

(No Model.)

2 Sheets—Sheet 1.

P. GAGNON & W. F. AHEARN.
LIFTING GILL NETS.

No. 539,679.

Patented May 21, 1895

Fig. 2.

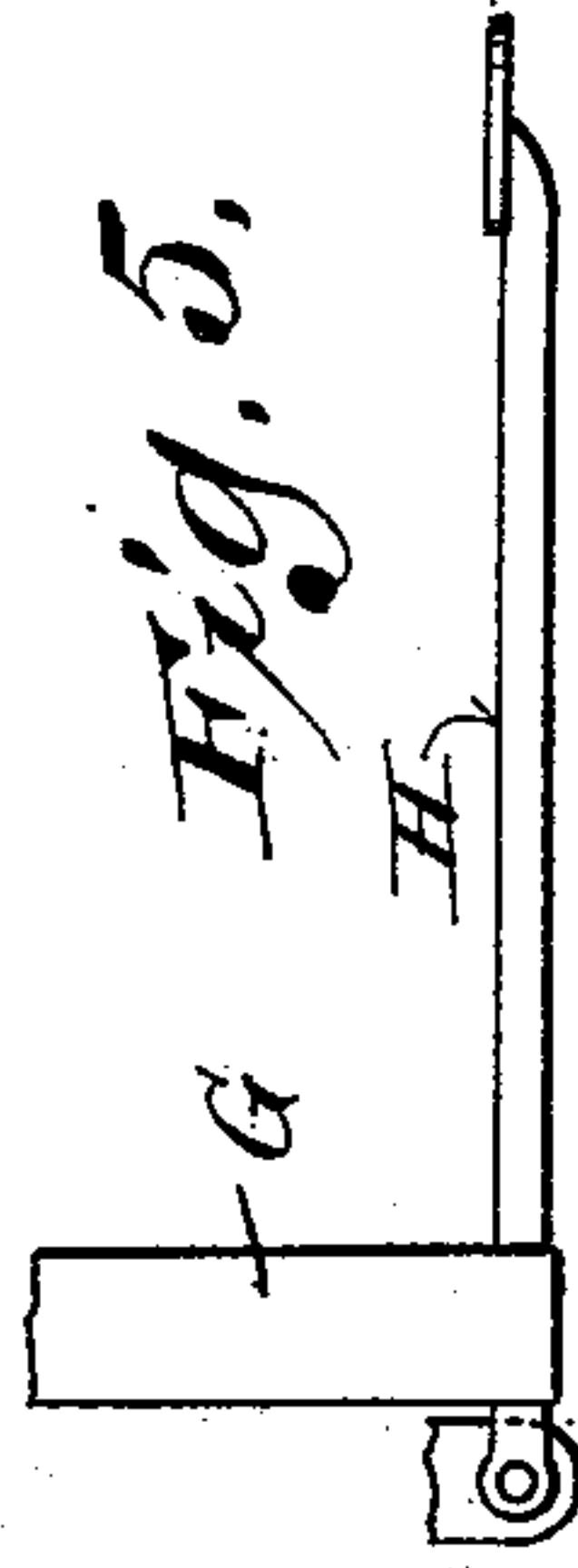
