

(No Model.)

A. N. GAUTHIER.  
ROLLER JEWEL PROTECTOR.

No. 535,693.

Patented Mar. 12, 1895.

Fig. 1.

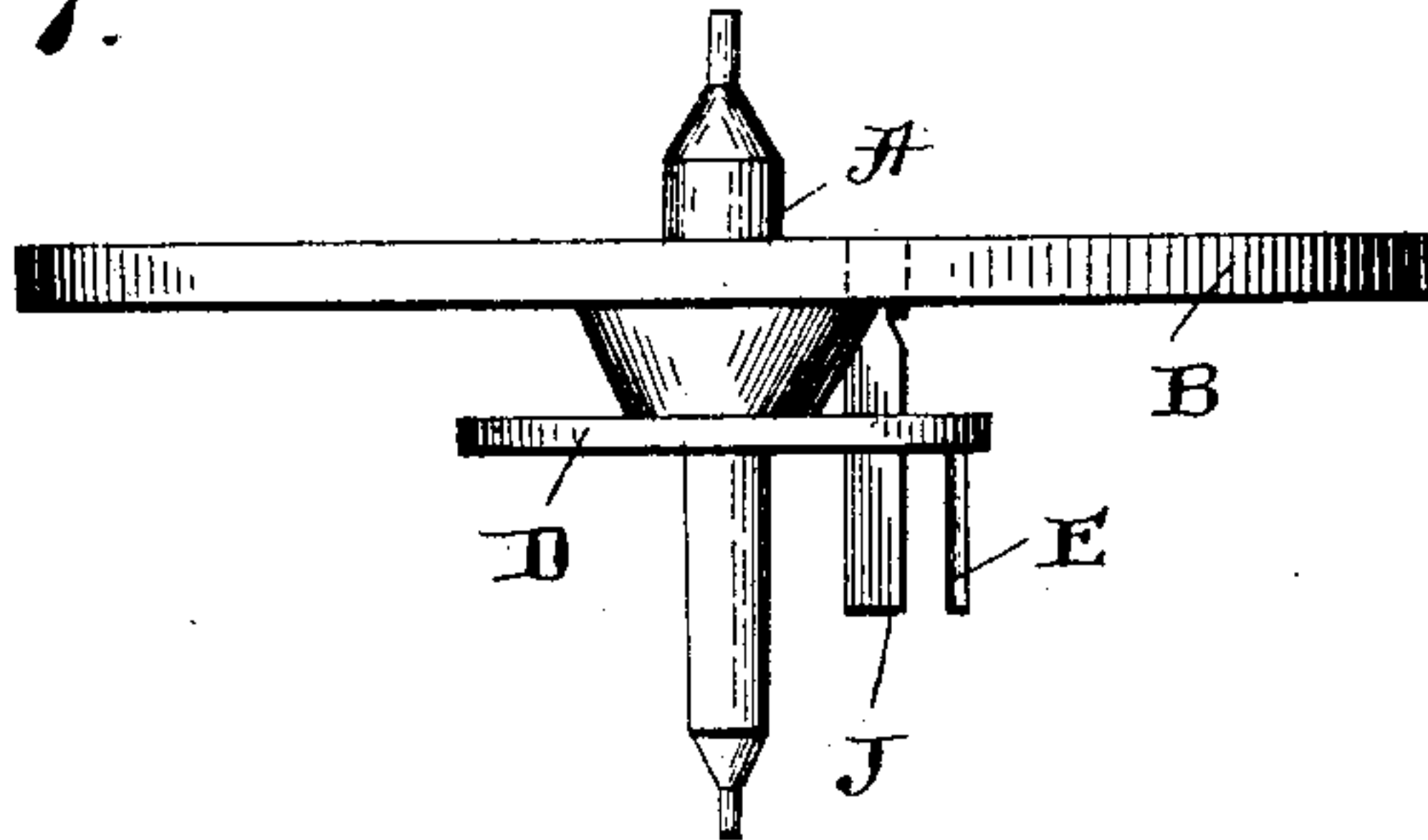


Fig. 2.

