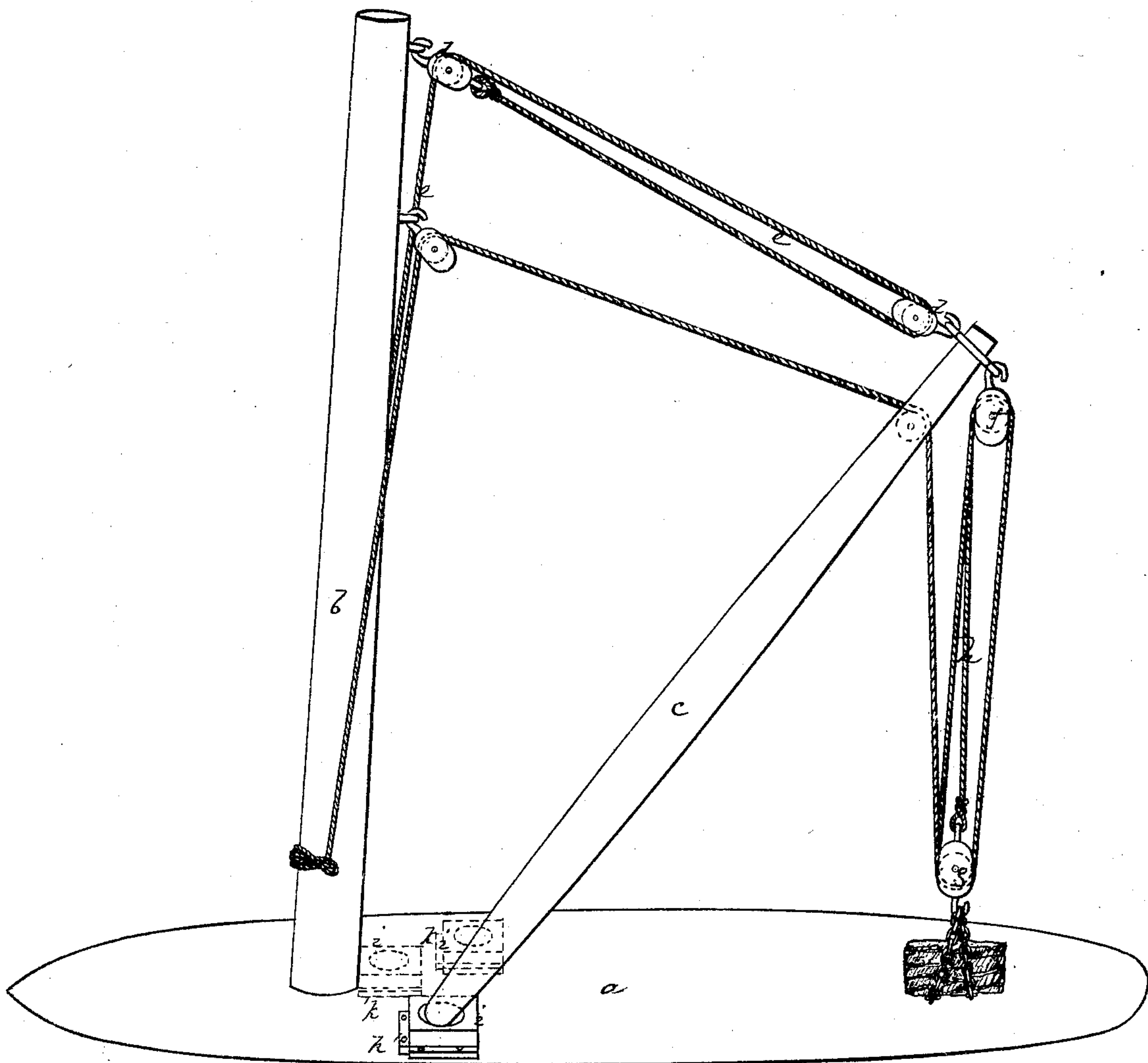


E. G. Green,

Derrick.

No. 94,817.

Patented Sep. 14. 1869.



Witnesses
M. W. Frothingham.
C. Warren Brown.

E. G. Green,
by his Attyys
Crosby, Halsted & Gould

United States Patent Office.

EBENEZER G. GREEN, OF EAST GLOUCESTER, MASSACHUSETTS.

Letters Patent No. 94,817, dated September 14, 1869.

IMPROVED HOISTING-APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, EBENEZER G. GREEN, of East Gloucester, in the county of Essex, and State of Massachusetts, have invented Improvements in Hoisting-Apparatus; and I do hereby declare that the following, taken in connection with the drawings, which accompany and form part of this specification, is a description of my invention, sufficient to enable those skilled in the art to practise it.

My invention has reference to the construction of derrick-mechanism, or apparatus for raising, moving, and lowering heavy bodies, the improvement having more particular reference, however, to the arrangement of mechanism for loading and discharging stone into and from vessels engaged in building sea-walls, &c.; though the improvement is of wider application, that is to say, it is applicable to all cranes, or hoisting, moving, and lowering-crane or derrick-apparatus, in which a swinging spar or boom is used, said boom being stepped at its lower end into a socket-bearing, and having the hoisting and lowering-tackle suspended from its top end; said top end being held in position and controlled by a tackle, which connects it to the mast or spar-head, and enables this point of suspension to be not only swung around in a horizontal plane, but to be raised and lowered, so as to bring this point of suspension to a greater or less distance from the post or mast.

In all hoisting and lowering-apparatus of this kind employed upon vessels, the bottom of the boom rests and moves in a stationary step or socket-bearing on the deck against the mast, and as the deck (when the vessel is lying-side of a wall) is often much inclined, or lists to port or starboard, or is "down by the head or stern," great outlay of strength is required in swinging the stone around from the vessel to the point where it is to be lowered.

The object of my invention is to obviate this difficulty, and I accomplish said object by employing instead of the fixed shoe or socket-bearing a movable shoe, by means of which the support of the foot of the

boom may be located anywhere upon the deck, in accordance with the pitch or list of the deck.

My invention consists in the employment of such movable shoe-piece, or of a series of shoe-pieces arranged with reference to movement of the boom-foot.

The drawing represents the deck of a sloop, with a boom and its supporting-shoe arranged in accordance with my improvement.

a denotes the deck-surface;

b, the mast;

c, the boom;

d d, the blocks; and

e, the tackle, by which the boom is raised to and supported at a greater or less inclination;

f g h, the hoisting-blocks and tackle.

The foot of the boom rests in a shallow socket in a shoe, *i*. This is the shoe that I make movable instead of permanent; that is to say, I do not fasten the shoe to the deck, but I place beside it cleats, *k*, which brace the shoe, and keep it from lateral displacement, but which may be readily removed, (as the vessel lists in either direction, either to starboard or to port, or lies down by the head or stern,) so as to give the boom a tendency to swing in the opposite direction, saving the outlay of strength necessary to draw over the boom and its weight when the shoe is immovably fixed against the mast.

It will be obvious that several shoes may be employed, they being located at different parts of the deck; but I prefer the employment of one shoe, made movable, and having provision for its temporary confinement at any spot where the list of the deck shall require the foot of the boom to rest.

I claim the employment of a movable shoe, or of several shoes, arranged to support the foot of the boom, substantially as and for the purpose set forth.

EBENEZER G. GREEN.

Witnesses:

EZRA FAMES,

GEO. H. ROGERS.