

W. O. SNYDER.
CAR BELL.

No. 547,091.

Patented Oct. 1, 1895.

Fig. 1.

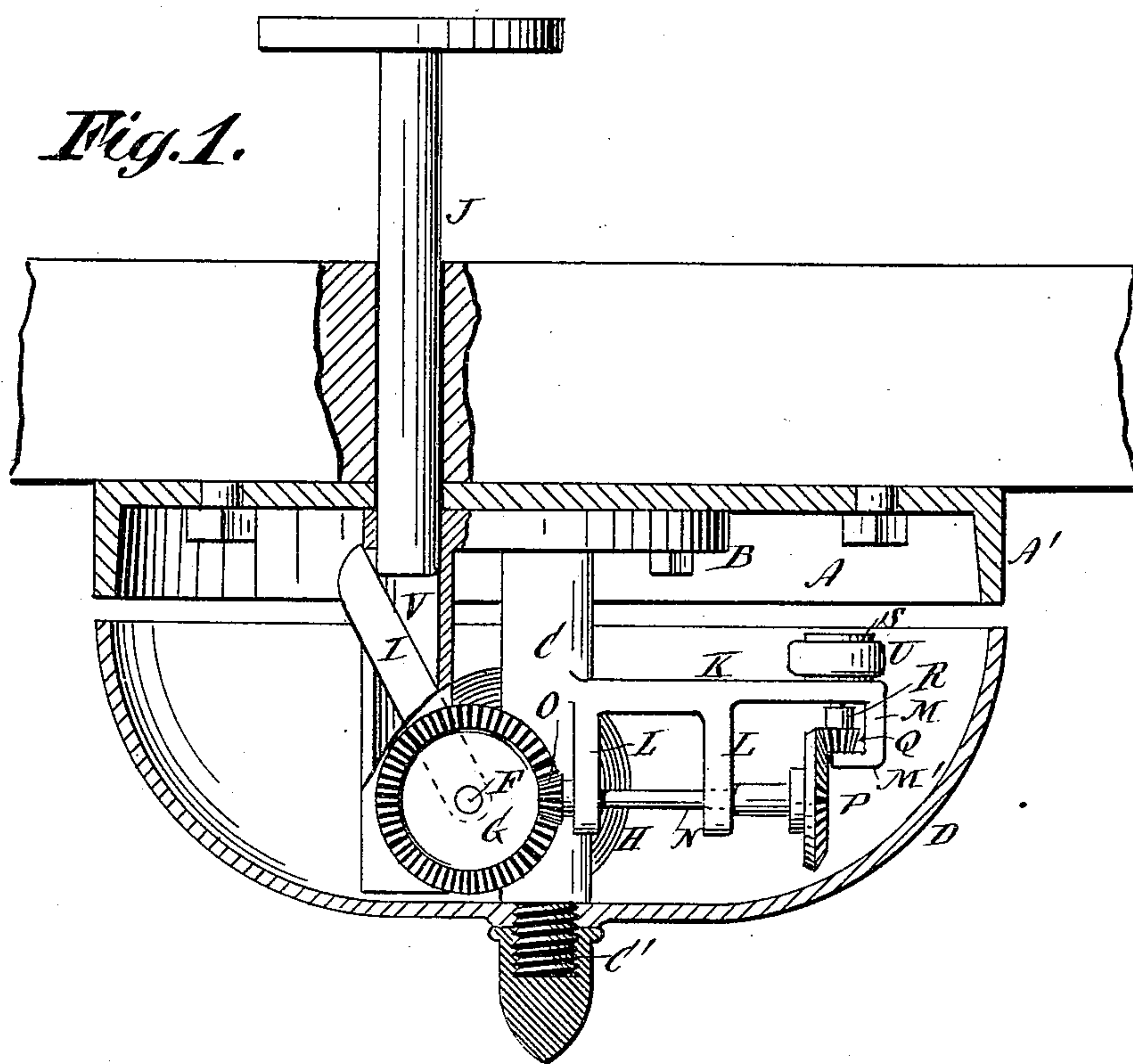
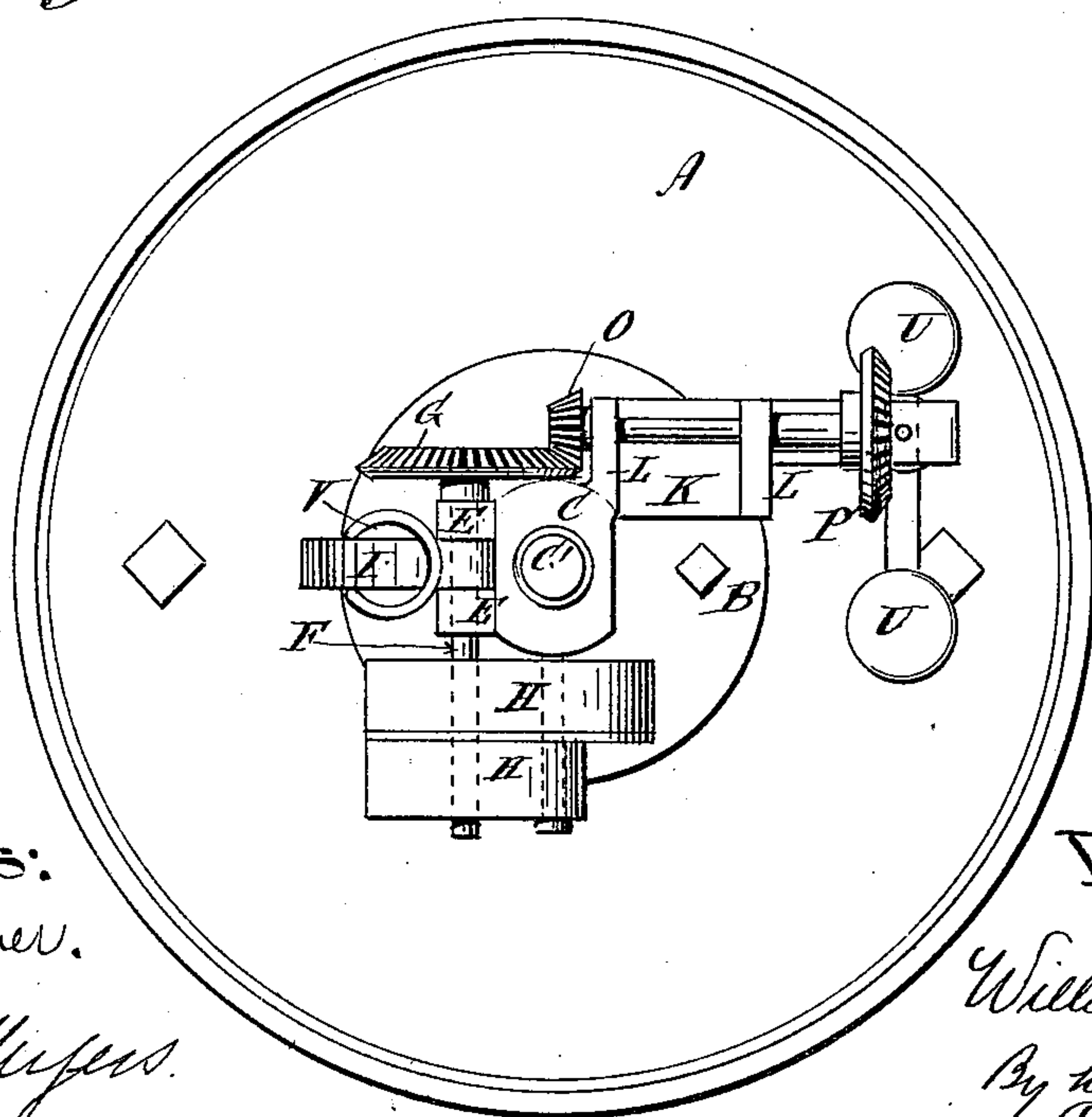


