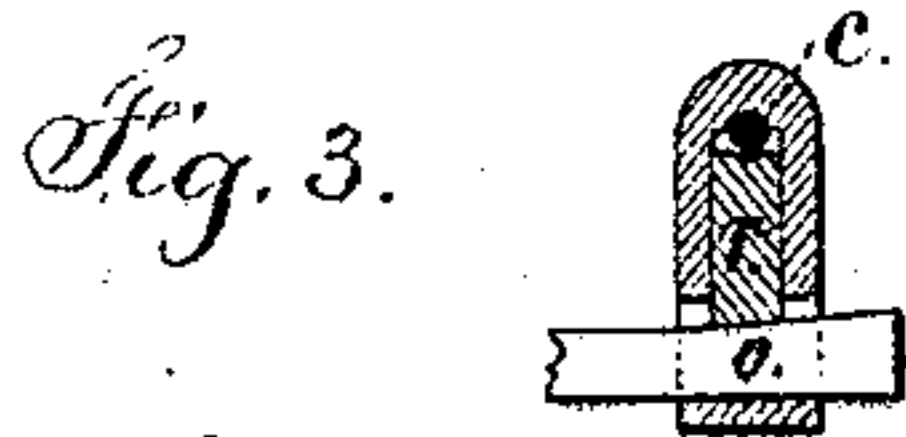
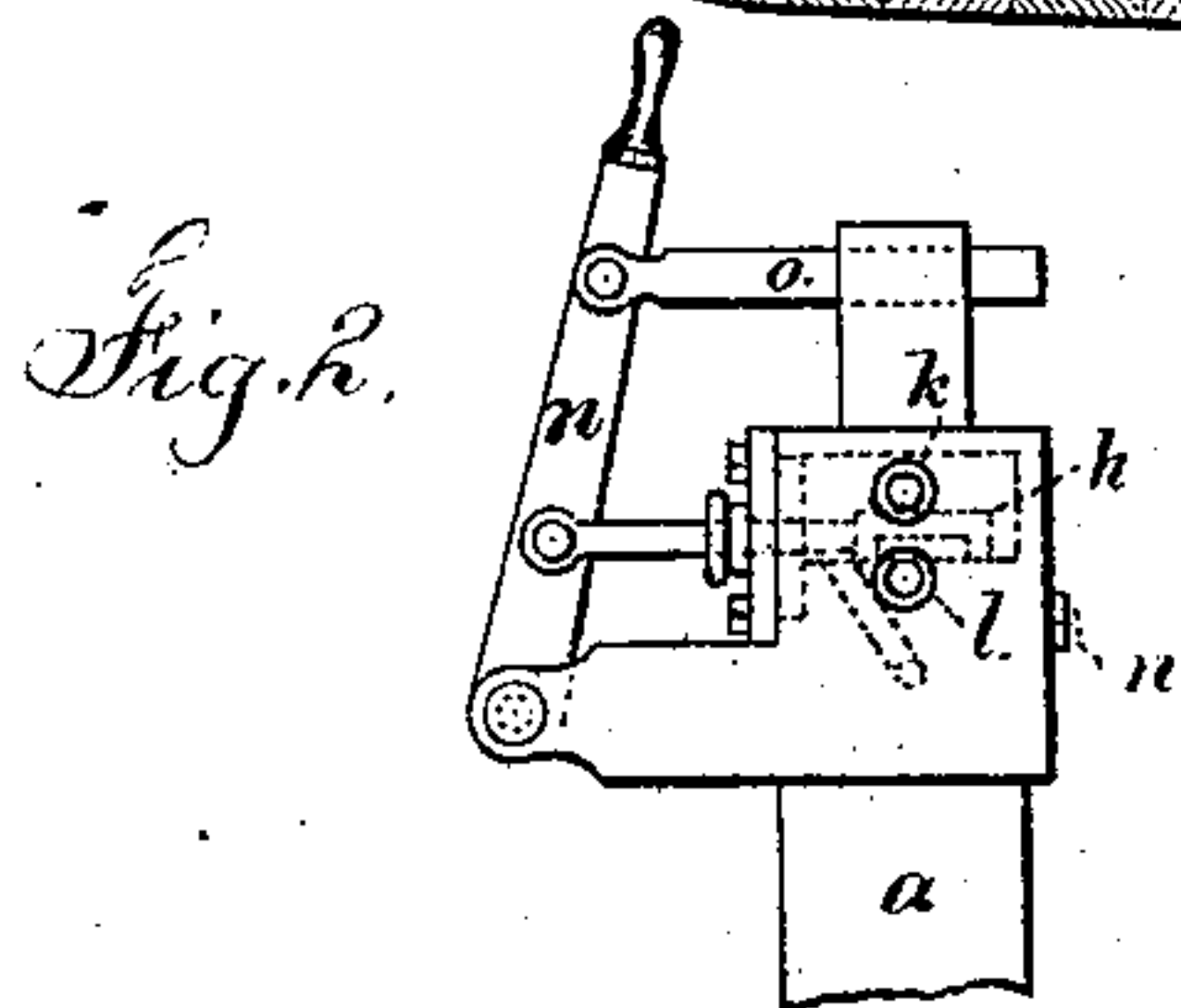
