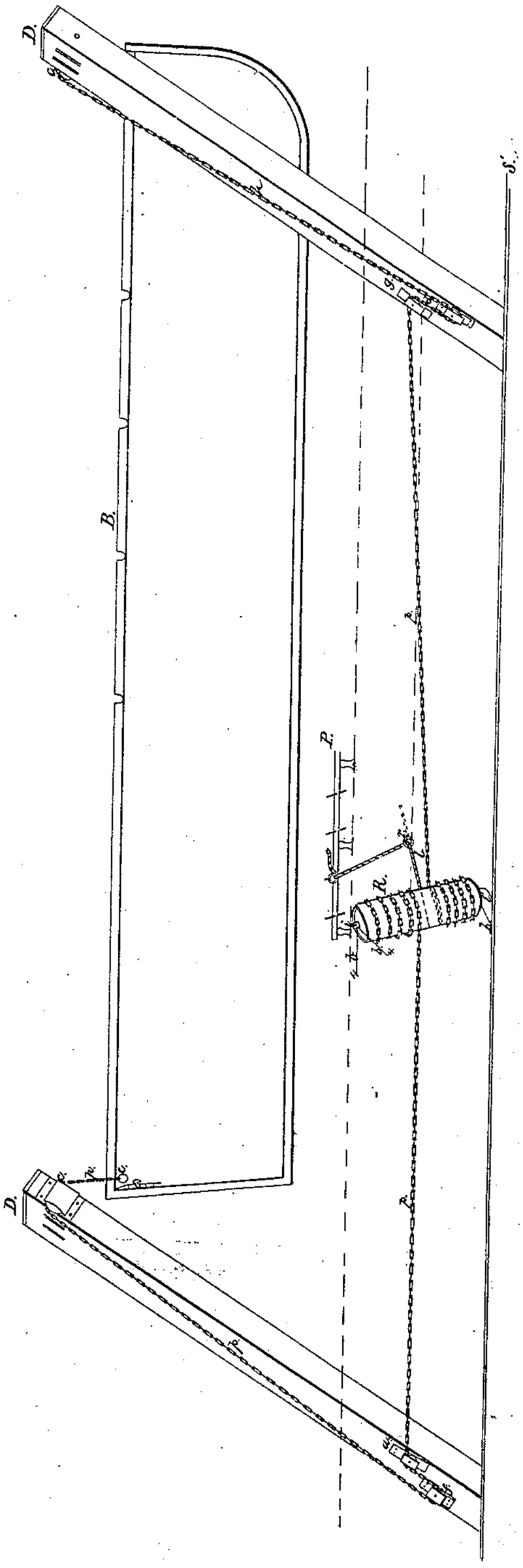
4 Sheets. Sheet 1.

H. Davidson,
Boat Detaching.

No. 26,094. Patented Nov. 15, 1859.



Witnesses,

J. H. Pritchy
S. A. C. Smith.

Inventor;

