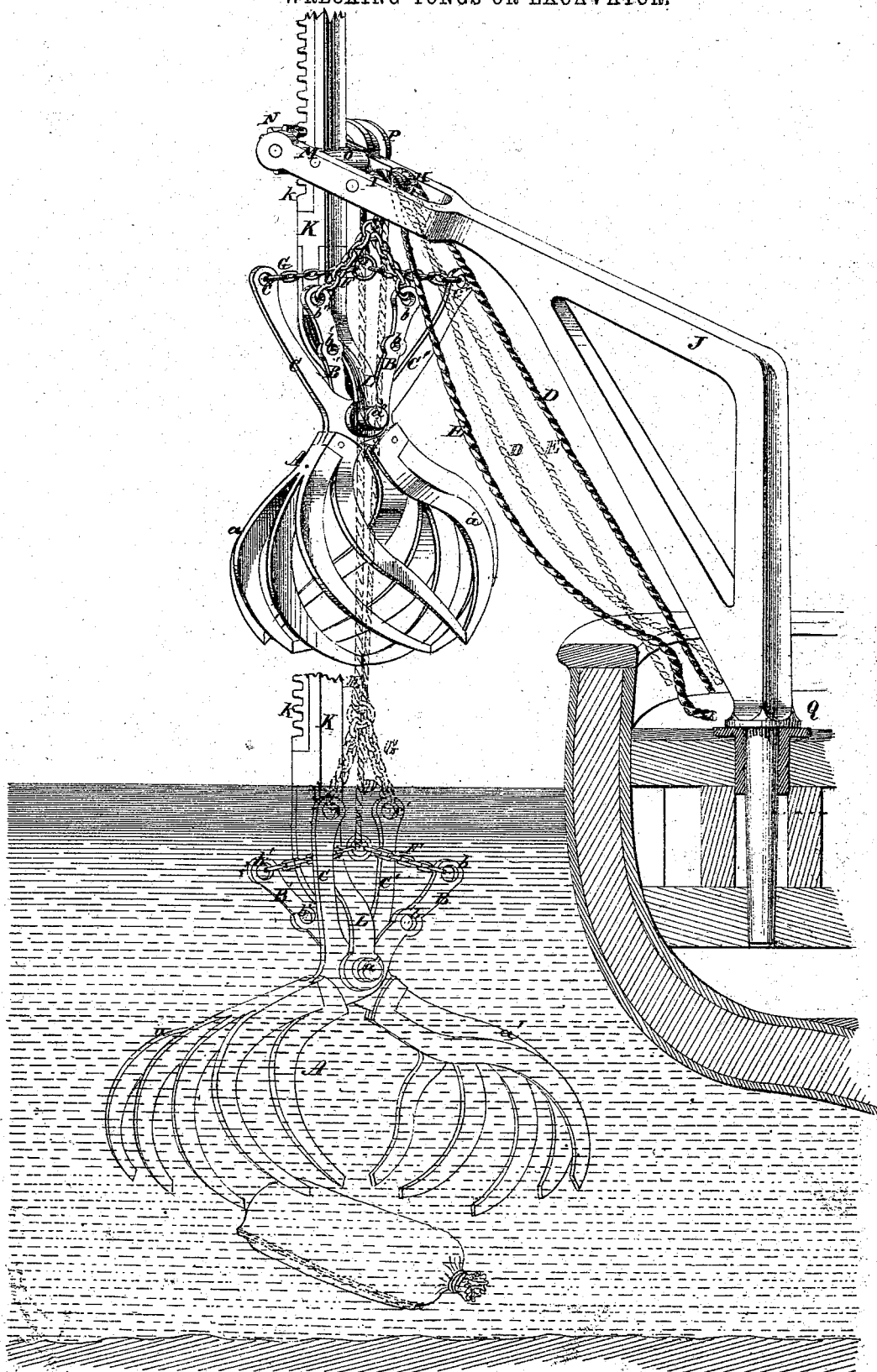


No. 98,870.

PATENTED JAN. 18, 1870.

R. HUNTER.  
WRECKING TONGS OR EXCAVATOR.



Witnesses,  
H. B. Downing  
Frederic M. Hancock Jr.

