T. Bell.

Raising Sunken Vessels.

No. 1832. Patented Oct. 22, 1840

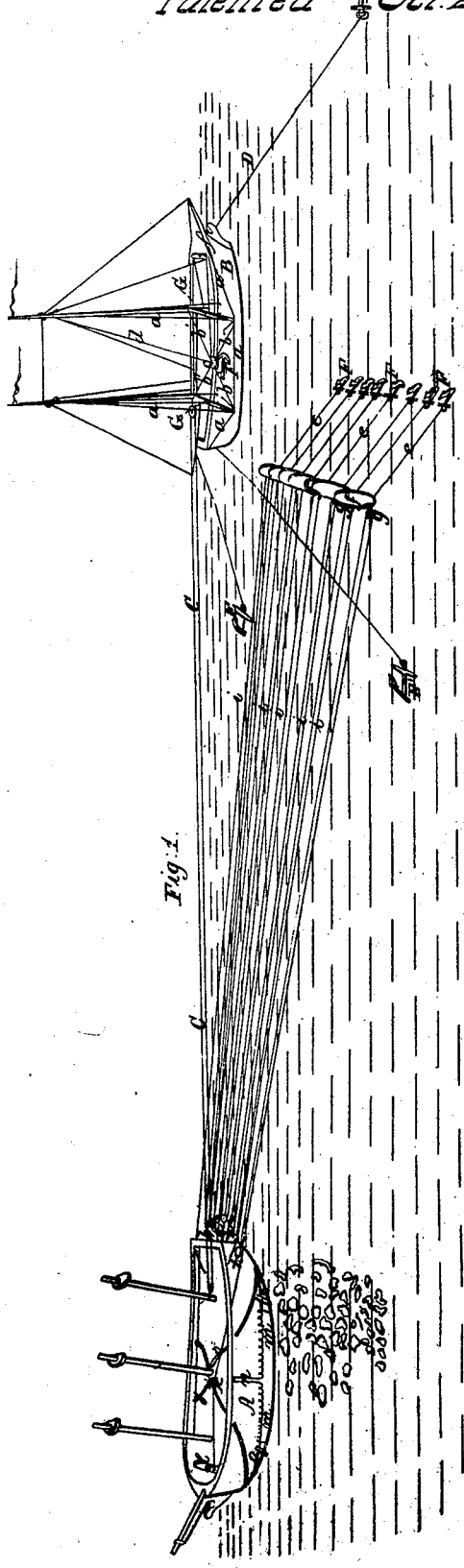

Fig. 1.

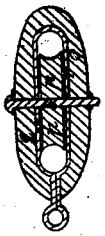

Fig. 2.

UNITED STATES PATENT OFFICE.

THOMAS BELL, OF BELLPORT, NEW YORK.

MODE OF HAULING OFF STRANDED VESSELS.

Specification of Letters Patent No. 1,832, dated October 22, 1840.

To all whom it may concern:

Be it known that I, THOMAS BELL, of Bellport, in the county of Suffolk and State of New York, have invented a new and improved mode or system of procedure for the purpose of hauling off vessels which have been stranded on the sea-coast, in the carrying out of which system I adopt an entirely new method of applying the purchase to draw the vessel from the beach and also to give her that buoyancy which shall aid in rendering the purchase effective.

In the accompanying drawing I have represented the mode of procedure adopted by me so far as the same is capable of being so represented.

A, shows a vessel which has been stranded, and B, a vessel employed for the purpose of aiding in carrying out my system of operations. For the latter vessel, I intend generally to employ a good schooner of about a hundred tons. I also take a number of anchors of about one ton each; in most cases eight of these will be sufficient, but a larger number may be employed; in describing the operation, however, I will suppose the number to be eight, as stated. I provide two kedge anchors also, of about two hundred pounds each.

