

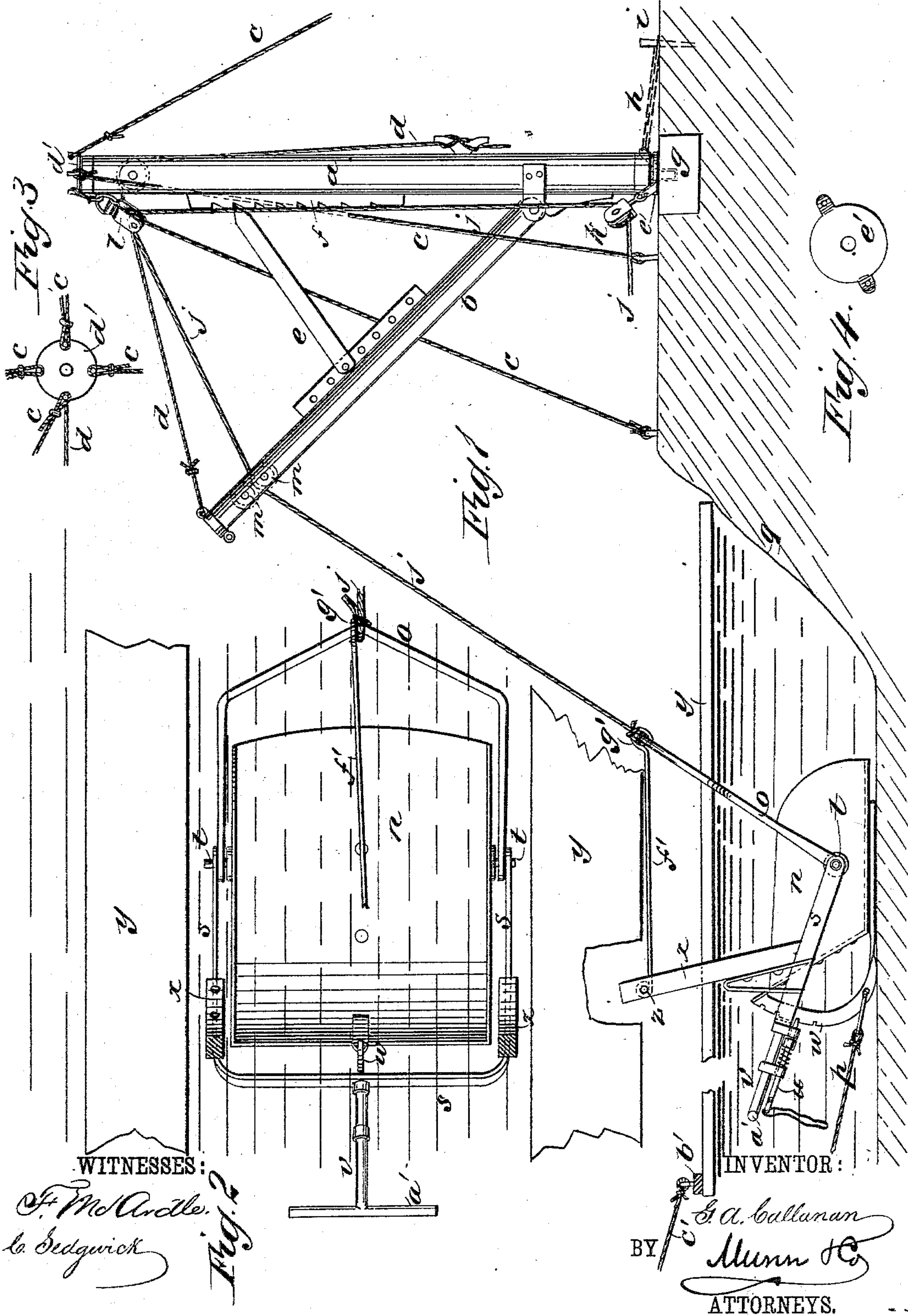
(No Model.)

G. A. CALLANAN.

DREDGER.

No. 301,669.

Patented July 8, 1884.



UNITED STATES PATENT OFFICE.

GEORGE A. CALLANAN, OF NEW COMERSTOWN, OHIO.

DREDGER.

SPECIFICATION forming part of Letters Patent No. 301,669, dated July 8, 1884.

Application filed March 29, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. CALLANAN, of New Comerstown, in the county of Tuscarawas and State of Ohio, have invented a new and Improved Dredger, of which the following is a full, clear, and exact description.

My invention consists of improved contrivances for working a scoop for dredging out canals and rivers by a derrick and boom erected on the bank, and floats from which to guide and control the scoop, together with improvements in the construction of the scoop for regulating its dip, all as hereinafter fully described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a cross-section of a canal or other water-course and side elevation of my improved dredging apparatus. Fig. 2 is a plan view of the scoop and part of the floats on an enlarged scale, and Figs. 3 and 4 are details of the derrick.