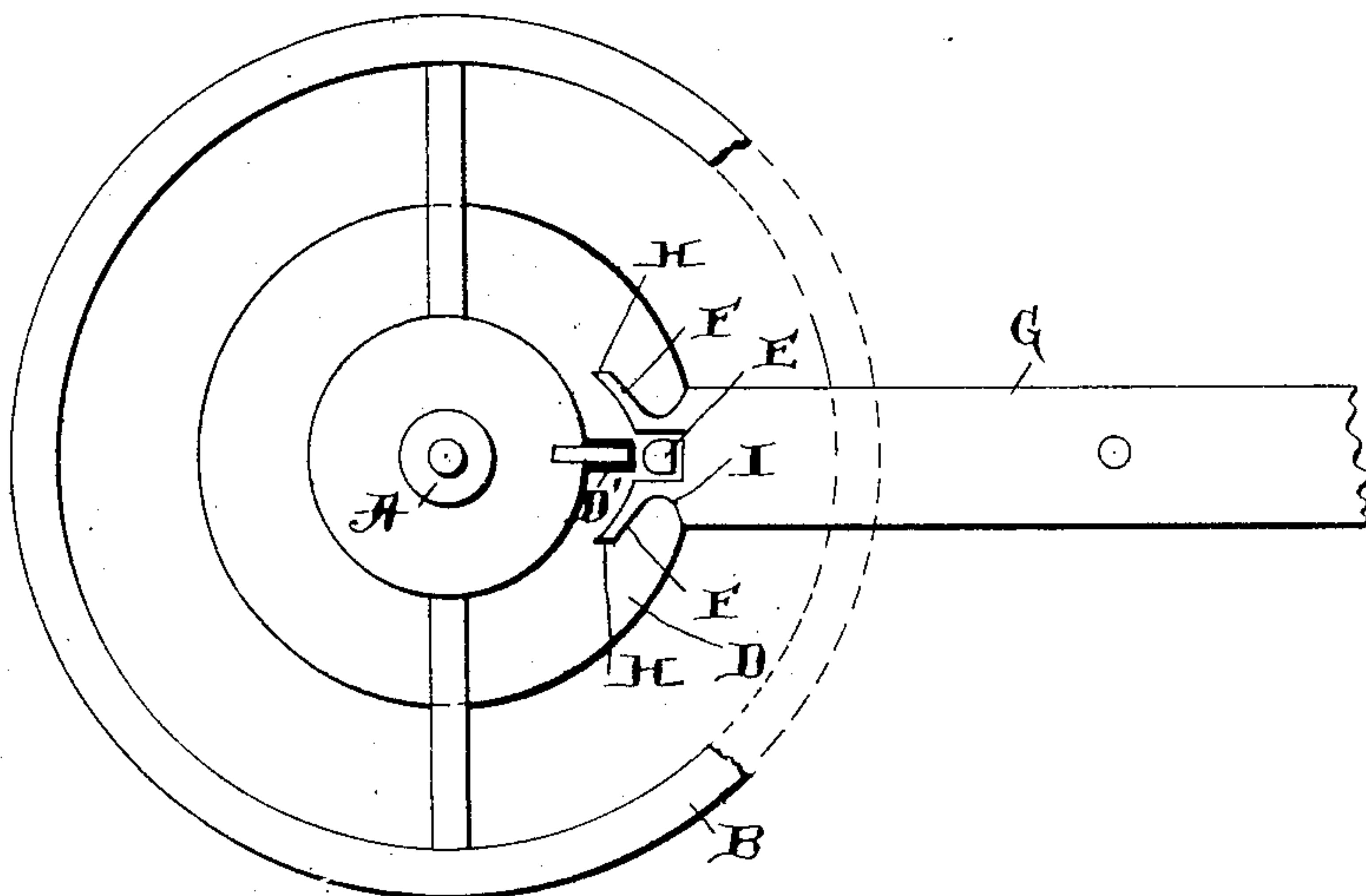
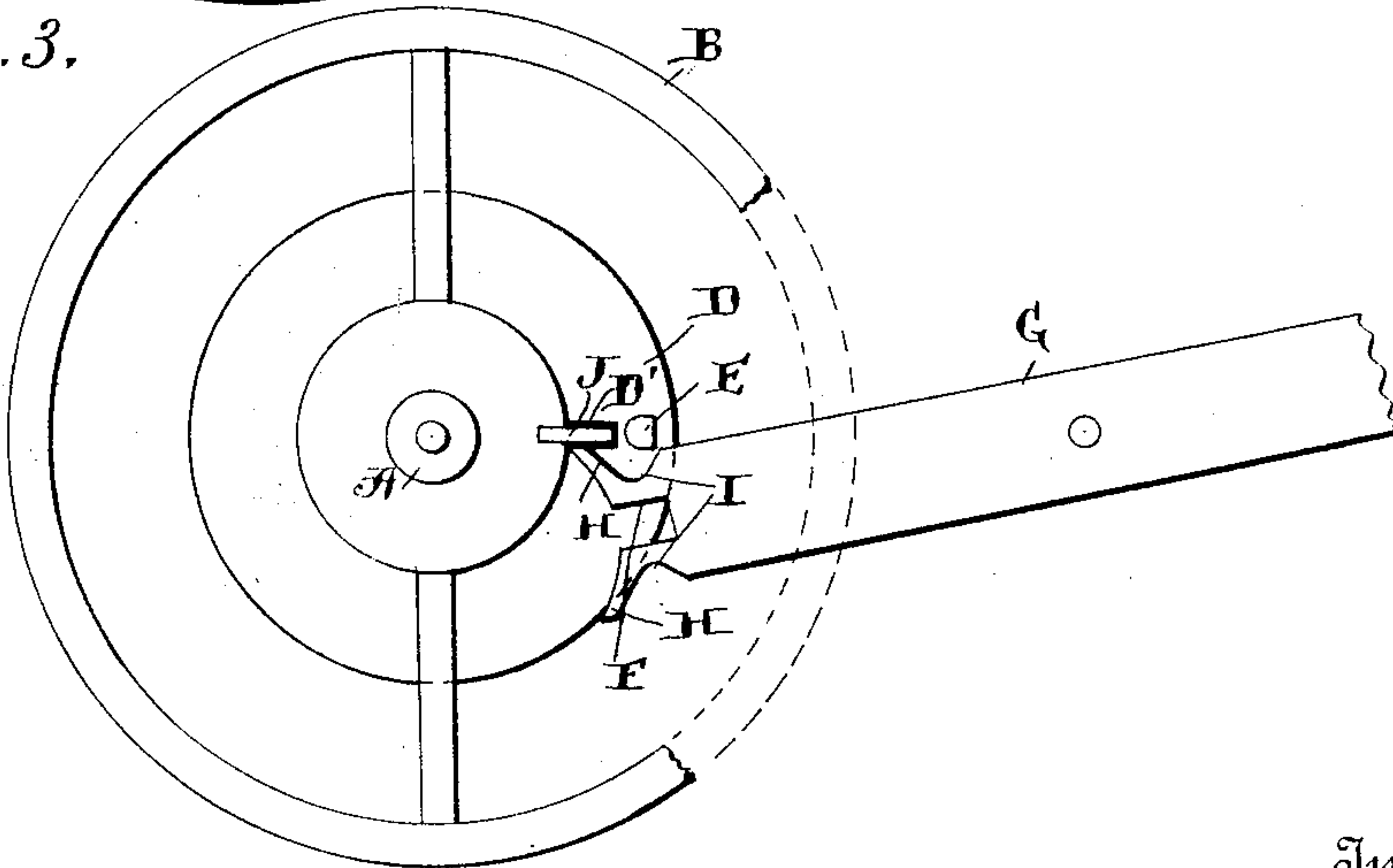


