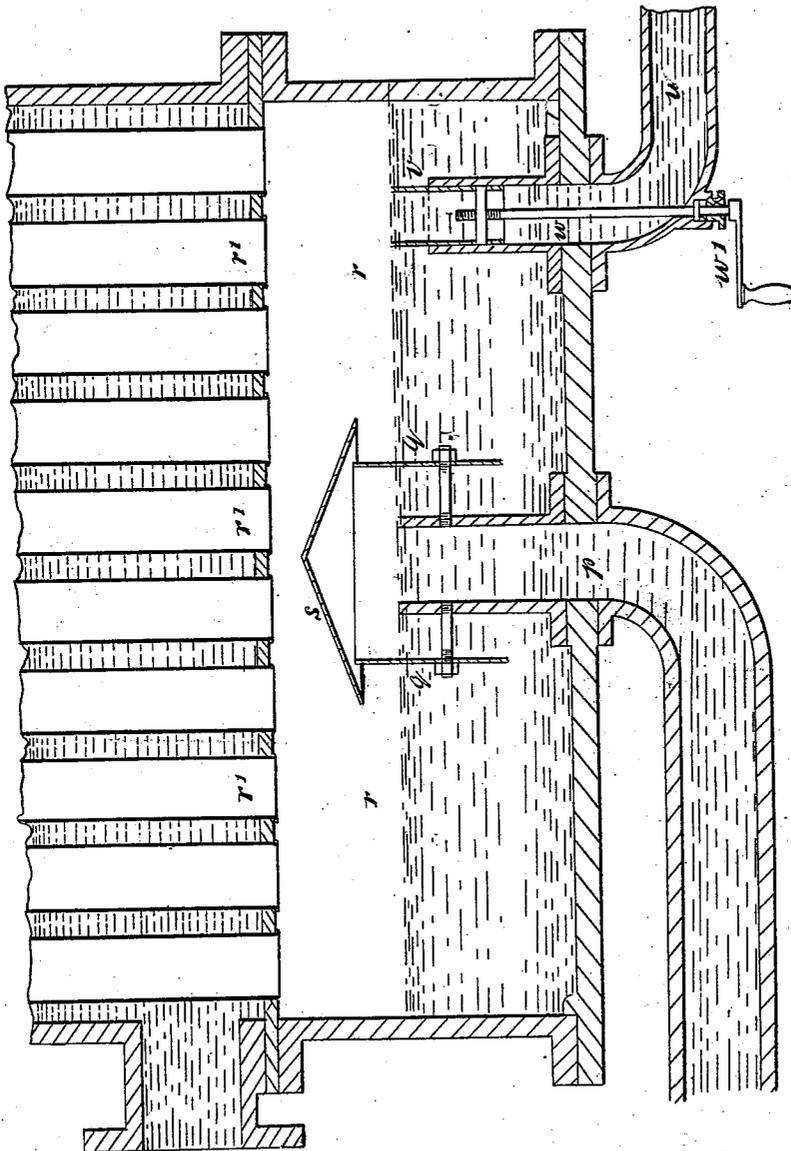


*W. L. & T. Minors,
Steam-Boiler Condenser.*

No 83,480.

Patented Oct. 27, 1868.



*Witnesses:
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United States Patent Office.

WILLIAM LOUIS WINANS, OF CLARGES STREET, ENGLAND, AND
THOMAS WINANS, OF BALTIMORE, MARYLAND.

Letters Patent No. 83,430, dated October 27, 1868; patented in England, March 23, 1866.

IMPROVEMENT IN CONDENSERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, WILLIAM LOUIS WINANS, of Clarges street, in the county of Middlesex, gentleman, and THOMAS WINANS, of Baltimore, in the United States of America, but now residing at Clarges street, in the county of Middlesex, gentleman, have invented "Improvements in Steam-Engines and Boilers;" and do hereby declare that the following is a full and exact description of our said invention.

Our invention relates to surface-condensers of steam-engines, and consists in the means of preventing the surface of the condenser and the valves of the air-pump in surface-condensing engines from being charged, coated, clogged, or obstructed, with grease, tallow, or other extraneous matters which may be carried over with the steam from the cylinder into the condenser. Our improved means of effecting this object are shown at Figure 1, which is a vertical section of the lower part of a surface-condenser, constructed according to our invention.

It will be seen that a space or chamber, *r*, is formed in the lowest part of the condenser to receive the water from the condensed steam, as well as the greasy matters which pass from the cylinders into it. The grease, having less specific gravity than the water, will collect and float upon the surface, and, in order to prevent it from passing into the air-pump, or coming in contact with the valves, the pipe *p*, which conducts the water to the pump from the condenser, is carried up to the height that the water is intended to remain in the chamber. This pipe *p* is surrounded by a cylinder, *q*, which extends some inches above and below the top of it, thus causing the water which passes into the air-pumps to be drawn from the bottom of the reservoir *r*, instead of from the surface therein, thereby effectually preventing the grease and other substances on the surface from passing into the pipe *p* leading to the air-pump. To prevent any grease or other substance from falling into the top of the pipe *p*, or cylinder *q*, surrounding it, a roof or cover, *s*, is formed above it far enough to allow plenty of space for the air to pass freely into the air-pump.

When any considerable quantity of grease has accumulated in the condenser, it can be drawn off by means of a small pump, which may be worked by hand or by the engine, by means of any suitable mechanism, which may be thrown in and out of gear, as the occasion may require.

The induction-pipe *u* of the pump is connected with an upright telescopic tube, *v*, in the chamber *r*. The orifice of this tube, *v*, can be raised or lowered some distance above or below the ordinary water-level, by means of a screw, *w*, provided on the outside with a winch or handle, *w'*, so that it can be brought to the proper height, and regulated for drawing off the grease only.

This proper height for so doing may be ascertained by examining the fluid delivered by the pump, which, if considerably impregnated with grease, would indicate the proper adjustment. If nearly pure water runs out, it will indicate that the orifice is too low, and, if no liquid is delivered, that the orifice is too high.

In order to cleanse the tubes *r r'*, of the condenser, from any tallow which may have congealed on their surfaces, and to enable the pump to throw it out with the oil, or to remove any other foreign fatty substance formed thereon, (and which is soluble by heat,) the injection-water must be sufficiently throttled off to cause the condenser to become heated to a temperature necessary to melt any congealed grease that may have adhered to the tubes. When the grease is melted, it will run into the chamber *r* below, and will mix with the oil and water, and can be pumped out therewith.

Having thus described our invention,

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

The means herein set forth of constructing the condensers of steam-engines, and providing for the drawing off therefrom of the greasy water or scum that may accumulate therein.

In witness whereof, we, the said WILLIAM LOUIS WINANS and THOMAS WINANS, have hereunto set our hands and seals, the day of _____, in the year of our Lord, 1866.

WILLIAM LOUIS WINANS. [L. S.]
THOMAS WINANS. [L. S.]

Witnesses to the signature of W. L. WINANS:

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