

No. 806,268.

PATENTED DEC. 5, 1905.

W. F. KOONTZ.  
FIRE DEPARTMENT COUPLING.

APPLICATION FILED MAR. 29, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

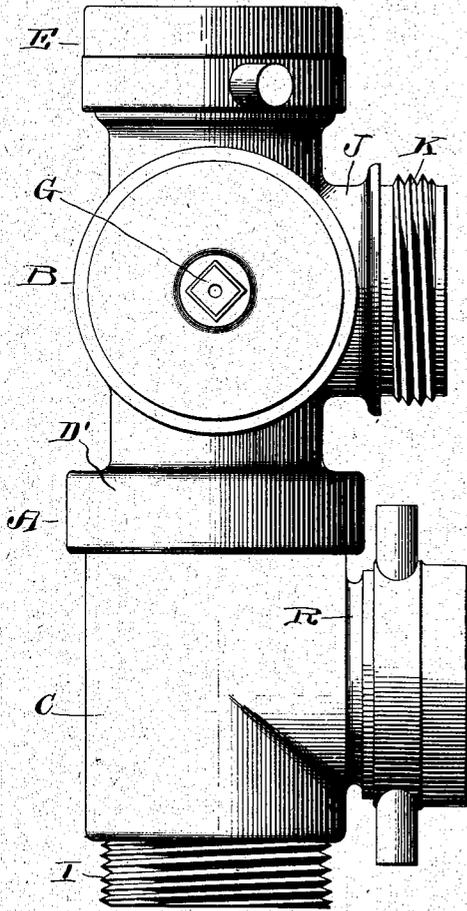


Fig. 2.

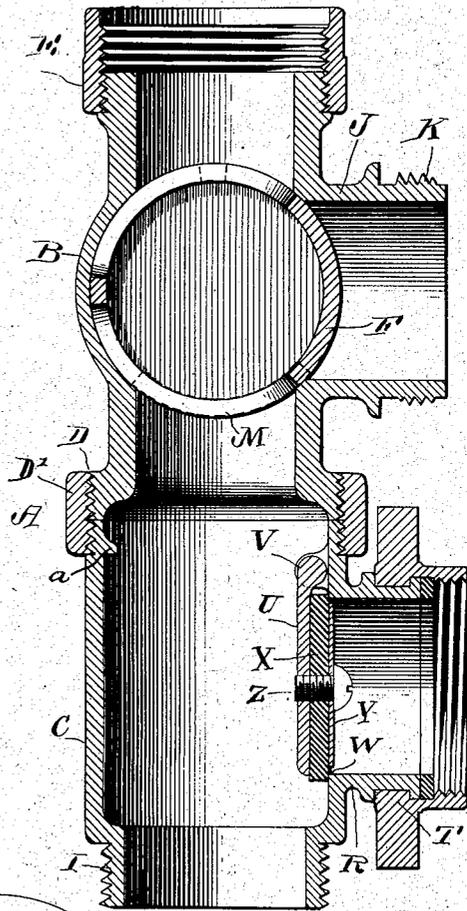
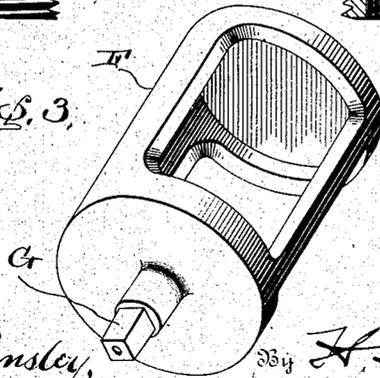


Fig. 3.



Witnesses

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2 SHEETS—SHEET 2.

