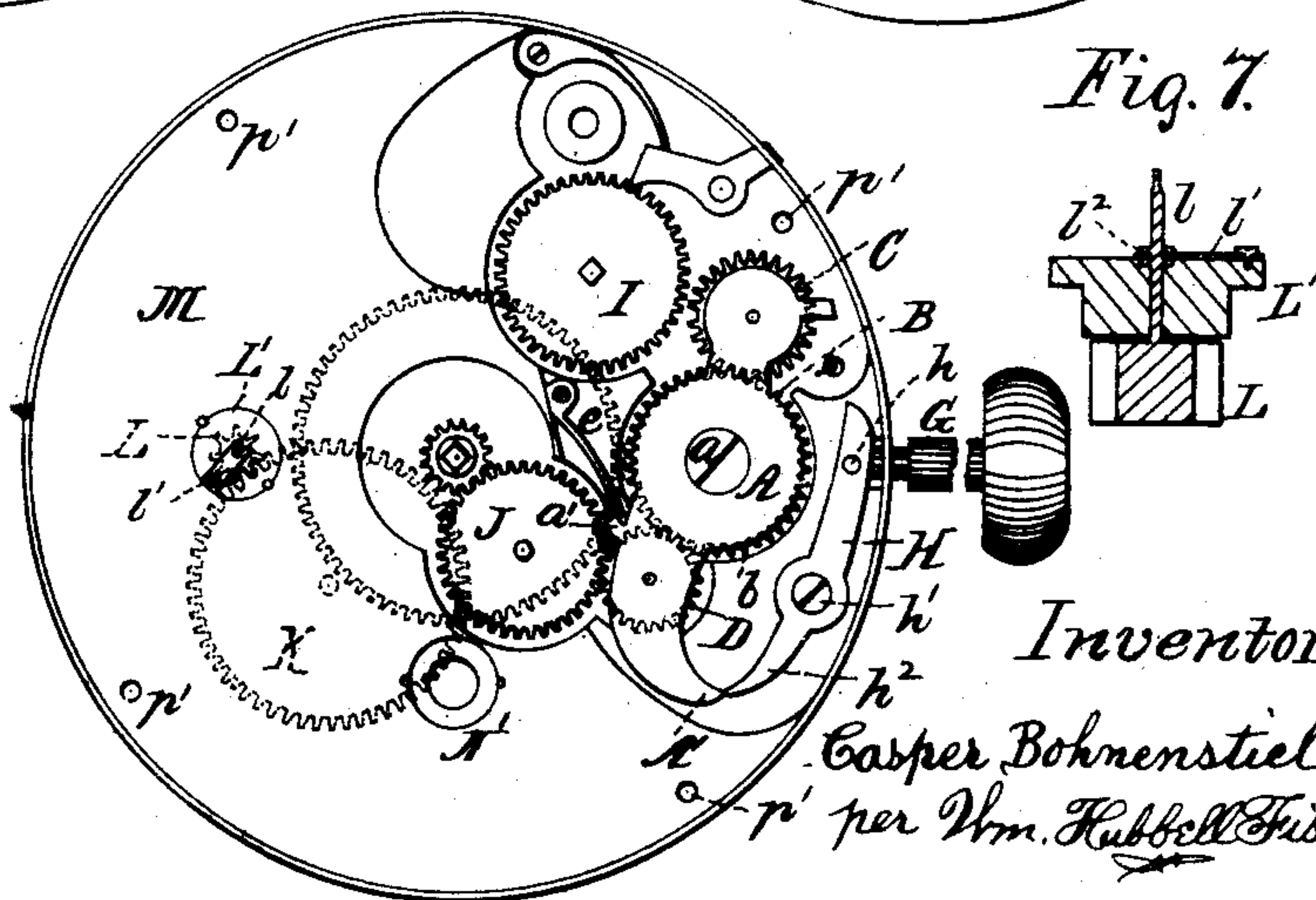
