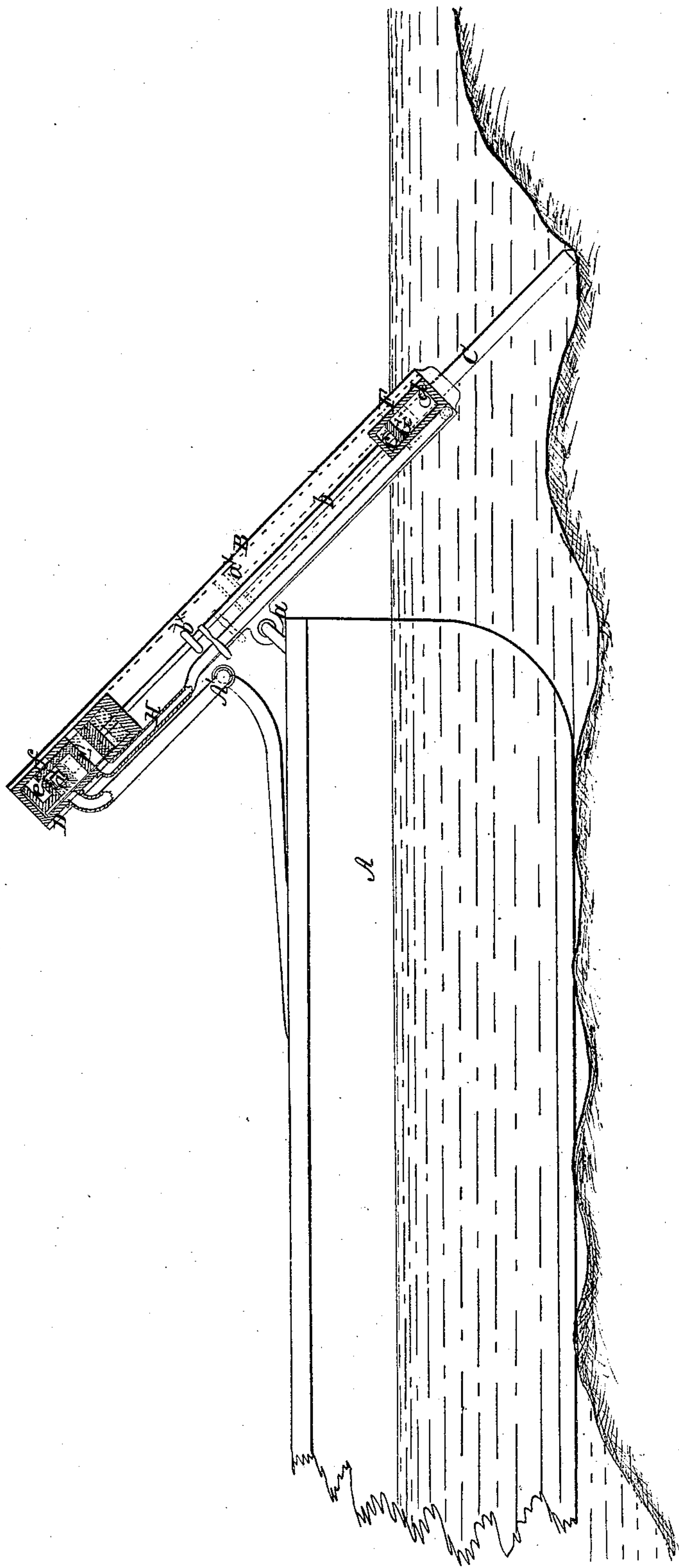


D. Cumming, Jr.
Towing.

Nº 16,704.

Patented Feb. 24, 1857.



UNITED STATES PATENT OFFICE.

D. CUMMING, JR., OF MOBILE, ALABAMA, ASSIGNOR TO D. CUMMING, SR.

SHOVING-POLES FOR STEAMBOATS.

Specification of Letters Patent No. 16,704, dated February 24, 1857.

To all whom it may concern:

Be it known that I, D. CUMMING, Jr., of Mobile, in the county of Mobile and State of Alabama, have invented a new and Improved Device for Shoving Steamboats Off Bars, Shoals, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification, said drawing being a side view of a steam vessel with my improvement applied to it.

This invention consists in combining the shoving pole directly with the piston of a portable or movable steam cylinder, in the manner and for the purposes substantially as hereinafter set forth.

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

A, represents a steam boat and B, represents a steam cylinder, which is attached by a universal joint (*a*,) to the bow of the boat.

C, represents a rod or shoving pole which works through the lower end of the cylinder B, the upper end of the rod being attached by a piston (*a*^x) within the cylinder, shown by dotted lines.