Fig. 3.



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# UNITED STATES PATENT OFFICE.

AGILE N. GAUTHIER, OF NEW ORLEANS, LOUISIANA.

## ROLLER-JEWEL PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 535,693, dated March 12, 1895.

Application filed October 26, 1894. Serial No. 527,042. (No model.)

*To all whom it may concern:*

Be it known that I, AGILE N. GAUTHIER, of New Orleans, in the parish of Orleans and State of Louisiana, have invented certain  
5 new and useful Improvements in Roller-Jewel Protectors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to  
10 make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in roller jewel protectors; and it consists in the  
15 novel construction hereinafter described, of protecting the roller jewel from becoming injured when thrown from its position in the forked end of the lever.

The object of my invention is therefore to  
20 provide an attachment for arresting the shock to which the roller jewel is commonly subjected.

Referring to the accompanying drawings:—  
Figure 1 is a side elevation of a balance shaft,  
25 wheel and roller, showing my improvement secured thereto. Fig. 2 is an inverted plan view with the roller jewel in proper engagement with the lever. Fig. 3 is a similar view, the jewel being out of engagement.

30 A designates the staff, and B the balance wheel secured thereto.

D represents the roller secured to the staff beneath the balance wheel and depending from near the outer edge thereof is the jewel  
35 E, upon opposite sides of which are the forks F, upon the outer end of escapement lever G. The ends of the forks are projected to form horns H while the opposite edges of the forked lever end are cut inward, as at I. Secured to  
40 and depending from the balance wheel B is the spring plate J which extends down through an enlarged opening D' in roller D, so as to project downward about as far as jewel E.

When the escapement is in working order  
45 the spring is not called into use, but if by a sudden jar of the watch the jewel should be thrown from between the forks F, the staff and balance wheel would be revolved by the hair spring into the position shown in Fig. 3,

striking one of the horns H against spring J, 50 thus deadening the shock and relieving the jewel E from a blow against the lever G, the former having sufficient room in the recess I to prevent the contact.

Thus it will be seen the jewel is most effect- 55 ually protected, whereas were no means provided for arresting the movement of the staff the jewel would be thrown against the lever and probably broken.

Having thus described my invention, I 60 claim—

1. The combination with a watch balance, an escapement jewel, and an escapement lever in engagement with the jewel, of a spring extending parallel with and adjacent the jewel 65 for the purpose of engaging the lever when the latter is disengaged from the jewel, substantially as shown and described.

2. The combination of a watch balance, an escapement jewel, an escapement lever forked 70 at one end to form laterally extended horns, and a spring depending from the balance which the said horns are adapted to engage when the jewel is thrown from the lever fork, substantially as shown and described. 75

3. The combination of a staff, a balance wheel, a hair spring and a roller thereon, the latter being provided with a recess, a spring depending through said recess, a jewel depending from the roller and adjacent said 80 recess, and a forked lever in engagement with the jewel which is adapted to engage the spring when not in engagement with the jewel, substantially as shown and described.

4. The combination of a watch balance, an 85 escapement jewel, an escapement lever in engagement with the jewel, recesses in the respective edges of the lever, and a depending spring which the lever engages when thrown from its engagement with the jewel, substan- 90 tially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

A. N. GAUTHIER.

Witnesses:

E. BOISSOU,  
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