Fig. 2.



Witnesses:
D. W. Gardner.
Eugene W. Myers.

Inventor:

William O. Snyder
By his Attorney
Gust C. Cobb

(No Model.)

W. O. SNYDER.
CAR BELL.

2 Sheets—Sheet 2.

No. 547,091.

Patented Oct. 1, 1895.

Fig. 3.

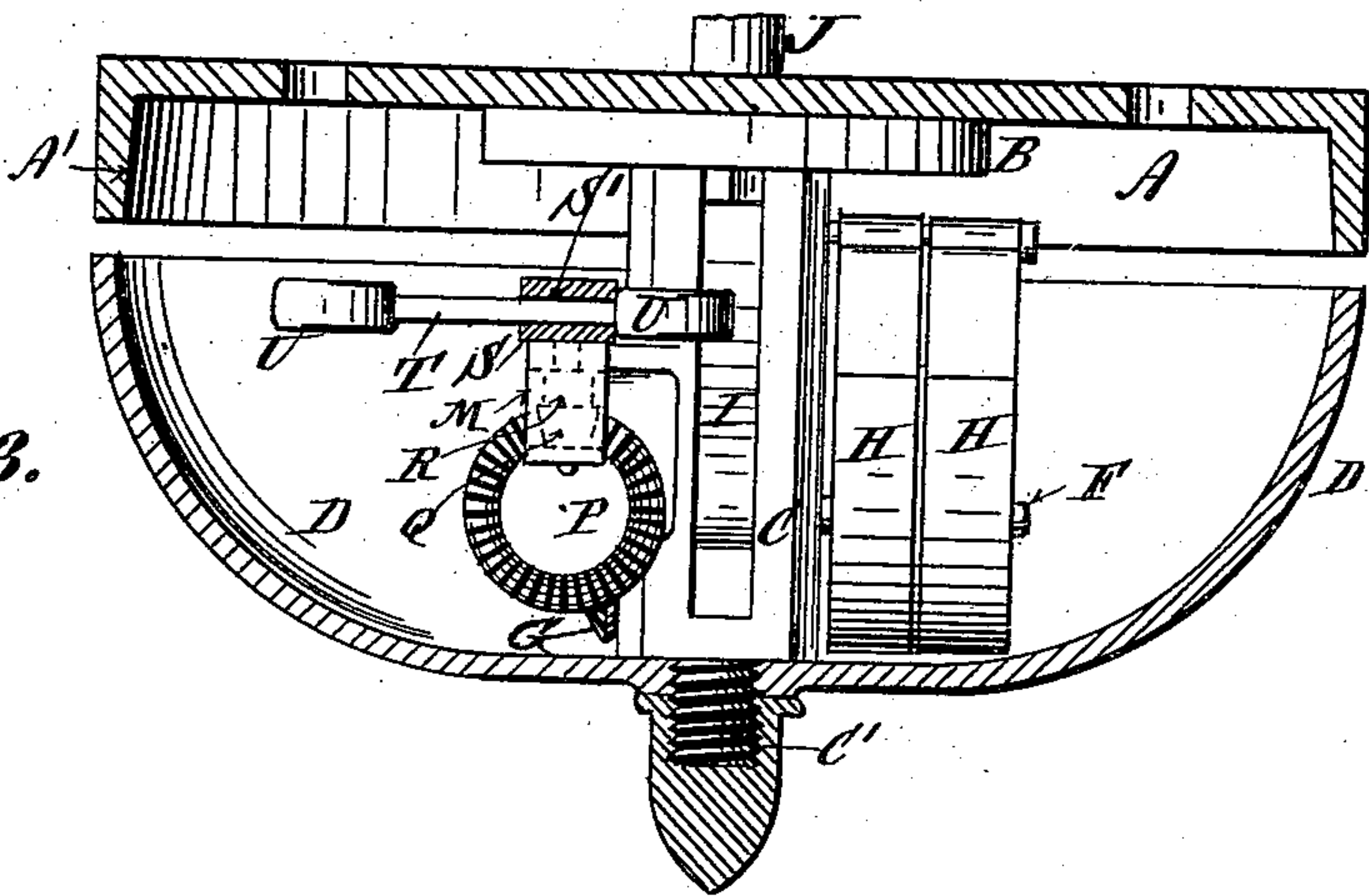


Fig. 4.