To the upper end of the cylinder B, at one side a valve chest D, is attached and E, is the valve. This is a slide valve and has an aperture (*a*¹), made through it to allow the steam to escape in to the upper part of the cylinder above the piston. The aperture (*a*¹), registering with a corresponding aperture in the cylinder. The steam is conducted into the chest D, from the boiler of the boat by means of a flexible or a metal tube A¹, provided with flexible or jointed connections. When the steam is admitted into the upper part of the cylinder B, the piston (*a*^x), is forced downward and the rod C, bears against the bottom of the stream and forces the boat along.

To the lower part of the cylinder B, there is attached a chest F, having a plunger G, fitted within it, said plunger being connected by a rod (*b*), with the valve E. The chest F, communicates with the cylinder B, by two openings (*c*), (*d*), one above and the other below the plunger as shown in the drawing so that when the piston (*a*^x), is forced downward below the upper opening (*c*), the steam will rush into chest F, above the plunger G, and force said plunger downward in the chest the valve E, also

being moved downward and the aperture (*a*¹) thrown out of register with the aperture in the cylinder so that the steam is cut off from the cylinder. When the valve E, is moved down a recess or groove (*e*), in the valve registers with an outlet opening (*f*), in the cylinder and the steam is allowed to exhaust through said opening and the steam within the chest D passes through a pipe H, into the lower part of the cylinder B, and raises the piston (*a*^x) to the upper part of the cylinder. The steam also rushes through the opening (*d*), into the chest F, below the plunger G, and the valve E, is balanced and may consequently be readily moved back by hand so as to again admit the steam into the upper part of the cylinder to force down the rod C. The valve E, may be prevented when down from rising or moving upward casually by means of a catch (*b*^x).

The cylinder B, may be raised and lowered and adjusted to either side of the boat by a proper tackle, so that the boat may be moved backward or the bow shoved sidewise or laterally off from the shoal or bar.

The above invention is extremely simple, may be adjusted and operated quickly and is far more efficient than the rod worked by hand with tackles and now employed for the same purpose.

Many important advantages result from the use of my improvement. In the navigation of shallow, crooked rivers, particularly those in the western portions of the United States, it is at present required to move the steamers at a very slow speed, in order to prevent them from sticking fast should they touch a shoal. This necessity of running slow increases the liability of grounding, because the vessel does not readily obey the helm. Again, by the hand method of shoving off the vessel, it frequently happens, when the bow strikes, that the stem swings around, and grounds also, before the men have time to push off the stem. These difficulties may be almost wholly obviated by the use of my improvement. By having the shoving rod or pole combined directly with the piston of a portable steam cylinder or engine, which is swiveled to the bow or other convenient place, a much greater power can be concentrated at the desired point, to relieve the steamer when aground, than by any other method. The cylinder and pole may be changed from side to side

with the utmost facility. The apparatus is easily managed, occupies no space that would be taken up by merchandise, &c.

It is well known that steamers are sometimes lost or wrecked for want of a ready and powerful force to push them off, when grounded, on a shoal. My improvement furnishes this desideratum, and therefore renders property more secure. My invention also enables the boat to be navigated at a faster speed; and it also frees the vessel, if it grounds, more quickly than it can otherwise be done. Much time, labor, and expense is thus saved. My improvement therefore effects an important economy.

I do not claim the suspending of bodies upon swivels or universal joints, as that is a very old method. Neither do I claim the general application of steam in a direct manner to tool handles, and other kinds of implements; for I am aware that steam has been thus applied to hammers, tree-saws, pile-drivers, drills, &c. Neither do I claim, broadly, the employment of a steam engine for operating poles for pushing boats along. An example of such employment is seen in John Dougherty's rejected application for a patent, dated May 27, 1847. In this device, the engine is a stationary one, located in the central part of the vessel. A shaft, which communicates with the engine, ex-

tends across the vessel as in other steamers. The poles are placed on the side, and operated by the shaft. This is a very cumbersome and clumsy arrangement. It could not be used, except with great difficulty, for the purposes for which my improvement is applicable.

Other devices for pushing boats along have been invented. But, to the best of my knowledge and belief, the shoving pole or rod has never been combined directly with the piston of a movable or portable steam cylinder; such an arrangement is therefore a new combination. Nor has any other apparatus for shoving off boats ever been invented, which was so well adapted to the purpose and so highly useful as that herein described by me.

What I claim, and desire to secure by Letters Patent, is:

The combination of the shoving pole or rod C, directly with the piston (a) of a portable or movable steam cylinder, when the above parts are arranged and employed in the manner and for the purposes substantially as herein described.

D. CUMMING, JR.

Witnesses:

THOMAS HOGG,
D. CUMMING.