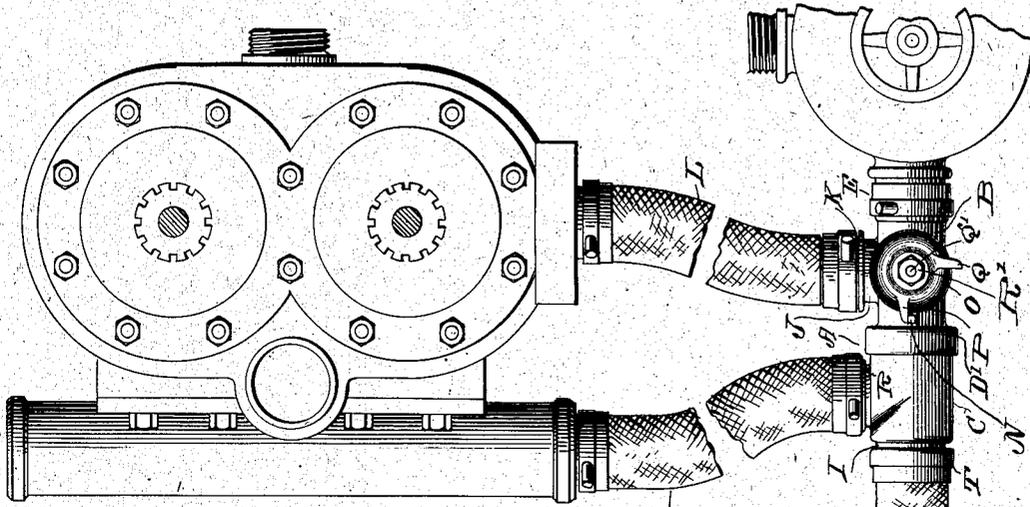


Fig. 5.

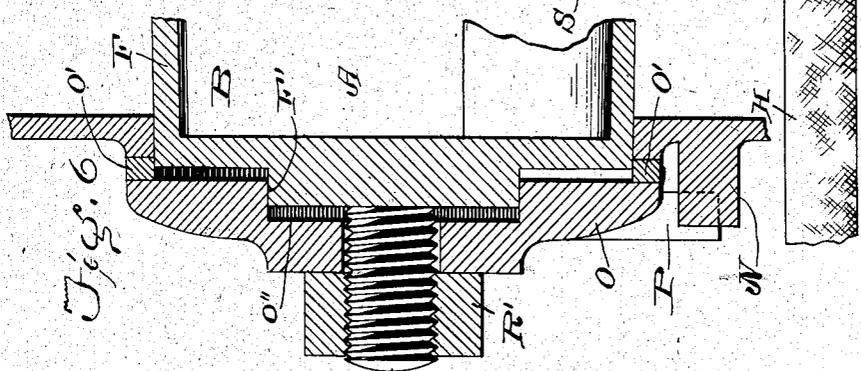


Fig. 6.

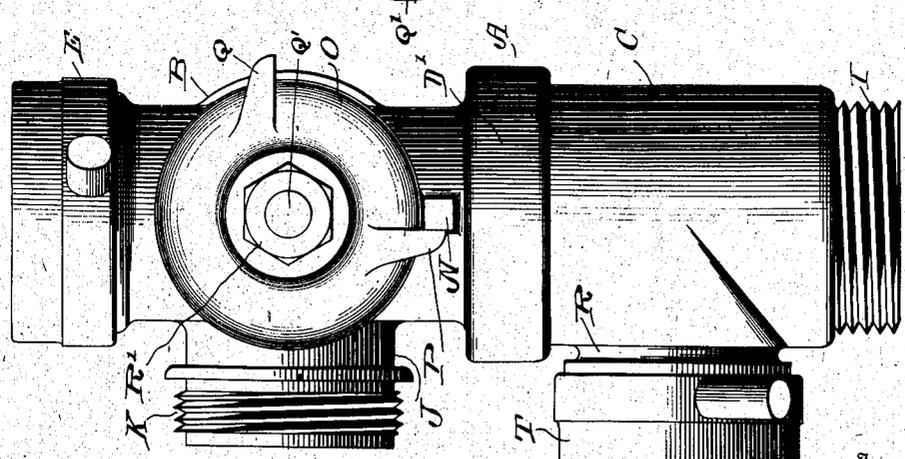


Fig. 7.

Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM F. KOONTZ, OF SPRINGFIELD, OHIO.

## FIRE-DEPARTMENT COUPLING.

No. 806,268.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed March 29, 1905. Serial No. 252,642.

*To all whom it may concern:*

Be it known that I, WILLIAM F. KOONTZ, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio,

have invented certain new and useful Improvements in Fire-Department Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a portable coupling for use in city fire departments; and the purpose of the invention is to provide a means by which after a hose-wagon on arriving at the fire has had its hose connected to the source of water-supply—say a water-pressure fire-plug—and is playing on the fire a steam fire-engine on arriving may be connected with the same source of water-supply and may play on the fire through the same hose already so connected without disconnecting the hose connection so already made with the water-supply before the arrival of the engine and also without interrupting the flow of the stream.