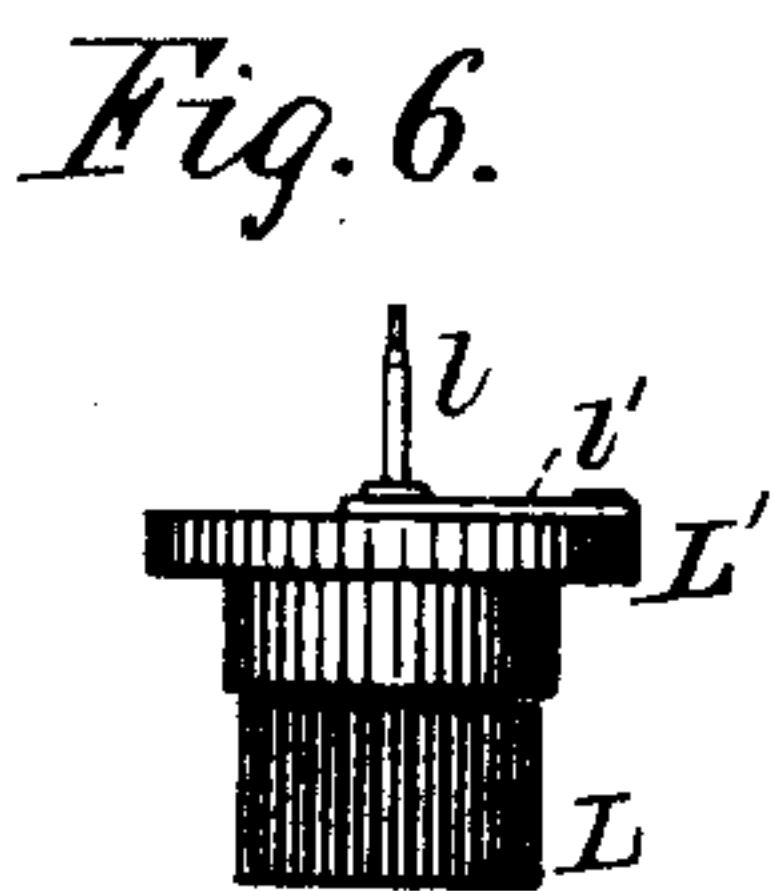
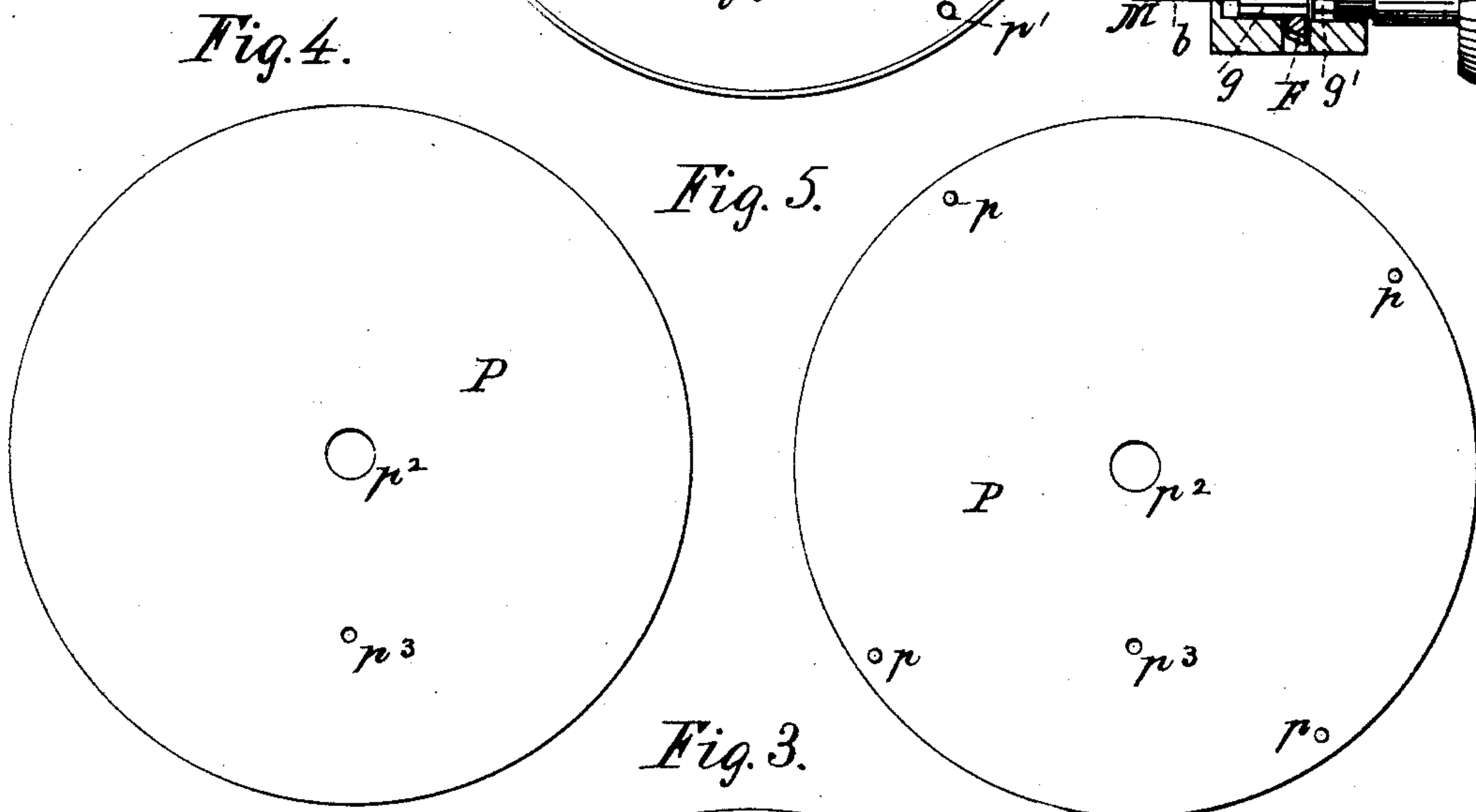
