J. STODDARD.

Coupling for Hydrant-Suction.

No. 209,591. Patented Nov. 5, 1878.

Fig. 1.

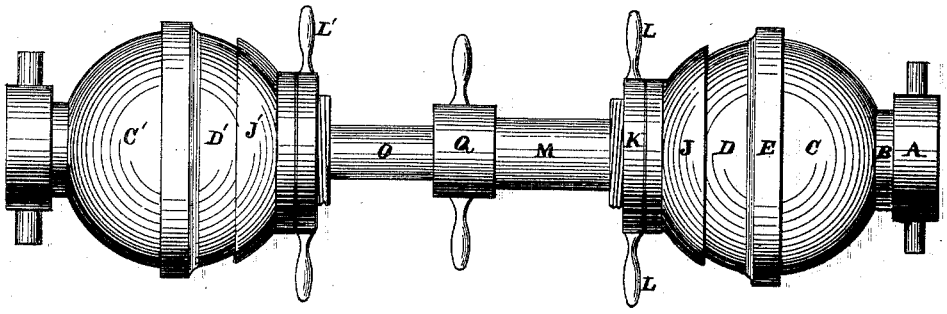
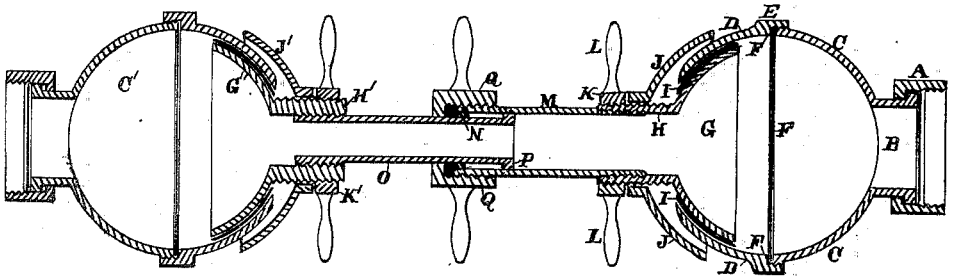


Fig. 2.



Witnesses

Geo. H. Strong.

Frank A. Brooks

Inventor

James Stoddard

By Dewey & Co.

attys

UNITED STATES PATENT OFFICE.

JAMES STODDARD, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN COUPLINGS FOR HYDRANT-SUCTIONS.

Specification forming part of Letters Patent No. **209,591**, dated November 5, 1878; application filed September 23, 1878.

To all whom it may concern:

Be it known that I, JAMES STODDARD, of San Francisco, county of San Francisco, State of California, have invented a Hydrant-Suction; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to a novel hydrant-suction such as is used for connecting steam fire-engines with the hydrants; and it consists in the employment of an adjustable telescopic connecting-pipe having suitable joints at each end, so that the engine and hydrant may be connected within reasonable distances, or at different angles with each other, without the necessity of an exact placing of the engine.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a side view of my device. Fig. 2 is a longitudinal section of the same, showing the interior construction.

Let A represent the coupling or collar, having the usual studs by which it is screwed on to the engine suction-pipe by means of the spanner. This collar fits loosely onto the neck B of the under half of the ball C, a flange or shoulder in the end of said neck holding it in position, and a washer between the back of collar and flange preventing leakage when the collar is screwed up.

The ball of which the neck is part is formed in two parts, C and D, as shown. The part C has screw-threads formed on its outer edge, which fit into the screw-threads on the inner side of the flange E on the half-ball D. This flange E is in the center of the two half-balls when they are in position, and the shoulder F at the back of the screw-threads on the flange forms a seat for the washer F′, which prevents leakage when the two parts are joined together to form the ball.

Inside of the half-ball D fits a hemispherical plate, G, having a projecting neck or pipe, H, with screw-threads both on the inner and outer surface of said neck, for the purpose hereinafter described. This hemispherical plate G has a similarly-shaped washer, I, on its outer surface, which comes between said plate and the inner surface of the half-ball D. The plate then fits closely in the ball D, and the neck H projects outward through an opening in the ball somewhat larger than said neck, so that the ball may be revolved for a certain distance on the plate. Over the projecting neck or pipe H is slipped a cap, J, which encircles the outer surface of the half-ball D, as shown. Behind this is screwed onto the pipe H the collar K, having the lugs L, by which it is screwed up. The ball may be revolved for a certain distance on the plate G between said plate and the cap J; but when it is desired to prevent the ball from thus revolving, by screwing up the collar K it presses the cap J tightly against the outer surface of the ball, and at the same time draws the inner plate, G, back firmly against the inner surface of said ball, thus closing the joints tightly and preventing the ball from turning, it being held between the plate G and the cap J.