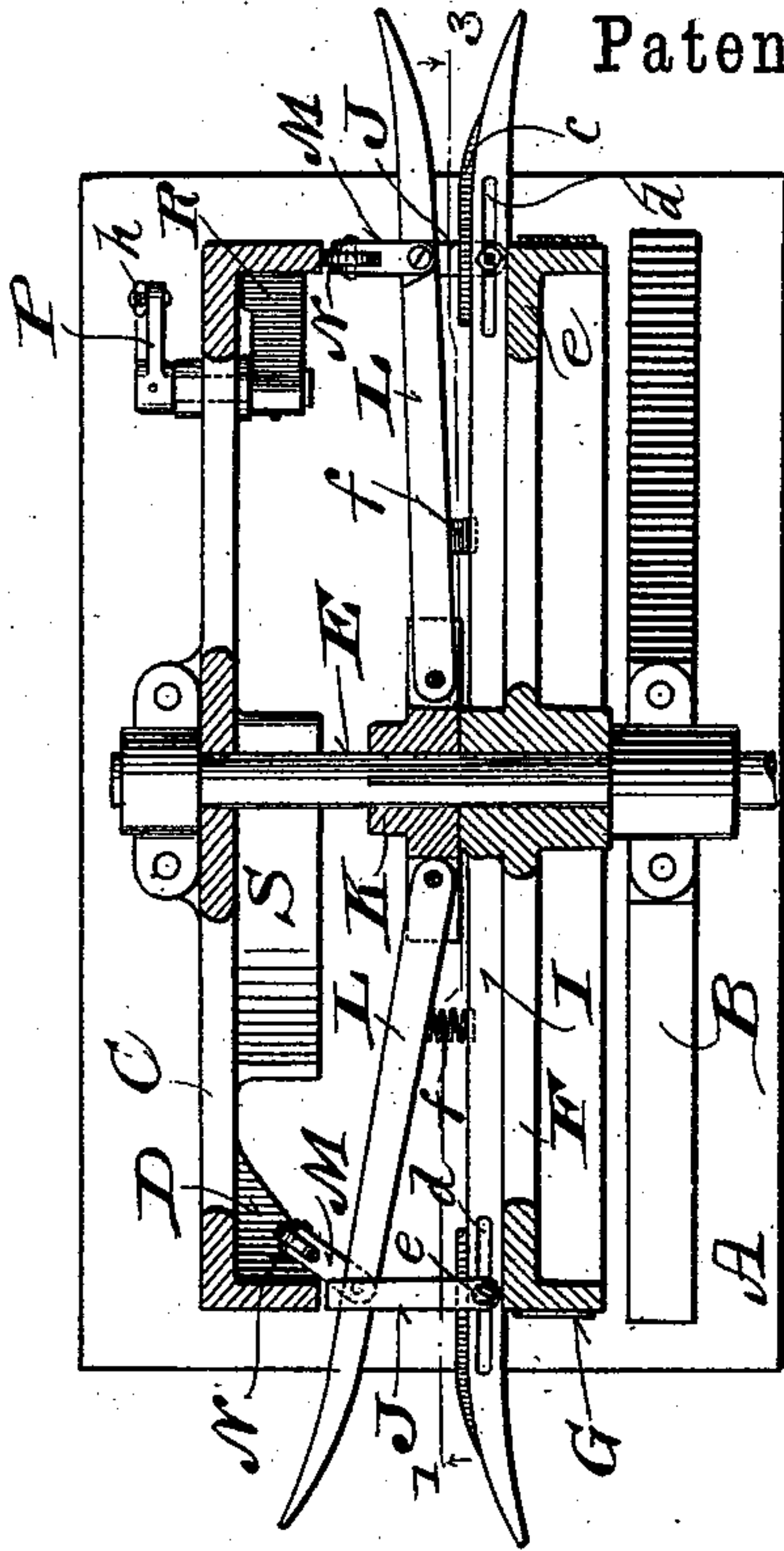
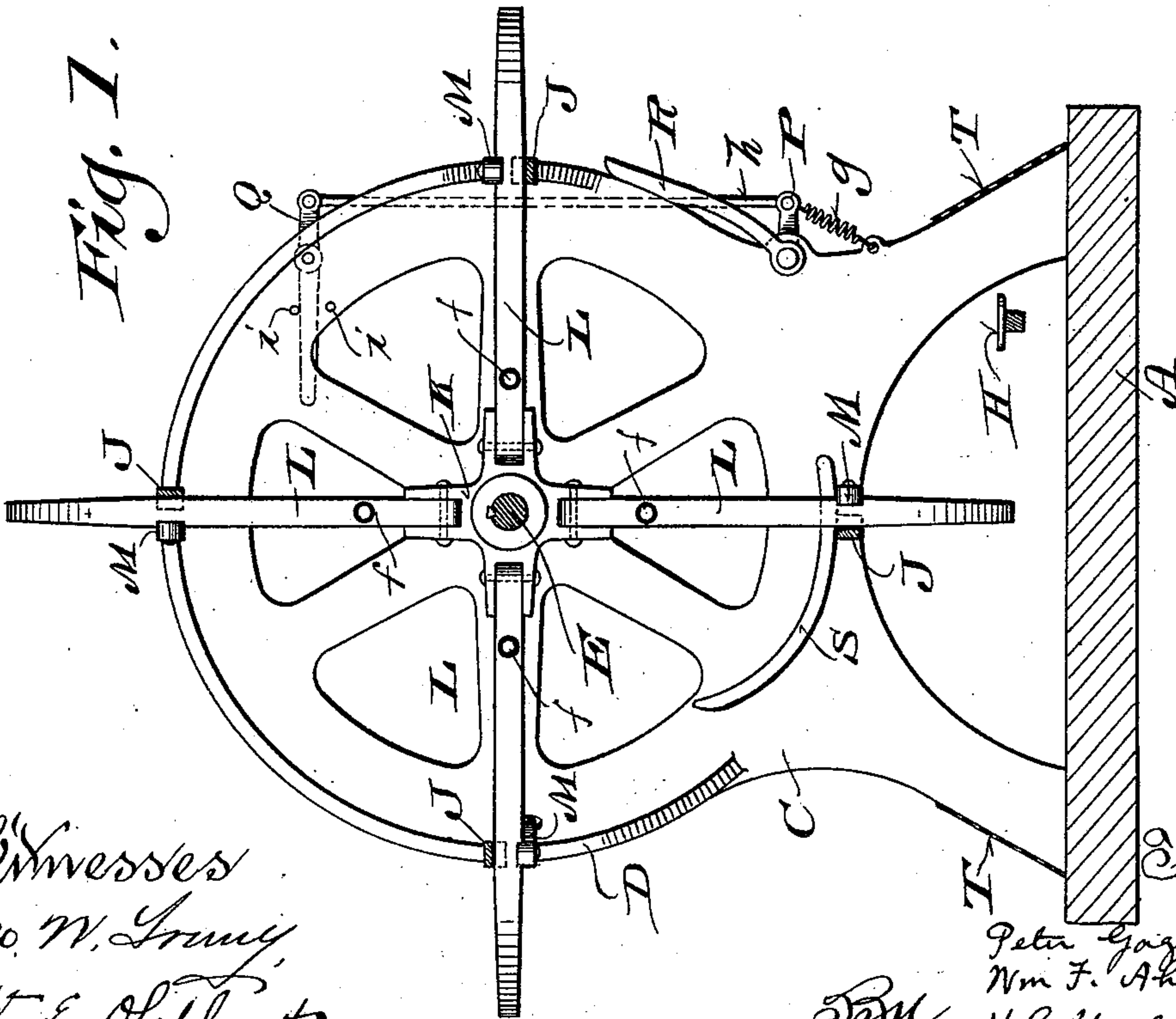


