

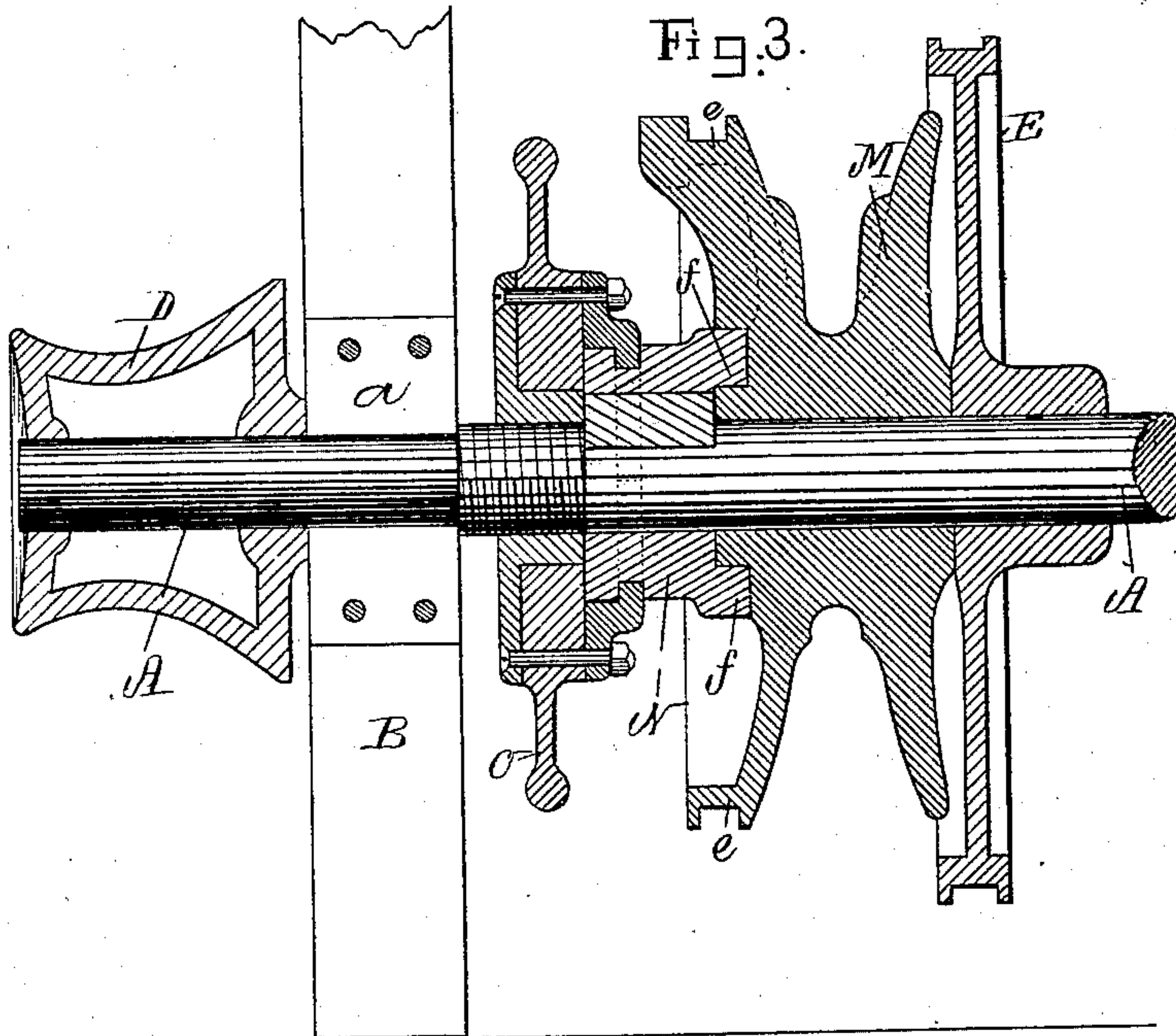
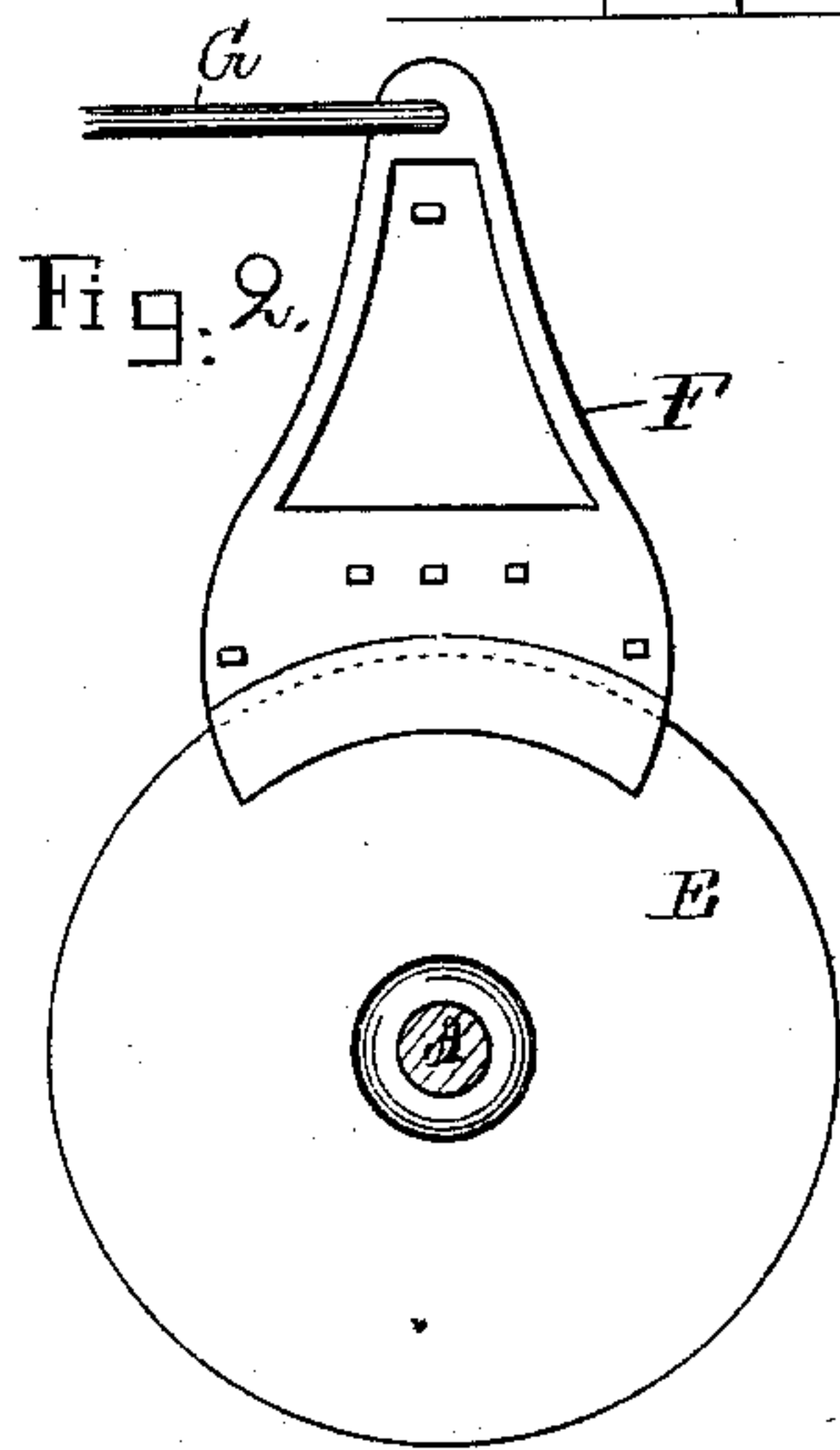
