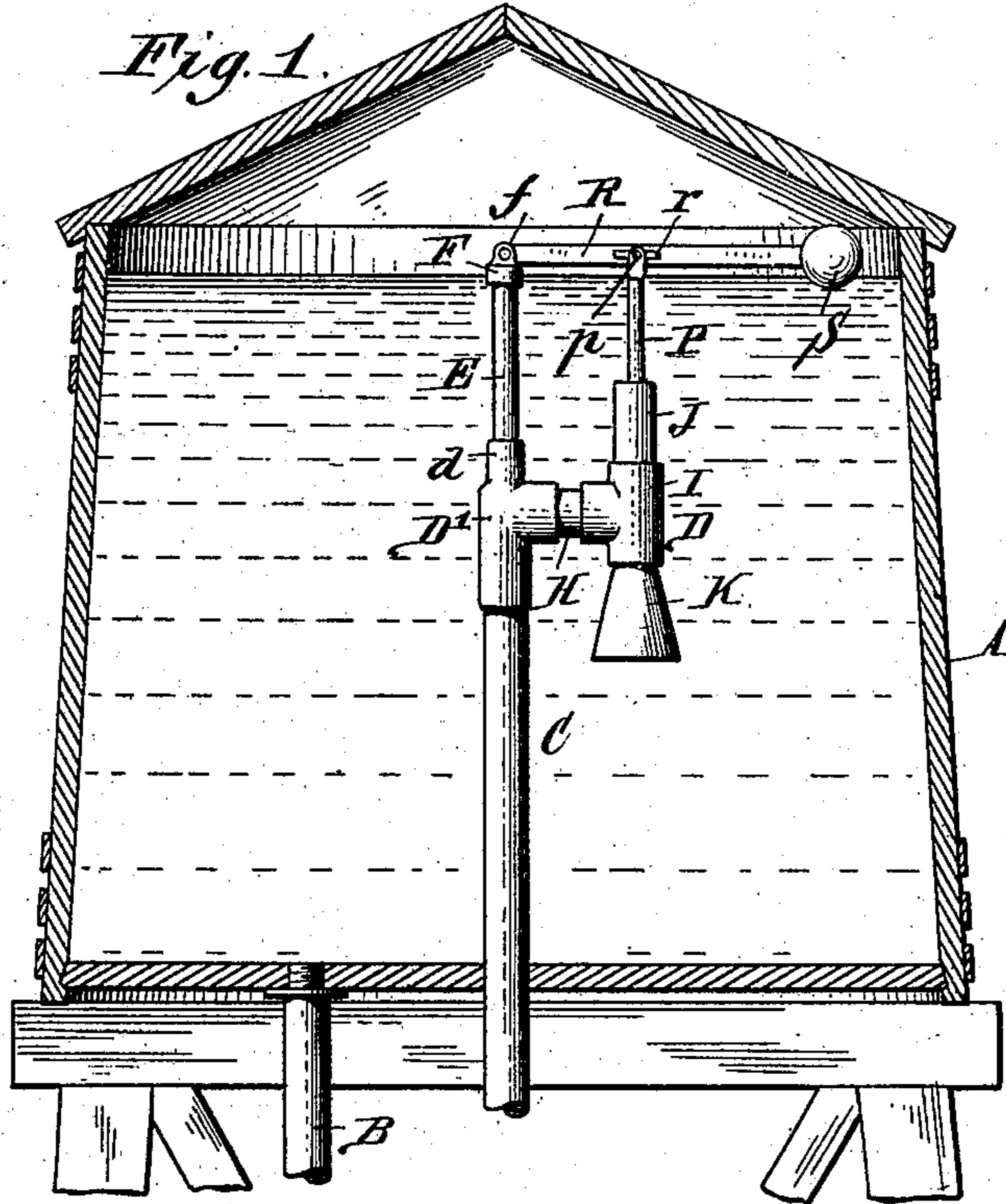


E. A. NASLUND.  
VALVE FOR WATER TANKS.  
APPLICATION FILED FEB. 1, 1906.

923,878.

Patented June 8, 1909.



Witnesses:  
Harry Harris  
Julius Lankes

Eric A. Naslund, Inventor.  
By Emil Neuhart  
Attorney.

# UNITED STATES PATENT OFFICE.

ERIC A. NASLUND, OF DUNKIRK, NEW YORK.

## VALVE FOR WATER-TANKS.

No. 923,878.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed February 1, 1906. Serial No. 298,934.