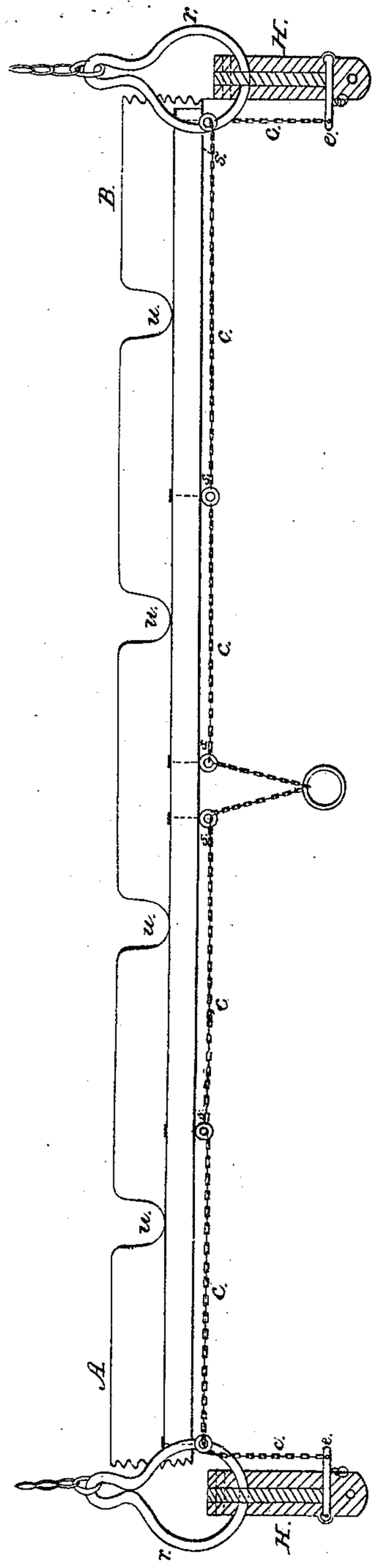
H. Davidson
by his Attorney A. Wilcox

4 Sheets. Sheet 2.

H. Davidson,

Boat Detaching.

No. 26,094. Patented Nov. 15, 1859.



Witnesses,
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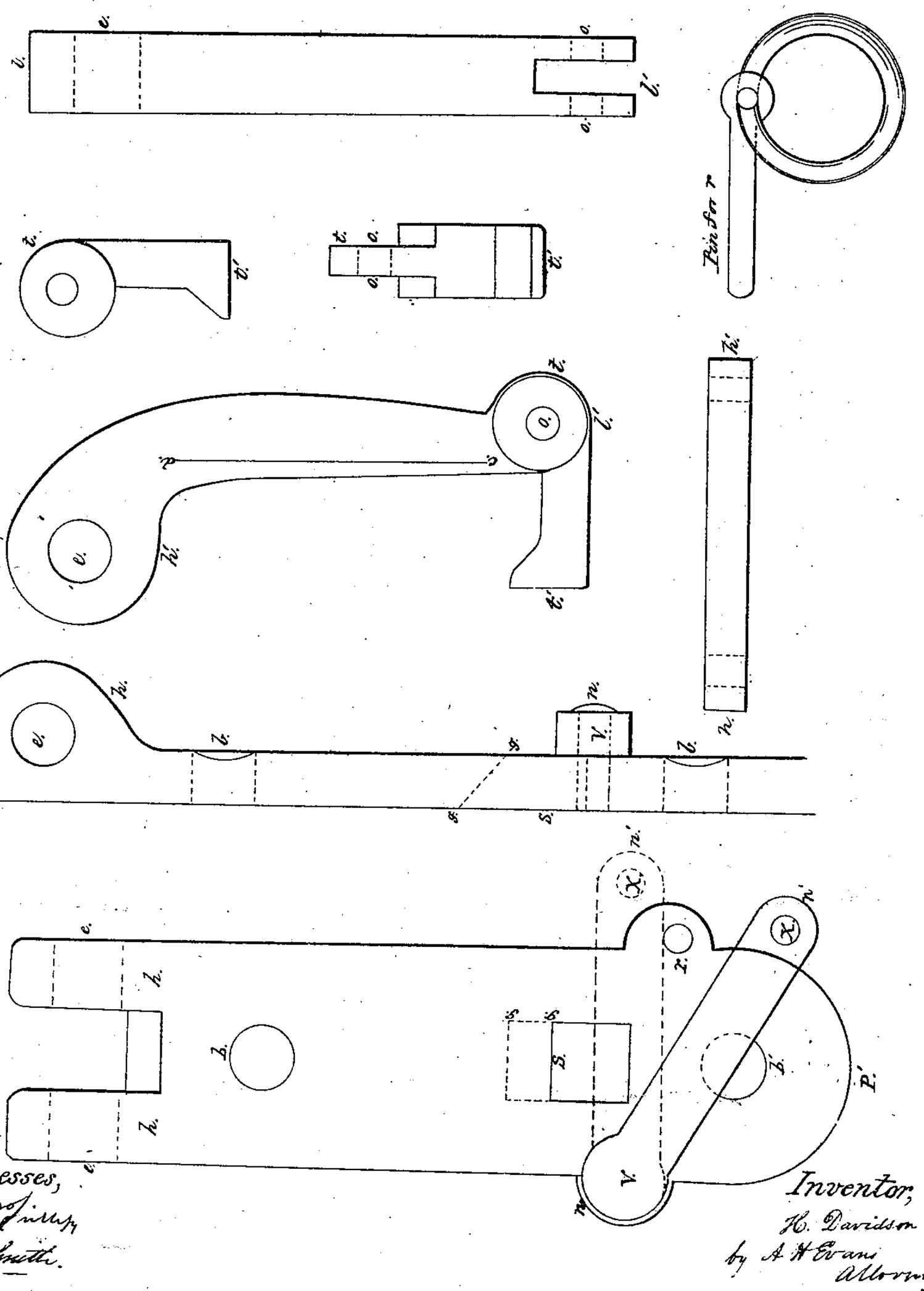
Inventor.
H. Davidson
by A. H. Evans
his attorney

4 Sheets. Sheet 3.

H. Davidson,
Boat Detaching.

No. 26,094. Patented Nov. 15, 1859.



