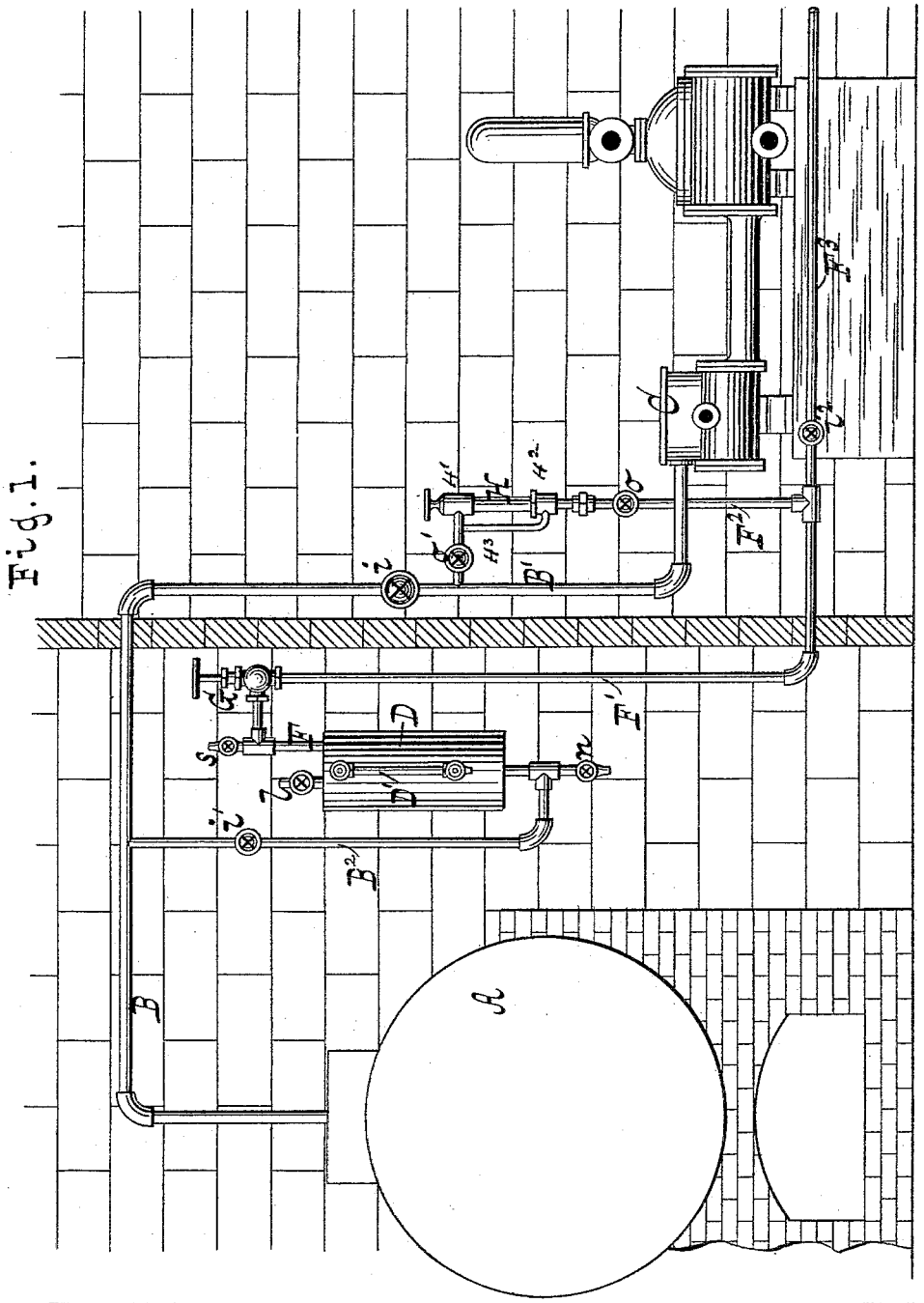
(No Model.) 2 Sheets—Sheet 1.

T. FITZPATRICK.

APPARATUS FOR AUTOMATICALLY LUBRICATING STEAM CHESTS.

No. 384,354. Patented June 12, 1888.

Fig. 1.



WITNESSES:

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(No Model.) 2 Sheets—Sheet 2.

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No. 384,354. Patented June 12, 1888.

Fig. 2.

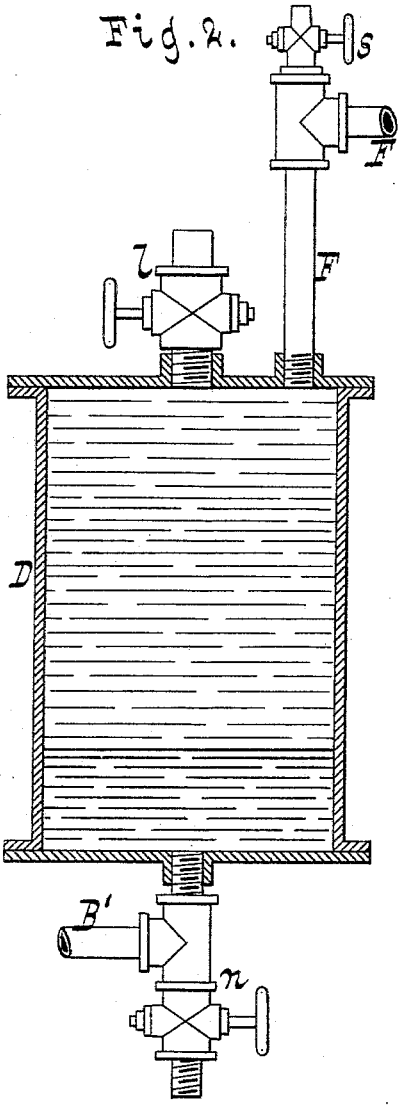
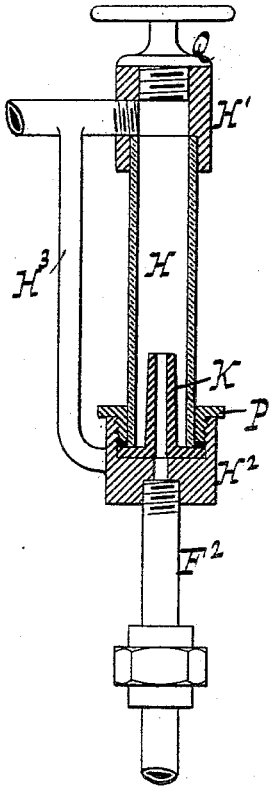


