

(No Model.)

J. VOM HOFE.
FISHING REEL.

No. 412,685.

Patented Oct. 8, 1889.

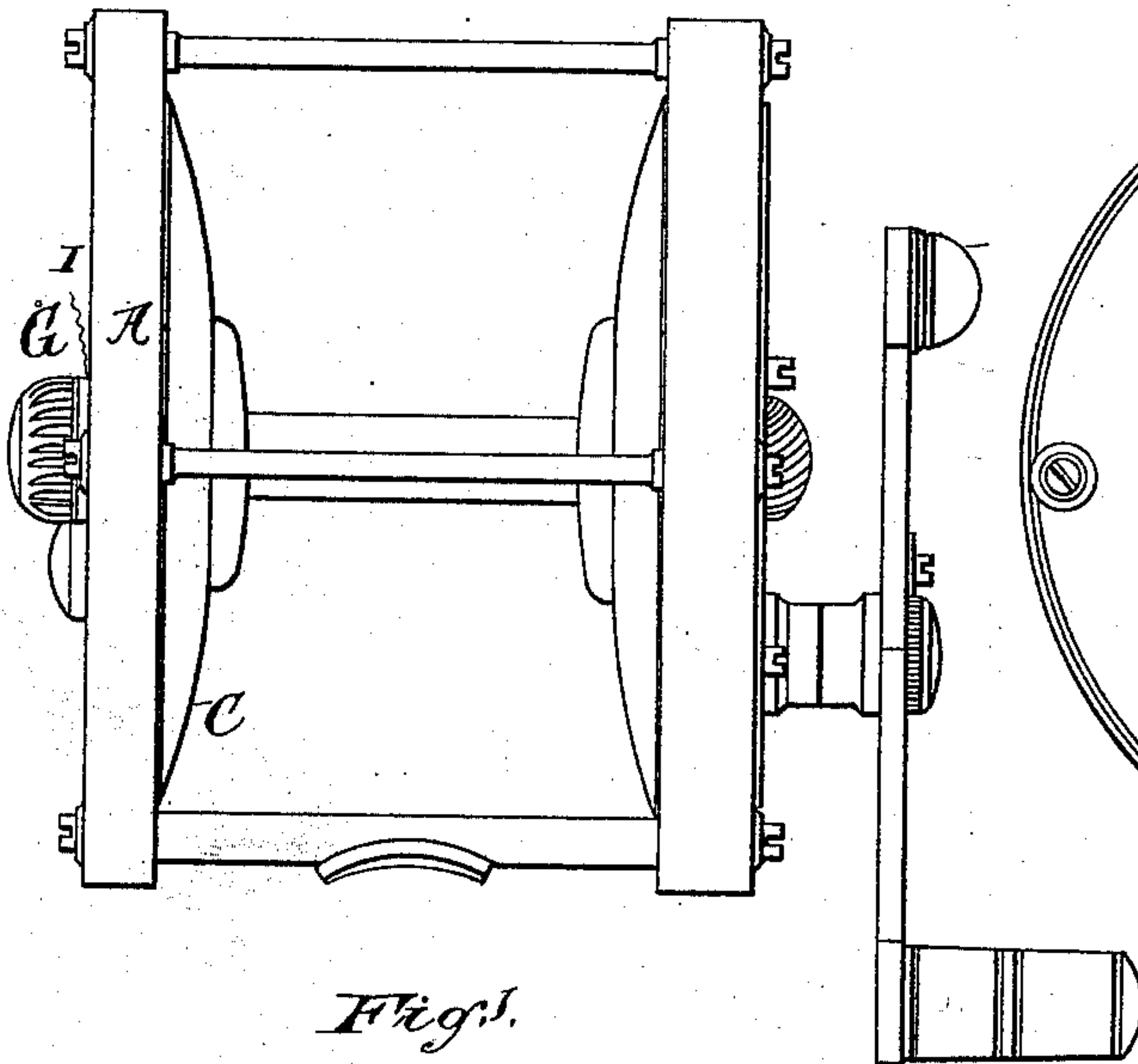


Fig. 1.