Witnesses,
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G. A. C. Smith.

Inventor,
H. Davidson
by A. H. Evans
Attorney

4 Sheets. Sheet 4.

H. Davidson,

Boat Detaching.

No. 26,094. Patented Nov. 15, 1859.

Fig. 5.

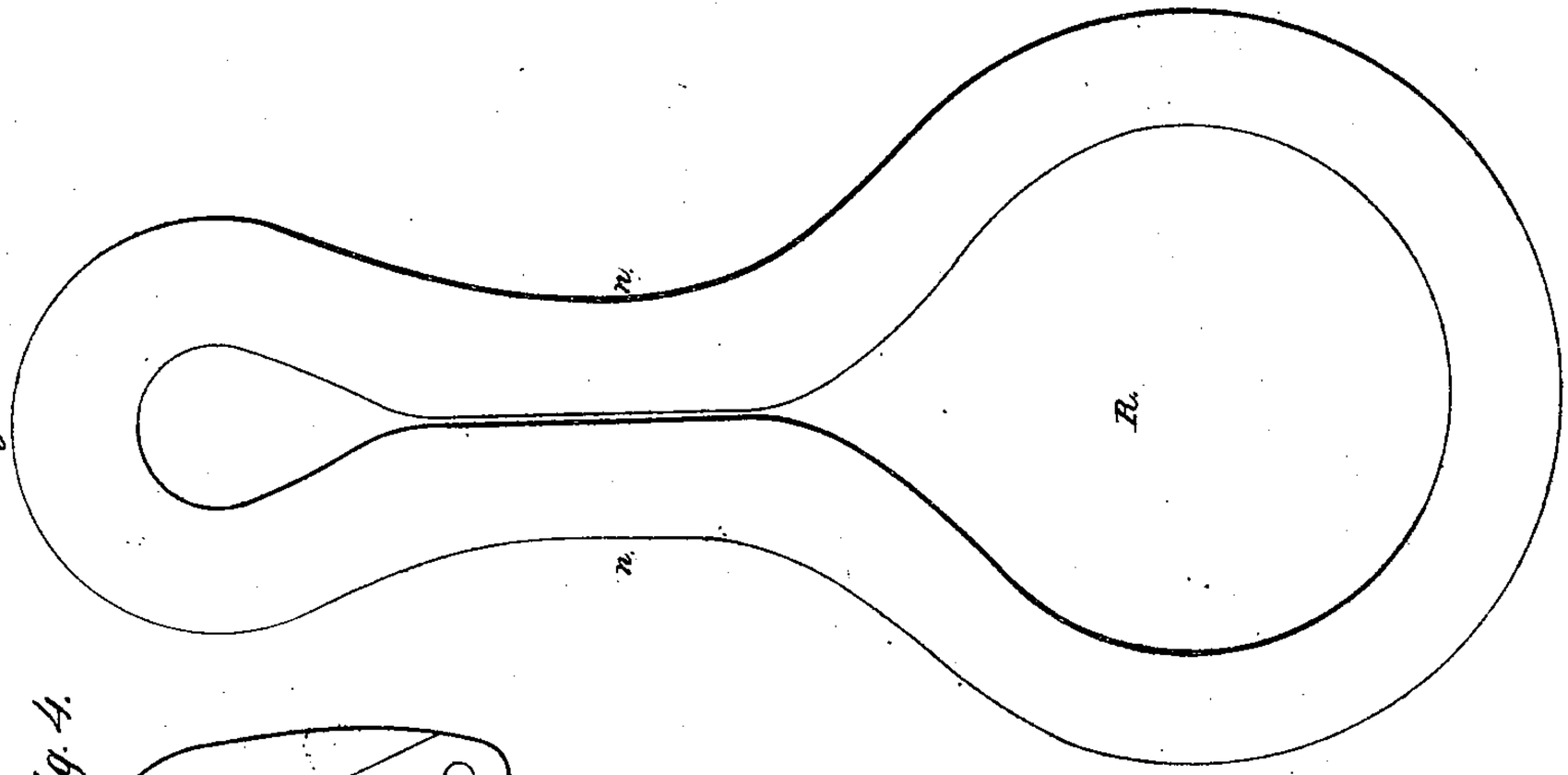


Fig. 4.