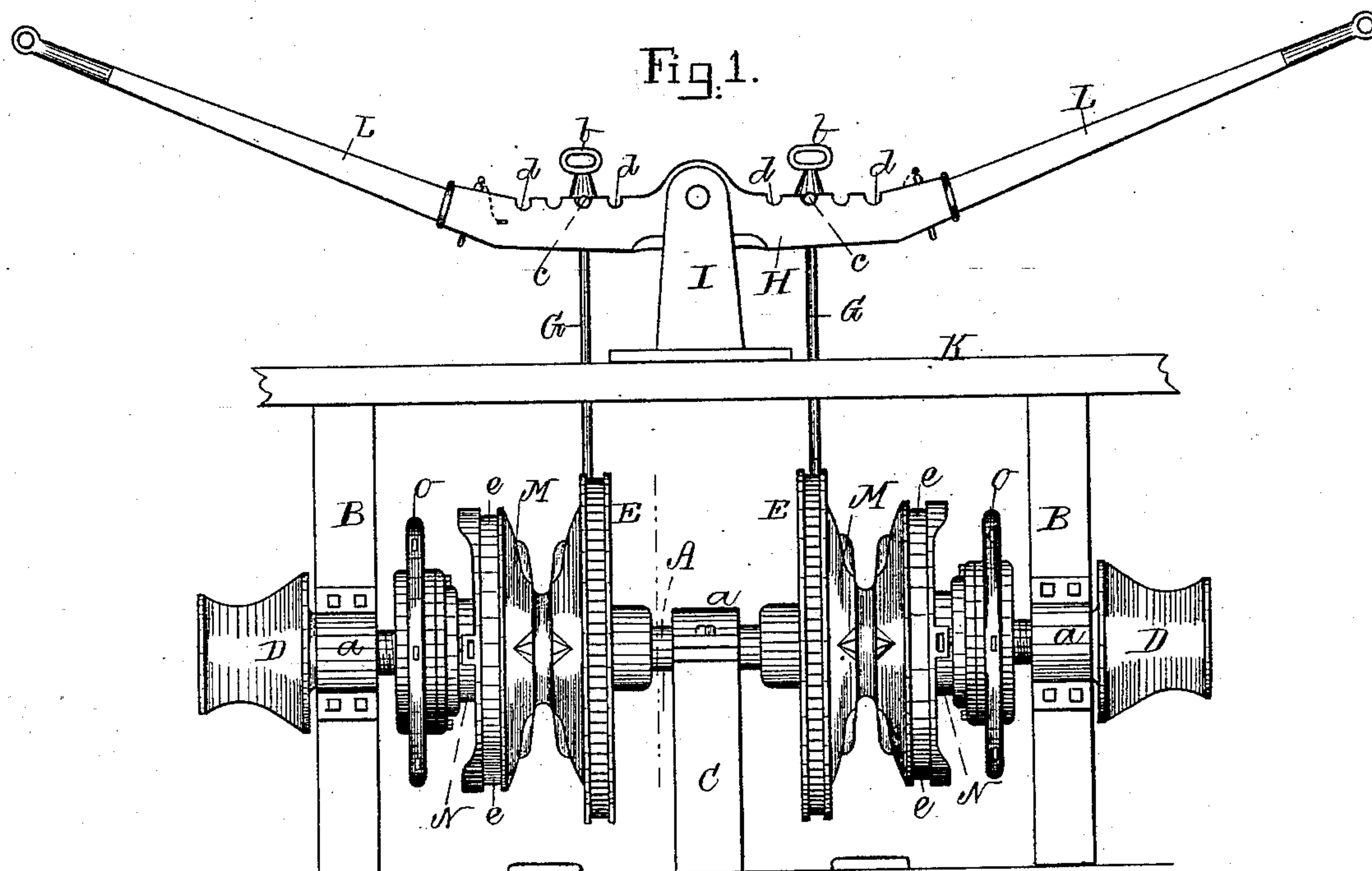
(No Model.)