The broad object or purpose of my invention is to accomplish this new result. I regard myself as the first to do this. Under the existing system one of two things is necessary to start an engine to play on a fire when the engine arrives at the fire-plug and finds that the hose-wagon crew has preceded it and connected the hose with the fire-plug—namely, either that a separate hose-line has to be run out, attached to the plug and extended to the fire and the engine connected up to play through such hose with the incidental effect of at first lessening the plug-pressure in the first line of hose and then finally stopping that line altogether by the action of the engine in diverting the water from it at the fire-plug, or when the engine arrives the fire-plug has to be cut off, the hose disconnected from the plug and connected to the discharge side of the engine-pump while the engine suction-pipe is connected to the plug. In either case there is loss of time, often at the most critical moment, in getting control over the fire, and in the latter case firemen at the nozzle of the first hose are suddenly deprived of their stream when the plug is cut off to connect up the engine to their hose. There are cases where firemen thus deprived of their stream while in dangerous smoky places, as in a loft, have been subjected to great danger and hardship, if not to actual suffocation. By the means of my invention both of these existing difficulties are avoided, and when the engine arrives

it is connected with the fire-plug or source of water-supply without stopping the stream already playing and without the laying of a new line of hose.

To this end my invention consists, essentially, of a coupling adapted for connection—say with the fire-plug, for connection with the hose, and for connection with the engine suction-pipe and engine discharge-hose—with suitable valve or cut-off devices, all as hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings, on which like reference characters indicate corresponding parts, Figure 1 is a side elevation of my coupling; Fig. 2, a longitudinal sectional view through the same; Fig. 3, a detail perspective view of a valve or cut-off; Fig. 4, a side elevation looking at the opposite side from that shown in Fig. 1; Fig. 5, a general view or diagram, showing a water-pressure fire-plug, my coupling, a line of hose, and the pump of a steam fire-engine connected to my coupling in a manner ready for use; and Fig. 6, a detail sectional view through the coupling.

The letter A designates the portable coupling generally, the same consisting of one or more sections, as may be desired. In the present instance, for convenience of manufacture, two sections B and C are used. These sections are interconnected by means of a screw-thread D and band D'. Section B is adapted for connection with the source of water-supply—say a fire-plug containing water under pressure—and for that purpose is provided with any approved form of threaded ring E. The section B is further provided with a cut-off F, adapted to be operated by the application of a suitable tool to its projecting stem G, as particularly seen in Figs. 1 and 3. As shown in Fig. 2, the cut-off stands in position to allow the water to pass by its pressure from the fire-plug through the coupling and thence into and along the line of hose H, as seen in Fig. 5, and which hose is connected to the section C at I by the usual means. The section B is further provided with a branch J, adapted, through a threaded part K, to be connected with the engine suction-pipe L, as also suggested by Fig. 5. The cut-off F stands across the branch J in what might be called the "normal" position—that is to say, when the water is playing directly through the coupling; but this cut-off is adapted to be turned so that it will stand across the passage of the coupling at the point M,

as shown in dotted lines in Fig. 2, in which position of the cut-off the water will pass into the branch J and thence to the suction-pipe of the engine. To limit the movements of the cut-off, so that it will stand in either of the two positions described when turned to either limit, I provide a stud N on the outer wall of the coupling and provide a cap O, with lugs P and Q. When the lug P is in contact with the stud N, the water will pass straight through the coupling; but when the lug Q is in contact with the stud N the water will pass out through the branch J. The cut-off F is tapered and is drawn and held in place in its seat by means of the cap O bearing upon the ring O', which in turn rests upon the coupling-casing, and by the threaded stud Q' and nut R'. The end of the cut-off has a square boss F', which fits within a correspondingly-shaped socket O' of the cap O, so that when the cut-off is turned the cap will turn with it and bring its lugs P and Q, respectively, into contact with the stud N. This is one mode of constructing the cut-off; but it may be departed from without departing from the invention itself.

The section C has a branch R, which connects with the discharge-hose of the engine through any approved connection, such as the threaded ring T. In this section there is located a valve U, pivoted at V, and when in the normal or closed position, as shown in Fig. 2, it rests on a seat W. A cushion or gasket X is held to the valve proper by means of a plate Y and a screw Z. This valve serves the office of preventing the water from flowing into the branch R before the engine begins to act; but when the water begins to enter through the branch from the discharge-hose S then the valve U opens until it finally swings against the stop a.

