

No. 771,624.

PATENTED OCT. 4, 1904.

F. H. GILLETTE.
WATCH REPAIRER'S GAGE.
APPLICATION FILED JUNE 4, 1904.

NO MODEL.

Fig. 1

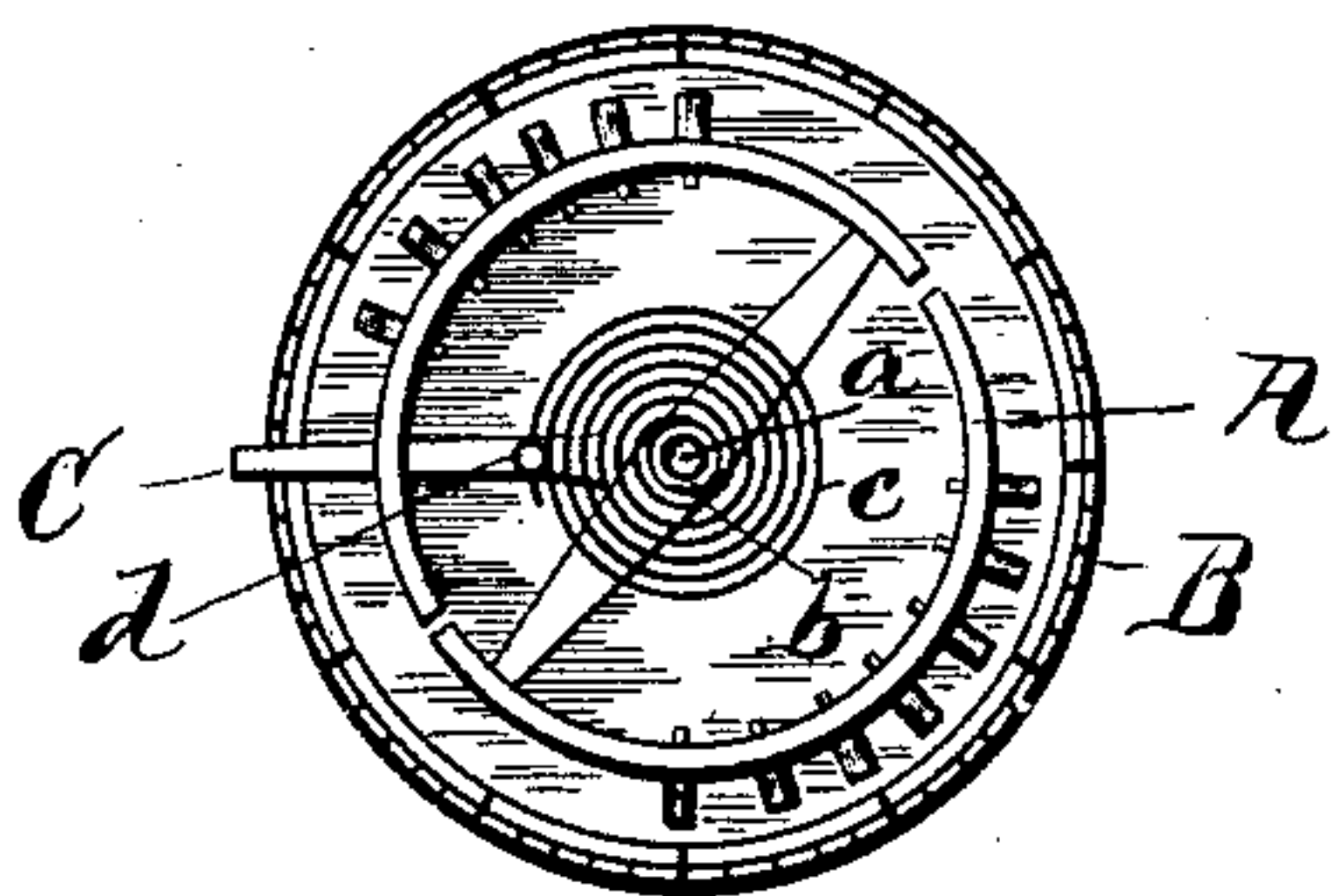


Fig. 2

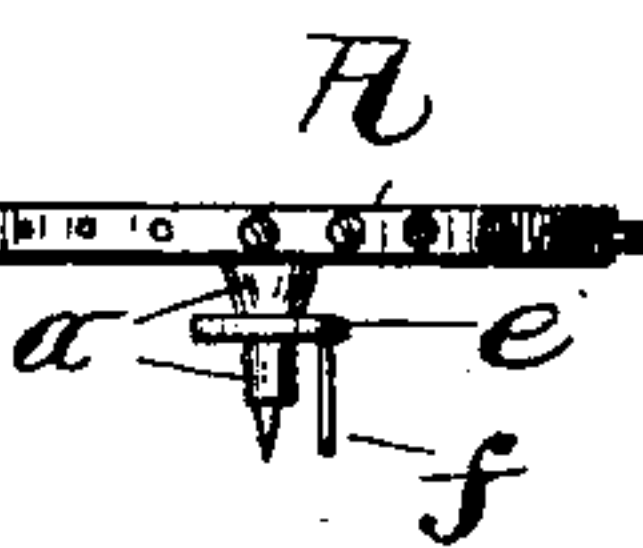
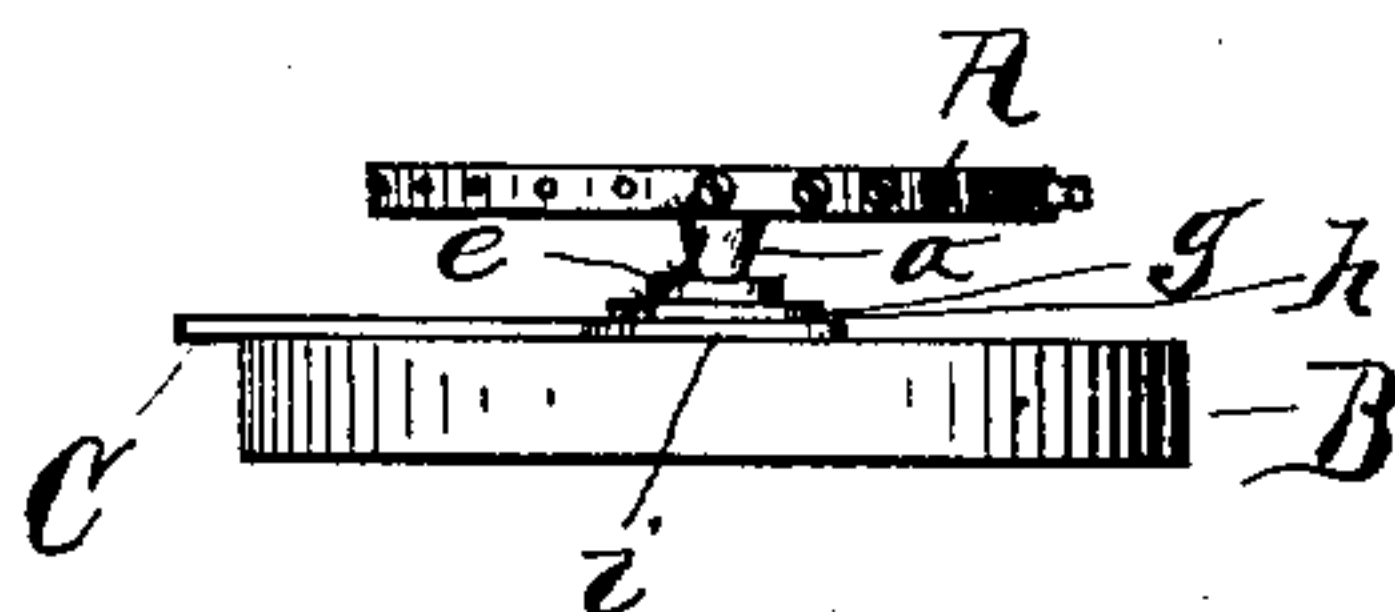