C. J. HALL.

WINDLASS.

No. 282,075.

Patented July 31, 1883.



Witnesses.

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# UNITED STATES PATENT OFFICE.

CYRUS J. HALL, OF BELFAST, MAINE.

## WINDLASS.

SPECIFICATION forming part of Letters Patent No. 282,075, dated July 31, 1883.

Application filed March 5, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, CYRUS J. HALL, of Belfast, in the county of Waldo, of the State of Maine, have invented a new and useful Improvement in Windlasses for Navigable Vessels; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

10 Figure 1 is a front elevation, Fig. 2 a longitudinal section, and Fig. 3 a transverse section, of a windlass embodying my invention, the nature of which is defined in the claim hereinafter presented.

15 In the said drawings, A denotes the shaft of the windlass, it being duly journaled in boxes *a a a*, supported by bits B C B, arranged as represented. This shaft, at each end of it, is provided, as usual in other windlasses, with a  
20 barrel, D, and, besides, near its middle, it has fixed upon it concentrically two ratchet-wheels, E E, each being provided with an operative pawl-case, F, suitably furnished with pawls or teeth to engage with the ratchet-  
25 wheel. Each pawl-case is jointed to the lower part of a lifter-rod, G, such rod being provided at its upper end with a handle, *b*, from the shank of which a tooth, *c*, extends and rests in one of a series of notches, *d*, of a rock-  
30 er-lever, H, pivoted to a standard, I, erected on the deck K, and directly over the middle of the windlass. This rocker-lever is socketed at each end to receive a brake, L, for actuating it, and has two of such series of  
35 notches, all being as represented.

On the rocker-lever being vibrated vertically the pawl-cases will be alternately lifted and depressed, so as to keep up a continuous rotation of the shaft, the downward movement  
40 of each pawl-case being effected by its weight.

Alongside of each of the ratchet-wheels is a sprocket-wheel, M, that is grooved circumfer-

entially, as shown at *e*, to receive a friction-brake or strap for regulating its revolutions when an anchor-chain carried by the said 45 wheel may be "running out."

Each sprocket-wheel is suitably made to engage with a clutch, N, arranged to slide on the shaft lengthwise thereof, and adapted thereto by what is termed a "feather-connection," so 50 as to cause it to revolve with, and be revolved by, the shaft.

Each of the two clutches N is grooved circumferentially to receive two clasps or lugs, *f*, projecting from one side of a hand-wheel, O, 55 that screws upon the shaft, which, for a sufficient distance, is screw-threaded to receive and engage with the hand-wheels. On revolving either hand-wheel it will be caused to move on the shaft lengthwise thereof, such being to 60 enable the clutch of such wheel to be moved either into or out of engagement with the next adjacent of the two sprocket-wheels.

By means of the handle *b* of the lifter-rod G a person can readily shift the tooth *c* into 65 either of the notches *d* of the next adjacent arm of the rocker-lever H, as occasion may require.

In practice a windlass constructed as described has been found to be very efficient or 70 to operate to excellent advantage.

I claim—

In the windlass, the combination of the rocker-lever provided with the two series of notches in its arms, and the pawl-case lifter-rods 75 having teeth to enter such notches, with the pawl-cases, ratchet and sprocket wheels, screw-threaded shaft, hand-wheels, and clutches, all being arranged and adapted substantially as shown and described.

CYRUS J. HALL.

Witnesses:

WM. H. FOGLER,  
C. E. MESERVEY.