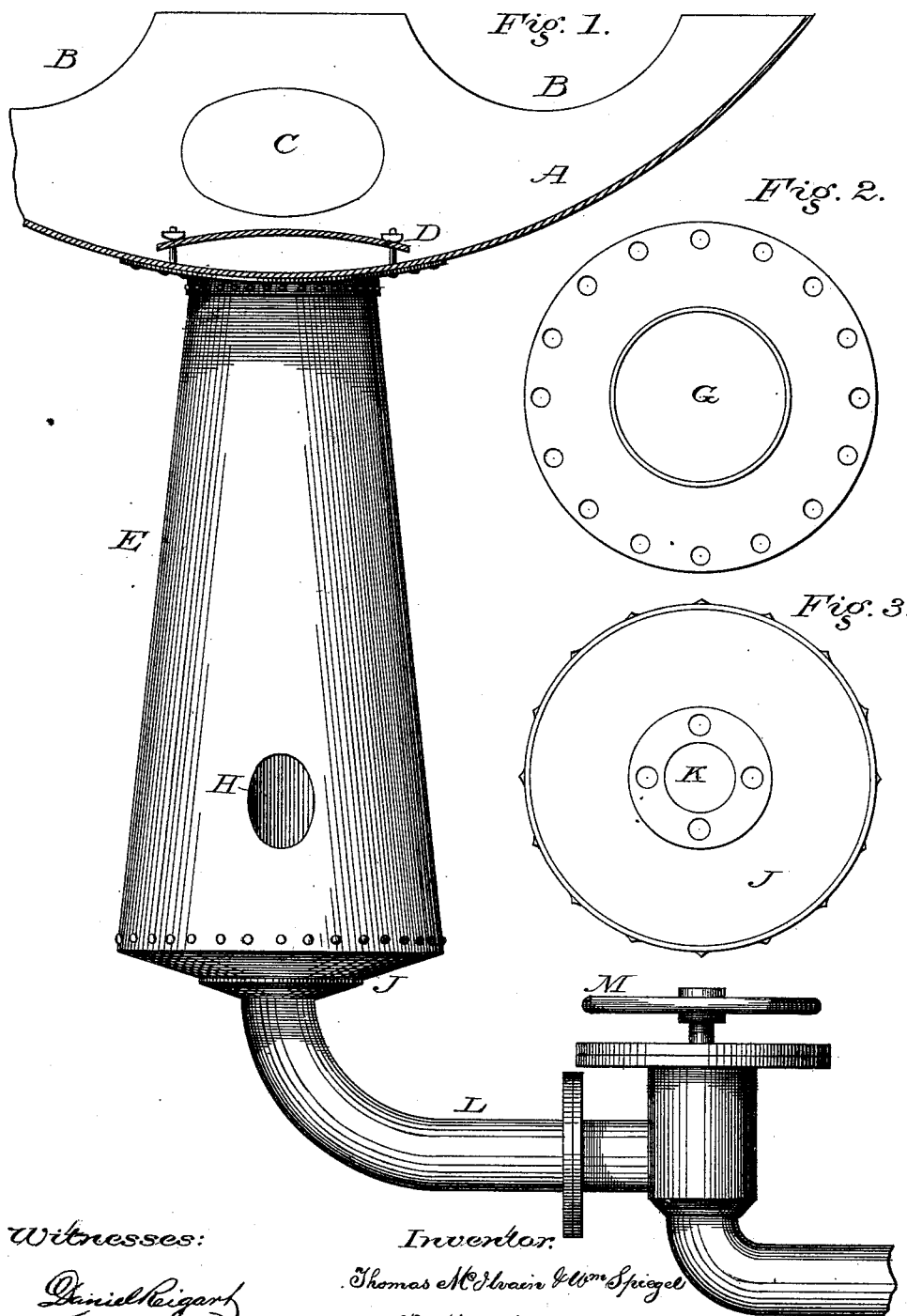


T. McILVAIN & W. SPIEGEL.
Mud and Water Discharge for Steam-Boilers.

No. 213,582.

Patented Mar. 25, 1879.



Witnesses:

Daniel Reigarh
Fredrick J. Sutter

Inventor:

Thomas McIlvain Wm Spiegel
By their Atty J. G. Reigarh

UNITED STATES PATENT OFFICE.

THOMAS McILVAIN AND WILLIAM SPIEGEL, OF CINCINNATI, OHIO.

IMPROVEMENT IN MUD AND WATER DISCHARGES FOR STEAM-BOILERS.

Specification forming part of Letters Patent No. **213,582**, dated March 25, 1879; application filed October 24, 1877.

To all whom it may concern:

Be it known that we, THOMAS McILVAIN and WILLIAM SPIEGEL, of the city of Cincinnati, county of Hamilton, and State of Ohio, have invented new and useful Improvements in Mud and Water Discharges for Steam-Boilers; and we do hereby declare the following to be an exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

Figure 1 represents a perspective view of the section of the boiler with the current-plate inside and the discharger below, with the discharge-pipe underneath. Fig. 2 represents a view of the flange at the top of the discharger. Fig. 3 is a view of the bottom plate of the discharger.

The nature of our invention consists in the combination of an oval current-plate, as constructed inside of the boiler, with a conical discharger (wider below than above) and discharge-pipe underneath the boiler.

The object of our invention is to take the mud or sediment of water direct from any boiler, where there may be a series or any number of boilers, so that the mud or water may be taken away from any one of the boilers.

A represents a section of the lower part of a boiler, with one or more flues, B, and its man-

hole or hand-hole C. D is the current-plate, made oval, and is connected or fastened to the boiler by bolts or rivets. There is an open space between the plate D and the boiler-shell A, to allow the current of water to conduct the mud to the discharger E below. As the water and mud pass in a current under the plate D, they enter the circular aperture G and fall into the discharger E. The discharger E is cone-shaped, with a hand-hole, H, and a circular bottom plate, J, that is convex below, and having an aperture, K, in the center, as shown at Fig. 3, where the discharge-pipe L is connected, to blow off the mud, sediment, or water when required. The discharge-pipe L has an ordinary stop-cock, M, to allow the carrying off of the mud, sediment, or water (whenever required) direct from the boiler.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination of the current-plate D in the boiler A and the conical mud and water discharger E beneath the boiler A, with its discharge-pipe L, when constructed as herein described, and for the purposes set forth.

THOMAS McILVAIN.
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Witnesses:

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