

(No Model.)

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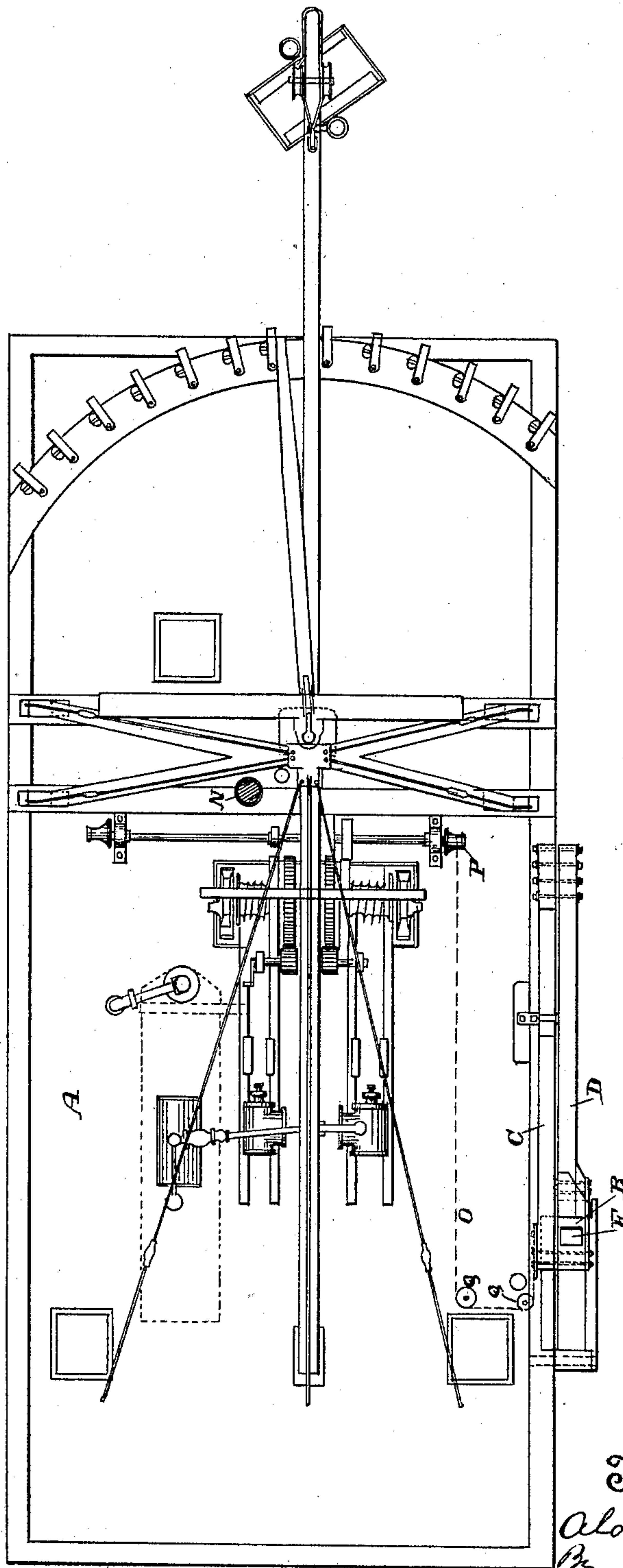
A. P. PAYSON.

SETTING SPUD AND GAGE FOR DREDGERS.

No. 418,471.

Patented Dec. 31, 1889.

Fig. 1.