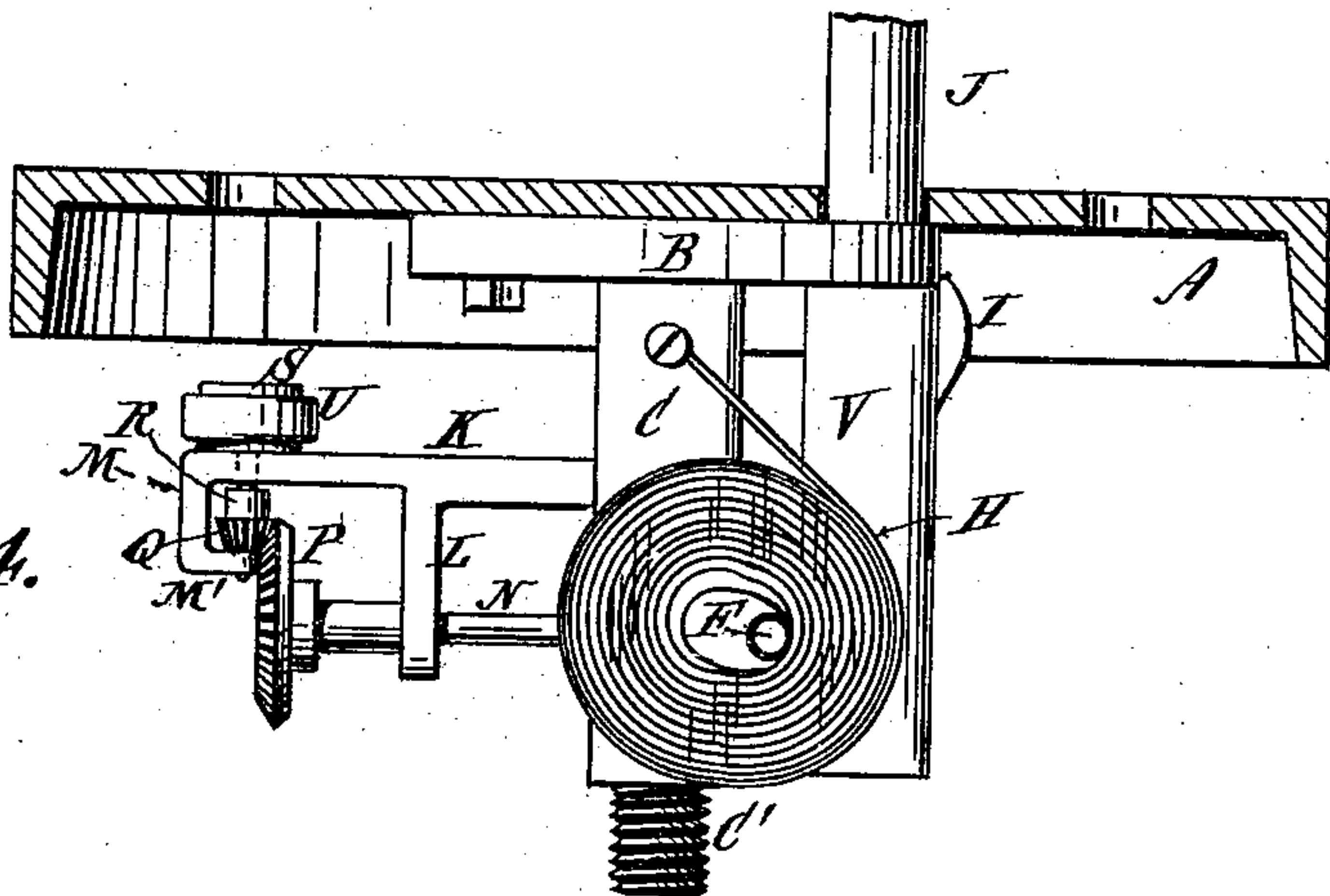
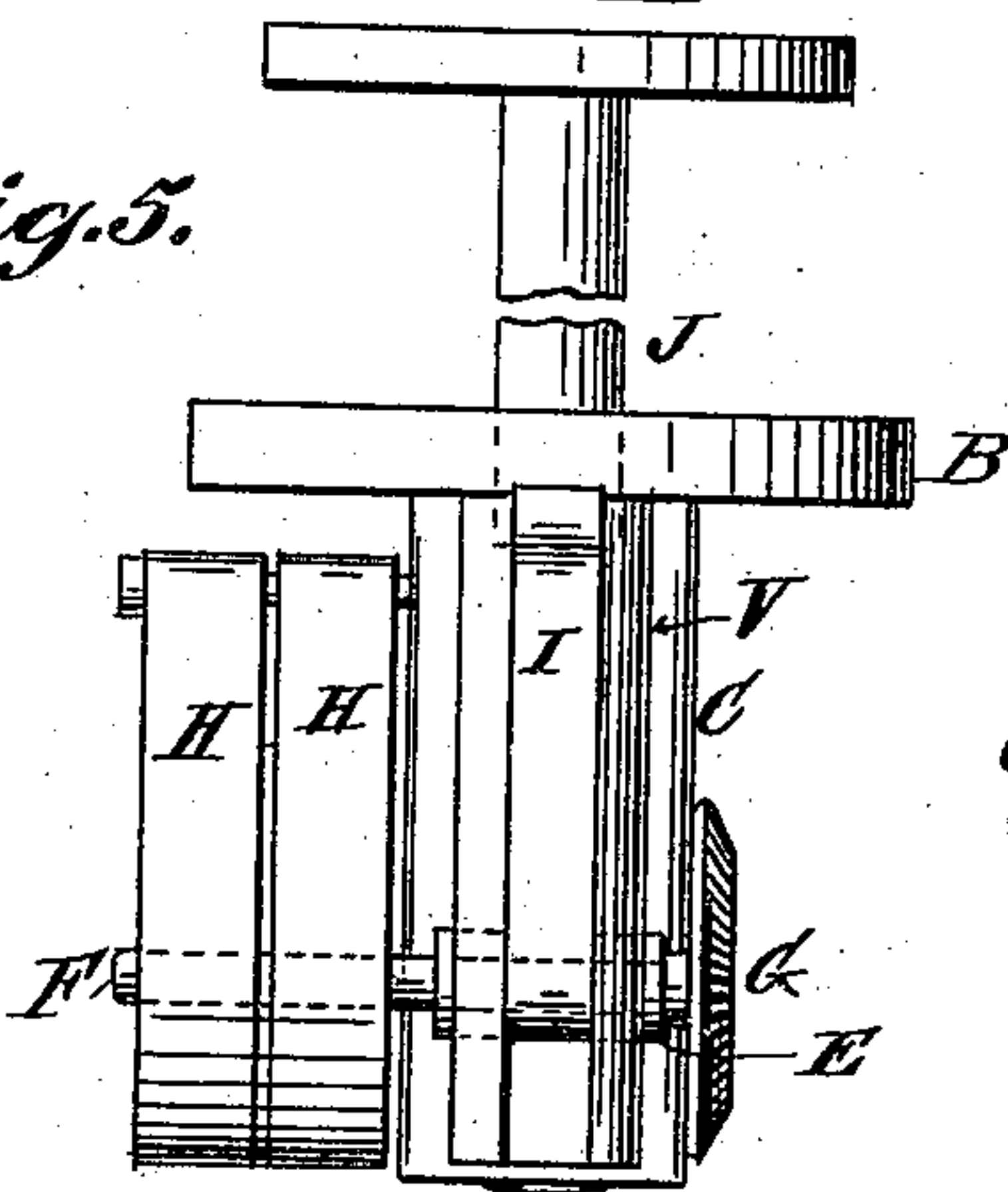