Fig. 3

Fig. 4

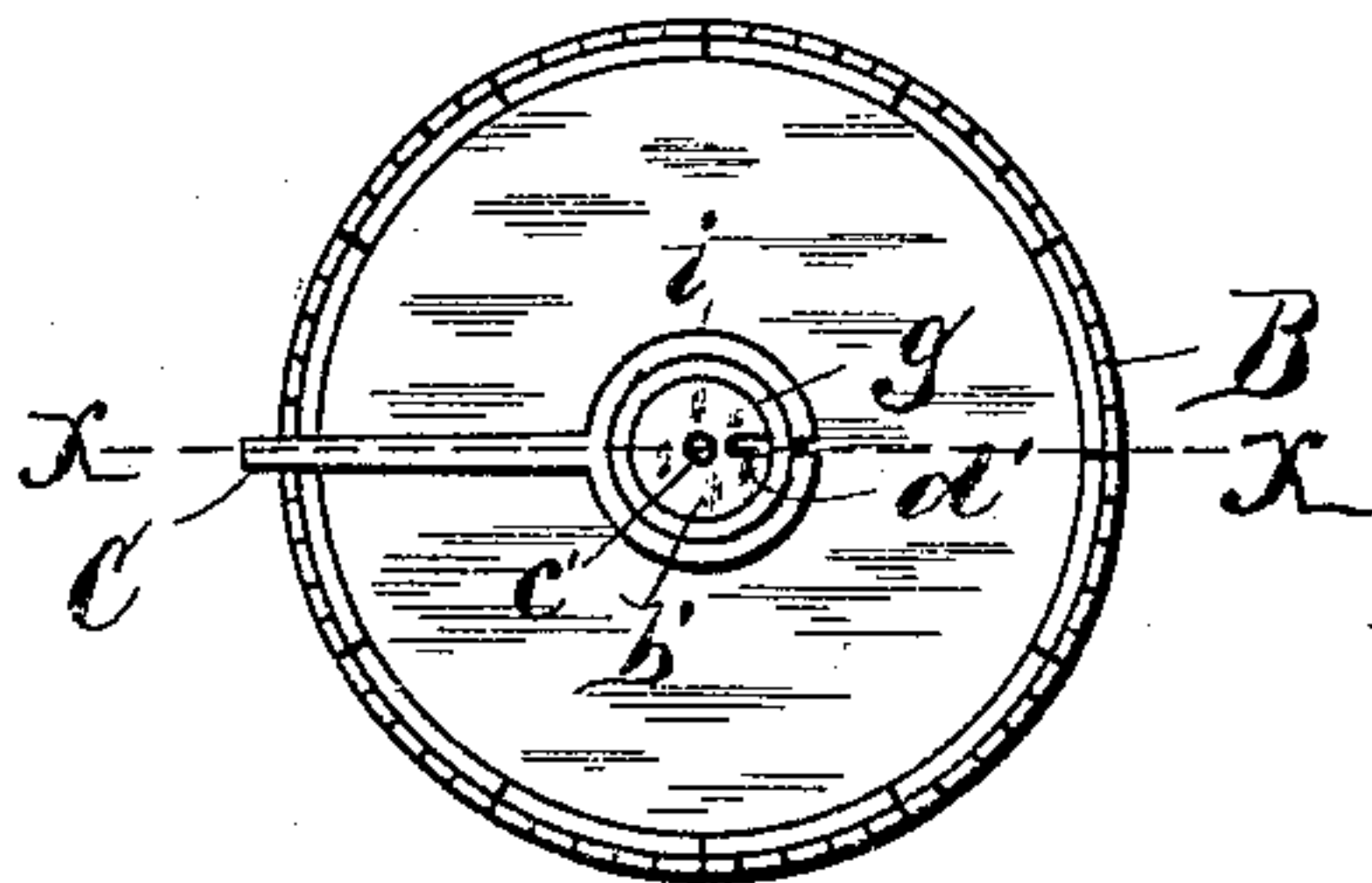
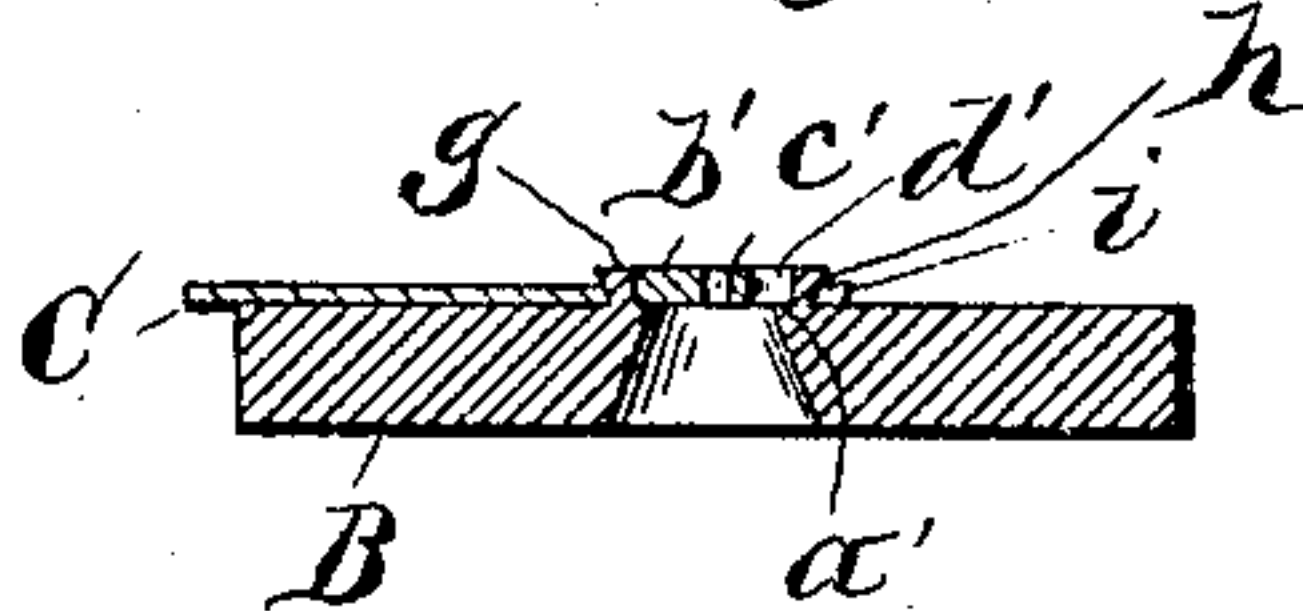