Fig. 3.



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UNITED STATES PATENT OFFICE.

THOMAS FITZPATRICK, OF NEW YORK, N. Y.

APPARATUS FOR AUTOMATICALLY LUBRICATING STEAM-CHESTS.

SPECIFICATION forming part of Letters Patent No. 384,354, dated June 12, 1888.

Application filed July 12, 1886. Serial No. 207,774. (No model.)

To all whom it may concern:

Be it known that I, THOMAS FITZPATRICK, a citizen of the United States of America, and a resident of the city, county, and State of New York, have invented a new and useful Improvement in Apparatus for Automatically Lubricating Steam-Chests, of which the following is a specification.

My invention relates to apparatus for automatically supplying lubricating-oil to the steam-chests of steam-pumps or steam-engines, and has for its object to permit of supplying oil to the steam-chests of one or more pumps or engines simultaneously and without the employment of the usual oil-cups or lubricators.

The essential features of my invention are illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of the complete apparatus. Fig. 2 represents a vertical section of the oil-reservoir. Fig. 3 represents a similar section of a visible feed arranged in one of the oil-tubes.

Similar letters indicate similar parts.

The letter A designates a portion of a steam-boiler, to which is connected by means of pipes B B′ the steam-chest C of a steam-pump.

D indicates an oil-reservoir, the upper end or part of which is connected by means of tubes F F′ F^2 with the steam-pipe B′, and the lower part of which is connected by means of an auxiliary pipe, B^2, with the steam-pipe B, so that if said reservoir is supplied with oil and steam is admitted to its said lower part the oil has a tendency to flow from the reservoir through the tubes F F′ F^2 to the steam-pipe B′, where it commingles with the steam, so as to enter the steam-chest together therewith, a uniform pressure of steam being maintained above and below the oil from the pipes B′ B^2, respectively, and its discharge thus being due solely to the relative specific gravity of oil and water.

In the steam-pipes are arranged valves *i i′*, for regulating the supply of steam to the steam-chest C and oil-reservoir D, respectively, and in the oil-tubes are arranged cocks G *o o′*, for regulating the flow of oil to the proper steam-pipe, the cocks *o o′* being at opposite points in relation to a glass tube, H, which is arranged in the oil-tube F^2 for the purpose of rendering visible the feed of the oil.

To the top of the oil-reservoir is connected a filling-cock, *l*, through which the oil is to be supplied thereto, and an air-cock, *s*, which is to be opened during the filling operation, while to the bottom of the reservoir is connected a drain-cock, *n*, for emptying it of the water of condensation. In filling the reservoir the steam-valve *i′* and oil-cock G are to be closed, in order to disconnect the reservoir from the steam-supply source. A gage, D′, connected to the side of the reservoir, serves to indicate the quantity of oil therein.

The visible-feed tube H is held between two end heads, H′ H^2, (see Fig. 3,) which are connected together by means of an arm, H^3, and within said tube is arranged a nozzle, K, forming a contracted opening for the escape of the oil to the steam-pipe. On the lower end of the nozzle K is formed a flange, and into the head H^2 is fitted an annular nut, P, which bears against said flange of the nozzle, as shown, for holding the latter in position.

In carrying out my invention, the reservoir D may be placed in, for example, the boiler-room, convenient of access to the engineer, and separated from the apartment where the pump or pumps are located, as indicated in the drawings, the valve G, in that event, serving to control the escape of oil directly from the reservoir.

My invention is of especial advantage for lubricating the steam-chest of a series of pumps used for ice-machines or other purposes in breweries; but it is evident that it may also be used in connection with steam-engines generally.

In Fig. 1 I have indicated a supplemental oil-tube, F^3, having a suitable cock, i^2, for effecting the desired connections with additional pumps.

What I claim as new, and desire to obtain Letters Patent for, is—

In an apparatus for lubricating steam-chests, the combination of the pipe B B′, connecting the boiler with the steam-chest, the oil-reser-

voir D, the pipe B^2, connecting the pipe B with the lower part of the oil-reservoir, the pipe F F' F^2, connecting the upper part of the reservoir with the pipe B', and the visible-feed tube H, the pipes being fitted with suitable cocks, all substantially as shown, for the purpose described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 8th day of July, 1886.

THOMAS FITZPATRICK.

Witnesses:

CONRAD H. PLATE,

G. C. GIESSER.