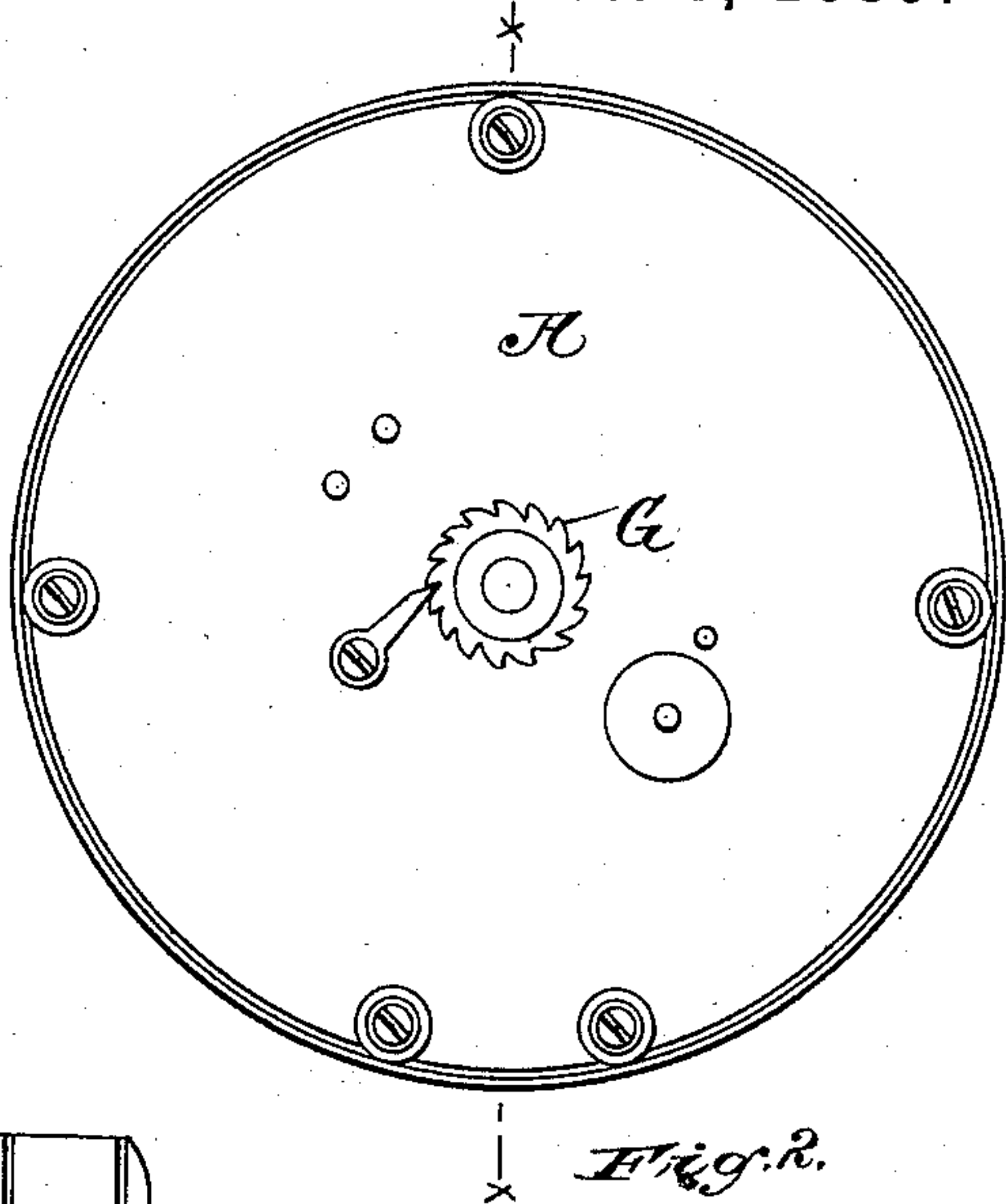


Fig. 2.

