

*Thos. F. Mayhew,
Winding Apps. for Oyster Dredges.*

No. 122,843.

Patented Jan. 16, 1872.

FIG. 1.

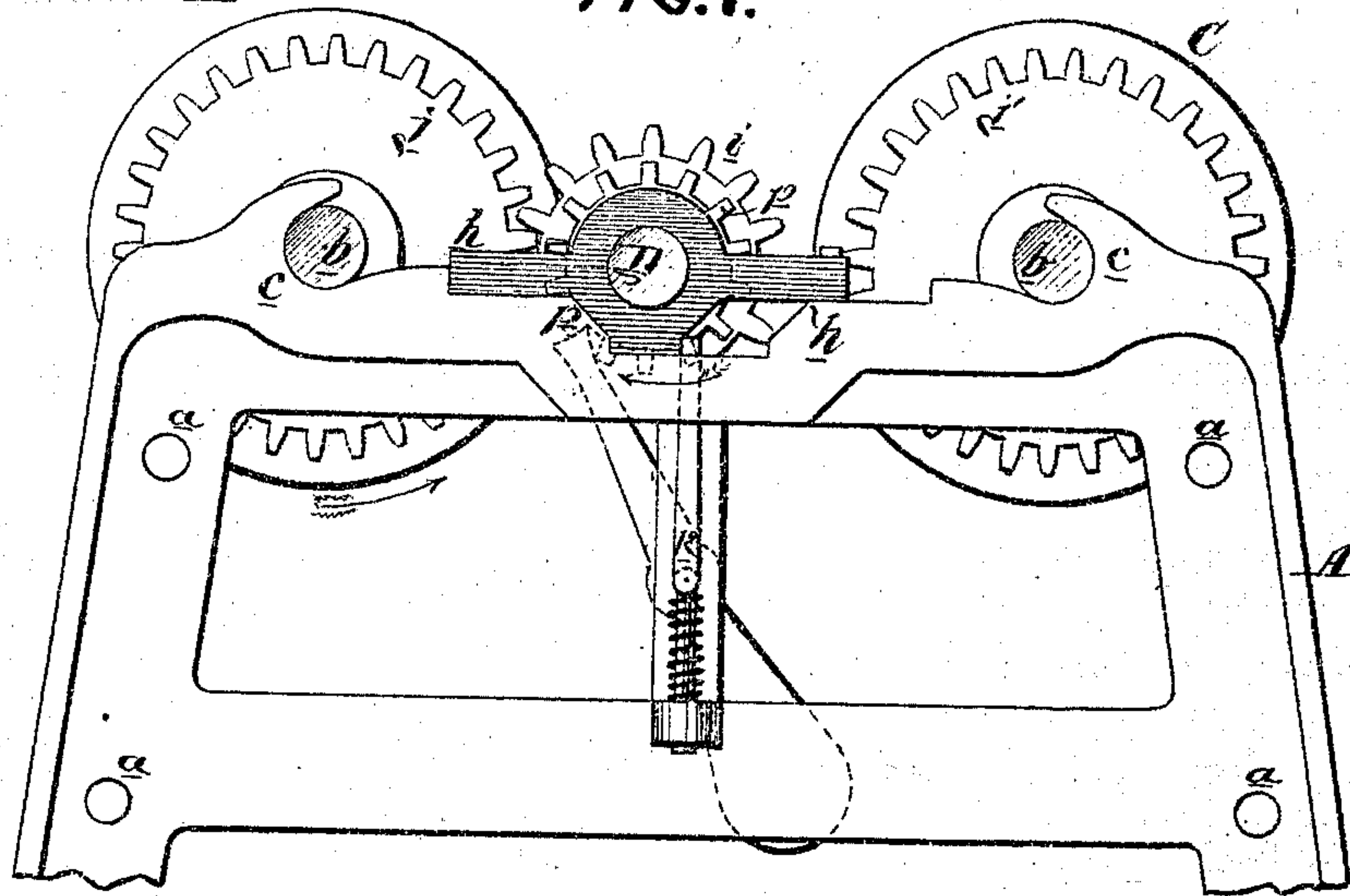


FIG. 2.