*To all whom it may concern:*

Be it known that I, ERIC A. NASLUND, a citizen of the United States, residing at Dunkirk, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Valves for Water-Tanks, of which the following is a specification.

This invention relates to improvements in valves, particularly adapted for use in water-tanks stationed along railway-tracks for supplying water to locomotives; and it consists in certain improvements in construction and combination of parts, to be hereinafter described and more particularly pointed out in the appended claims.

In the drawings,—Figure 1 is a vertical section of a water-tank equipped with my improved valve. Figs. 2 and 3 are vertical sections of my improved valve, showing the plungers in different positions. Fig. 4 is a transverse section taken on line 4—4, Fig. 2.

Referring to the drawings in detail, like letters of reference refer to like parts in the several figures.

The reference letter A designates the water-tank having an outlet-pipe B and an inlet or supply pipe C to which my improved valve D is secured.

At its upper end pipe C is provided with a T-shaped fitting D<sup>1</sup> having a reduced upper end *d* into which is threaded a pipe E closed at its upper end by a cap F to provide an air-chamber G within said pipe. Connected with said T-shaped fitting is a short pipe or nipple H which serves as the outlet of the supply-pipe and is disposed at an angle to said air-chamber; said pipe or nipple enters the side of the intermediate member I of the valve, which is also in the form of a T-shaped fitting having threaded into its upper end a short pipe section J, and at its lower end a flaring outlet-member K provided with an internal annular flange L near its upper end which serves as a valve-seat and a plurality of longitudinal guide-flanges M projecting inward from the flaring wall and extending from said valve-seat L to the large or outlet end of said outlet member. Said flanges have their inner guide-edges *m* parallel and they are separated by intervening spaces N which serve as water passages and by reason of said flanges being gradually widened toward the bottom or outlet ends of said passages, the latter are correspondingly enlarged, thus allowing a free discharge of the

water through the casing irrespective of the extent to which the valve is opened. This assures a steady action without pounding and provides the required float resistance. Guided for movement by said flanges is a valve or plunger O adapted to close against the valve-seat L. Owing to the guide-flanges M extending from the valve-seat to the large or outlet end of the flaring outlet-member; said flanges are exposed and accessible so that the parallel guide-edges can be greased without separating the several parts of the valve. Said valve or plunger closes against the water pressure and is affixed to a rod P having its upper end projecting beyond the upper end of the valve-casing for connection with a float-lever R pivotally secured between lugs *f* on the cap F and having at its free end a float S. The connection between the rod P and the lever R is such as to permit the plunger O to travel vertically without tendency to bind or wobble; this being accomplished by providing the float-lever with a slot *r* through which and the bifurcated upper end of rod P, a pivot-pin *p* is passed.

Secured to rod P so as to travel in the upper portion of the valve-casing is an equalizing plunger U in the form of a cupped leather disk, adapted to equalize the pressure of the water as it enters the valve-casing.

By means of the construction described, the valve-casing and pipe-connections may be constructed from standard pipe-fittings with the exception of the flaring outlet-member K, thus providing for the construction of a very cheap yet effective valve.

It is apparent from the foregoing, that the flow of water through the valve-casing is gradually increased as the plungers lower, and that by reason of the plungers being controlled by float-lever R, the flow is increased in proportion to the amount of water drawn from the tank. The closing of the plunger is also gradual and by reason of the cushioning effect of the air within air-chamber G, water-hammering is avoided, which would tend to subject the plunger to a jarring action.

Having thus described my invention, what I claim is,—

1. A valve comprising a casing flared toward its outlet-end and having a valve-seat at its inlet-end and parallel edged guide-ribs extending from said valve-seat toward said outlet-end and separated by water passages

- gradually increasing in areas toward said outlet-end, and a cylindrical valve guided between the parallel edges of said guide-ribs and adapted to close against said valve-seat.
- 5 2. A valve comprising a casing having an inlet intermediate its ends and including a flaring member arranged to one side of said inlet, said flaring-member having a valve-seat at its small or inlet end and exposed
- 10 parallel-edged guide-ribs extending from said valve-seat toward its large or outlet end, a cylindrical valve guided between said guide-
- ribs and adapted to close against said valve-seat and against the water-pressure, an equalizing-plunger at the opposite side of 15 said inlet connected with said valve, and a float connected with said equalizing-plunger.
- In testimony whereof, I have affixed my signature in the presence of two subscribing witnesses.
- ERIC A. NASLUND.
- Witnesses:  
MAY F. SEWERT,  
EMIL NEUHART.