Fig. 1.



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Fig. 4.

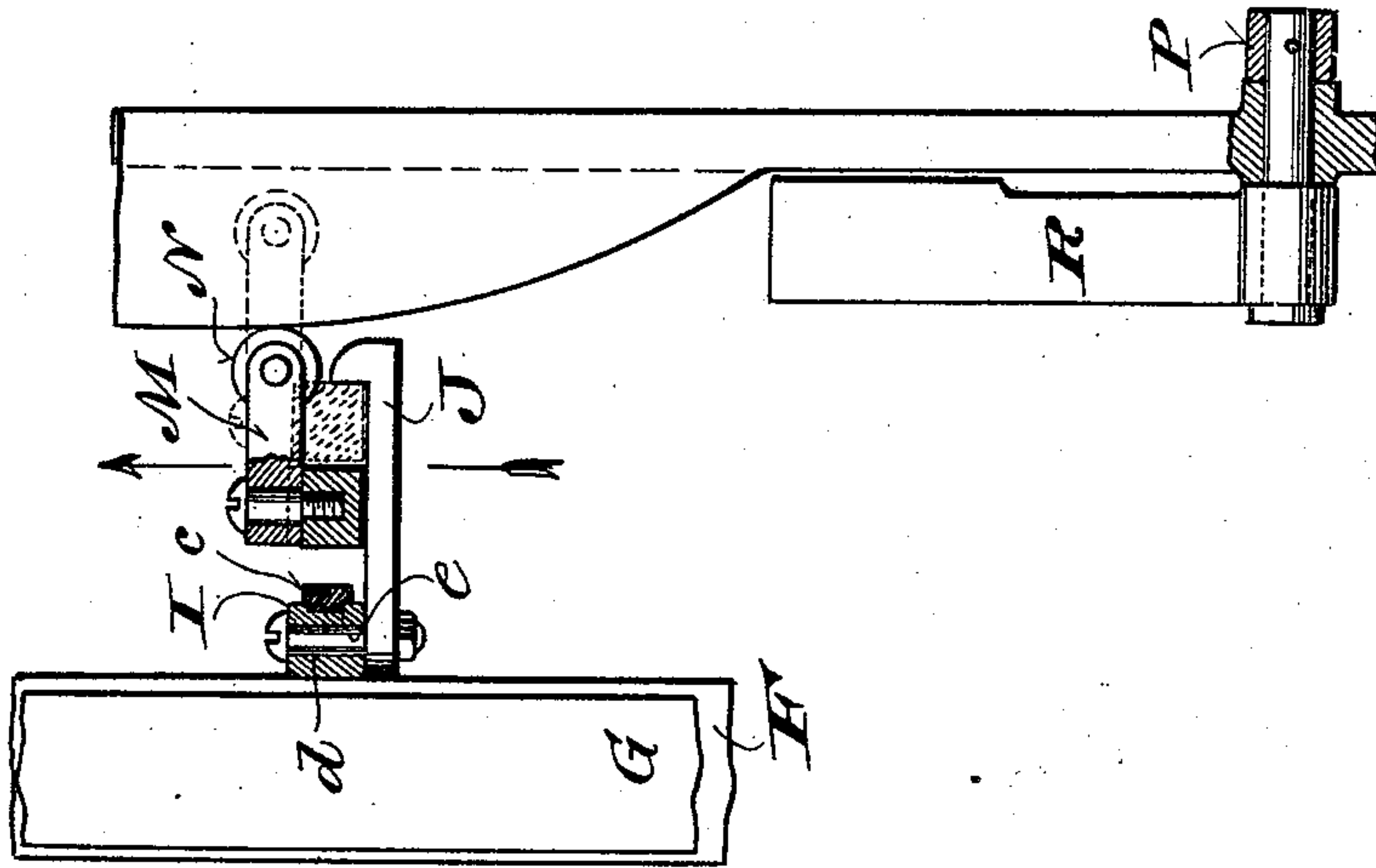
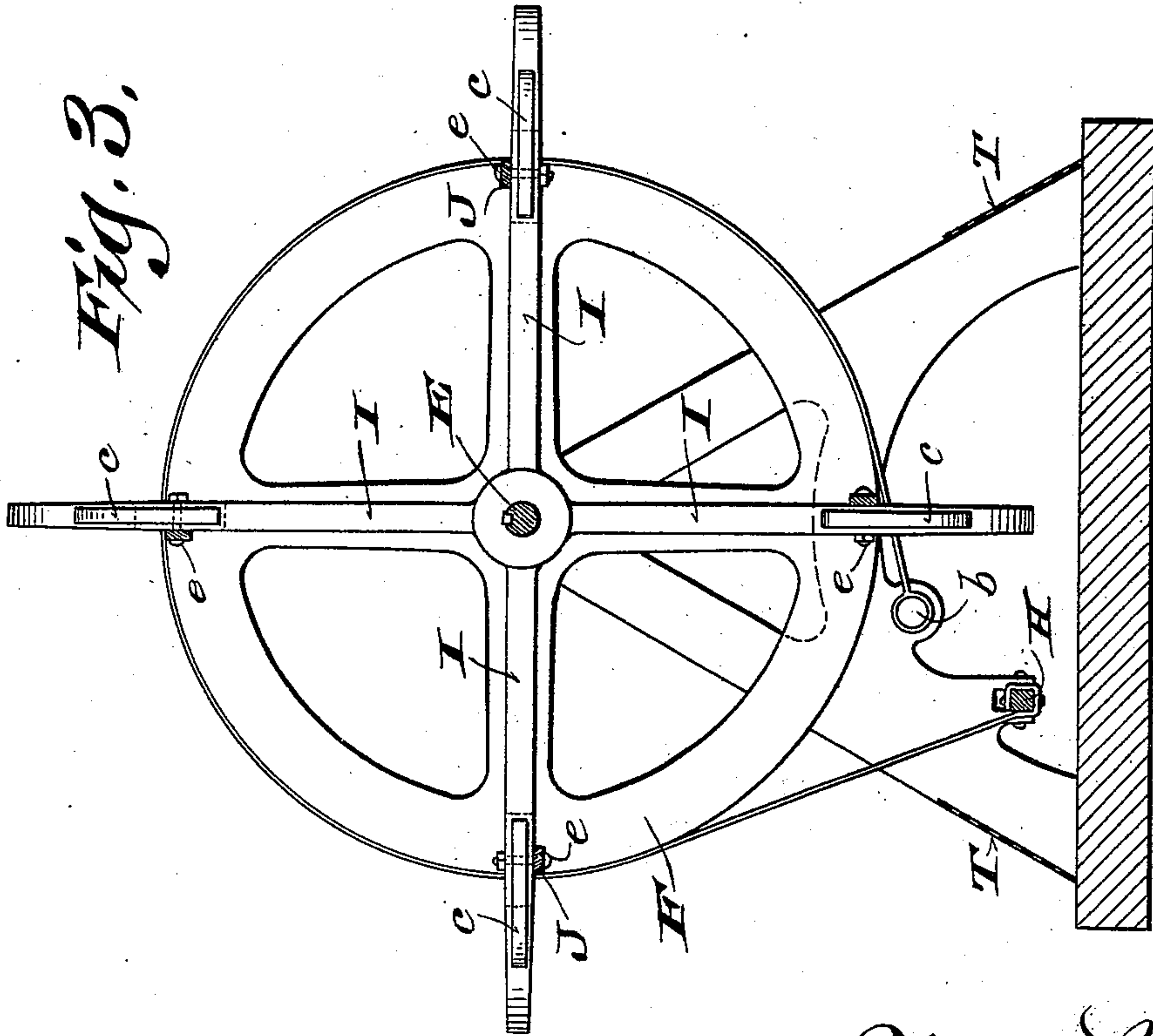