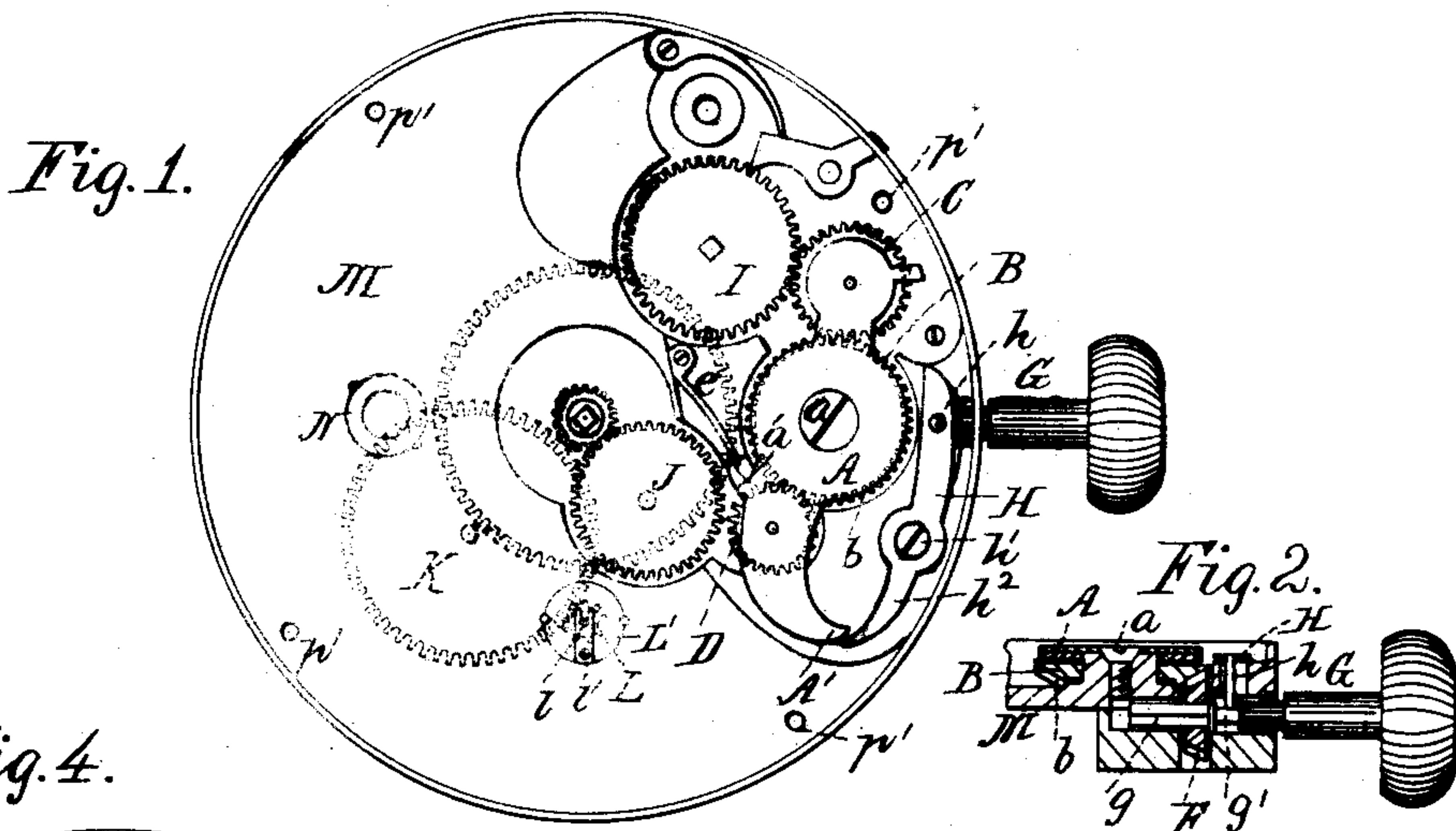