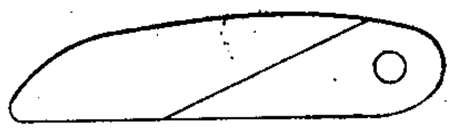


Fig. 3.

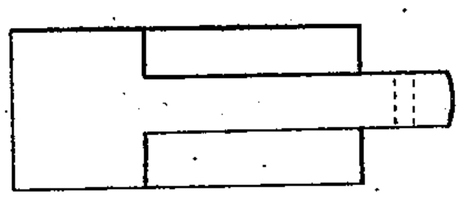


Fig. 2.

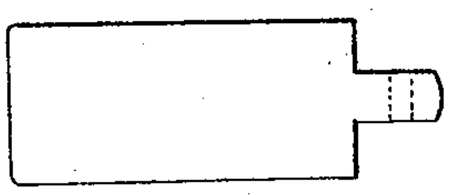
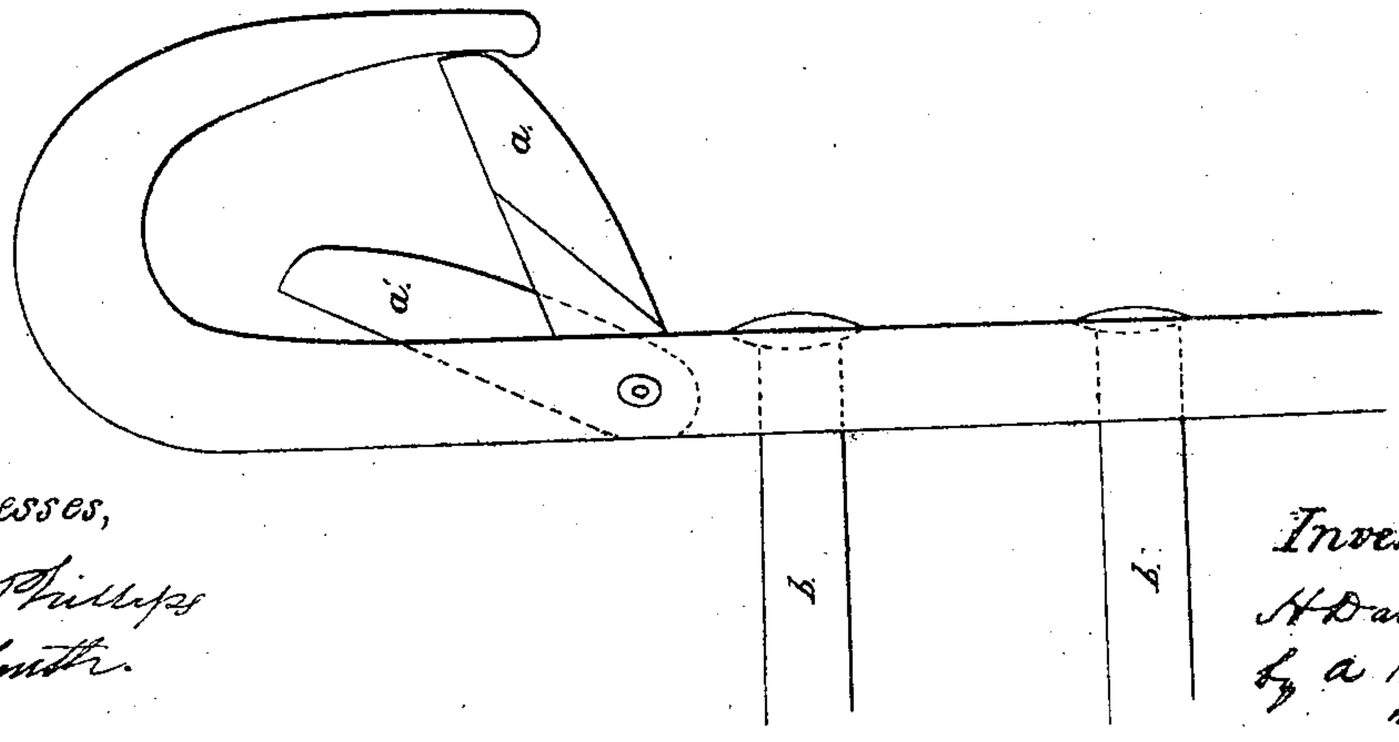


Fig. 1.