Fig. 5.



Witnesses:

D. W. Gardner.
Eugene Myers

Inventor:

William O. Snyder
By his Attorney
Ginsburg & Co.

UNITED STATES PATENT OFFICE.

WILLIAM O. SNYDER, OF NEW YORK, N. Y.

CAR-BELL.

SPECIFICATION forming part of Letters Patent No. 547,091, dated October 1, 1895.

Application filed September 5, 1894. Renewed August 17, 1895. Serial No. 559,680. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM O. SNYDER, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Bells for Cable Cars, &c., of which the following is a specification.

My invention relates to improvements in bells or alarms of the class usually employed upon electric-cars, cable-cars, and other surface railways, and has for its object the production of a bell of this class of simple, compact, and economical construction, and which will be more efficient and easier to operate than those now in use and less liable to get out of order. This class of bells, as stated, are designed for use upon electric, cable, or other surface cars, and are usually bolted or otherwise secured to the under side of the car-platform and are actuated by a plunger passing up through the platform, the motorman or gripman operating the same by pressing the plunger downwardly with his foot. As heretofore constructed, so far as I am aware, in order to produce a sound sufficiently continuous to be of value as an alarm, it has been necessary for the motorman or gripman to operate the plunger repeatedly, as the clappers or tongues rotate only on the downward movement of the plunger. This continuous movement of the plunger is not only extremely tiresome to the motorman or gripman, but also distracts his attention from the management of his car. This is especially true in large cities, where it is necessary to preserve a substantially constant ringing from the beginning of a trip until its end. It is the object of my invention, therefore, to produce a bell or alarm in which these objectionable features will be obviated; and to this end my said invention consists in the details of construction and in the combination and arrangement of parts, all as hereinafter more fully described, and pointed out in the claims.

Referring to the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a view of my improvement attached to a fragment of the platform of a car and showing the bell in section. Fig. 2 is a bottom plan view. Fig. 3 is a view taken

at right angles to Fig. 1. Fig. 4 is a view taken on the opposite side to Fig. 1, the gong being omitted; and Fig. 5 is a detail of the tripping mechanism.