Fig. 3.



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UNITED STATES PATENT OFFICE.

PETER GAGNON AND WILLIAM F. AHEARN, OF TWO RIVERS, WISCONSIN.

LIFTING GILL-NETS.

SPECIFICATION forming part of Letters Patent No. 539,679, dated May 21, 1895.

Application filed July 28, 1894. Serial No. 518,850. (No model.)

To all whom it may concern:

Be it known that we, PETER GAGNON and WILLIAM F. AHEARN, citizens of the United States, and residents of Two Rivers, in the county of Manitowoc, and in the State of Wisconsin, have invented certain new and useful Improvements in Lifting Gill-Nets; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention has for its object to provide a simple, economical and efficient machine for lifting gill-nets from the water; and it consists in certain peculiarities of construction and combination of parts hereinafter set forth with reference to the accompanying drawings and subsequently claimed.

In the drawings, Figure 1 represents a vertical longitudinal section of our machine, taken on line 1 3 of the succeeding figure; Fig. 2, a plan view of the machine, partly in horizontal section; Fig. 3, a vertical longitudinal section of said machine, taken on line 3 1 of the first figure; Fig. 4, a front elevation of a portion of the aforesaid machine, and Fig. 5 a detail view of a brake-actuating treadle embodied in our invention.

Referring by letter to the drawings A represents the base and B C a pair of parallel standards rising therefrom, the latter standard being of greater dimensions than the other and provided with an inturned cam-flange D, the extent of this flange being the major portion of the circumference of a circle. The standards are provided with bearings for a power-shaft E, and fast on the shaft adjacent to the standard B is a wheel F having its periphery opposed by a friction-band G, one end of the latter being fast to a lateral stud *b* on said standard and its other end joined to a treadle H also connected with the aforesaid standard. The wheel F has its inner side provided with radial ribs I that extend beyond its periphery, the extensions being curved in an outward direction and preferably faced with strips *c* of rubber. We also show each rib provided with a longitudinal slot *d* for engagement with a set-bolt *e* that carries a guard J, the latter being at a right angle to said rib, and it follows that the position of the guard depends on the adjustment of the set-bolt in the rib-slot.

Fast on the shaft E in opposition to the wheel

F is a spider K and pivoted in radial recesses of the spider are the inner ends of arms L that oppose the ribs on the aforesaid wheel. The arms extend outward as far as the wheel-ribs and their outer ends are curved in a direction opposite to the curvature of said ribs.

The wheel-ribs and pivotal spider arms constitute clamp-jaws for the lead and cork-lines of a gill-net, the number and disposition of the clamps being proportionate to the distance between corks, although by means of the radially adjustable guards J on said ribs it is possible to utilize the same machine for nets that differ from each other in the arrangement of corks. Spiral-springs *f* are interposed between the jaws to automatically open the clamps and the guards J are up-turned at their free ends to limit the outward play of those jaws that are pivoted to the spider on the rotative shaft.

Pivoted in recesses in the arms or clamp-jaws L, so as to be limited as to movement in either direction, are carriers M for anti-friction rollers N that work on the face of the cam D above specified. The clamp-jaws L are swung in on their pivots by the contact of the anti-friction rollers N with one inclined terminal of the cam, and the expansive force of the springs *f* operates to return said jaws to normal position, as said anti-friction rollers pass along the other inclined terminal of said cam. As a means to prevent contact of any of the anti-friction rollers with the cam, we employ a bell-crank arranged to rock in the standard C, the outer arm P of this crank being connected with said standard by a spiral-spring *g* and joined by a link *h* to a lever Q fulcrumed on the aforesaid standard. Stops *i* are arranged to limit the movement of the lever in either direction and the spring *g* operates to keep the inner arm R of the bell-crank out of the path of the carriers for the anti-friction rollers or to automatically return said bell-crank arm to normal position on the release of the aforesaid lever. A carrier having been thrown out of the path of the cam D it travels along under the same and subsequently comes into contact with another cam S on the standard C to be thereby restored to normal position.

We have shown fenders T connecting the standards B, C, these fenders being forami-

nous or otherwise as may be most convenient, but it is to be understood that the employment or non-employment of the fenders does not in any way affect the successful operation of the net-lifting mechanism.