(No Model.)

C. BOHNENSTIEL.  
STEM WINDING AND SETTING WATCH.

No. 401,815.

Patented Apr. 23, 1889.



Witnesses:  
H. Smith.  
C. H. Pave

*Inventor:*  
*Asper Bohnenstiel*  
*per Wm. Hubbell Fisher*  
*his Attorney.*



# UNITED STATES PATENT OFFICE.

CASPER BOHNENSTIEL, OF NEWPORT, KENTUCKY.

## STEM WINDING AND SETTING WATCH.

SPECIFICATION forming part of Letters Patent No. 401,815, dated April 23, 1889.

Application filed November 28, 1887. Serial No. 256,320½. (No model.)

*To all whom it may concern:*

Be it known that I, CASPER BOHNENSTIEL of Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Watches, of which the following is a specification.

The several features of my invention and the advantages arising from their use, conjointly or otherwise, will be apparent from the following description.

In the accompanying drawings, forming part of this specification, Figure 1 is a face view of so much of the works of a watch as is necessary to illustrate my invention, the parts being in position for winding and the seconds-hand arbor arranged for a hunting-case watch. Fig. 2 is a section taken at the line  $x x$ , Fig. 1. Fig. 3 is a view similar to Fig. 1, but showing the parts arranged to set the hands and the seconds-hand arbor in position for an open-face watch. Fig. 4 is a view of the outer face of the dial-plate removed from watch. Fig. 5 is a view of the inner face of the dial-plate. Fig. 6 is a perspective view of the seconds-hand arbor and the detachable pinion connected therewith. Fig. 7 is a vertical section, on an enlarged scale, of the arbor and pinion of the seconds-hand.

The lever A is fulcrumed at  $a$ . Immediately under the lever A, and loosely centered on its fulcrum, is the wheel B, which is provided with teeth  $b$ , which project from its edge and are preferably beveled on their under surface. The teeth  $b$  mesh with the teeth of the pinions C and D, one on each side. Both of the pinions C and D are centered loosely on arbors attached to the lever A, and are carried with the lever A in its movements. The lever A terminates in the cam-tip  $A'$ . It is also provided with a lug,  $a'$ , against which the spring  $e$  bears, and tends to move the lever into the position occupied in Fig. 1.