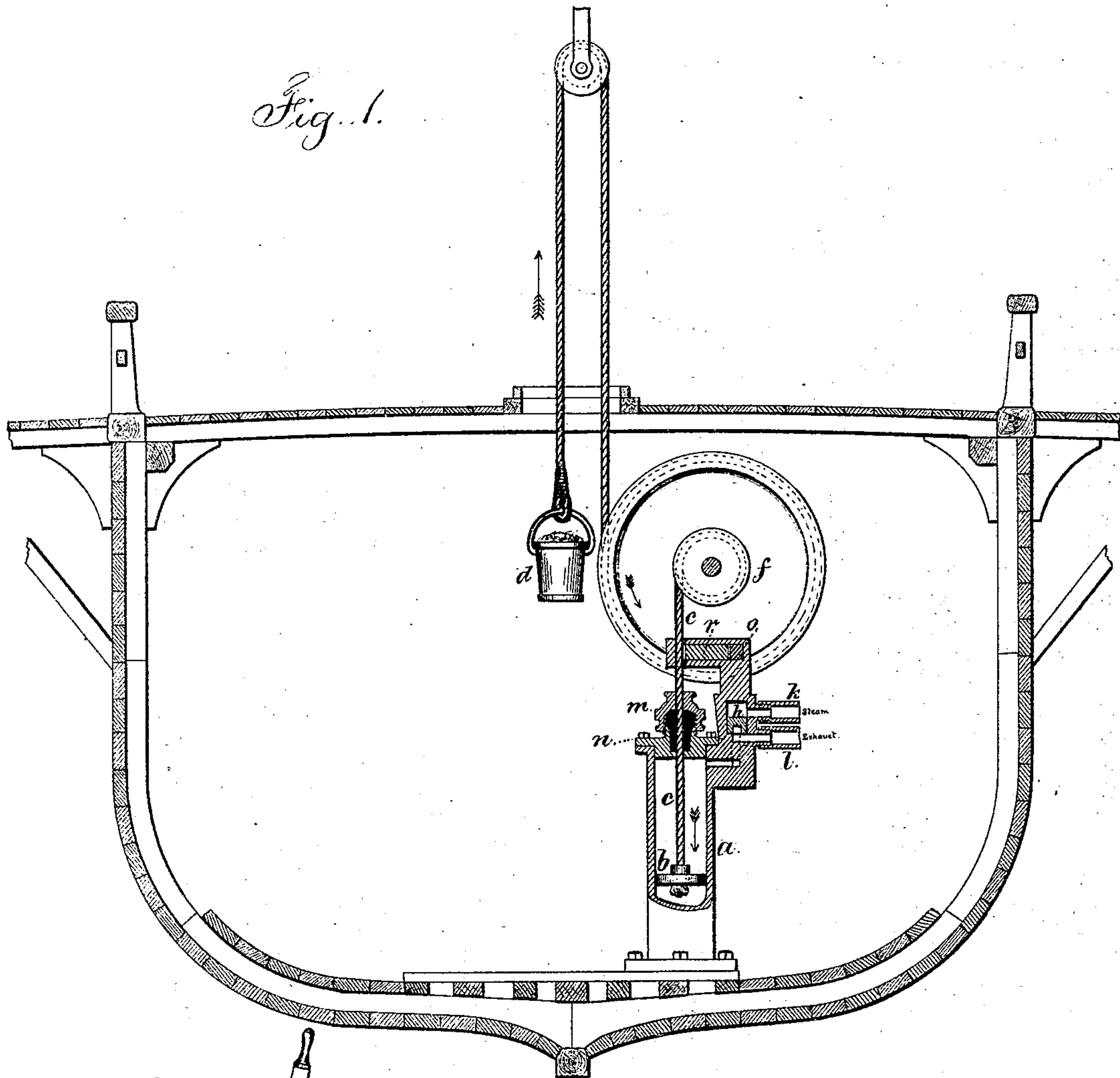


