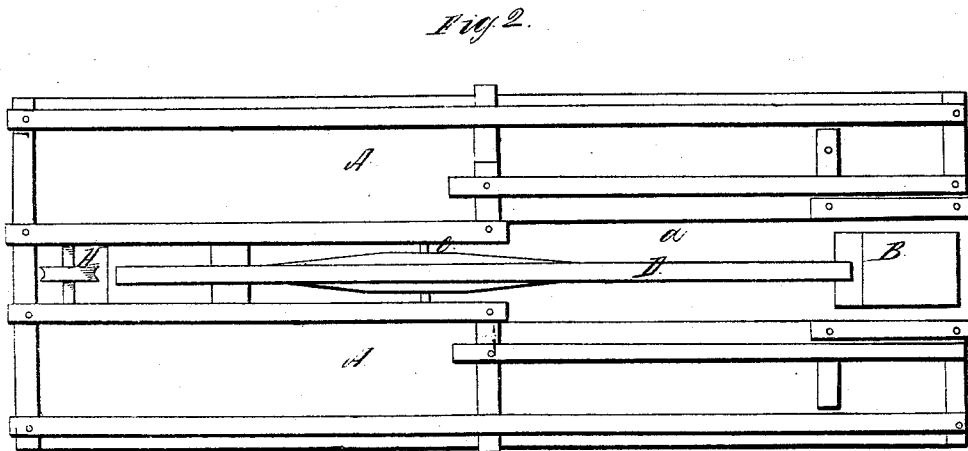
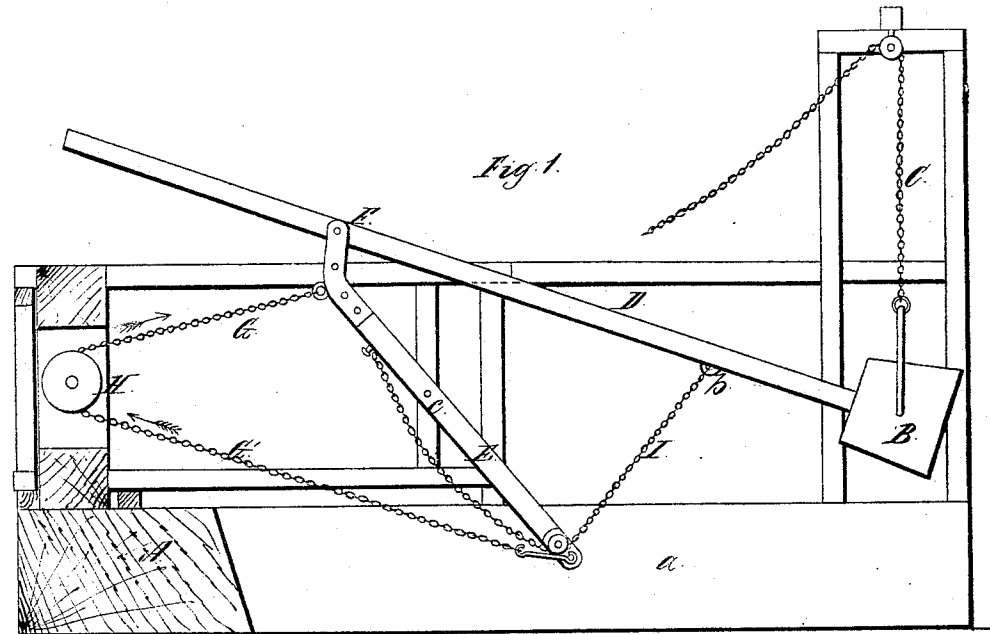


A. J. Gove.

Dredging Machine.