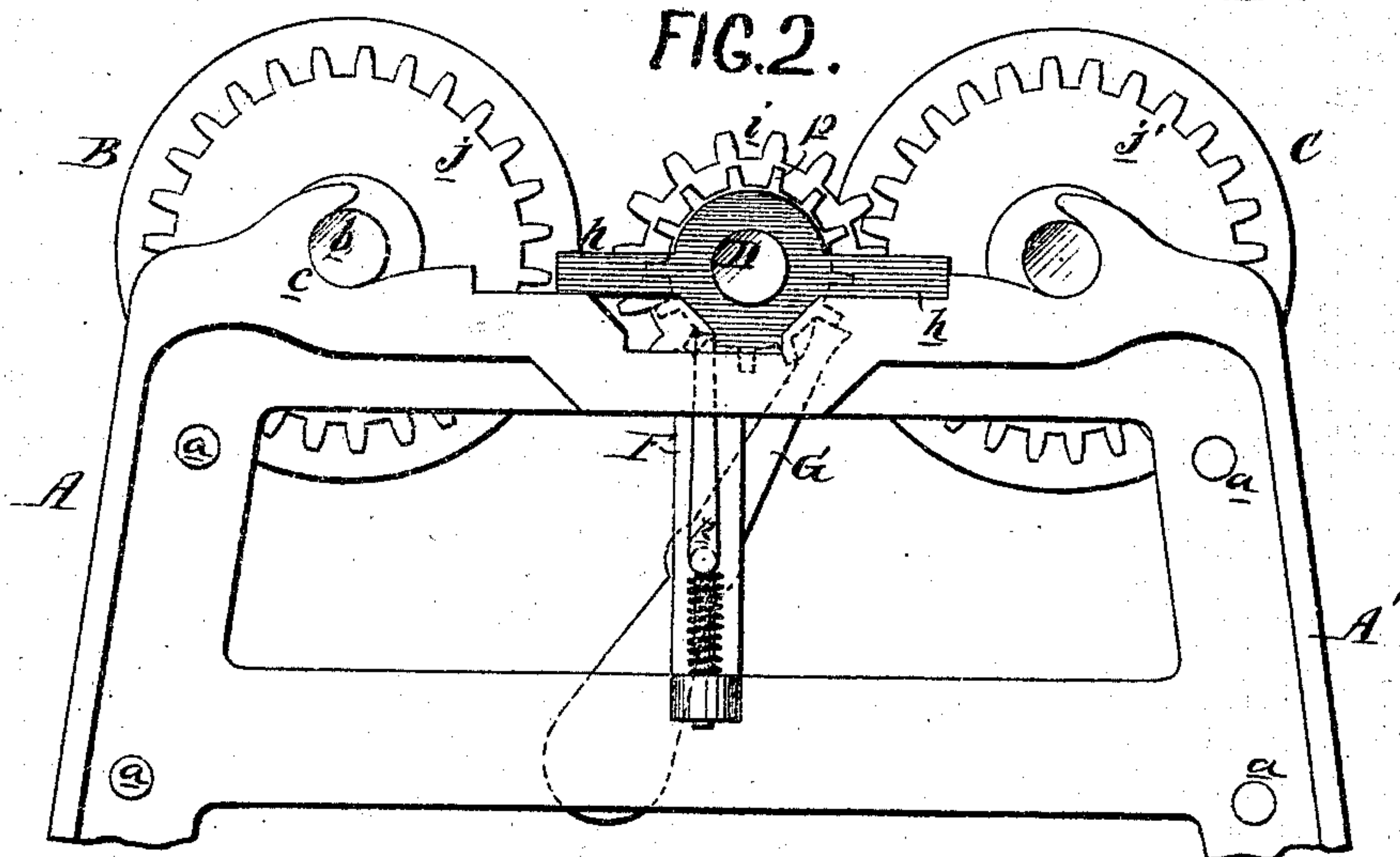


FIG. 3.

