

R. Gamble, Jr.

Excavator.

N^o 30,626.

Patented Nov. 13, 1860.

Fig. 2.

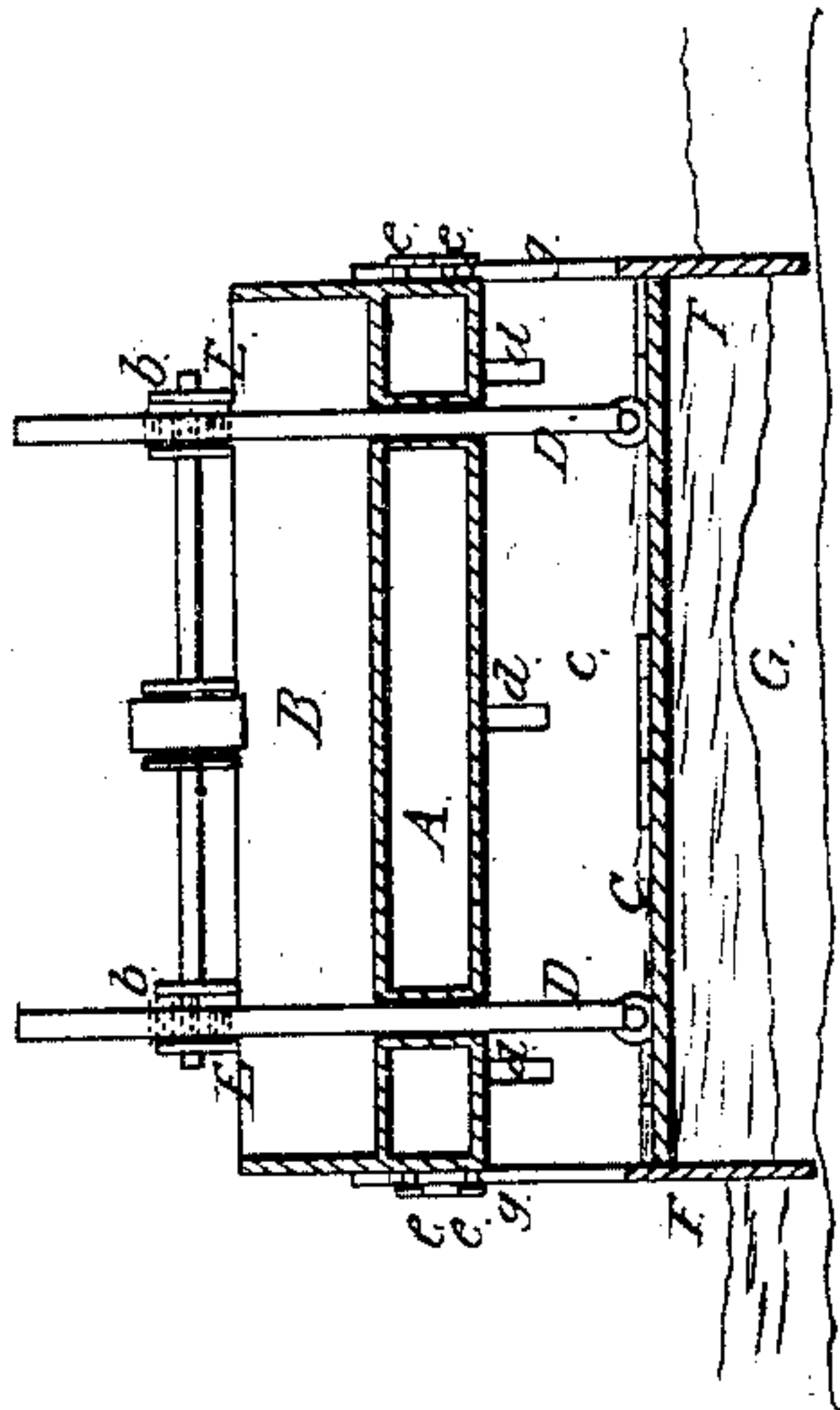


Fig. 1.