A is a circular plate provided around its outer edge with a wall A' and bolted or otherwise securely fastened to the under side of the car-platform, as shown in Fig. 1. At the center of plate A is secured the base-plate B, from which depends the bifurcated vertical post or support C, terminating at its lower end in the screw-threaded portion C', by means of which the gong D is secured in place and in proper relation to the clappers or tongues U U. This post C is preferably cast integral with the base-plate B and is slotted on either side for nearly its entire length, forming a bifurcate. On one side of the support C are located the lugs E E, in which the shaft F is mounted. This shaft F is provided at one end with the gear-wheel G and at the other end is attached to suitable springs H H, coiled around it. Between the lugs E E and suitably secured to the shaft F is the trip I, adapted to be moved downwardly by the plunger J, thus rotating the shaft F against the tension of its springs H H. When the pressure upon the plunger J is removed, the unwinding action of the springs H H will cause the shaft F to rotate in an opposite direction, forcing the trip I and with it the plunger J upwardly to their normal positions, as shown in Fig. 1. The post C is also provided with a horizontal bracket-arm K, having vertical lugs L L and terminating at its outer end in the right-angled portion M, having an inward extension M'. On the lug L L is mounted the horizontal shaft N, having at its inner end the beveled pinion O, meshing with the large gear G on shaft F and having at its outer end the large gear P, which in turn meshes with beveled pinion Q at the lower end of vertical shaft R, which latter is journaled in the extension M' of bracket K. The vertical shaft R has located at its upper end the enlarged portion S, (see Fig. 3,) having the horizontal slot S', and loosely fitting in the slot S' is the bar T, having at either end the bell clappers or tongues U U. The bar T is adapted to slide horizontally through the slot S', being limited in its movement only by the clappers U U. When one of the clap-

pers U U strikes against the gong D, the bar T will slide through slot S' until the said clapper clears the side of the gong, and upon the further rotation of the shaft R the other clapper will in turn strike against the gong, and the above operation will be repeated. In order to guide the plunger in its upward and downward movement, I provide a tube V, in the manner shown, said tube being slotted to allow free movement of the trip I.

The operation of my device is as follows: When it is desired to ring the bell, the motor-man or gripman presses downwardly upon the plunger J, forcing the trip I in a downward direction, thereby rotating shaft F against the tension of springs H H, and with it the gear G. The gear G, meshing with pinion O, will in turn rotate the horizontal shaft N rapidly, imparting motion to the large gear P, and this large gear P, acting upon pinion Q, will cause the same to rotate very rapidly, and with it the vertical shaft R, carrying the bar T, and at its ends the clappers U U. This rapid rotation of the bar T will cause the clappers U U to strike against the gong D in the manner just described. Upon removing the pressure upon plunger J the springs H H will cause a reverse action to that just described, thereby rotating the bar T and clappers U U in an opposite direction and causing the clappers to again strike the gong D until the trip I reaches the limit of its upward movement, when the operator will again press the plunger downwardly, and the operations just described will be repeated.

It will be seen that by my invention I produce a bell in which a practically-continuous ringing is effected with very little effort by the operator. This is obvious for the reason that at each downward or upward movement of the plunger the clappers or tongues are set in motion and rapidly rotated by means of the train of gears, thus striking the gong continuously as the plunger is moved in either direction.

A bell of this construction is of course applicable for other uses than that of cable or like cars.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination in a bell of a plunger adapted in its downward and upward movement to actuate a trip whereby a horizontal shaft having a spring attached thereto is rotated, and sets in motion, by means of a train of gears, a vertical shaft carrying the bell clappers or tongues, whereby the said clappers or tongues are alternately rotated, first in one direction and then in the other, substantially as described for the purposes set forth.

2. The combination in a bell of the character described, of a bifurcated post, a horizontal main shaft secured in bearings on said post, and having a large gear at one end, meshing with a pinion on the end of a horizontal shaft secured in bearings on a bracket arm, on said post, and extending in a direction at right angles to the main shaft, and carrying at its outer end a gear wheel in mesh with a pinion arranged on a vertical shaft carrying bell clappers or tongues, with a trip secured to the main shaft, and adapted to be operated by a plunger, whereby upon the descent of the plunger the main shaft will be rotated, thus causing the clappers or tongues to rotate by means of the gearing mechanism, and when pressure on the plunger is released, the main shaft, gearing mechanism and clappers or tongues will be rotated in an opposite direction by means of springs secured to said shaft, substantially as described for the purposes set forth.

Signed at New York, in the county of New York and State of New York, this 29th day of August, A. D. 1894.

WILLIAM O. SNYDER.

Witnesses:

EUGENE V. MEYERS,
CHARLES C. PETERS.