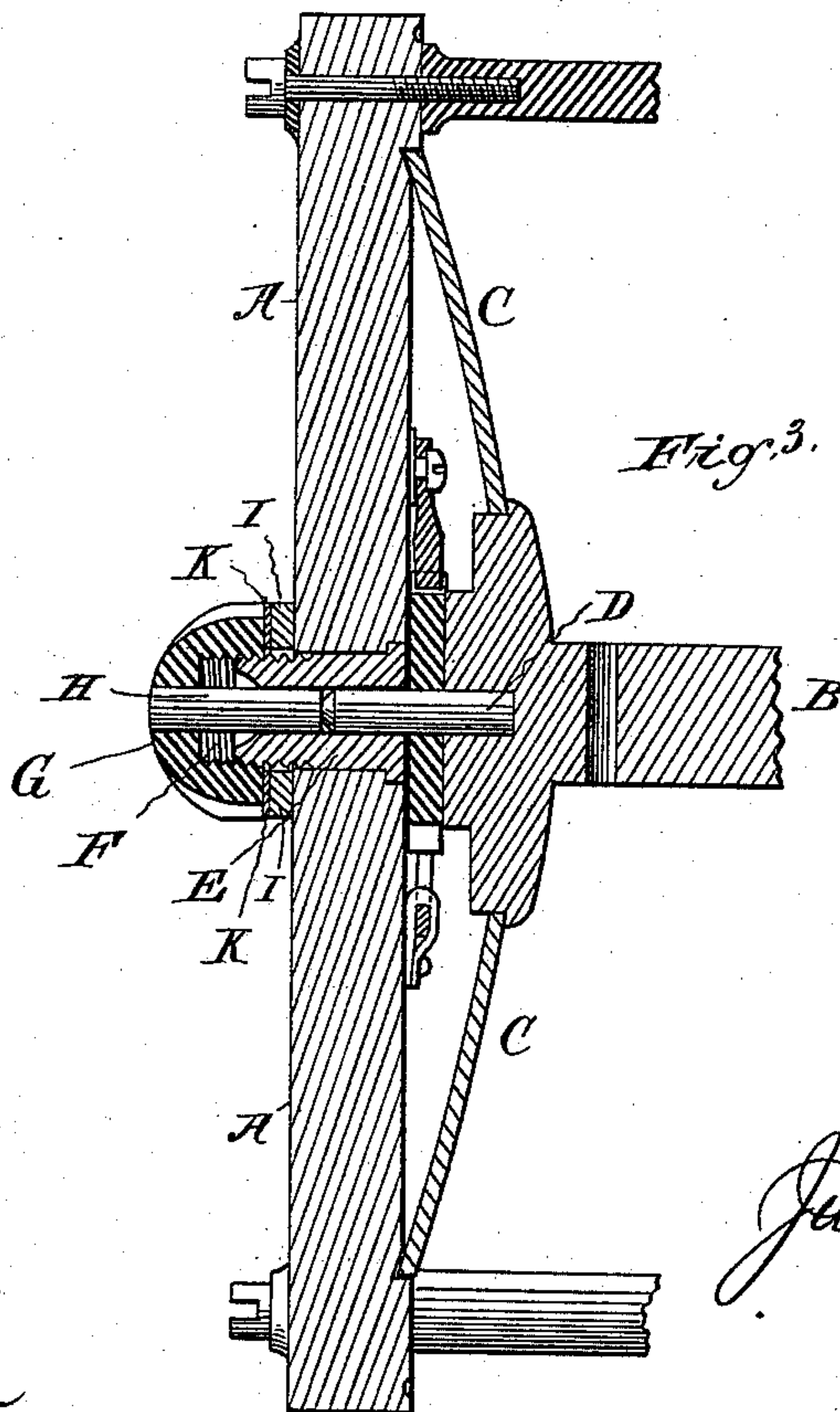


Fig. 3.

WITNESSES:

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FISHING-REEL.

SPECIFICATION forming part of Letters Patent No. 412,685, dated October 8, 1889.

Application filed March 26, 1889. Serial No. 304,829. (No model.)

To all whom it may concern:

Be it known that I, JULIUS VOM HOFÉ, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Fishing-Reels, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to that class of fishing-reels known as "free-running" reels, in which it is desirable that the spool of the reel should run with the least possible friction. To this end it is very essential that there should be no looseness of the axle of the spool in its bearings. Letters Patent of the United States No. 252,554 were granted on January 17, 1882, to me and Charles F. Imbrie, of New York, as my assignee, for an invention to accomplish this; and the present application is an improvement on said patented invention. In that invention it was supposed that the looseness aforesaid was altogether due to wear, and provision was made to compensate therefor; but continued practical use has shown that one objectionable form of looseness—end shake—was not generally due to wear, but to the expansion and contraction of the metal posts which unite the side plates of the reel. A reel in which the spool revolved to perfection within doors was found to be altogether too tight when the fishing-ground was reached; also, that a reel which was right in the early morning on the fishing-ground was too loose at midday at the same place.