Witnesses,
J. H. Phillips
J. A. C. Smith.

Inventor;
H. Davidson,
by A. H. Evans
his Attorney

UNITED STATES PATENT OFFICE.

HUNTER DAVIDSON, OF THE UNITED STATES NAVY.

APPARATUS FOR WORKING SHIPS' BOATS.

Specification of Letters Patent No. 26,094, dated November 15, 1859.

To all whom it may concern:

Be it known that I, HUNTER DAVIDSON, of Annapolis, in the State of Maryland, have invented a new and Improved Mode of Lowering, Detaching, and Attaching Ships' Boats at Sea, or in Port During Any Kind of Weather or at Any Hour During Day or Night; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in lowering the boat by means of a reel placed inside the ship by which one man can by the means of a single rope and chain lower a boat with its crew with perfect safety and without danger of lowering one end of the boat faster than the other. Also of a detaching apparatus by which both ends of the boat may be simultaneously detached and if need be by one man. Also an attaching apparatus by which the boat is again easily and certainly attached without danger of again becoming detached or of any danger to the hands of the person using or handling the attaching hooks.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

1st. The lowering apparatus.—D, D, are the boat's davits on the port side (left hand) of the United States corvet "Dale".

C, C, are termed check blocks, being single sheaves attached to the side of the davits, through which the chains called pendants reeve.

a, *d*, *f*, *g* are friction rollers bolted to the davits as represented, through which the pendants also reeve, and thence to R—the reel. This reel is a piece of round ash timber (26) twenty six inches long, and ($8\frac{1}{2}$) eight and a half inches diameter, the ends being neatly hooped with narrow iron or composition hoops, to prevent splitting. The reel is with its axis perpendicular, and revolves by means of the spindles *i*, *i*, *b b b* in iron braces *b*, *b*, *b*, firmly bolted to the side of the ship about twelve (12) inches long. Around the reel about (4) four fathoms of each chain is made to wind as represented.

Now, it is evident, that if a boat be attached to the ends of the pendants at *e*, *e*, the strain brought upon them will cause the reel to revolve and the boat will rapidly fall to the water unless the revolutions of the reel be controlled by the lowering rope *l*. This lowering rope is spliced to an eye-bolt driven through the center of the reel and riveted. It leads off at right angles, from the axis of the rod to a roller screwed into the side of the vessel. From this roller the lowering rope may be made to lead to any most convenient point. In this instance it leads up to the pin rail P, situated directly above the reel on the rail or side of the vessel. By the lowering rope, therefore, the lowering of the boat is wholly controlled by one man, and one rope, and (what is a great desideratum) both ends of the boat are lowered equally and at the same time.

The difficulty of keeping the old fashioned boats' falls clear, and lowering them together when having to be controlled by the different ideas of two men, who in the darkness of night, and the noise and excitement attending accidents, can not see or hear each other is altogether obviated, and disasters prevented by improper lowering of boats which have so frequently resulted in the sad loss of valuable lives and boats. The saving of time by lowering the boat with one man and a single rope, when a man has fallen overboard is a consideration which every seaman knows to be of vital importance.

Detaching.—P P′ is a plate of iron, bolted to the stem and stern post of the boat, inside, by $\frac{5}{8}$-inch bolts at *b*, *b′*,—full size, using a boat weighing with crew about 3,000 lbs., front and side views. The dotted lines represent such parts and holes, as are hidden from sight by the position of the thing, or where the same part appears in more than one position. The holes *e*, *e*, *e* are connected by a pin, so that the lever turns loosely in the plate. The hole *o* in the toggle is connected with the hole *o* in the lower end of the lever, by a pin upon which it must turn freely. The end of the toggle *t′* fits into the square hole or slot *s*, the upper and inner side of the slot being beveled at at *g*, *g*, to receive the beveled end of the toggle. This end of the toggle is kept in its place, when the boat is "hooked on," by the latch *n*, *n′*, which turns up against it, and the latch is kept up either by a pin in the hole *r* or by a chain made fast at *x*, which chain connects the latch at each end of the boat, so as to make the detaching of the ends of the boat simultaneous.