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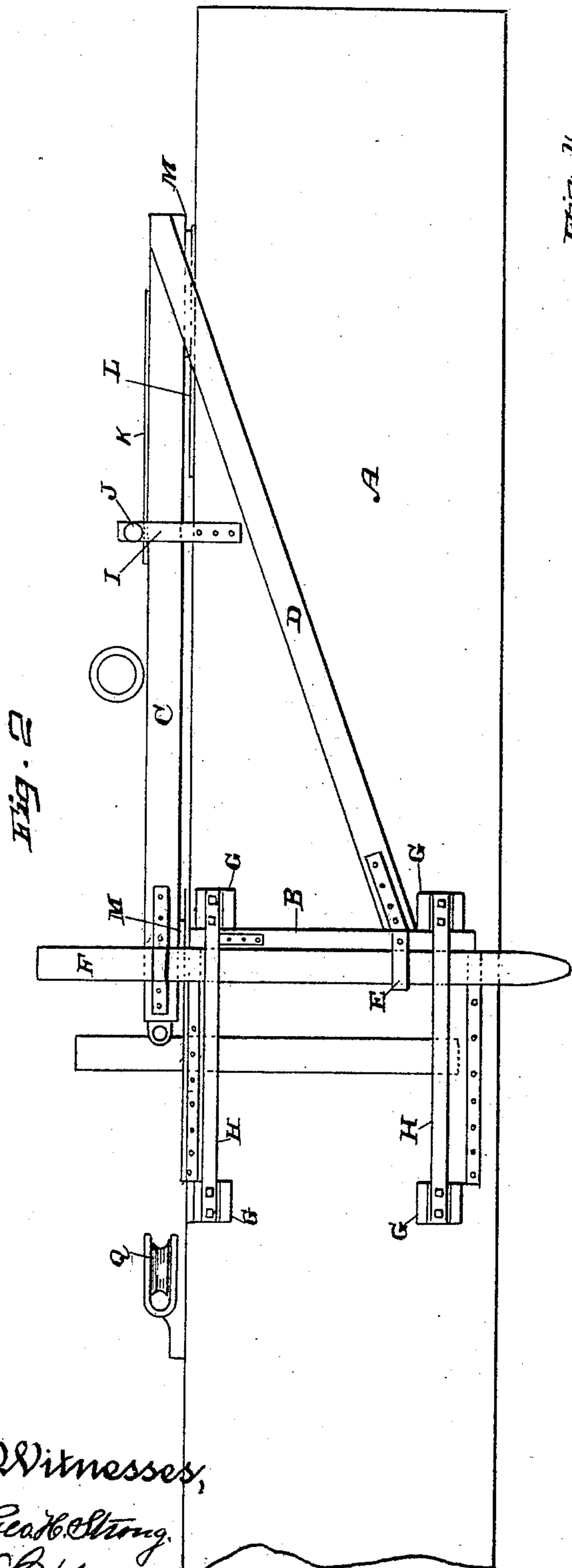
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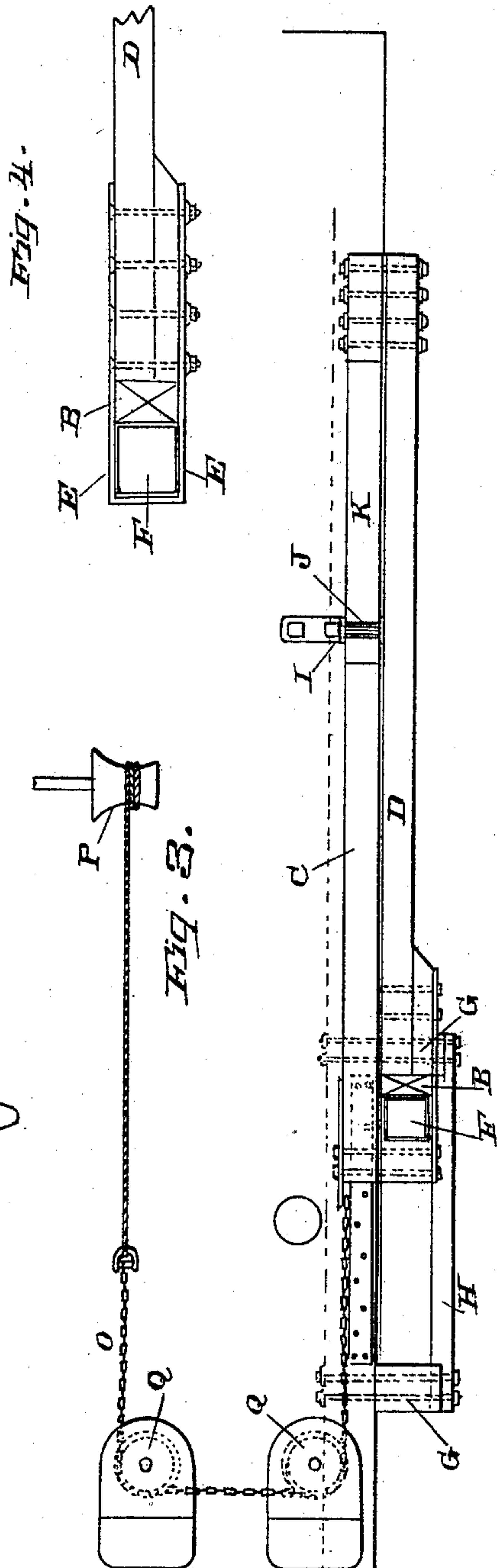
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UNITED STATES PATENT OFFICE.

ALONZO P. PAYSON, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO THE
GOLDEN STATE AND MINERS IRON WORKS, OF SAME PLACE.

SETTING SPUD AND GAGE FOR DREDGERS.

SPECIFICATION forming part of Letters Patent No. 418,471, dated December 31, 1889.

Application filed May 9, 1889. Serial No. 310,163. (No model.)

To all whom it may concern:

Be it known that I, ALONZO P. PAYSON, of the city and county of San Francisco, State of California, have invented an Improvement in Setting Spud and Gage for Dredgers; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device for moving and setting the scow upon which a dredging apparatus is carried, so that the scow may be advanced to a certain distance, which distance is equal to the amount of cut which can be excavated by the dredger.

It consists of a supplemental spud moving vertically in guides upon a frame at one side of the dredger-scow, guiding-channels fixed to the side of the scow, so that the spud passes down through these channels, the length of these channels being equal to the distance which it is desired to advance the scow from time to time, and in connection with this a chain or rope passing around the pulleys and connecting the independent spud-frame with the gipsy, by which power may be applied to haul the dredge forward the length of the guide slot or channel.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a plan view of the dredge-boat, showing my attachment. Fig. 2 is an enlarged side elevation of a portion of the scow, showing the relative arrangement of the attachment. Fig. 3 is a plan view of the same. Fig. 4 is a detached view of the brace-timber D and the strap and spud.