W. C. SELDEN.
Elevators.

No. 153,725.

Patented Aug. 4, 1874.



Witnesses

Chas. H. Smith
Harold Terrell

Inventor

William C. Selden

per

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att'y.

UNITED STATES PATENT OFFICE.

WILLIAM C. SELDEN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN ELEVATORS.

Specification forming part of Letters Patent No. **153,725**, dated August 4, 1874; application filed June 16, 1874.

To all whom it may concern :

Be it known that I, WILLIAM C. SELDEN, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Elevators for Ashes on Steam-Vessels, and for other purposes, of which the following is a specification :

Considerable difficulty is experienced in steam boats and vessels in raising the ashes from the furnace so as to cast them overboard, and this work is so objectionable that it is often done at night; but it involves considerable labor, and is very noisy.

My invention is made for facilitating the delivery of these ashes, and the same mechanism may be used for other purposes wherever available. I make use of a tube containing a piston, and, in place of a piston-rod, a wire rope is employed, passing over a pulley to the article to be raised, or connected immediately to such article, and the wire rope runs through a packing-gland, and a valve is employed to admit steam between the head of the tube and the piston, or to allow the steam to exhaust. A brake-clamp is operated simultaneously with the steam-valve, so that when the steam is admitted the brake is released, and when the exhaust is opened the wire rope is clamped to hold the bucket or other article in an elevated position.

This mechanism is especially intended for application at the furnace, for elevating the ashes to a chute or pipe, through which they may be allowed to run overboard; but, when applied at or near a hatchway or a mast, the apparatus may be employed for discharging cargo, or for tightening ropes or rigging.

In the drawing, Figure 1 is a section representing the said improvement as applied in a vessel. Fig. 2 is a side view, showing the valve and brake; and Fig. 3 is a sectional plan of the brake.

The tube or cylinder *a* is of suitable diameter, and of a length to correspond to the movement required of the piston *b* and wire rope *c*. The bucket *d*, or other article to be raised, is upon the end of the rope *c*, or connected therewith by the intermediate pulleys *f*, of suitable character. The steam is admitted to the cylinder *a* by a valve, *h*, which, preferably, is a *D* slide-valve; and *k* is the steam-pipe, and *l*

the exhaust-pipe. The wire rope *c* passes through the gland or tubular passage *m* on the head *n* of the cylinder, and the presumption might be that the steam would blow through the spaces between the strands; but I find, practically, that such is not the case, especially when the spaces between the main strands are filled with smaller strands, and that for the purposes to which this apparatus is applied the wire rope answers as well as a smooth piston-rod.

I believe this arises from the movement of the wire rope inwardly through the gland being more rapid than that of the steam through the openings around the strands, for, on the reverse movement, as the steam is exhausted, it also sometimes appears around the wire rope.

By the use of a wire rope, I am enabled to apply a brake for stopping the elevator at any point. This brake is, by preference, a wedge, *o*, acting upon a block, *r*, against the rope, and this wedge is connected with the same lever *n* that is employed to move the steam-valve, so that the brake is relieved as the steam is admitted, and applied as the exhaust is opened.

There is enough lead in the valve and extra play in the brake to allow the wire rope to be released, and the bucket to run down, before a further movement in the same direction moves the valve sufficiently to admit steam into the tube.

I am aware that a flat band has been used with an elevator, and that it passes from a steam-cylinder, through a packing, and over a wheel, to the elevator-car, as in the patent to E. Keech, June 17, 1873.

I claim as my invention—

The combination, with the elevator-cylinder, piston, wire rope, cylinder-head, and steam-valve, of the brake operating upon the wire rope to retain the parts in any position to which they may be moved, substantially as set forth.

Signed by me this 11th day of June, A. D. 1874.

WILLIAM C. SELDEN.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.