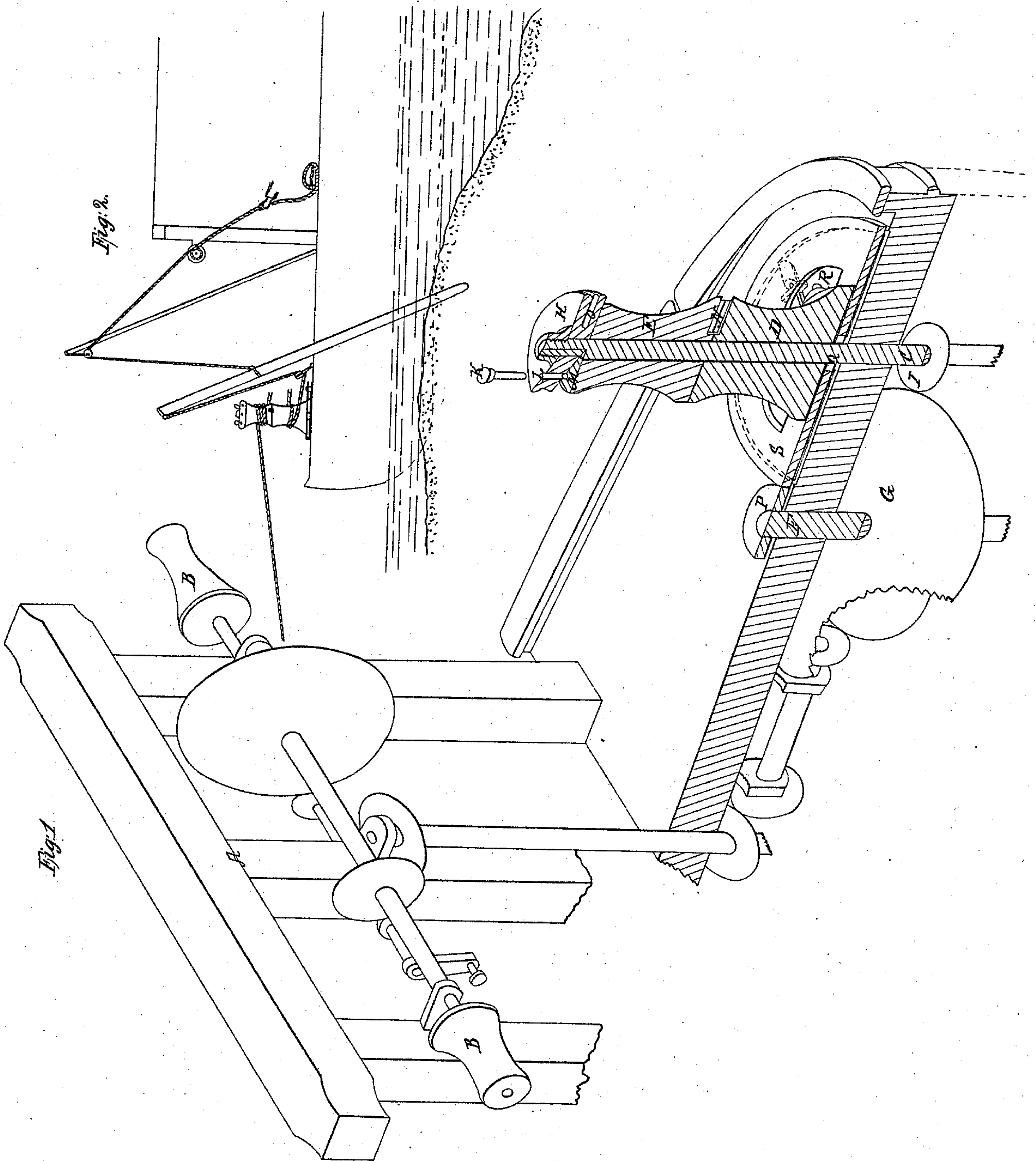


J. Schaffer

Canstan.

N^o 16,935.

Patented Mar. 31, 1857.



UNITED STATES PATENT OFFICE.

JOHN SCHAFFER, OF MANCHESTER, PENNSYLVANIA.

STEAMBOAT-CAPSTAN.

Specification forming part of Letters Patent No. 16,935, dated March 31, 1857; Reissued March 6, 1866, No. 2,187.