The wheel B meshes with the beveled wheel F, which latter is mounted on the squared end  $g$  of the stem G, and is moved by it. The end  $g$  of the stem G is made long enough to allow the stem to be pushed in and out and still remain in the wheel F. An annular groove,  $g'$ , is cut in the stem G and receives the pin  $h$ , projecting downwardly from the pawl H. The pawl H is centered at  $h'$  and terminates in a cam-tip,  $h^2$ , which bears against

the cam-tip  $A'$  of the lever A. When the stem G is moved in or out, it imparts a corresponding movement to the pawl H through the medium of the pin  $h$ . When the parts are in the positions shown in Fig. 1, the stem G is in. If now it be drawn out, it moves the pawl H into the position shown in Fig. 3, effecting simultaneously the change shown in the position of the lever A. When the stem is pushed in, the pawl H is returned to its former position and the spring  $e$  forces the lever A back to its first position. When the lever A is in the position shown in Fig. 1, the wheel C meshes with the wheel I, which winds the spring, while the wheel D is free, except as it meshes with the wheel B. When the lever A occupies the position shown in Fig. 3, the wheel C is free and the wheel D meshes with the wheel J, which is otherwise geared to set the hands; hence to wind the watch the stem G is forced in, by which movement the mechanism for winding is brought into gear, when by turning the stem the watch may be wound. To set the hands, the stem G is drawn out slightly. This throws the wheel D into gear with the setting-wheel J and enables the hands to be moved by the stem G.

Among the train of wheels for operating the hands is the large fourth-wheel K of the watch-movement, which meshes with the pinion L of the seconds-hand arbor  $l$ . The arbor  $l$  is rigidly attached to the pinion L and projects from it in its axis. The arbor  $l$  passes through the cap  $L'$ , and is swiveled therein by means of the arm  $l'$ , which fits in the groove  $l^2$  in the arbor. The cap  $L'$  preferably has a rabbeted edge, which holds it in place in the plate M. The plate M has the two openings N and N', each with rabbeted edges. These openings are located, one on the line passing through the stem and the center of the watch and the other on the line drawn at right angles to this first line at the center of the watch. The device illustrated in Fig. 6 may be set in either one of these openings, and in both positions the pinions L will gear with the wheel K. The dial-plate P is provided with four parts,  $p$ , which are received in four corresponding openings,  $p'$ , in the plate M. The dial-plate also has a central opening,  $p^2$ , through which the arbors of the hour and minute hands pass,



and an opening,  $p^3$ , for the arbor of the seconds-hand.

In all watches the seconds-hand is immediately opposite the "twelve" of the dial; but  
5 the position of the dial differs in hunting-case and open-face watches. In the latter the "twelve" is placed at the stem, and in the former the "three" is placed at the stem. In a hunting-case watch, therefore, the seconds-  
10 hand will occupy the position shown in Fig. 1, and in an open-face watch it will be as in Fig. 3.

To adapt my watch for either style of case, it is only necessary to place the seconds-hand  
15 arbor and pinion in the proper opening, N or N'. The posts of the dial-plate being four in number and equidistant, the plate may be used for either style of case.

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

1. The combination of the plate M, having openings N N', fourth-wheel K, and detachable seconds-hand arbor and pinion, substantially as and for the purposes set forth.

2. The combination of plate M, having open- 25 ings N N', fourth-wheel K, cap L', pinion L, and arbor  $l$ , swiveled in cap L', substantially as and for the purposes specified.

3. The combination of plate M, having open- ings N N', with rabbeted edges, and openings 30  $p' p' p' p'$ , seconds-wheel K, cap L', with rabbeted edges, pinion L, arbor  $l$ , swiveled in cap L', and dial-plate P, having four posts,  $p$ , substantially as and for the purposes specified.

CASPER BOHNENSTIEL.

Attest:

W. P. GULICK,  
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