I. D. Vandecar.

Dredging Machine.

No. 64,169. Patented Apr. 23, 1867.

Fig: 1.

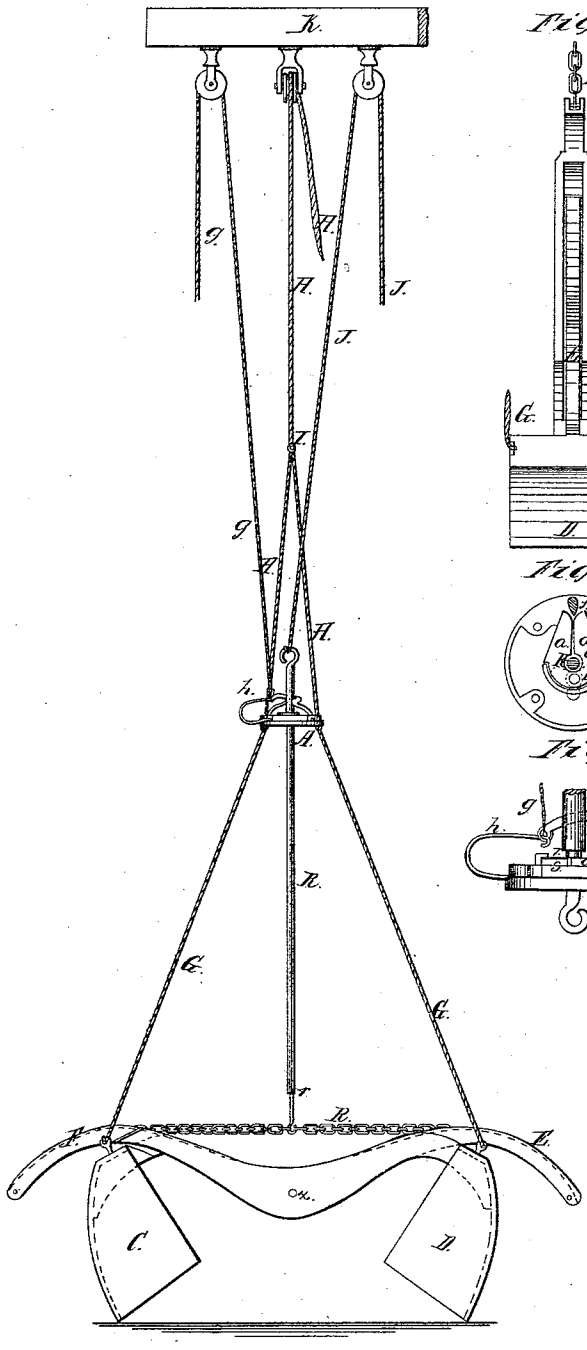
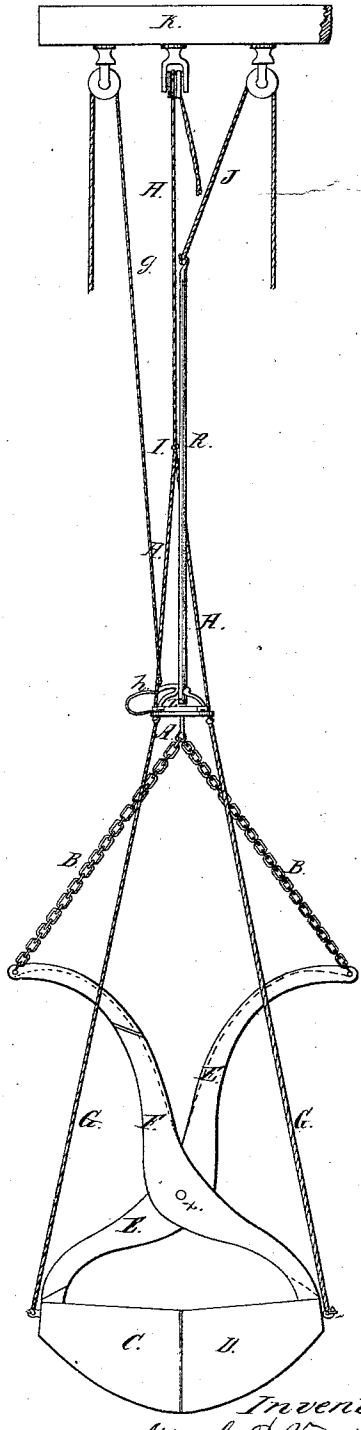


Fig: 3.

Fig: 4.

Fig: 5.

Fig: 2.



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ISRAEL D. VANDECAR, OF CHICAGO, ILLINOIS.

Letters Patent No. 64,169, *dated April* 23, 1867.

IMPROVED DREDGING MACHINE.