In practice the herein described machine is carried in the bow of a boat and a net engaged therewith to have the corks come aft of the clamps as the latter are successively brought into action by the rotation of the shaft in its bearings. By the means above described the clamps are successively closed on the lead and cork lines of the net, the latter coming above the guards J, and the rubber strips in said clamps act to prevent the latter from slipping on said lines.

From the foregoing it will be seen that a powerful leverage is exerted to lift the net and if at any time there is any liability of a clamp closing on a fish in said net, the lever Q, is operated to throw the carrier M relative to said clamp out of the way of the cam D, the fish being removed in the meantime by an attendant.

At any time it is desirable to check or stop the rotation of the clamps above described, the friction-band is operated by the treadle connected thereto, it being understood that the power-shaft is in belt and pulley connection with a suitable motor, but any suitable gear and brake may be employed.

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A gill-net lifting-machine comprising a series of automatically opening and closing clamps radiating from a rotative shaft.

2. A gill-net lifting-machine comprising a series of automatically opening and closing clamps radiating from a rotative shaft, and a lever mechanism operative at will to prevent closing of a clamp.

3. A gill-net lifting-machine comprising a series of automatically opening and closing clamps radiating from a rotative shaft, and a brake-mechanism controlling the travel of the clamps.

4. A gill-net-lifting-machine comprising a series of automatically opening and closing clamps radiating from a rotative shaft, and rubber facing on a jaw of each clamp.

5. A gill-net lifting-machine comprising a base, a pair of parallel standards thereon, a cam extended inward from one of the standards, a power-shaft having its bearings in the standards, radial clamps carried by the shaft, springs interposed between the clamp-jaws, and devices carried by loose clamp-jaws to work on the cam.

6. A gill-net lifting-machine comprising a base, a pair of parallel standards thereon, a cam extended inward from one of the stand-

ards, a power-shaft having its bearings in the standards, radial clamps carried by the shaft, springs interposed between the clamp-jaws, devices carried by loose clamp-jaws to work on the cam, a lever-mechanism for throwing any of said devices out of line with said cam, and other suitable means for effecting the automatic return of the displaced device or devices.

7. A gill-net lifting-machine comprising a base, a pair of parallel standards thereon, a cam extended inward from one of the standards, a power-shaft having its bearings in the standards, radial clamps carried by the shaft, springs interposed between the clamp-jaws, devices carried by loose clamp-jaws to work on the cam, and a brake for regulating or stopping the rotation of the shaft.

8. A gill-net lifting-machine comprising a series of rotative radial clamps, a facing of rubber on at least one jaw of each clamp, and suitable means for automatically closing and opening said clamps.

9. A gill-net lifting-machine comprising a series of rotative radial clamps, suitable means for automatically closing and opening the clamps, and a guard extending from a jaw of each clamp to lap the opposing jaw.

10. A gill-net lifting-machine comprising a series of rotative radial clamps, suitable means for automatically closing and opening the clamps, and a guard adjustable longitudinally of a jaw of each clamp and lapping on the opposing jaw.

11. A gill-net lifting-machine comprising a series of rotative radial clamps, suitable means for automatically closing and opening the clamps, and a guard extended from a jaw of each clamp to lap the opposing jaw and limit outward movement of the latter jaw.

12. A gill-net lifting-machine comprising a base, a pair of parallel standards one of which is provided with an inwardly extended cam, a power-shaft having its bearings in the standards, radial clamps carried by the shaft, springs interposed between the clamp-jaws, devices carried by loose clamp-jaws to work on the cam, a lever-mechanism for throwing any of said devices out of line with said cam, another cam arranged to return any and all of the displaced devices to normal position, and a brake for regulating or stopping the rotation of said shaft.

In testimony that we claim the foregoing we have hereunto set our hands, at Two Rivers, in the county of Manitowoc and State of Wisconsin, in the presence of two witnesses.

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WILLIAM F. AHEARN.

Witnesses:

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