S. RUE.

Water-Supply for Injectors of Steamboat-Boilers.

No. 209,517. Patented Oct. 29, 1878.

Fig. 1.

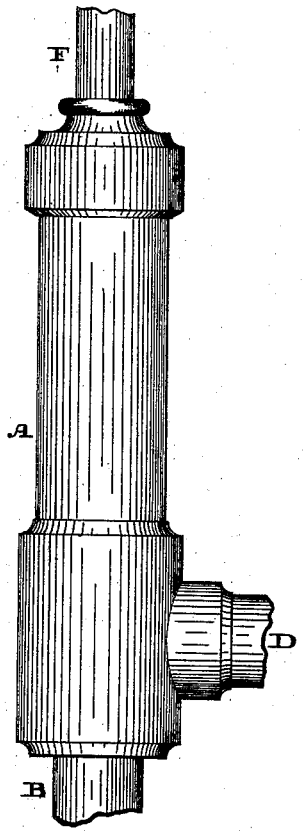


Fig. 2.

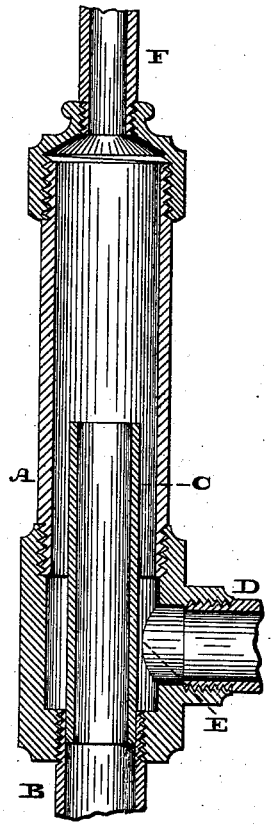
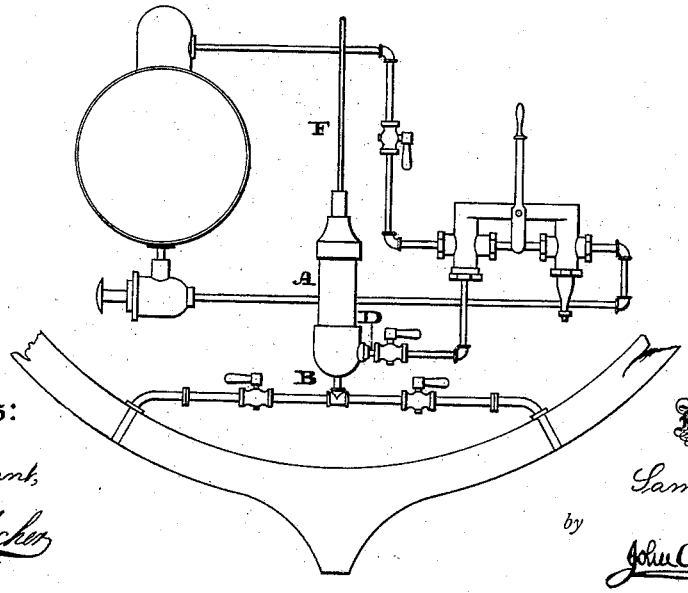


Fig. 3.



Witnesses:

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SAMUEL RUE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN WATER-SUPPLY FOR INJECTORS OF STEAMBOAT-BOILERS.

Specification forming part of Letters Patent No. **209,517**, dated October 29, 1878; application filed July 27, 1878.

To all whom it may concern:

Be it known that I, SAMUEL RUE, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Water-Supply for Injectors of Steamboat-Boilers, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side elevation of the well employed in my invention. Fig. 2 is a longitudinal section thereof. Fig. 3 is a side elevation, showing the location of the well or water-supply.

Similar letters of reference indicate corresponding parts in the several figures.

The use of injectors on boats has not been successful, owing to the jar of the water rushing into the feed-pipe through the sea-cock, or by the drawing away of the water caused by the lurching of the boat, or the sucking of the water from the sea-cock pipe by the motion of the boat through the water, and again by the air-bubbles getting into the feed-pipe, and thus breaking the injector by taking the place of the water. To remedy these defects I combine with the feed-pipe a relief-well, whereby the shock given by the action of the waves or wheel shall be taken off said feed-pipe leading from the well to the injector, and if any air gets into the sea-cock pipe or well it rises by means of another pipe or outlet, and gets a vent without passing into the feed-pipe of the injector.

This invention consists, first, of a well or chamber of any suitable size, into which the water from the sea-cock runs by means of a pipe extended into the well and to a point above the outlet-opening to the feed-pipe. Opening from this well on the top is a pipe of suitable size running to a point above the highest level of the water outside of the vessel, which pipe allows the escape of any air that may be in the well or pipe below it. The well, being placed below the water-line, is always full of water, and from the side of this well, at a point below the top of the pipe extending into the well from the sea-cock, is an opening for the feed-pipe. This same well or attachment may also be put on the pipe leading from the tank carried on the boat or on the tank itself.

The invention consists, secondly, in the combination of this well attachment with an injector for the supplying of water to a steamboat-boiler.

Referring to the drawings, A represents a a well or enlarged pipe placed on the pipe B, leading from the sea-cock or tank. Through the bottom of this well the pipe B is prolonged by a section of pipe, C, extended upward into the body of the well to a point above the upper side of the opening E, and to which the feed-pipe D, which supplies the injector, is to be attached. F is a pipe leading from the top of the well upward to a point above the level of the water outside of the vessel, which pipe allows the escape of air that may come into the well A, and also acts to take away the shock of the water being drawn down pipe B. When all the water is out of well A to the top of pipe C, the air from pipe F takes the place of the water, and the water is not drawn from pipe D. Again, if water rushes with a shock into pipe B and through C into the well A, the pipe F carries off this shock, and the pipe D is not affected by it.

The well and pipe C can be made in one casting, or may be of the ordinary iron fittings screwed together.

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

1. The combination, with a steam-boiler and feeding device, of the well or chamber A and pipe C, arranged as described in relation to the feed-pipe D and inlet-pipe B, whereby the shock of a rush of water or the vacuum of a withdrawal of water from the feed-pipe D, attached at E, or the collection of air therein, is prevented.

2. An injector for feeding steamboat-boilers with water, in combination with a chamber or well, which is provided with a pipe, C, and is attached to the feed-pipe of the injector, and communicates with the sea-cock or tank, all arranged substantially as and for the purpose set forth.

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Witnesses:

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