

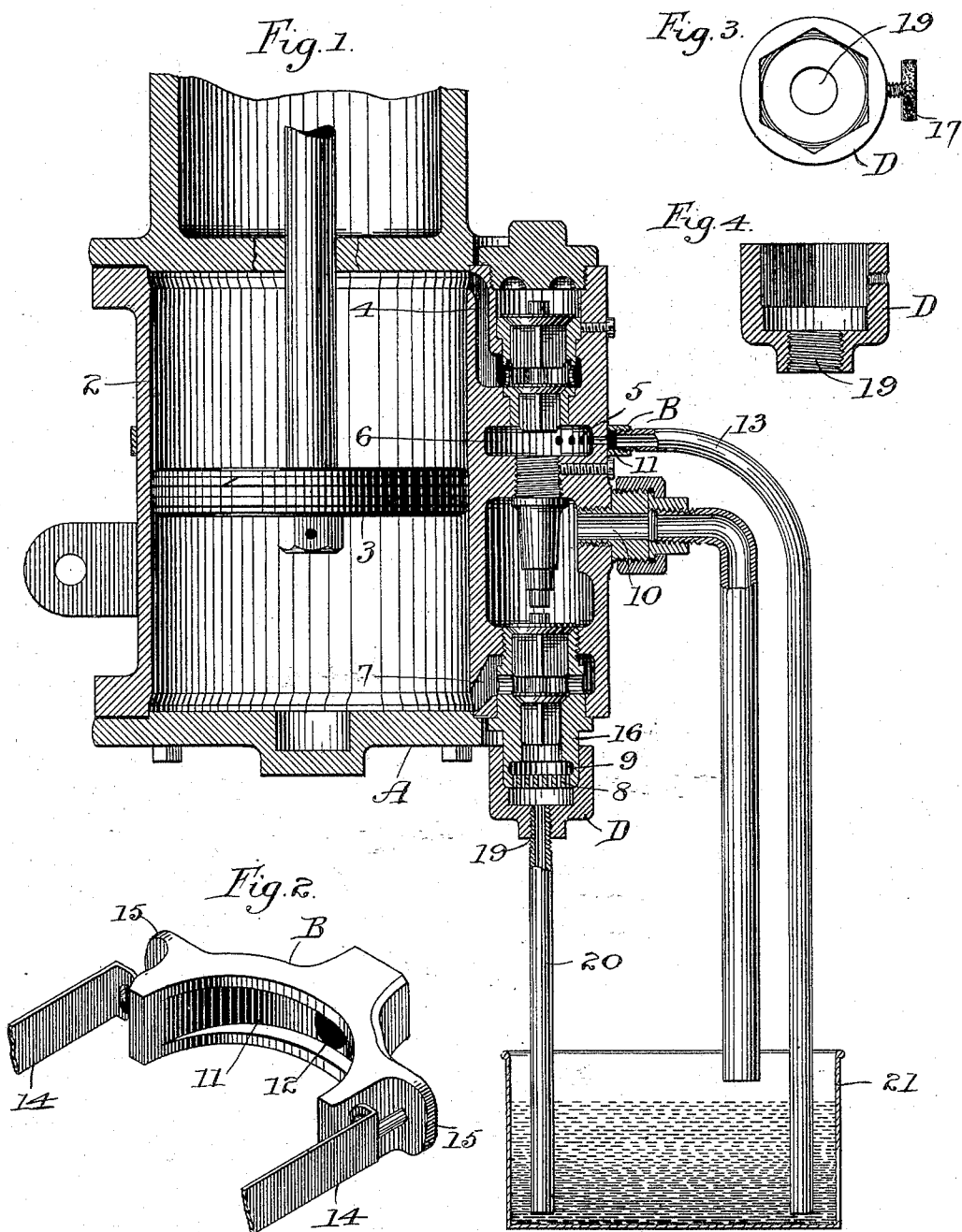
(No Model.)

A. WHYTE.

APPARATUS FOR CLEANING AIR PUMPS OF LOCOMOTIVES.

No. 493,670.

Patented Mar. 21, 1893.



Witnesses:-

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UNITED STATES PATENT OFFICE.

ALEXANDER WHYTE, OF ST. PAUL, MINNESOTA.

APPARATUS FOR CLEANING AIR-PUMPS OF LOCOMOTIVES.

SPECIFICATION forming part of Letters Patent No. 493,670, dated March 21, 1893.

Application filed July 12, 1892. Serial No. 439,767. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER WHYTE, of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in Apparatus for Cleaning Air-Pumps of Locomotives, of which the following is a specification.