In this present case I have shown my device as applicable to what is known as a "clam-shell dredge;" but it will be manifest that it might be also applied to other forms of dredges which are to be advanced a stated distance from time to time as the work progresses.

A is the scow or boat upon which the engines and dredging apparatus are carried, from the forward end of which a beam projects supporting the dredge-buckets. This beam swings from side to side, and the material is excavated in a segment of a circle as the beam is caused to swing around its point of suspension, and after this segment has been excavated it is necessary to again ad-

vance the apparatus a distance equal to the width of the cut which can be excavated by the dredger.

A supplemental triangular frame is formed by the vertical timber B, the horizontal timber C, and the diagonal bracing-timber D, which extends from near the bottom of B to the outer end of C. The timbers B and D lie closely along the side of the scow. The timber C is bolted to the side of the brace-timber D, so that it lies inboard and above the edge of the scow, as shown in the plan views, Figs. 1 and 3.

E E are straps or yokes of iron secured one near the top of the vertical timber B and the other at a point where it is united to the brace-timber D, these yokes extending beyond the side of the timber B so as to form square openings through which the spud F may slide easily, Fig. 4.

G G are castings which are firmly bolted to the side timbers of the scow, and H H are stout bars extending horizontally between each pair of these castings and outside of the spud F and the vertical timber B of the supplemental frame. The horizontal distance between the castings G is equal to the distance which it is desired to move the boat or scow for each new cut, allowing also for the size of the spud and the vertical timber inclosed within the guide.

The horizontal timber C above described lies inboard and just above the side of the scow, and it is kept in this position by means of a vertical guide I, which is bolted to the scow and extends upwardly above the level of the timber C, and has a roller J, which extends above the timber so as to press upon the top of it. K is a plate of iron upon which this roller travels as the scow is moved with reference to the spud and the frame.

L L are plates of iron fixed upon the edge of the scow, and shoes M are fixed to the timber C so as to raise it above and out of contact with the top of the scow, and these shoes travel upon the plates L when the scow is moved, Fig. 2.

The operation will then be as follows: The scow is held in place while the work is going on by means of a spud N. The spud F is

also let down into the bottom of the channel which is being excavated, and by means of these two spuds the scow is held stationary until the circuit reached by the buckets has
 5 been entirely excavated. The spud N is then raised from the bottom, and a chain O, passing around the gipsy P and thence around the guide-pulleys Q, extends forward and is attached to an eye upon the rear
 10 end of the horizontal frame-timber C. The spud F and the frame-timbers B, C, and D being stationary and independent of the scow, by reason of the spud being driven into the bottom of the channel, it will be seen that
 15 when the rope or chain is wound around the gipsy it will draw the scow forward as far as the open spaces within the guides H will allow, the spud being then at the rear end of the guide-spaces. The guide-roller J, above
 20 described, pressing upon the horizontal timber C, prevents the spud from being pulled over into an inclined position and acts as a guide traveling over the top of the timber C as the scow moves forward, and at the same
 25 time holds this timber down in its horizontal position.

Chafing-plates are fixed upon the side of the scow opposite the guides in which the spud travels. When the scow has been ad-
 30 vanced the length of these guide-spaces, the spud N is again driven into the bottom of the channel, and the spud F, being raised, may be at any time advanced to the front end of the guiding slot or channel, the frame B C D
 35 moving with it. When the spud F is again driven into the bottom, the hole is fixed and may remain until the cut has been completed, when the scow may be again advanced in the same manner.

40 Having thus described my invention, what

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

1. A device for advancing a dredger-scow, consisting of a supplemental frame, a spud by which said frame is secured to the bottom
 45 of the channel which is being excavated, said frame being connected with the scow by guides, and a rope or chain passing around a gipsy and guide-pulleys on the scow and connected with the rear of the supplemental
 50 frame, substantially as described.

2. A device for moving a dredger-scow, consisting of a supplemental frame fixed along-
 side of the scow by means of a spud driven through guiding-yokes on the frame and into
 55 the bottom of the channel, in combination with the guides G H, within which the spud is retained, said guides serving as a gage for the distance to which the scow is moved, sub-
 60 stantially as described.

3. The supplemental frame consisting of the vertical timber B, the horizontal timber C, and a bracing-timber, and a spud passing through yokes at the rear end of said supple-
 65 mental frame, the guiding-channels within which the spud is retained and by which the distance moved is regulated, in combination with a gipsy, a rope passing around it and guiding-pulleys and connected with the sup-
 70 plemental frame, and the roller J, pressing upon the top of the frame, so as to prevent its being lifted when the scow is advanced, substantially as described.

In witness whereof I have hereunto set my hand.

ALONZO P. PAYSON.

Witnesses:

W. E. PALMER,
 JOHN W. BROWN.