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, ISRAEL D. VANDECAR, of Chicago, in the county of Cook, and State of Illinois, have invented a new and useful Improvement in Dredging Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and the letters and figures marked thereon, which form part of this specification.

To enable those skilled in the art to understand how to construct and use my invention, I will proceed to describe the same with particularity, making reference in so doing to the aforesaid drawings, in which—

Figure 1 represents a side elevation of my invention, as prepared to grasp the mud, or material to be removed.

Figure 2 is a similar view, when loaded and ready to be elevated.

Figure 3 is an interior or front view of one of the shovels.

Figure 4 is a plan or top view of an automatic catch for holding the shovels closed; and

Figure 5 is a side view of the same.

Similar letters of reference in the several figures denote the same parts of my invention.

C D represent two scoops, or shovels, so arranged as to open and close together, moving upon a pivot, *x*, which passes through their handles E F, as shown, forming, when in the position indicated in fig. 2, a close receptacle for the contents scooped up, as hereinafter set forth. At the rear of each shovel are two chains G, which are attached to the metallic plate A, as shown. The long crossing arms of said shovels E F have their ends connected by a chain, B, as shown at the central point, in which chain the end of a rod, R, is attached, having a shoulder thereupon, as shown, marked *r*. The said rod passes up through the said plate A, having a chain, J, attached to its upper end, passing over a pulley upon the jib of a derrick or crane, K, as shown. Upon the plate A are arranged two jaws *a a* pivoted to the plate A, so as to open and close by a lateral movement upon said pivot, marked *b*. That portion covering the aperture through the centre of the plate through which the rod R passes is cut away, as shown at *c*, said opening *c*, through the jaws *a a*, when closed, being smaller than the opening through the plate A. There is a bent lever or arm, *d f*, fulcrumed at *e*, to one end of which a chain or cord, *g*, is secured, which passes over a pulley, as shown. There is also attached to said lever at the same end a spring, *h*. There is likewise a spring, *s*, clasping the jaws *a a* to hold them together, except when opened, as hereinafter specified. H represents chains secured to said plate A, uniting at I in one, which passes over a pulley upon the crane-arm K, as shown. The chains G G are attached to the scoops C D in such a way that when the weight of the apparatus is suspended on said chains, as hereinafter described, they will open the scoops, as shown in fig. 1, and discharge the contents thereof. The machine is then lowered, being suspended upon the hoisting rope H, and chains G, till the scoops rest upon the ground in their open position. The rope H is still further slackened, which allows the plate A to slide down on the rod R and over the shoulder *r*. The plates *a a* spring under said shoulder and prevent the plate A from sliding up again on the rod R. The power is then applied to the hoisting rope H, and that, through the plate A being under the shoulder *r*, raises the rod R and applies the power to the ends of the levers E F. These levers being pivoted together near their centres at *x*, by raising the ends to which the chains B are attached, the other ends cause the scoops C D, pressed down by the weight of the machine, to dig into the dirt and become filled as they assume the position shown in fig. 2. By continuing the draught on the hoisting rope H the machine is then raised; the power still being applied to the machine through the chains B, which are so attached to the levers E F that the scoops C D are pressed firmly together, but when the machine is sufficiently elevated and swung around on the crane K over the place where you wish to deposit the contents of the scoops, by pulling on the cord *g* you press one end of the bent lever *d f* between the plates *a*, thereby removing them from under the shoulder *r*, which admits the rod R to pass through the plate A, when the weight of the machine is thrown on to the ropes or chains G, which opens the scoops and throws the machine into the position shown in fig. 1. The machine is then swung around and lowered for another load, as above described. The principal object of the rod R and the plate A is to operate the machine under water. When the machine is sunk to the bottom of the water, by loosening the rope H the plate A sliding down on the rod R will sink in the water and lock itself under the shoulder *r*. The object of the

cord J is simply to keep the rod R in a perpendicular position. The sole object and use of the cord *g* is to operate the bent lever *d f*. It will be seen that the levers E F are made crooked, or bent in such a manner that when the scoops are closed together the chains B still have a strong purchase on the levers to hold the scoops together as the machine is being elevated.

Having thus fully described the construction and operation of my invention, what I desire to secure by Letters Patent, is—

1. The combination and arrangement of the scoops C D, handles, or levers E F, connecting chains B, rod R, hoisting rope H, and plate A, when constructed and operating substantially as and for the purposes specified.

2. In combination with said scoops, handles or levers, connecting chains, rod, hoisting rope, and plate, I claim the ropes or chains G, when operating substantially as and for the purposes set forth.

3. I claim the combination and arrangement of the plate A, rod R provided with the shoulder *r*, the catch-plates *a*, bent lever *d f*, and cord *g*, when constructed and operated substantially as herein specified.

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Witnesses:

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J. H. IRWIN.