To all whom it may concern:

Be it known that I, JOHN SCHAFFER, steam-engineer, of West Manchester, Pennsylvania, have invented a new and useful improvement in the mechanism involved in handling western steam-craft when aground—viz., in the capstan and hoisting-shaft driven by the auxiliary engine, termed in cant phrase “the little nigger;” and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, made part of this specification and lettered to correspond therewith, in which drawings—

Figure 1 represents in perspective and partly in section the front portion of a western steamer sufficient to show the parts sustaining the hoisting shaft, the capstan and the gearing connecting them; and Fig. 2 represents a diagram of a boat on a shoal and the capstan with headline and spar line operated at the same time and illustrating also how the hoisting shaft is arranged with end-drums to be used in connection with a derrick for handling the spars, viz., when hoisting them up out of the place where they are stowed away, hoisting them up after being operated by the capstan and any other handling of spars, or of any lines used in handling the steamer, all of which can readily be imagined and understood from the diagram.

The object of my invention is to haul ahead, and shove sidewise into the channel, western steam-craft when aground and at the same time hoist up the spar which has been pulled down, doing these things all at once and by means of the “little nigger,” instead of by manual labor.

As at present arranged it is necessary to take off the head line in order to use the capstan for shoving sidewise or ahead on the spar and when the spar has been pulled down, a number of hands have to hoist it up. In few words, steamers on the western rivers are now handled to great disadvantage in time, force, and expense. It is of great importance to keep the strain on the head line while the spar is pulled down by the capstan. It is of equal importance to have the spar, just pulled down, hoisted up ready for another pull. This I effect by extending the hoisting shaft beyond its usual

end-bearings and attaching drums (B) thereto; and by using drums which can revolve with or without the shaft of the capstan; or be made fast with or without the shaft; or have different motions or the same motion; the shaft and drums, with a shaft-head, having the position, appearance and uses of any ordinary capstan.

(A) is the gallows frame to which the shafts driven by the “little nigger” are usually attached, the hoisting shaft carrying the drums (B) as aforementioned. Any suitable gearing may connect the hoisting shaft with the capstan shaft, and by reference to my patent dated October 21st 1856 the gearing adopted in this case can be seen and understood without further description. I will therefore begin a more particular description starting with the vertical shaft (F) under deck and passing up there-through, as in said patent and carrying a similar pinion (P) which drives the wheel (S) which carries the drum (D) instead of the entire capstan as in said patent. In this instance the shaft (F) carries a wheel (G) below deck which wheel drives a pinion (I) on the shaft (C) the equivalent of the ordinary capstan shaft, but in this instance not permanently attached to the drum (D) nor the upper drum E, but attached permanently to its head (H). The shaft (C) passes up through the deck, and then through a massive collar (Q) cast on the pawl or stopper plate R. The wheel (S) also revolves around this collar and in using the drum (D) the strain is thus taken off the shaft (C). The wheel (S) revolves on friction rollers set in the stopper-plate (R). The shaft (C) can be temporarily fastened to the upper drum (E) by a pin (K) dropped through a hole (L) in the head-piece (H) into a hole (M) in the drum (E). The drum (D) can be made to run with and by the shaft (C) by unshipping the wheel (P) and fastening the drum (E) to the drum (D) by inserting a pin in the square socket (N), one half of which is in the drum (E) and the other half in drum (D). Take out the socket pin from (M) and throw down the pawl and drum (D) becomes stationary the wheel (P) being unshipped. The wheels (P) and (I) can be rigged with a clutching and unclutching movement.

It is obvious from what has been said

and referred to that several combinations of movements suitable to the handling of steamers on western rivers can be derived from my construction of capstan and arrangement of hoisting shaft with its end drums. Should any accident prevent the application of steam, the capstan can be operated by hand spikes inserted in sockets (O) in the shaft-head (H).

10 Having thus fully described and represented my improvement in capstans for steamers and other craft, I do not claim the parts driving or driven as separately considered; nor do I claim a capstan with a

barrel divided into two or more drums rotated upon a stationary shaft; but

What I do claim is—

A capstan, the shaft (C) of which rotates within the drums (D) and (E) which can be rotated, separately or in conjunction, with and by, or independently of said shaft; substantially in the manner described and represented and for the purposes described.

JOHN SCHAFFER.

Attest:

ALEXANDER HAYS,
JAMES J. JOHNSTON.

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