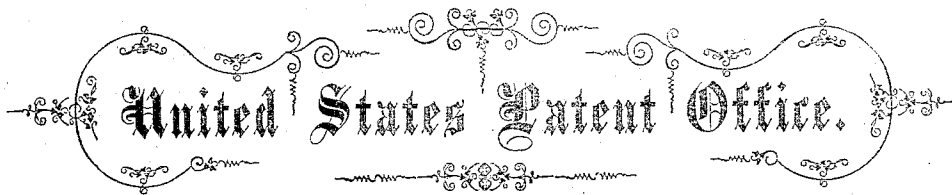
N^o 83,845.

Patented Nov. 10. 1868.



Witnesses:
Geo. W. Smith
Geo. H. Strong

Inventor:
Andrew Gove



ANDREW J. GOVE, OF SAN FRANCISCO, CALIFORNIA.

Letters Patent No. 83,845, dated November 10, 1868.

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, ANDREW J. GOVE, of the city and county of San Francisco, State of California, have invented an Improved Dredging-Machine; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains, to make and use my said invention or improvement, without further invention or experiment.

The object of my invention is to provide an improved machine for dredging out the beds of rivers and other places, where the mud or sand to be removed is under the water, and it consists of strong horizontal wooden framing or staging, mounted upon the requisite buoying-apparatus, which is made in two sections at one end, leaving space sufficient for the spade or excavator to pass up and down through it. The spade or excavator is attached to the end of a lever of sufficient length, which is connected at its fulcrum to the end of a small beam. The centre of this beam is secured to the frame-work on each side of the division in the float by a bolt passing through it, upon which it turns. A chain is attached to the lower side of the beam, near its upper end, and passes through the lower end over a sheave, and is attached to the lever, midway between the fulcrum and weight. A similar chain is secured to the upper end of the beam, and passes back over a sheave, and to the opposite end of the beam, and a third chain is attached to the excavator, and passes through a sheave in the frame-work directly over it, and serves to raise and lower it.

To more fully explain my invention, reference is had to the accompanying drawings, and letters marked thereon, of which—

Figure 1 is a side sectional elevation of my apparatus.

Figure 2 is a plan.

Similar letters of reference in each of the figures indicate like parts.

A is a frame-work or float, upon which the apparatus and the machinery for operating it are placed, the float having a well or opening, *a*, through it, through which the spade works.

The excavator B consists of a metal scoop, and is raised and lowered by the chain C, operated by the engine. A long lever, D, is fastened to one side of the excavator, and serves to direct and govern its movements,

as will be hereafter shown. A lever, E, is pivoted to the frame, near its centre, at *c*, and to the lever D at the point F. A chain, G G', is strongly fastened to each end of the lever E, and passes around a drum at H, a suitable brake on the drum being connected, so that the lever may be held in any required position, thus forcing the excavator into the bank at will. Another chain, I, passes through the lower end of the lever E, and is fastened to D, at the point *b*, to guide the swinging of the lever D.

To operate my excavator, the bottom being closed, it is lowered, by means of the chain C, until it touches and rests along the lever E, which is carried with it, both moving about the point *a*, until the spade rests on the bottom or bank to be excavated. Power is applied to the chain C, and at the same time the chain G G' is allowed to move about the drum H by the lever at will, in the direction shown by the arrows, thus lengthening the portion G', and shortening the portion G.

The effect of this motion, combined with that of the chain C, is to move the excavator laterally or horizontally towards the bank for some distance before it begins to rise, thus working over considerable space without changing the anchorage, and also insuring a full load each time. The load may be discharged by the use of a hinged bottom or other convenient device, a trough being so placed as to receive the discharging load.

Having thus described my invention,

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

1. The beam E, turning about the axis *c*, and the governing-chain G G' moving about the drum H, together with the excavator B, and its lever D, pivoted to the beam E at the point F; also the regulating-chain I; the whole constructed and arranged substantially as and for the purpose described.

2. The beam E, and the lever D, with its excavator B, working in the well or opening *a*, substantially as and for the purpose herein described.

In witness whereof, I have hereunto set my hand and seal.

ANDREW J. GOVE. [L. S.]

Witnesses:

C. W. M. SMITH,
GEO. H. STRONG.