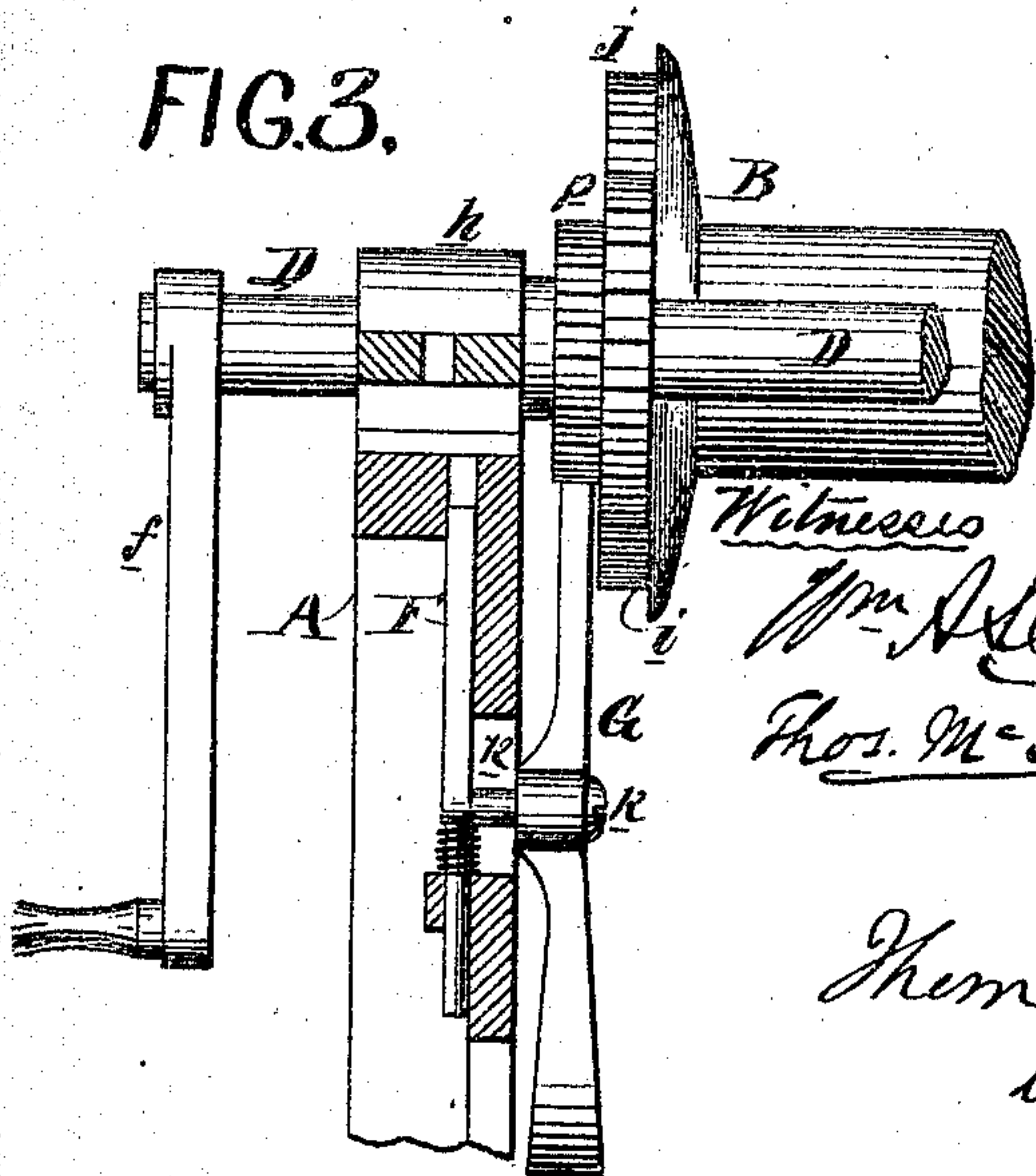
