

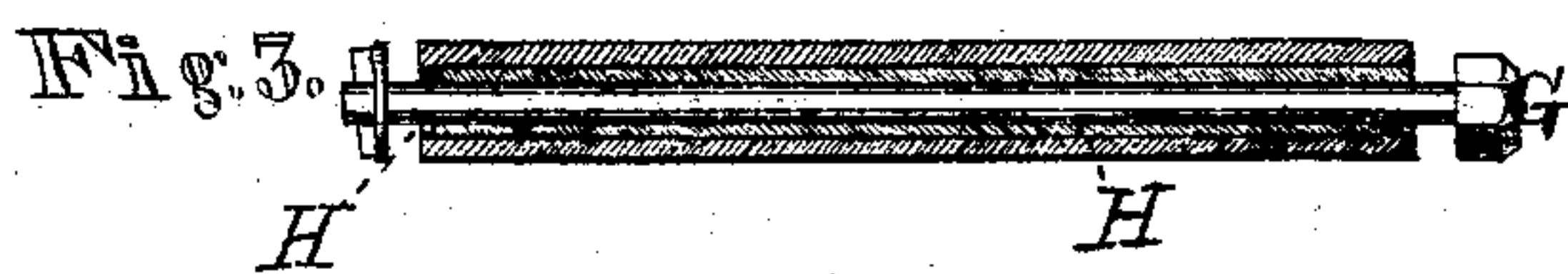
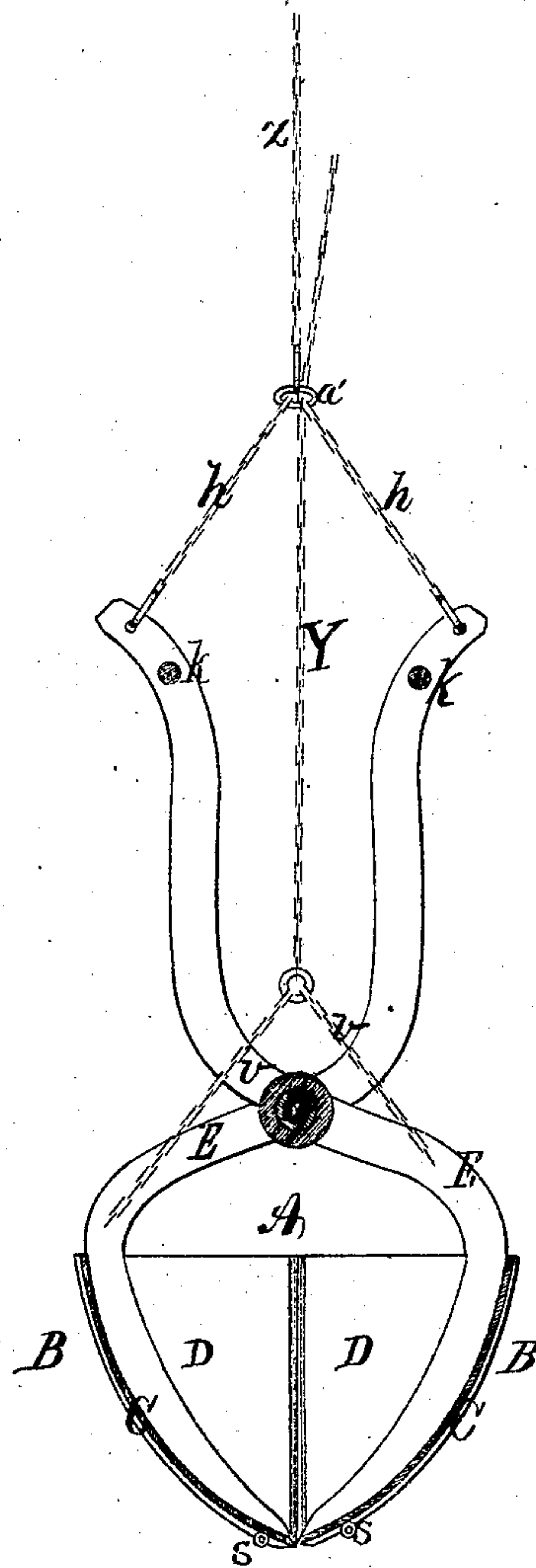
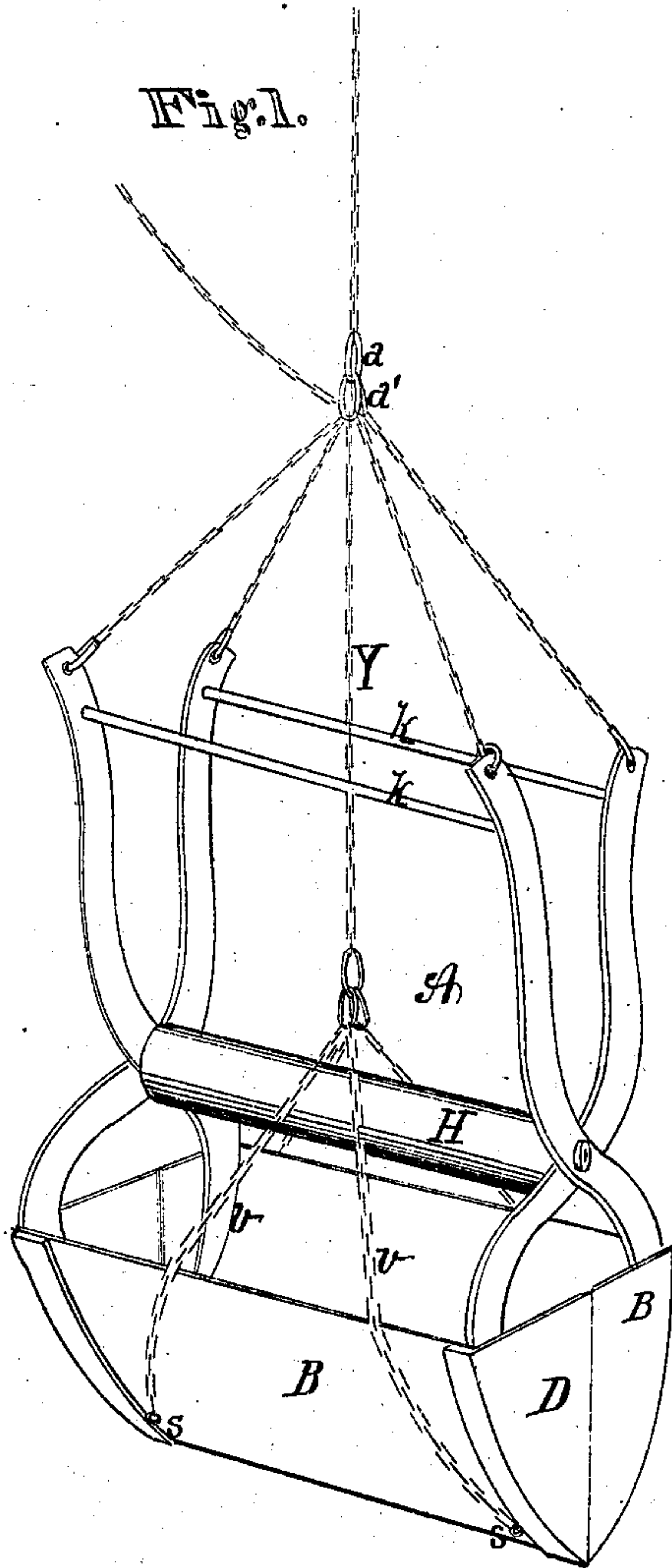
A. C. ELLITHORPE.