On the bank of the canal or other water-course I set up a derrick consisting of a center post, *a*, with a boom, *b*, suitable guys, *c*, boom-suspending rope *d*, and an adjustable brace, *e*, said brace being pivoted to the boom suitably to be shifted along the toothed rack *f* on the post, and the post being set in a substantially-bedded foot-step block *g*, and stayed at the base by a chain, *h*, and stake *i* against the thrust of the hoisting-rope *j*, which extends from the pulley-block *k* at the base of the post to the windlass or engine employed for working the scoop, and to the hoisting-rope which runs from pulley *k* over the pulley *l* at the top of the post, and between two pulleys, *m*, at the upper end of the boom. I connect a suitable dredging-scoop, *n*, by the bail *o*, so as to be pulled along the bottom of the water-course from the opposite side, to gather a load, and up the bank *q*, to be discharged, said scoop having a rope, *p*, connected to the rear end for pulling it back when empty. The boom *b* overhangs the bank *q* sufficiently to change the direction of the scoop by the pull of the rope, so that the scoop will be hauled up and along the bank out of the water thereat, to be emptied into a scow, or on the bank, or into a cart thereon, as preferred.

The rope *j*, for hauling up the scoop, may extend across the stream, to be worked at the same place where the pulling-back rope *p* is worked, and by the same means.

For controlling the scoop, to guide and direct it when getting its load, a yoke, *s*, is pivoted to the sides at *t*, where the rope connecting bail *o* is pivoted, and extends around the back end of the scoop, where it has a latch, *u*, fitted to a tongue, *v*, extending rearward from the yoke, to set the yoke up or down along the curved bar *w* to alter the pitch of a pair of lever-handles, *x*, connected to the sides of the yoke *s*, about midway between the pivots *t* and the cross-bar of said yoke, and extending upward suitably for being utilized by persons standing on the floats *y* at the sides of the scoop, to set the point of the scoop for running into or out of the ground at the bottom of the water-course. The lever-handles are connected at the top by a cross-bar, *z*, for staying them. The tongue *v* has a cross-bar, *a'*, at the end for handles, by which to manage the scoop when raised out of the water.

For floats on which the attendants may stand each side of the scoop for managing it, I employ two long narrow rafts, *y*, extending from the bank as far out as the scoop is to be worked, and being connected together by a cross-bar, *b'*, behind the scoop, from which stay-ropes *c'* extend to the bank for staying the float against the current. The floats will also be secured at the other end to the bank, and thus the floats serve to keep the scoop from being floated away by the current. The guys *c* connect with the top of the post *a* by a cap, *d'*, that the top of the post is pivoted in, enabling the post to be turned, and the pulley-block *k* is connected to the post by a disk, *e'*, through which the lower pivot of the post passes, and the stay-chain *h* is also connected to said post by the same disk *e'*, so that the stress of the rope *j* is sustained, mainly, by the chain *h* and stake *i*. The brace *e* is employed to resist the tendency of the boom *b* to swing upward under the pull of the rope *j* when hauling up the scoop, and the toothed rack *f* is employed to set the brace according as the boom is raised or lowered by its rope *d*, and the rope *j* is made to pass between two pulleys, *m*, in the end of the boom, so that it may run on one or the other, according as the

position of the boom and of the scoop give it direction.

To prevent the scoop from tilting forward or backward on the pivots *t* when being hauled up the bank with its load, I employ a rod, *f'*, to hook the arms *x* to the bail *o* for a stay, to keep the scoop sufficiently upright to retain its load, said rod being pivoted on the cross-bar *z* of the handles *x*, and having a hook at *g'*, adapted to hook onto the bail *o* at or about where the hoisting-rope *j* connects with the bail. Said rod *f'* is to be detached from the bail while the scoop is taking the load, but is to be hooked on just before the scoop ascends the bank.

I am aware that double pulleys on swinging booms for operating scoops in various lines of draft are old, and I therefore do not claim such invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of a derrick, scoop, and floats for comprising a dredging apparatus to be worked by the ropes *j* and *p*, substantially as described.

2. The derrick consisting of center post, *a*, boom *b*, guys *c*, boom-stay *d*, pivoted brace *e*, and the rack *f*, in combination with a scoop,

n, attached to the hoisting-rope *j*, and having a backing-rope, *p*, substantially as described. 30

3. A scoop for dredging water-courses, having handles *x*, attached to its yoke *s*, which is adjustable by a latch, *u*, of the yoke, and a notched bar, *w*, attached to the scoop for altering the pitch of the handles with relation to the scoop, substantially as described. 35

4. The combination of floats *y* with a scoop, *n*, having handles *x*, attached to its yoke *s*, which is adjustable by a latch, *u*, of the yoke and a notched bar, *w*, attached to the scoop, for altering the pitch of the handles with relation to the scoop, substantially as described. 40

5. The boom *b*, having the pulleys *m* for the upper and lower sides of the hoisting-rope *j*, in combination with a scoop, *n*, attached to the hoisting-rope, substantially as described. 45

6. The pulley *k* for the hoisting-rope, connected to the disk *e'*, fitted to the step-pivot of the post, and connected to the stay-chain *h* for the foot of the post, substantially as described. 50

GEORGE A. CALLANAN.

Witnesses:

L. R. McCLELLAND,
GEO. L. TAYLOR.