In the patented invention aforesaid it is necessary first to unscrew the cap which covers the center on which the axle revolves and then to operate on said center with a screw-driver. Then if any dirt or corrosion of salt-water made the screw in the cap work hard when the cap was replaced it was apt to and frequently did carry the center with it. Thus an adjustment which was all that could be desired when work with a screw-driver was finished was altogether too tight when the cap had been replaced. In brief, though physically possible, it was found so difficult and inconvenient to make the frequent adjustments required that the patented inven-

tion in great measure practically failed of its purpose.

My present invention is intended to meet these difficulties, and to enable the angler in an instant of time and without other tools than his thumb and finger to adjust his reel to his satisfaction with facility and certainty.

In the drawings forming part of the specification, Figure 1 represents a general view of a reel to which my invention is applied. Fig. 2 represents an elevation of the side plate A of Fig. 1, and Fig. 3 represents a sectional elevation of said side plate A on the line $x x$ of Fig. 2.

In the drawings, (see Fig. 3,) A is one side plate of a reel to which my invention is applied.

B is the axle of the spool C, which said axle revolves on the pivot D, rigidly secured therein. The pivot D revolves in the sleeve-bearing E. The outer part of said sleeve-bearing E is provided with a screw-thread F, upon which screws the cap G. The cap G is provided with a pin H integral with it. Between the side plate A and the cap G is placed an elastic washer I.

My device operates as follows: Should at any time end shake of the axle B be found to be present, the angler with his thumb and finger screws the cap G downward toward the side plate A until the end shake is removed. In this operation screwing down the cap G causes its pin H to push the axle B over toward the opposite side of the reel, and thus the lost motion is taken up. Should the spool be found too tight, by simply screwing the cap G away from the side plate A the difficulty is removed. Thus by turning the cap G outward or inward, as the case may require, a perfect adjustment is reached in a few seconds without the aid of any mechanical exterior appliance and without in any manner opening the reel or any part thereof.

For the elastic washer I, I use rubber, though almost any elastic substance will answer. As long as the rubber retains its elasticity it will serve as a sort of lock-nut, retaining the cap G and its pin H where they may happen to be left and preventing the action of the revolving axle D from impart-

ing its motion to and disturbing the adjustment of the pin H; but to make assurance doubly sure a ratchet may be formed on the exterior of the cap G and a pawl be provided, 5 as shown in Fig. 2, the pawl acting to prevent the cap from unscrewing. It is better to place a thin metallic washer K between the cap G and the elastic washer I, since otherwise the turning of the cap G is apt to draw the elastic washer out of shape and thus much reduce its useful life. 10

Having thus described my invention, what I claim as new, and desire to patent, is—

1. The combination, with the side plate of a fishing-reel, of a spool having a shaft journaled in said plate, and an adjustable cap G secured to said plate and having a pin bearing against the end of said shaft. 15

2. The combination of the side plate of a fishing-reel, having a journal-box with screw-threaded end projecting outside of the plate, a spool having a shaft journaled in said box, and an adjustable cap screwed upon the screw-threaded end of the box and having a 20 pin bearing against the end of said shaft.

3. The combination of the side plate of a fishing-reel, having a journal-box with screw-threaded projection, a spool having a shaft

journaled in said box, a screw-cap secured to said projection and having a pin bearing 30 against the end of said shaft, and a washer interposed between the cap and plate, substantially as described.

4. The combination of the side plate of a fishing-reel, having a screw-threaded projection and journal-box, a spool having a shaft 35 journaled in said box, a screw-cap secured to said projection and having a pin bearing against the end of the shaft, a metal washer next to the screw-cap, and a washer interposed 40 between the metal washer and the plate.

5. The combination of the side plate of a fishing-reel, a pawl in said plate, a spool journaled in said plate, an adjustable cap secured to the plate and having a pin bearing against 45 the end of the spool-journal, and a ratchet for the pawl on the plate.

In testimony that I claim the foregoing improvement in fishing-reels as above described I have hereunto set my hand this 21st day of 50 March, 1889.

JULIUS VOM HOFE.

Witnesses:

CHARLES B. MEYER,
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