The other apparatus consists principally of eight chains of ten fathoms each, made of five quarter iron, two chains of thirty fathoms each, of five quarter iron, twelve chains of two fathoms each, of nine eighths iron, one chain of one thousand fathoms, of seven eighths iron; or, in lieu of such chain, a suitable manila rope of the proper length, eight buoys of about one hundred and fifty gallons capacity, each, seventeen single blocks, with sheaves of twenty inches in diameter, and four inches thick, one thirteen inch manila fall, of one thousand fathoms, one four inch manila fall of two hundred fathoms, two five-inch manila hawsers of one hundred fathoms each, one bull's-eye, two air-tight bags, each about sixty feet in length, and about twenty feet in circumference. These bags may be made of canvas, or of leather, or of both, and they are to be rendered perfectly water-tight by the appropriate and well-known means; they must be strengthened by ropes, bandages, or other devices, by which they may be fitted to bear the stress and force to which they are to be subjected; and they are to have beckets attached to them, by which to secure them in place; they are, also, to be furnished with air-tubes, entering them at their middles; these tubes may be twelve feet long, and an inch and a half in diameter; to inflate these bags, there must be provided a suitable air-pump, or pumps, or other air forcing apparatus. In designating the number and size of the respective articles employed, my object has been to afford a general approximation, only, to what I believe to be practically best, but these numbers and proportions will be varied according to circumstances.

My mode of operating with these articles is as follows: I first anchor my schooner off directly opposite the stranded vessel (A). I then run my four inch manila fall, C, C, to the stranded vessel, securing it through a single block, so as to have two parts on board of each vessel; and then haul on said fall until the schooner strains her cables length, D, toward the stranded vessel. I next run one of my kedge anchors, E, from one quarter of the schooner, a three point course from the line of the stranded vessel; I then run my other kedge anchor E′, from the other quarter of the schooner, a three point course on the opposite side of the line of the stranded vessel. Having made these preparations, I send nine of my seventeen large single blocks—the two air-tight bags, with the pumps for forcing air into them, the two thirty fathom chains, and the twelve two fathom chains—from on board the schooner to the stranded vessel; and this I effect by means of the four inch fall that passes, two fold, from one vessel to the other.

The next operation consists in the dropping of my eight large anchors F, F, F, abreast of each other, which I effect in the following manner. I rig a studding boom G, G, from each mast of the schooner, standing out twenty five feet from the rail of the vessel, and secure said booms with lifts, guys, and bob-stays *a*, *a*, *a*, directly on the beam of the vessel. I then attach four tackles *b*, *b*, of two single blocks each to the bull's eye *c*, hooking one of said tackles to the outboard end of each of the studding booms, and one of those tackles *b′*, *b′*, to each mast. Having made this arrangement, I now reeve a single fall *d*, of sufficient strength to lift one of my heaviest anchors, through a single block aloft, one end of said fall passing through the center of the bull's

eye *c*, and the other being taken to the windlass. To each of my heavy anchors F, I attach one of my ten fathom chains *e*, *e*, *e*; and to the other end, one of the buoys *f*, *f*, *f*, and also one of the large blocks *g*, *g*. On board of the stranded vessel I secure the large blocks which had been sent on board, excepting one which I reserve as a leading block, by means of the twelve pieces of two fathom chains *h*, *h*, *h*. Having completed these preparations, I hook my single fall *d*, that passes through the bull's eye *c*, to one of my heavy anchors, and heave taut, and at the same time set taut the four small tackles *b*, *b*, that are attached to the bull's eye, by which means I effectually prevent the swinging of the anchor, to and fro, as it would otherwise do. I continue hauling on my single fall, attached to the anchor, until it is raised sufficiently high for said anchor to clear the rail of the schooner; I then set on the two tackles that are attached to the studding booms, and at the same time slack on the two that are attached to the mast, until the anchor is carried sufficiently over the side of the schooner to be lowered away without fouling the side of the vessel, I then lower away until the anchor takes the bottom. Proceeding in this way, I drop each of the large anchors in succession. When my first anchor has been dropped, I commence reeving up my thousand fathom chain, *i*, *i*, *i*, (or manila rope which may be substituted therefor) by means of the four inch fall that had been rove from one vessel to the other, reeving the chain, successively, every time the end is passed, through the blocks attached to the ten fathom chains, and those attached to the stranded vessel; the reeving being made through the block of each anchor as it is dropped. Every time that an anchor is dropped it will be necessary to slack on the quarter hawser, about three fathoms, on the side that the anchor is dropped on, and to take in as much on the other quarter hawser, which will prevent one anchor fouling, or lying too near, another. Immediately after dropping all my large anchors, and reeving up my purchase fall, I heave my two kedge anchors, and unreeve my four inch fall. I then reeve the end of the thousand fathom chain, or rope, through a leading block, *k*, on board the stranded vessel, and take the same end to the windlass *l*. I now heave on the fall by means of the windlass, until I get a sufficient strain on the purchase; this may be increased by using a greater number of anchors, and a greater length of fall. In most cases, it will be found that the stranded vessel will move with this purchase, but should this not be the case I call in the aid of my air-tight bags, one of which is seen at *m*, *m*, with the tube *n*, leading into it. These bags are provided with beckets, and through these I reeve the thirty fathom chains, *o*, *o*, and drop one on each side the vessel, and heave taut on one end of each chain, having first securely belayed the other ends of each in such manner as that they shall prop the vessel's keel as taut as possible. The ends of the chains hove upon are to be firmly secured to the masts, or other fixture on deck, as at *o'*, *o'*. After having thus secured the bags as firmly, and as close to the keel, as possible, I inflate them by means of the apparatus provided for that purpose. All this, of course, is done when the tide is at the lowest; and by the aid of the bags, and of the windlass purchase, the vessel will move from the beach, and as soon as she is clear she may safely lay to the purchase; or the end of the chain, or rope, by which the purchase was made may be let go, and it will immediately unreeve, and loose her from all the anchors. The air when not further required will be let out of the bags, and the anchors raised by the schooner.