When the boat has been hoisted up by her attaching hooks, she is then shifted to these, her detaching hooks, in order to do which the rings at the ends of the chain pendants (see Plate 1) are hooked under the levers at *h*, *h'*, and the toggles brought down and put in their places at *s*, and the latches closed up against them, either by the pins at *r*, or the chain Plate 11, being hauled taut. The pins for *r* have rings in their eyes, for the finger to go in, so as to withdraw them easier.

The bolt at *b'* should be counter sunk in the plate, so as not to interfere with the movements of the latch *n*, *n'*. The edges of the levers should be well rounded off, from the part *c*, as far as *d*. It will be seen that when an upward strain is brought to bear at *b'*, (the hook of course, being put together) the effort of the toggle will be to release itself from the slot *s*, where it is kept by the latch *n*, *n'*, and that the toggle in trying to release itself, is pressing downward upon the latch (by reason of the bevveled parts being in contact,) which latch is prevented from turning by the pin at *r*, or a chain attached to *x*, holding the end *n'* up. Hence if the pin *r*, be withdrawn, or the chain at *x*, let go the hook will be detached from the strain or weight at *h*, *h'*.

Plate 11.—A B represents a boat's gunwale, inside; *u* the oar locks resting upon the gunwale piece.

S, S, are eye-bolts made of $\frac{3}{8}$ inch copper, with their eyes $\frac{3}{4}$ inch in diameter. These bolts are driven from underneath, up through the gunwale piece and riveted.

C, C, is a small twisted chain, made of good iron, and capable of bearing 200 lbs. strain without parting, and reeving freely through the bolts.

H, H are the detaching hooks, supposed to be bolted to the "stem" and "stern post." These hooks are drawn in the plate, with a front, instead of a side view, in order that the attachment of the ends of the chain to the latches at *e*, may be better understood. (See *x*, Plate 1.)

r, *r*, are the rings on the ends of the pendants from the davits, by which the boat is suspended. These rings appear hooked under the levers. Now when the "bight" or middle of the chain, is hauled down to *f*, the ends of the chain keep the latches closed up at *e*, *e*, and the toggle at the lower end of the lever, cannot come out from the slot; but when the bolt at *f*, (going through a knee at the side of the boat) is withdrawn from over the middle of the chain, the chain slacks up by the pressure of the latches upon its ends at *e*, *e*. The latches then go down and permit the toggles to escape, the levers turn up, and the rings are freed, detaching both ends of the boat simultaneously. The bolts *r*, in Plate 1 are not used at the same time with the chain *c*, *c*, Plate 11, of course, but only as a substitute at times, in heavy weather, &c.

Attaching apparatus.—Figure 1 represents a hook to be bolted to the bow and stern of the boat on the outside with the curve of the hook up which is believed to be the best known way of hooking a boat on, or attaching her to her tackling. *a*, *a*, represents a tongue in the hook turning up and down loosely upon the pin at *o*, *a* being the tongue when down and *a'* when up, in which latter position the tongue permits the ring R (Fig. 5) to pass it, when the ring R (Fig. 5) which is attached to the lower blocks of the tackling or falls, is intended to be hooked. *b*, *b*, are both to secure the hooks to the boat.

Figs. 2, 3 and 4 are lower upper and side views of the tongue which will show its exact shape. Only a side view of the hook is given in the draft; but it must be understood that a place has to be cut out of the hook about *o*, for the base of the tongue to move freely up and down.

The long narrow part of the hook at *n* (Fig. 5) is intended for the grasp of the hand so as to prevent having to catch hold of the inside of the ring, when hooking on or attaching which is liable to jam and crush the hand.

What I claim and desire to secure by Letters Patent is—

The boat apparatus consisting of the reel, the attaching and selecting tools constructed and operating substantially as specified.

HUNTER DAVIDSON.

Witnesses:
O. D. Robb,
Th. Karney.