Fig. 5



WITNESSES:

L. H. Fulmer.
J. J. Laess.

INVENTOR

Fred H. Gillette.
By E. Laess
his ATTORNEY.

UNITED STATES PATENT OFFICE.

FRED H. GILLETTE, OF CORTLAND, NEW YORK.

WATCH-REPAIRER'S GAGE.

SPECIFICATION forming part of Letters Patent No. 771,624, dated October 4, 1904.

Application filed June 4, 1904. Serial No. 211,076. (No model.)

To all whom it may concern:

Be it known that I, FRED H. GILLETTE, of Cortland, in the county of Cortland, in the State of New York, have invented new and useful Improvements in Watch-Repairers' Gages, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention resides in an instrument designed to be used by watch-repairers and which is to be employed during the operation of removing the so-called "hair-spring" from and replacing it on the balance-wheel staff.

It is well known by persons familiar with watch constructions that the hair-spring is usually provided with a collar at its inner end for attaching the same to the balance-wheel staff and with a stud at or near its outer end for connecting the spring to a stationary part of the watch and that a roller is fastened to the lower portion of the staff and provided with a so-called "jewel-pin," which latter actuates a lever connected to the escapement. It has been found by experience in repairing watches that in replacing the collar of the hair-spring on the balance-wheel staff a great deal of time and care are required to accurately adjust said collar to set the stud of the spring in its original position in relation to the roller jewel-pin, which is necessary in order to restore the jewel-pin in the watch in proper position in relation to the aforesaid lever.

The main object of this invention is to produce a device to which the removed balance-wheel staff, with the aforesaid attached parts, may be applied and which shall operate to indicate such position of the hair-spring stud, and thereby enable the repairer to disconnect the spring from the staff and readily replace the same in proper position.

