J. Brown, Jr. & S.R. Brooks,

Steam-Boiler Cleaner.

No. 41,192. Patented Jan. 12, 1864.

Fig: 1

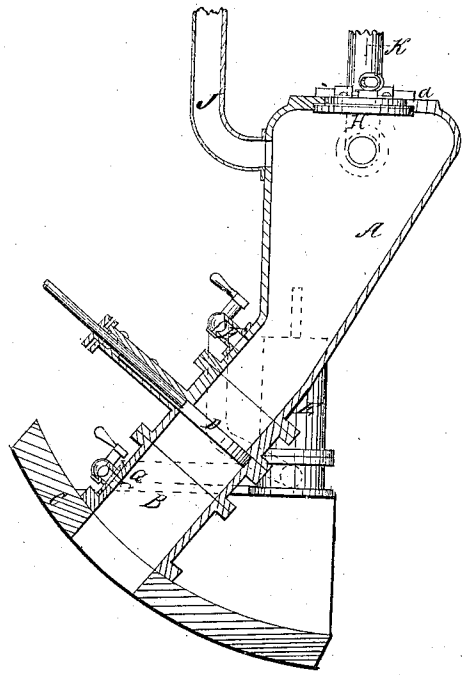
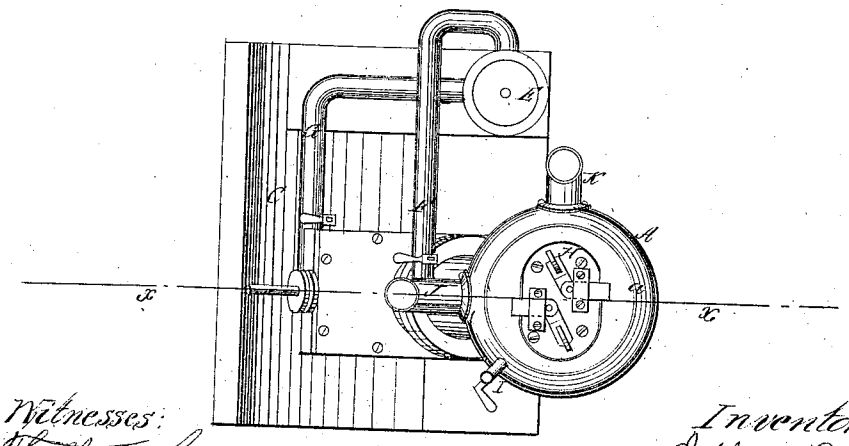


Fig: 2



Witnesses:

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UNITED STATES PATENT OFFICE.

JEFFERSON BROWN, JR., OF NEW YORK, N. Y., AND SAMUEL R. BROOKS, OF ST. LOUIS, MISSOURI.

IMPROVED REFUSE-EJECTOR FOR STEAM-VESSELS.

Specification forming part of Letters Patent No. 41,192, dated January 12, 1864.

To all whom it may concern:

Be it known that we, JEFFERSON BROWN, Jr., of the city, county, and State of New York, and SAMUEL R. BROOKS, of St. Louis, in the county of St. Louis and State of Missouri, have invented a new and useful Apparatus for Ejecting Ashes and other Refuse Matter from Steam-Vessels; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical section of our invention taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same.

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

The object of this invention is to obtain a simple and efficient means for discharging ashes and other refuse matter from steam-vessels, whereby the labor of elevating and discharging the same overboard, as now practiced, will be avoided.

The invention consists in the employment or use of a receiver provided with a valve so arranged as to admit of a communication being formed between the receiver and the water at the exterior of the vessel, and to admit of said communication being cut off when desired, a pump or steam-pressure, either or both, being used in connection with the receiver, and all arranged in such a manner as to effect the desired end.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A represents a receiver, which may be of inverted conical form placed in the lower part of a vessel at the place most convenient to the ashes or other matter to be discharged. This receiver is attached at its lower end to a tube, B, which extends through the bottom or lower part of the side C of the vessel, and within this tube B there is fitted a slide-valve, D, by which a communication may be formed between the receiver A and the water at the exterior of the vessel, and said communication cut off when necessary.

E is a force-pump, the suction-pipe F of which communicates with the lower part of the receiver A. The force or eduction pipe G communicates with the tube B below the valve D, as shown clearly in Fig. 1.

The operation when the pump is used is as follows: The reservoir A is filled with ashes, the valve D being closed, and the ashes put into the receiver through an opening, *a*, in its top. This opening *a*, when the receiver is filled, is closed by a plate, H, arranged and packed similar to the man-hole plate of a steam-boiler. The valve D is then opened and water from the exterior of the vessel rushes into the receiver A. The heavier portions of the contents of the receiver will drop out by virtue of their own gravity, while, owing to the motion of the vessel, nearly all the light matter held in suspension will be washed out. The valve D is then closed, and the pump E put in operation, the water being drawn from the receiver and forced out through the tube B. A cock, I, is inserted in the upper part of the receiver to admit air during the pumping operation. This pump arrangement is applicable to steam-vessels using surface condensers, where steam could not be readily spared to force the water from the receiver. When the "jet-condenser" is employed and "blow-valves" frequently used, steam-pressure may be employed for that purpose, as follows:

J is a pipe communicating with the upper part of the receiver A and leading from the steam-boiler, and provided with a stop-valve. B is a pipe connected with bottom blow-pipe of boiler, also provided with a stop-valve. After the receiver A is filled and the valve D opened steam is shortly after admitted into the receiver through the pipe J, which forces the contents of the receiver out through the tube B. The valve D is closed while the steam is still entering A. If the water entering the receiver is cold enough to condense any amount of steam, the bottom blow through pipe K can first be used, which may be done in most cases without any bad effect to the boilers. By this means the receiver will be filled with hot water, which may be ejected by steam-pressure without any difficulty whatever.

Having thus described our invention, what

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

Ejecting or discharging ashes and other refuse matter from steam-vessels by means of a receiver provided with a valve, and so arranged as to be capable of being used in connection with pressure exerted by a pump, steam, or other suitable agency, as herein set forth.

JEFFERSON BROWN, JR.
SAML. R. BROOKS.

Witnesses:
HENRY B. RICE,
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