Robt Hunter  
by Charles H. Jones  
Attorney

# United States Patent Office.

ROBERT HUNTER, OF CHARLESTON, SOUTH CAROLINA.

Letters Patent No. 98,870, dated January 18, 1870.

## IMPROVEMENT IN WRECKING-TONGS OR EXCAVATORS.

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

I, ROBERT HUNTER, of Charleston, in the district of Charleston, and State of South Carolina, have invented a new and useful Wrecking-Tongs or Excavators, and do hereby describe the same.

### *Nature and Objects of the Invention.*

The subject of my invention in its complete form is an apparatus for recovering sunken freight, &c., from wrecks, or for submarine excavation, by means of grappling tongs or a scoop.

The first part of the invention relates to the construction of the tongs or scoop proper, consisting in the provision of opening arms or levers for the attachment of the lowering rope or chain.

The second part of the invention consists in the employment or use, in connection with such tongs or scoop, of a novel combination of supporting and operating-devices.

### *Description of Drawing.*

The accompanying drawing represents, in elevation, the apparatus as a wrecking-tongs, applied to a boat and in use, the tongs being shown in a raised and lowering position.

### *General Description.*

The tongs or scoop A consists of the customary pair of hinged jaws *a a'*, composed of fingers or dished plates.

Arms or levers B C, B' C' project obliquely upward from the respective jaws *a a'* of the tongs or scoop A, and serve, by the attachment to them respectively of the elevating and lowering ropes or chains D E, to close and open the jaws automatically, as the same are being raised or lowered.

Eyes or perforations *b b'*, *c c'*, in the arms B B', C C', are provided for the attachment of the ropes or chains D E to them, and may be duplicated in the former, as represented, or in both, if preferred, to enable variation in the attachment of the ropes or chains, as required.

Toggle-chains F G, or their equivalent, form the media of attachment of the ropes or chains D E to the arms B B' C C', and enable them to act on said arms, as stated.

The ropes or chains D E are carried over elevated pulleys H I, in a crane, J, or its equivalent, and may be actuated in any suitable manner.

A rod or stem, K, attached by a clip, L, to the pivot *a'* of the tongs or scoop A, and working in a suitable socket, M, in the crane J or its equivalent,

forms a guide in lowering the tongs or scoop, enables it to be held on the bottom while the object sought for is being found, or to be pressed into the bottom, and forms a convenient means for the application of a brake to hold it in an elevated or depressed position.

For the latter purpose, said stem is provided, on one side, with a rack, *k*, meshing with a cog-wheel, N, in its socket M, its rear abutment being formed by a roller, O.

The brake is applied to a disk, P, on the shaft of the cog-wheel N, and may be of any preferred form.

The crane J, when employed, may be swivelled in the deck of a boat, Q, as shown, or rigidly supported.

Ordinary boats or vessels may be adapted for the employment of the tongs or scoop, by the provision of a vertical socket for the stem J, and a pair of blocks for the raising and lowering ropes D E, on a boom, gaff, or other cross-spar.

The vertical guiding of the tongs or scoop is important, as enabling it to be much more readily applied, and enabling a great saving in power, owing to the direct application of the same.

By the provision of the operating-arms, the results heretofore imperfectly accomplished by attaching the lowering rope to the outer sides of the jaws of the tongs or scoop are produced without the objections to said mode, of increased liability to hang, difficulty of managing, &c. Said arms may be employed on the common grappling-tongs.

The stem J may also be used in connection with tongs or scoops unprovided with such arms.

### *Claims.*

I claim, as new—

1. The provision, in a grappling-tongs or scoop, of opening arms C C' for the attachment of the lowering rope or chain E, as herein represented and described.

2. In the described combination, the tongs or scoop A *a a'*, crane J M, opening and lowering-devices C C' G E I, closing and elevating-devices B B' F D H, and governing-device K *k* N O P, constructed and arranged as represented and set forth, for the purposes shown.

To the above specification of my improved wrecking-tongs or excavator, I have set my hand, this 6th day of November, 1869, in the presence of two subscribing witnesses.

ROBERT HUNTER.

Witnesses:

F. M. RONAN,  
M. J. O'BRIEN.