Improvement in Dredging Scoops.

No. 116.171.

Patented June 20, 1871.

Fig. 1.



Witnesses.
Chas. Kemper
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UNITED STATES PATENT OFFICE.

ALBERT C. ELLITHORPE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN DREDGING-SCOOPS.

Specification forming part of Letters Patent No. 116,171, dated June 20, 1871.

To all whom it may concern:

Be it known that I, ALBERT C. ELLITHORPE, of Chicago, in the county of Cook and State of Illinois, have invented a new and valuable Improvement in Dredging-Scoops; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of my instrument in perspective. Fig. 2 is a vertical transverse section thereof. Fig. 3 is a longitudinal section of the thimble-weights.

My invention has relation to means for scooping up, from the hold of a vessel or the bottom of a river, sand, oysters, or loose articles; and it consists in the construction and novel arrangement of the pair of scoops with its operating-chains and adjustable weights, as hereinafter described.

The letter A of the drawing designates the pair of scoops. Each scoop B is provided with a curved bottom, C, and end walls D, whose edges are neatly fitted to the edges of similar parts in the opposite scoop. At the ends of each scoop are attached the bent levers E E, which are pivoted together by a removable pivot-rod, G, which extends the full length of the scoop. Z represents a chain, which is connected by four short chains, *h h*, with the ends of the four levers E E. These four chains *h h* are of the same length and meet above the center of the instrument. They are connected to the chain Z by three rings, *a a'*. The chain Z is the closing and lifting chain. Y represents the chain which bears the weight of the pair of scoops in their descent when empty. This chain Y passes through the ring *a'*, and, extending somewhat below this ring, is connected by means of four short chains, *v v*, to the eyes *s s*, which are firmly secured to the exterior surface of the bottom of each scoop at each end, near the lower edge. When the weight of the instrument is borne by the chain Y the scoops are forced asunder by their weight to the full extent of their span. In this open condition they are lowered into the sand-bed or wherever desired. *k k* are braces, which prevent the bent levers from being drawn together by the chains attached to their ends. By attaching weights to the rod G the same instrument may be adapted to operate

in matter of different degrees of consistency. This is important, for such an instrument weighted to dig mud would not be sufficiently heavy to operate in sand with efficiency. The usual and most convenient form in which these weights can be applied is thought to be in the shape of long thimbles H H. These thimbles are cast of such different weights as may be desirable, and they are, when in use, slipped on the rod G, which is readily removed and replaced for this purpose.

When the instrument has descended to its lowest extent and rests on the sand-bed or other place of operation, the chain Y is slackened and power is applied to the lifting-chain Z, which operates to accomplish a double object. By means of this chain the scoops are drawn together, catching up whatever may be between them, and the instrument is then raised with its load, the neatly-fitting edges preventing loss in substances of the nature of sand or mud.

Attention may here be directed to the fact that such an instrument may be kept entirely under control during the discharge of its contents. It may be emptied gradually, or its entire contents may be deposited at once, or it may be partially discharged in one place, transported to another place, and the discharging operation there repeated.

As the scoops are weighted they may be made very light in their parts, provided sufficient strength is secured to enable them to bear the strain.

I do not desire to confine myself to any precise form of weights, or to the manner of attaching them herein described.

When the instrument is to be used in grappling for oysters or large movable objects the lower edge of each scoop may be made with grappling-teeth.

Claim.

The combination of adjustable weights with a pair of scoops operated by means of the lowering and opening chain Y and the closing and lifting chain Z, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ALBERT C. ELLITHORPE.

Witnesses:

F. B. CURTIS,
D. D. KANE.