Having described the construction of my coupling in respect to the form selected for illustration, I will now set forth the mode of operation and manner of using the device. The coupling will generally be carried by the hose-wagon of a fire department and will be normally attached on the end of the hose. On arrival at the fire the crew will attach this coupling to, say, a water-pressure fire-plug, as seen in Fig. 5. They will then run out their hose and form a line, as suggested at H in Fig. 5. The normal position of the cut-off F being that shown in Fig. 2 and also the normal position of the valve U being that shown in such figure, there is nothing for the crew to do but to turn the water on in the fire-plug, when it will instantly pass through the coupling and into the line of hose. The reason for the coupling being carried most usually by the hose-wagon is that the hose-wagon usually reaches the fire ahead of the engine, because it is lighter and the horses can run faster with it. When the engine arrives, the crew immediately connects the suction-pipe L with the

branch J of my coupling and at the same time connects the discharge-hose S with the branch R of the coupling. The engine is then put into action, and as it starts up the cut-off F is turned quickly to the position shown in dotted lines in Fig. 2 or is turned more or less into such position, usually wholly to such position. The effect is to divert the water through the branch J, or to partly so divert it, according to the extreme to which the cut-off is turned and to thus supply the engine with water. The action is so quick that in either case there is no interruption in the flow of the stream through the hose, since the momentum of the water at the time the cut-off is manipulated is such as to keep up the stream for the mere instant occupied in diverting the water through the engine. It will be seen also that during the coupling of the engine suction-pipe and discharge-hose to my coupling there is no interruption in the play of the water. It will further be seen that the same hose which the hose-wagon crew connected with the fire-plug and were using when the engine arrived is utilized after the engine goes into action. Incidentally this not only has the advantages above referred to, but avoids the use of additional hose and saves the cost of purchasing and carrying the same, as well as the time in running it out during the fire. Thus the several advantages and features of utility of my coupling will be fully understood in addition to its construction and simplicity.

I have shown the sections B and C as directly connected together; but it is obvious that without departing from my invention they might in practice be otherwise related or that the distance between the two sections might be greater than here shown. It will further be understood that the particular type of cut-off and valve may be changed or varied without departing from my invention and that whether the coupling is made in two sections or more or only one is not material. It will also be understood that in use section B of my coupling might be left on the fire-plug, while section C could be carried on the hose or with the hose-wagon or possibly in some cases with the engine and that on arriving at the plug the connection would be made between the two sections instead of as here illustrated and described, where the connection is made between section B and the plug. This is merely referred to as a possible though not so advantageous a system of use of my device. I would further state that while it is preferred in practice to apply the coupling to the source of water-supply directly, still there may be more or less distance between the coupling and such supply as if a section of hose extended from the immediate source of supply to the coupling instead of screwing the coupling directly to the fire-plug.

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

1. A coupling of the character described, comprising a hollow body composed of one or more sections and adapted for connection with a water-supply and a line of hose, and having branches adapted for connection with an engine suction-pipe and a discharge-hose, and suitable cut-off devices to divert the water from the main body to one of the branches and back from said branch to said body again, so that the body will be closed when the branch is open, and the branch will be closed when the body is open.

2. A coupling of the character described comprising a hollow body composed of one or more sections and adapted for connection with a water-supply, and a line of hose, and having branches for connection with the engine suction-pipe and discharge-hose, and having a cut-off to divert the water from the main body to one of the branches, and a valve to guide the water through the coupling past the other branch and to permit the water to enter the coupling through said branch.

3. A coupling of the character described comprising a hollow body composed of one or more sections, one end of the body being adapted for connection with a water-supply and the other end with a line of hose, a discharge-branch near the first-named end for connection with an engine suction-pipe, and an inlet-branch near the other end for connection with an engine discharge-hose, a cut-off near the first branch and an inwardly-opening valve near the second branch.

4. A coupling of the character described comprising a hollow body composed of one or more sections and adapted at one end for connection with a water-supply and at the other end for connection with a line of hose, and having a discharge-branch near one end and an inlet-branch near the other, a hand-operated cut-off near the first branch and an inwardly-opening pivoted valve near the second branch, stop devices to limit the movement of the cut-off in one position or the other and a stop device for the valve.

5. A coupling of the character described comprising a hollow body composed of a plurality of interconnected sections, one section adapted for connection with a water-supply and the engine suction-pipe, and having a cut-off, and the other section adapted for connection with a line of hose and an engine discharge-pipe and having a valve.

6. A coupling of the character described comprising a hollow body composed of two sections adapted for interconnection, one section also adapted for connection with a water-supply and having a branch for connection with an engine suction-pipe, and a cut-off in said section, and the other section adapted for connection with a line of hose and having a branch for connection with an engine discharge-pipe, and a valve between said branch and its section.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM F. KOONTZ.

Witnesses:

E. O. HAGAN,  
HARRIET HAMMAKER.