My invention relates to attachments to the air pumps on locomotives connected to the automatic brakes, the object being to provide means by which the air inlets to the pump may be cleaned from oil, dust and other impurities, without taking the pump down, or detaching any of its parts. The pump being located in an exposed position, oil is liable to accumulate upon the air inlets, and the dust settling upon the oil gradually clogs the openings, and interferes with the action of the pump. In order to clean the pump from these impurities, it is necessary to take it to pieces, at the expense of considerable time and labor. In my invention I seek to dispense with all this labor, and perform the work automatically.

To this end my invention consists in providing a hollow inclosing cap or cover for the series of air inlets and connecting the same by means of a pipe with a vessel containing concentrated lye, or similar cleansing liquid and also connecting the outlet of the pump by a conductor to the same vessel. As the pump is operated, the liquid is drawn through the air inlets and discharged again into the vessel. The oil and other impurities are thus washed out from the pump in a few moments. Clean water is then used in the same manner to cleanse the parts from the lye, and the attachments being removed the pump is again ready for use.

My invention further consists in the specific construction and combination hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification, Figure 1 is a sectional side elevation of a pump fitted with my attachment. Fig. 2 is an isometrical projection of the yoke or segmental collar which is applied to the upper series of air inlets, and Figs. 3 and 4 are details of the cap which is fitted over the inlets at the bottom of the pump.

In the drawings, which show a pump of

the Westinghouse pattern, A represents the pump, in the cylinder or barrel 2 of which works the piston 3 in the ordinary manner. The inlet port 4 leading to the top of the cylinder is provided with a series of air inlets 5 arranged in a semi-circle around the circumference of the wall of the valve chest, connecting with which is the chamber 6, having valve controlled connection with the port 4. Similarly at the bottom of the valve-chest connecting with the port 7, are the series of air inlets 8 opening into the chamber 9.

10 is the outlet of the pump.

Arranged to fit over the air inlets 5, is the semi-circular yoke B having a concave face to fit to the cylindrical wall of the valve chest, and provided with the inner circumferential groove 11 which, when the part is in place over the air inlets, forms a means of communication between them and from all to the common opening or port 12. This port is screw threaded to receive a pipe 13. The yoke is held in place upon the pump preferably by means of the strap 14 surrounding the same, and having the threaded bolts at the ends passing through the openings in the ears 15 upon the yoke, where they are secured in place by means of nuts threaded thereon. The air inlets 8 are arranged in the hexagonal projection 16 to which is fitted the cap D similarly socketed to cover and inclose the inlets, it being held in place preferably by means of the set screw 17. This cap is provided with a threaded port 19 in which is secured a pipe 20. The pipes 13 and 20 are arranged to extend downward into the vessel 21, in which a supply of concentrated lye is placed. When the pump has become clogged the described attachments are fitted in place over the air inlets, and the conductors secured thereto and to the outlet of the pump and carried to the vessel of cleansing fluid. The pump is then operated in the same manner as for pumping air, and the lye is drawn in alternately at the inlet ports and forced out at the outlet for a sufficient length of time to remove the oil and other impurities. The vessel is then removed and one containing water substituted, the pump is worked again to thoroughly cleanse the parts. The attachments then being removed the pump is again ready for use.

I claim—

1. The combination with a pump of the class described, of the hollow cap or cover fitted over the air inlets, and a conduit connecting the same with a supply of cleansing liquid, substantially as described.

2. The combination with a pump of the class described, of the hollow cap or cover inclosing the air inlets having an opening or port therethrough connecting with said inlets, and a pipe leading therefrom to a supply of cleansing fluid, substantially as described.

3. In a pump of the class described, the combination with the series of air inlets, of a cover adapted to fit over and inclose each series of air inlets and having ports there-through, means for securing said covers in place, and the pipes connecting the ports in said covers with a supply of cleansing fluid, substantially as described.

4. Means for cleaning the inlet ports of a locomotive air pump comprising in combination, hollow caps or covers fitted over said ports, and pipes leading therefrom to a supply of cleansing fluid, whereby in the operation of the pump the cleansing liquid is drawn through said ports and the impurities washed therefrom, substantially as described.

5. The combination with a pump of the class described, of a pipe leading to a supply of cleansing liquid, and means for detachably connecting it with the inlets of the valve chest, substantially as described.

In testimony whereof I have hereunto set my hand this 27th day of June, 1892.

ALEXANDER WHYTE.

In presence of—

T. D. MERWIN,
H. S. JOHNSON.