

A. KENNEDY & J. H. BERKSHIRE.
Improvement in Steam Condensers.

No. 124,065.

Patented Feb. 27, 1872.

Fig. 1.

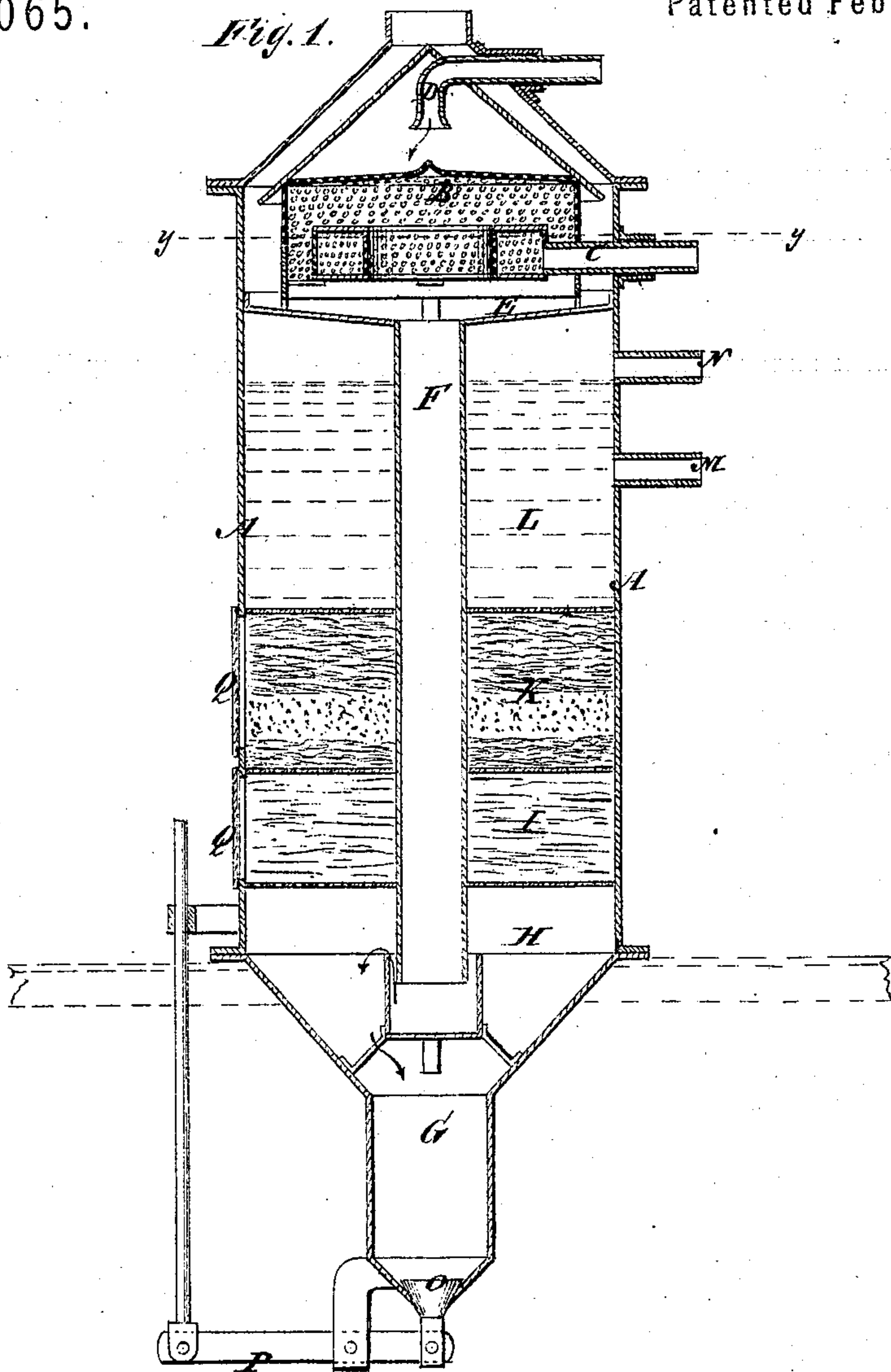
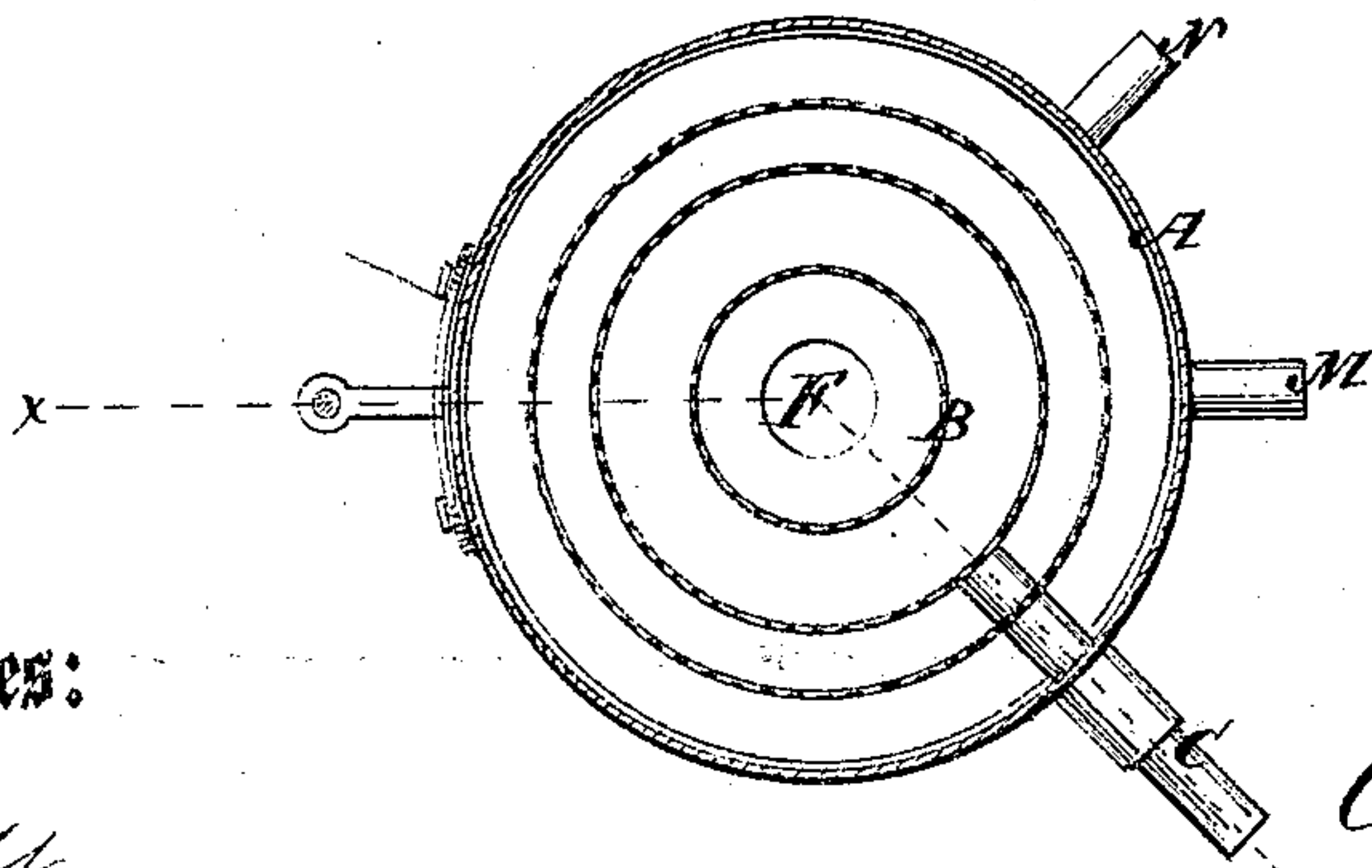


