(152.)

JOHN E. PRUNTY.

Improvement in Double Puppet Valves.

No. 122,059. Patented Dec. 19, 1871.

Fig. 2

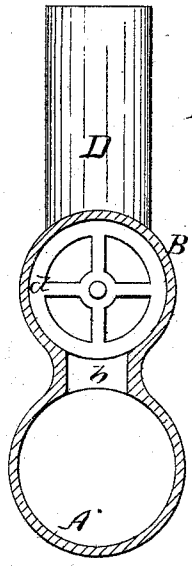


Fig. 1

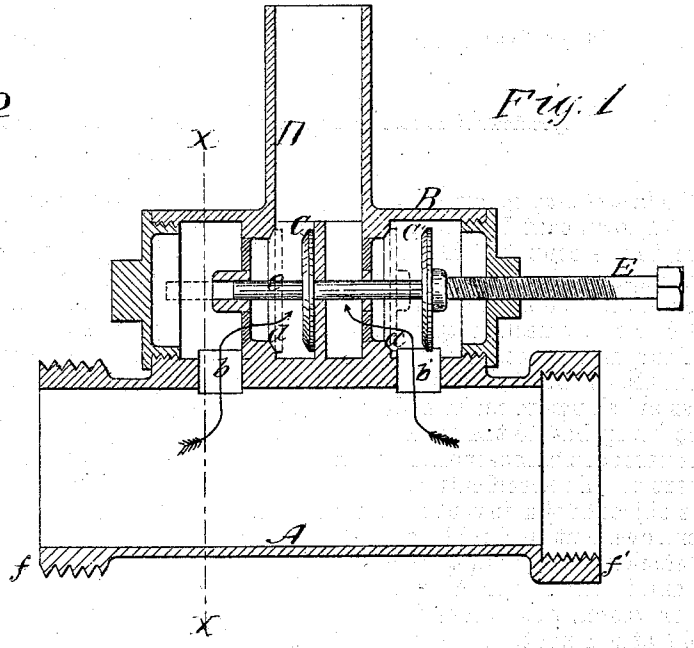


Fig. 3

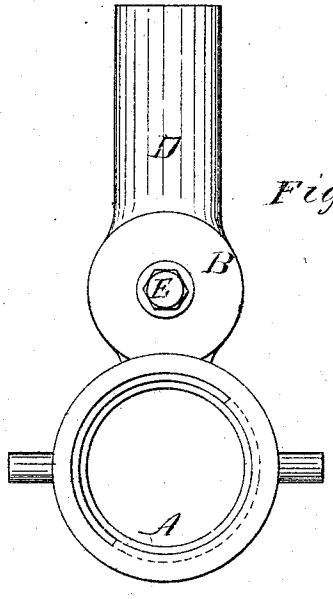
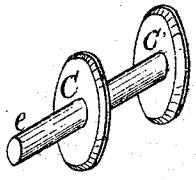


Fig. 4



Witnesses
C. Quinn
O. E. Duffy

Inventor
John E. Prunty

UNITED STATES PATENT OFFICE.

JOHN E. PRUNTY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN AUTOMATIC DOUBLE PUPPET-VALVES.

Specification forming part of Letters Patent No. 122,059, dated December 19, 1871.

To all whom it may concern:

Be it known that I, JOHN E. PRUNTY, of Baltimore, in the county of Baltimore and State of Maryland, have invented a new and useful Improvement in Double Automatic Puppet-Valves; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention belongs to make and use the same, reference being had to the accompanying drawing and letters of reference marked thereon and making part of this specification.