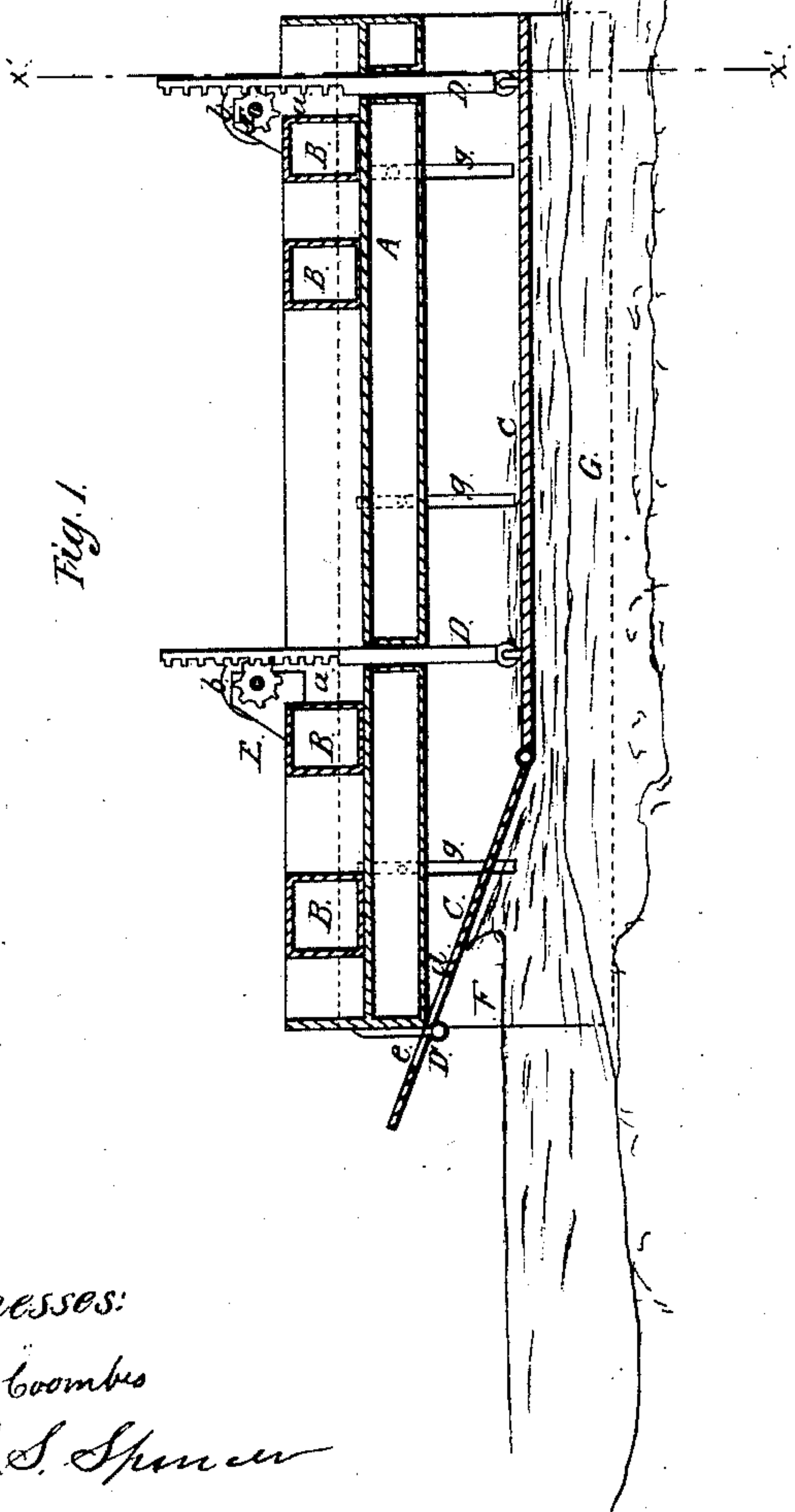
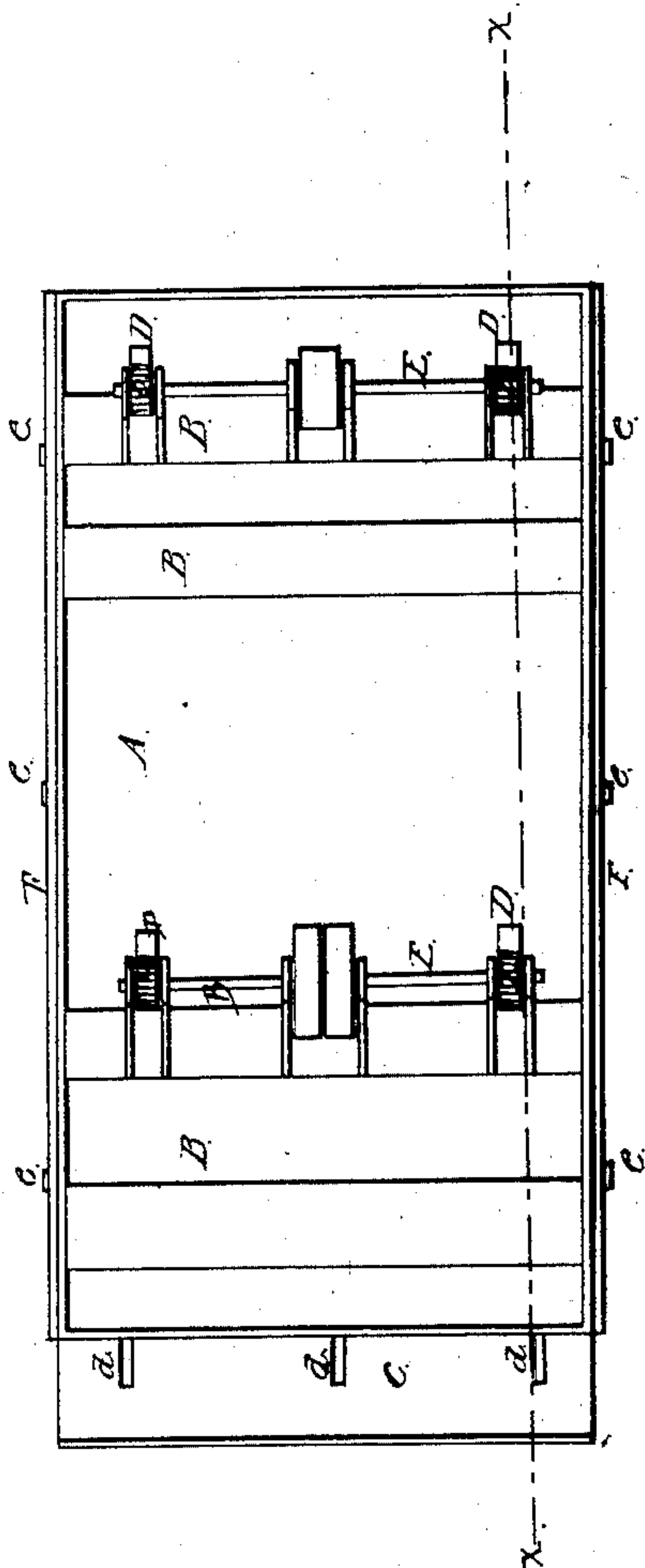