A sleeve, M, having screw-threads formed on its outer surface at both ends, is screwed into the pipe H, connecting with the plate G. On the outer end of said sleeve M, on its inner surface, is formed a shoulder, N. The telescopic pipe O, which passes through this sleeve, has a flange, P, formed in its end, so that the pipe O cannot be drawn out of the sleeve when once in position. A stuffing-box, Q, screws onto the screw-threads on the outer end of the sleeve M, and the joint between the telescopic pipe and the sleeve can be made tight by screwing up the stuffing-box, which is provided with suitable packing, said packing being pressed between the outer end of the sleeve and the inner shoulder or flange of the stuffing-box.

The telescopic pipe O screws into the neck or projection H′ of the plate G′, said neck and pipe being connected with the ball-and-socket joint at that end, precisely alike in every respect to that previously described. The coupling into which the telescopic pipe is screwed is attached to the hydrant, so that a smooth flow of water is insured through to the engine. These two ball-and-socket joints, with their connections, are united in the manner described by the telescopic pipe O, which allows the distance between them to be lengthened or shortened, while connection is still maintained between them by means of said pipe. The pipe may slide back and forth

through the sleeve M, thus bringing the balls together or separating them. When in the proper position the stuffing-box Q may be screwed up and the joint thus tightly closed.

When the telescopic pipe is pushed on or closed the appliance occupies very little room, and may be readily carried on a fire-engine. On arriving at a fire, when it is desired to connect the engine with the hydrant, the coupling into which the telescopic-pipe is screwed is connected with the hydrant, and the other coupling screwed onto the suction-pipe on the engine. While thus connecting the engine and hydrant the balls may revolve freely in their sockets, and it is not necessary to have the suction-pipe of the engine directly in line with the hydrant-opening, since the one on the engine will adjust itself off of the line some sixteen inches or more, and that on the hydrant will accommodate itself to the other. The telescopic pipe adjusts itself, since, when drawing one coupling out after the other is screwed to the hydrant, the pipe will be drawn out to the proper length.

When the couplings are screwed onto both hydrant and suction-pipe of engine and the connections are all made properly, the collars K K′ are screwed up against the caps J J′. This pushes the caps firmly against the balls and draws the inner plates, G G′, with their washers, firmly against the inner surface of the balls, thus making tight joints, and also preventing the balls from revolving. Then by screwing up the stuffing-box on the collar the packing in said stuffing-box is brought tightly against the end of the collar, and a tight joint is made there, so that direct metallic connection is formed between the engine and hydrant without danger of breakage or bursting of the suction-pipe.

On the coupling which connects with the engine, I can remove half of the ball, and by forming studs on the flange E turn the remaining half-ball and screw it direct to the suction-pipe of the engine. This answers the same purpose, and gives a wider opening into the engine than when the whole ball is used. This suction-coupling can be connected and set firm in a very short space of time. It is never in danger of collapsing, as is the carbolized suction-pipe now used. This being short while together can be more easily handled, and the telescopic pipe adjusts itself to the necessary length without trouble. Play enough is given to the ball-and-socket joint, as described, so that the engine may be a little to one side or the other of the hydrant-opening, so that no delay is necessary to adjust the engine with reference to the hydrant.

The connection is thus all metallic between the engine and hydrant. Considerable trouble is given in using the carbolized hose by their frequent collapsing, all liability of which is obviated by the use of this improved telescopic suction-pipe.

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

1. The semi-globular connecting-section D, with its flange E, in combination with the interior section, G, packing I, exterior loose section, J, and the screw-collar K, whereby the desired angle is obtained and a tight joint formed, substantially as herein described.

2. The pipes M and O, fitting each other, as shown, and provided with the internal and external stops N P and the screw-coupling and stuffing-box Q, in combination with the hydrant and engine, connecting adjustable joints, substantially as and for the purpose herein described.

3. A means of connecting engines with hydrants or other water-ways, consisting of the sections D D′, with their internal and external sections G G′ and J J′, washers I, and screw-collars K, in combination with the telescopic pipes M and O and stuffing-box Q, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand.

JAMES STODDARD.

Witnesses:
FRANK A. BROOKS,
R. K. EVANS.