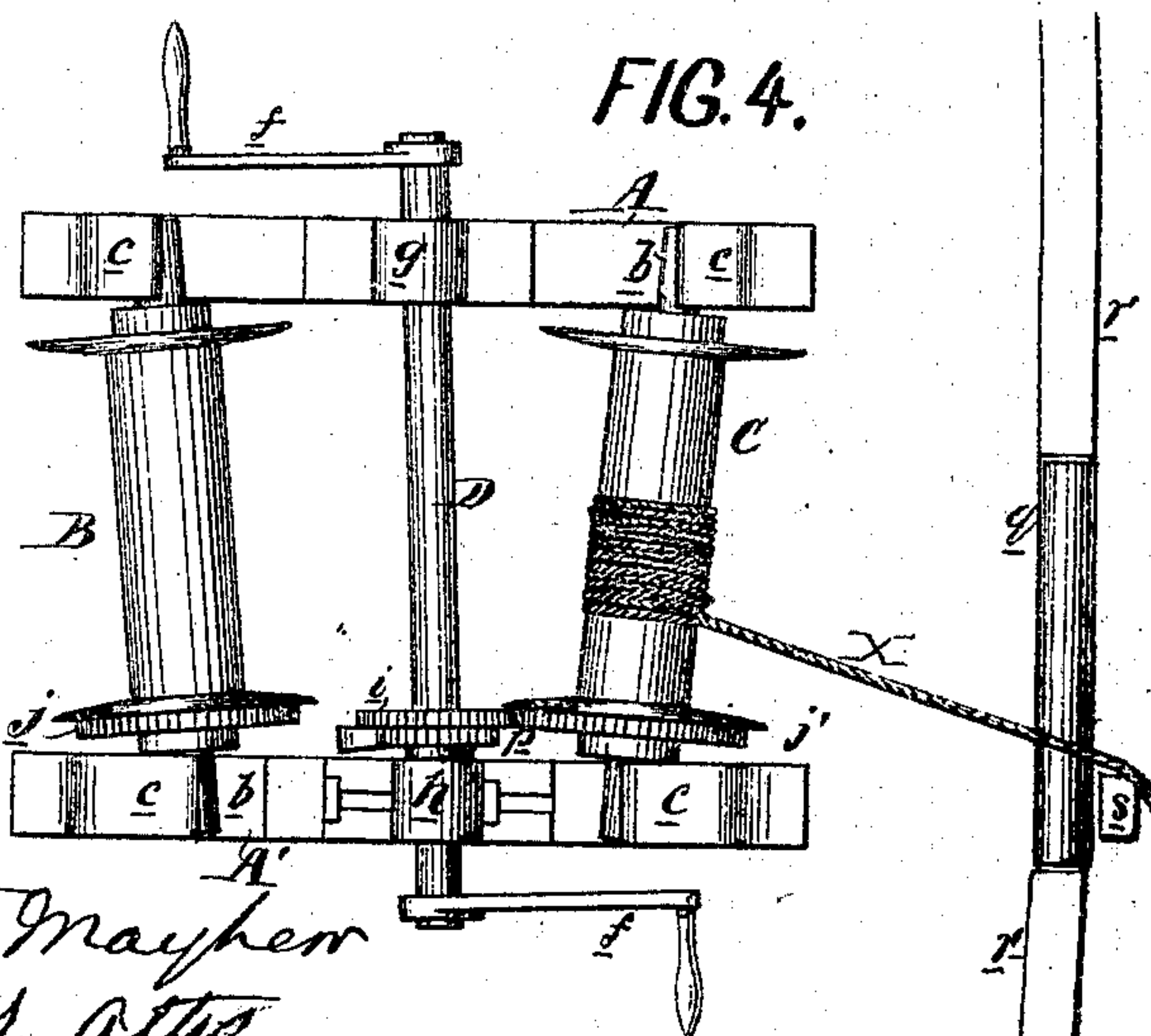