Fig. 2.



Witnesses:

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ARCHIBALD KENNEDY AND JOHN H. BERKSHIRE, OF MUSCATINE, IOWA.

IMPROVEMENT IN STEAM-CONDENSERS.

Specification forming part of Letters Patent No. 124,065, dated February 27, 1872.

Specification describing a new and Improved Steam-Condenser and Water-Filter, invented by ARCHIBALD KENNEDY and JOHN H. BERKSHIRE, of Muscatine, in the county of Muscatine and State of Iowa.

The invention will first be fully described and then clearly pointed out in the claim.

Figure 1 is a sectional elevation of our improved condenser and filter taken on the line *x x* of Fig. 2, and Fig. 2 is a horizontal section taken on the line *y y* of Fig. 1.

Similar letters of reference indicate corresponding parts.

A is a vertical vessel, of sheet metal, preferably with conical ends, in the upper part of which is a perforated sheet-metal distributor, B, of any suitable kind, into which the exhaust steam is discharged from the cylinder to be distributed into spray or jets as much as possible, and above this is the mouth of a cold water-supply pipe, D, discharging upon it in a manner calculated to condense the steam as much as possible. Below the pan B is a diaphragm, E, which conducts the water to the long pipe F, extending to the mud-well G, where the mud is deposited, while the water rises up through the space H and filters I K to the clear-water space L, from which it is taken by a pipe, M, to the feed-pump. N is an escape-pipe for the surplus water. O is a valve in the bottom of the mud-well, which is to be lifted from time to time by a lever, P, to allow the mud to escape and to clear the filters, by allowing the water in chamber L to flow back and wash off the collections upon the ends and sides of said filters. Q represents man-hole covers, which are placed over holes formed in the side of the vessel A for packing the filters.

This apparatus is calculated to be very efficient in condensing the steam; also in heating and purifying the feed-water. It is also very useful as a filter alone for purifying cold

water for the supply of railroad-tanks for filling the tenders.

The particular advantage of the perforated steam-receiver and spreader B under the water-spout D consists in distributing the exhaust steam more freely without those sudden puffs at the commencement of the exhaust. We also claim that the receiver and spreader eases the first injection of the exhaust from the cylinder (by the operation of condensation) and ameliorates the exhaust, and at the same time more thoroughly brings into contact and heats the falling water; and in conjunction with the partially-perforated rings and the angular flange projecting downward outside of said ring, prevents the falling water from being forced up the escape-pipe, whereby the outward escape is made more easy and even, and is more thoroughly brought into contact with the cold water than it would be were the steam exhausted directly through an open-mouthed pipe into the heater.

By confining the steam we did not mean to imply that the steam should be sent back, or should increase the pressure upon the engine; but should be more easily absorbed by the cold water shower.

Our device does not require cleaning or repacking more than once in ten weeks, while all others we have seen require cleaning once a week.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination, in vessel A, of water-spout D and steam-distributor B, as and for the purpose described.

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Witnesses:

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