The object of this invention is a new and useful improvement in double puppet relief-valves for steam-engines, pumps, water-elevators, hose, &c.; and it consists in a cylindrical discharge-pipe or vessel, with ports in each end with a double attachment. It may be attached to a steam-engine, steam-pump, water-elevator, &c. It further consists in an independent auxiliary double automatic puppet-valve chamber cast on and parallel with the main cylinder, having valve-seats therein communicating immediately and directly with ports in said cylinder. It further consists in an outlet or eduction-pipe cast on the said valve-chamber about the middle of said chamber, communicating with and through the puppet-valve chamber to said ports in the main cylinder. This pipe is for the purpose of a discharge or eduction, through which the surplus or waste fluid passes, consequent to the reverse action of the main current, stoppage, obstruction, or back pressure, or any undue or over pressure in said cylinder through which the main current passes. It further consists in so arranging the double puppet-valves that they open and discharge at the same time, the pressure being equal from both end ports, thereby balancing each other, avoiding noise of clack or racket so common to other relief-valves—so much so that horses have been frightened, run off, and consequent destruction follows. It further consists in the arrangement of adjusting the double puppet-valves by means of a set-screw or hand-wheel at the end of the auxiliary valve-chamber when a reverse current of water is required—as, for instance, in drawing water from plugs or docks. When the double valves are closed tight neither air, steam, nor water will leak through.

It will be observed, by persons familiar with relief-valves now in use, that the water flies out with violence, wetting the attendants and otherwise annoying them. With my valve this inconvenience is obviated by the adjustment of the valves until the proper connections are made.

By reference to the drawing it will be seen that the cylindrical discharge or reception-pipe is free from any obstruction to the current. It may be used for common connection as well as an automatic relief-valve, all of which is cheap, simple, easy of construction and operation, the whole being cast in one piece or casting except the double puppet-valve, which is also cast in one piece, stem and disks; then inserted in the auxiliary valve-chamber, avoiding all packing-friction, unnecessary chambers, and appliances common to other valves. Such spaces and appliances are often the cause of much delay by their frequent freezing and clogging, which are often loaded down and encumbered with extraneous matter, which often render them difficult of operation, particularly in fire-engines, where time is so valuable.

Figure 1 in the drawing is a vertical longitudinal section. Fig. 2 is a cross-section through the lines *x x*, Fig. 1. Fig. 3 is an end elevation, and Fig. 4 is a perspective view of the double puppet-valve, showing the valve-stem.

Like letters of reference refer to corresponding parts in all the figures.

A represents the main cylinder, having one port, *b*, in each end communicating with the double puppet-valve chamber B, whereby the reverse current of fluid passes into said valve-chamber. B represents the double puppet-valve chamber resting on the main cylinder, showing the double puppet-valve C in an open position; also in a closed position in dotted lines. C represents the double puppet-valves in their natural position working on their spindle, guided by the hole or bearing in the valve-seat *d*. It will be seen that a stem, *e*, projects from one end of the valve C, entering the valve-seat *d* in the center, thereby effectually securing the valve in its lateral motion, avoiding any possible danger of the valve becoming disarranged. D represents the outlet or eduction relief-pipe, whereby the water or fluid passing through the ports *b*, also through the valves C and chamber B, is passed off into the street or any proper receptacle arranged for that purpose. E represents a set-screw on the end of valve-chamber B. This may be used

with a wrench or hand-wheel, as the case may be. Said screw is for the purpose of effectually confining the valves to their seats when a reverse or suction-current takes place, to prevent the fluid passing out through the eduction-pipe D, when such prevention is required.

I am aware that relief-valves have been used before and are common; but I am not aware that the discharge-pipes or valves have ever been made or used in the manner shown and described.

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

1. The cylindrical discharge-pipe A with its ports *b* and *b'* and double attachments *f f'*, substantially in the manner and for the purpose shown and described.

2. The double puppet-valve chamber B, in combination with cylinder A, ports *b b'*, attachments *f f'*, substantially as and for the purpose described.

3. The double puppet-valves C C', their valve-seats *d d'*, in combination with cylinder A and valve-chamber B, substantially as shown and described.

4. In combination with cylinder A, chamber B, valves C C', seats *d d'*, stem *e*, set-screw E, and eduction-pipe D, all arranged, constructed, and operating in the manner and for the purpose set forth.

JOHN E. PRUNTY.

Witnesses:
E. QUINN,
O. E. DUFFY.

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