FIG. 4.



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THOMAS FERGUSON MAYHEW, OF PORT MORRIS, NEW JERSEY.

IMPROVEMENT IN WINDING APPARATUS FOR OYSTER-DREDGES.

Specification forming part of Letters Patent No. 122,843, dated January 16, 1872; antedated January 1, 1872.

SPECIFICATION.

I, THOMAS FERGUSON MAYHEW, of Port Morris, county of Cumberland, State of New Jersey, have invented an Improved Winding Apparatus for Oyster-Dredges, of which the following is a specification.

Nature and Object of the Invention.

My invention consists of certain improvements, fully described hereafter, in winding apparatus for oyster-dredges, the said improvements being such as to facilitate the operation of the dredge or dredges; and also such as to prevent accidents, owing to the catching of the dredge and the sudden reversing of the reels and cranks.

Description of the Accompanying Drawing.

Figure 1 is a side view of my improved winding apparatus for oyster-dredges; Fig. 2, the same, showing the crank-shaft in a different position; Fig. 3, a transverse section on the line 1 2, Fig. 1; and Fig. 4, a plan view drawn to a reduced scale.

General Description.

The side frames A and A' of the apparatus are secured in a suitable position to the deck of the vessel, and are connected together by cross-pieces a. The reels B and C of the apparatus are inclined in opposite directions, as shown in Fig. 4, and have journals B which turn in fixed bearings c formed for their reception on the opposite side frames A and A'. Between these two reels there is a crank-shaft, D, furnished with cranks f f', and turning at one end in a fixed bearing, g, on the side frame A, and at its opposite end in a sliding bearing, h, on the side-frame A', the latter bearing permitting the said crank-shaft to be moved laterally toward either of the reels, for the purpose of throwing its cog-wheel i into gear with either of the cog-wheels j or j' with which the said reels are provided; this arrangement enabling both of the reels to be turned independently and by the same crank-shaft. For the purpose of retaining the sliding bearing h in either of the extreme positions to which it can be adjusted, and of thus preventing the cog-wheel i from being accidentally thrown out of gear with either of the cog-wheels j or j', I use

a spring-bolt, F, adapted to the side frame A', beneath the sliding bearing, and arranged to project upward on either side of the latter, according as it is adjusted toward the reel B or C. To a pin, K, on the inner side of the sliding-bolt F, is hung a pawl or lever, G, weighted at its lower end, and adapted at its upper end to the teeth of a cog or ratchet-wheel, p, on the crank-shaft. The upper end of this pawl G is always inclined toward that reel with which the crank-shaft is in gear, as shown in Figs. 1 and 2, and remains in a vertical or nearly vertical position when the said crank-shaft is adjusted to a position midway, or thereabout, between the two reels. When in this latter position the end of the spring-bolt enters a recess in the bottom of the sliding bearing h, and firmly holds the latter. The ropes or chains X, to which the dredges are secured, extend from the reels B and C over the opposite sides of the vessel, and pass over and are guided by rollers q, Fig. 4, let into the rail r, the ropes being retained on these rollers as the dredges are dragged over the bottom by vertical posts or "chocks" s secured to the vessel adjacent to the said rollers. The reels are arranged slightly in advance of these rollers and chocks, as best observed in Fig. 4, and are so inclined in respect to the same as to materially decrease the angle of the rope or chain in passing over the roller and around the "chock," the strain upon the said rope or chain being consequently lessened.

As before described, the crank-shaft D can, by its sliding bearing h, be moved laterally so as to be geared with and operate independently either of the reels, when the ropes or chains to which the dredges are attached are to be drawn in and wound upon the said reels. The principal advantage, however, arising from the use of the sliding bearing and the devices connected therewith is, that it will instantly and automatically throw the crank-shaft out of gear with either of the reels, and thus prevent the sudden reversing and rapid revolution of the cranks in case the dredge should strike and be held by an obstruction on the bottom, while being dragged over the latter by the motion of the vessel. In ordinary winders, where there is nothing to prevent this sudden reversal of the parts, the cranks are fre-

quently wrenched out of the hands of the attendants and whirled rapidly around, so that serious accidents sometimes result.

The operation of my improved arrangement is as follows: Suppose one of the reels—the reel B, for instance—is being turned for the purpose of winding in a dredge; that the said reel and crank-shaft are turning in the direction of their respective arrows in Fig. 1, with the point of the pawl G slipping over the teeth of the wheel *p*; and that suddenly the dredge meets with an obstruction, and the motion of the reel and crank-shaft is reversed: the teeth of the wheel *p* will be immediately forced against the end of the pawl G, and the latter will consequently be forced downward so as to withdraw the sliding spring-bolt F from the front of the sliding bearing *h*, and the said pawl will also, at the same time, be turned to a vertical, or nearly vertical, position by the wheel *p*, while the bearing itself will be caused by the pawl to slide laterally to a sufficient extent to throw the crank-shaft out of gear. In this way the latter is immediately released and prevented from turning, while the reel is permitted to turn freely as the rope is unwound from the same. The operation of the pawl and sliding-bolt is precisely the same when the crank-shaft is in gear with the reel C, and the latter is reversed owing to the fact of its dredge meeting with an obstruction.

Claims.

1. In a winder for oyster-dredges, the arrangement between the two reels B and C of an operating or crank-shaft D, substantially as herein described.

2. The said reels, when inclined in opposite directions and arranged in respect to the rollers *q* and “chocks” *s* on the sides of the vessel, substantially as specified.

3. The crank-shaft D, adapted at one end to a sliding bearing, *h*, and having a cog-wheel, *i*, arranged to be thrown into gear with either of the cog-wheels *j* or *j'* of the reels B and C, all substantially as herein set forth.

4. The sliding bearing *h*, adapted to the side frame A' and carrying one end of the crank-shaft D, in combination with a spring-bolt, F, for the purpose specified.

5. The combination, with the sliding bearing and spring-bolt, of a weighted pawl, G, hung to the said spring-bolt and adapted to the teeth of a wheel, *p*, on the crank-shaft, all substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS FERGUSON MAYHEW.

Witnesses:

JOHN WHITAKER,
JOHN ROBBINS.

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