To that end the invention consists in the novel construction of a gage for the aforesaid purpose, as hereinafter fully described, and set forth in the claims.

In the accompanying drawings, illustrating my invention, Figure 1 is a plan view of the gage with the balance-wheel staff and attached parts applied thereto. Fig. 2 is a side view of the same. Fig. 3 is a side view of the

watch parts removed from the gage. Fig. 4 is a detail plan view of the gage, and Fig. 5 is a transverse section on the line X X in Fig. 4.

Referring to the drawings, A represents the balance-wheel of the watch provided with the usual staff *a*. On said staff above the wheel is rigidly mounted a collar *b*, to which is attached the inner end of the hair-spring *c*, to the outer end of which spring is secured a stud *d*, which is to be attached to a stationary part of the watch in the usual and well-known manner. To the said staff *a* below the balance-wheel is rigidly fastened the roller *e*, provided with the usual jewel-pin *f*. As before stated, these parts are common to all watches and do not require a further description. I will therefore proceed to describe the construction and operation of the gage, to which the balance-wheel staff is applied, for the purpose hereinbefore mentioned.

Said gage comprises an annular plate or disk B, upon which the said watch parts are supported in determining the position of the hair-spring stud in relation to the jewel-pin. This plate or disk may be composed of any suitable material, preferably brass, and has the peripheral portion of its upper face provided with suitable marks representing degrees, and thereby constitutes a dial-plate. From the upper face of said dial-plate projects a central annular hub *g*, having an undercut periphery, as indicated at *h* in Fig. 5 of the drawings.

C represents a pointer which is provided with a split ring *i*, which is sprung into the undercut portion of the said hub *g* and allowed to turn thereon, and thereby cause the free end of the pointer to travel over the degree-marks of the dial-plate. The said hub is formed with an annular recess *a'*, in which is seated a stationary block *b'*, preferably composed of hard steel. This block is provided with a central aperture *c'* and with a radial slot *d'*, as clearly shown in Figs. 4 and 5 of the drawings.

Upon removing the balance-wheel staff *a*, with the aforesaid attached parts, from the watch the lower end of said staff is inserted in the central aperture *c'* of the block and the jewel-

pin *f* likewise inserted in the slot *d'* thereof, whereby the roller *e* is caused to bear upon the said block, and the staff *a* is rigidly sustained in erect position on the dial-plate. The
5 pointer C is now moved over the dial-plate to lie directly under the stud *d* of the hair-spring, thereby indicating on the dial-plate the position of said stud in relation to the aforesaid roller jewel-pin *f*. The operator may now
10 remove the staff *a* from the dial-plate and disconnect the hair-spring from the staff, if required, for repairs. When it is desired to replace the spring on the staff, the latter is applied to the dial-plate in the manner aforesaid,
15 and the collar *b* of the spring is adjusted on the staff to carry the stud *d* directly over the pointer, which is in the position in which it was placed previous to the removal of the staff from the dial-plate. By now fastening
20 the collar to the staff the stud is maintained in its original position in relation to the roller jewel-pin. Thus the repairer is enabled to restore the parts in the watch in proper positions.

What I claim as my invention is—

25 1. In a watch-repairer's gage for indicating the position of the hair-spring stud in relation

to the roller jewel-pin, the combination of a dial-plate formed with a central hub, the hub provided with a central aperture for the reception of the balance-wheel staff and with 30 an adjacent aperture for the reception of the jewel-pin, and a pointer pivoted to said hub and movable to lie directly under the said hair-spring stud as set forth.

2. In a watch-repairer's gage for indicating 35 the position of the hair-spring stud in relation to the roller jewel-pin, the combination of a dial-plate formed with a central annular hub provided with an undercut periphery and with a central recess, a hard-metal block seated 40 stationary in said recess and provided with a central aperture for the reception of the lower end of the balance-staff and with a radial slot for the reception of the roller jewel-pin, and a pointer provided with a split ring by which 45 it is pivoted to the periphery of said hub, and movable over the dial-plate to lie directly under the said hair-spring stud as set forth.

FRED H. GILLETTE.

Witnesses:

S. H. JONES,

F. B. NOURSE.