The buoys which are attached to the anchors by the ten fathom chains answer several important purposes besides that of sustaining the blocks and sheaves. They effectually prevent the blocks from turning, which were it to take place, would entirely destroy the power of the purchase. When the chain, or rope, is hove hard upon the buoys and they are forced under water, they act as a powerful spring upon every part of the purchase, and equalize its action. When the vessel starts from the beach, this spring upon the purchase tends to force her rapidly through the shoal water and the breakers, where she might otherwise strike heavily and repeatedly before she arrived in deep water. After the purchase fall has been unreeved, the ends of each of the chains attached to the anchors are borne up by the buoys, and the anchors can be safely and readily taken up.

Besides the improvement in the general arrangement of the apparatus employed by me as above described, I have made a particular improvement in the manner of constructing the large blocks used by me, by which they are peculiarly well fitted to bear the strain to which they are to be subjected. This improvement consists in strapping the block on the inside, instead of on the outside of, the shell, as has heretofore been done. By this device the pin of the block upon which the sheave turns, is sustained in its bearings immediately on each face of the sheave, and the danger of its breaking, or bending, is thereby obviated. The power that would break it, when thus constructed, must be sufficient to cut the pin off. Fig. 2, is a sectional view of a block strapped in this manner; *p*, *p*, is the sheave, *q*, *q*, the shell, *r*, *r*, the strap, which is let into the shell, and *s*, the pin upon which the sheave turns.

Having thus, fully described the nature of my invention, and explained the manner in which I carry the same into operation, it is hereby declared that, with the exception of the manner in which I strap my blocks, I do not claim either of the parts of the apparatus employed by me, in their individual capacities, they being things well known to all nautical men; but what I do claim as original, is—

1. The general manner in which I have arranged and combined the respective parts of the apparatus employed by me, so as to produce a new and useful effect by means substantially new; that is to say, I claim as of my invention the manner of arranging the studding booms, lifts, bob-stays, guys, tackles, bull's-eye and fall, so as to constitute a combined apparatus substantially the same with that herein described, for the purpose of raising the heavy anchors from the deck, clearing them of the vessel, and dropping them where required, in the manner set forth.

2. I claim the manner of arranging and combining the large anchors, chains and buoys, and of connecting them with the stranded vessel, by means of the single blocks attached to the buoys, and to the vessel, with the chain, or rope, rove through said blocks, so as to be acted upon by the windlass of the vessel, the whole operating substantially in the manner and for the purpose set forth.

3. I claim, in combination with the foregoing, the manner of employing the air-tight bags, attached to a vessel on a beach, for the purpose of aiding in giving her buoyancy, when being hauled off by the purchase herein described.

THOS. BELL.

Witnesses:

BREWSTER WOODHULL,

ELIHU S. OVERTON.