Fig. 3.



Witnesses:
J. W. Coombs
A. S. Spencer

Inventor:
Robt Gamble, Jr.
per Munroe & Co.
Attorneys

UNITED STATES PATENT OFFICE.

ROBERT GAMBLE, JR., OF TALLAHASSEE, FLORIDA.

CHANNEL-EXCAVATOR.

Specification of Letters Patent No. 30,626, dated November 13, 1860.

To all whom it may concern:

Be it known that I, ROBERT GAMBLE, JR., of Tallahassee, in the county of Leon and State of Florida, have invented a new and Improved Machine for Deepening or Excavating Running Streams or Tideways; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical section of my invention taken in the line *x, x*, Fig. 3. Fig. 2, a transverse vertical section of the same taken in the line *x, x*, Fig. 1. Fig. 3, a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention is designed to deepen or excavate the channels of running streams or tideways by deflecting the running water against the bottom of the same substantially as hereinafter shown and described.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a float or vessel of rectangular form made water-tight, and provided with water-tanks B, of which any proper number may be used.

C represents a plate or platform which is placed below the float or vessel A, and is secured to the lower ends of vertical bars D, which extend up through the float or vessel A, and have racks *d*, at their upper parts into which pinions *b*, gear, said pinions being on shafts E, which are placed transversely on the float.

The front part *c*, of the plate or platform C, is inclined and rests on a rod D', attached to the front part of the float, said part *c*, having longitudinal slots *d*, made in it through which stays *e*, which are attached to the float pass and are attached to rod D'.

To each side of the float A, there is attached a side piece F. These side pieces are in a vertical position and are attached to the sides of the float by bolts *e*, which are provided with heads and pass through ver-

tical slots *g*, in the side pieces. This mode of attachment admits of the vertical adjustment of the side pieces and the latter are attached to the plate or platform C. The side pieces E, extend the whole length of the float.

The operation is as follows: The float A, is anchored directly over the head of the part of the channel to be deepened and the sand away between the side pieces F, F, are depressed or forced down by turning the shafts E, E, until the plate or platform is quite near the bottom G, of the channel. The water as it moves along and strikes the inclined part *c*, of the plate or bottom is deflected by said part *c*, down underneath the float and against the bottom G, washing the sand away between the side pieces F, F. When the bottom is removed sufficiently the plate C, and side pieces F, are raised and the float is allowed to drop down stream until its head is directly over the back part of the excavation previously made. The plate C, and side pieces F, are then again lowered and the operation repeated. The float thus descends the stream until the required depth of channel is obtained.

In case the machine is operating on a tidal bar where the current runs for equal periods of time out and in, the machine is made to operate at the middle of the bar and in a direction alternately outward and inward according as the tide ebbs and flows. The tanks B, are supplied with a sufficient amount of water to give sufficient weight to the float to enable the latter to resist the upward pressure of the water against plate C.

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

The employment or use of a float A, provided with an adjustable plate or platform C, and side-pieces F, F, substantially as and for the purpose herein set forth.

ROBERT GAMBLE, JR.

Witnesses:

R. A. SHINE, Jr.,
G. C. TOWNSEND.