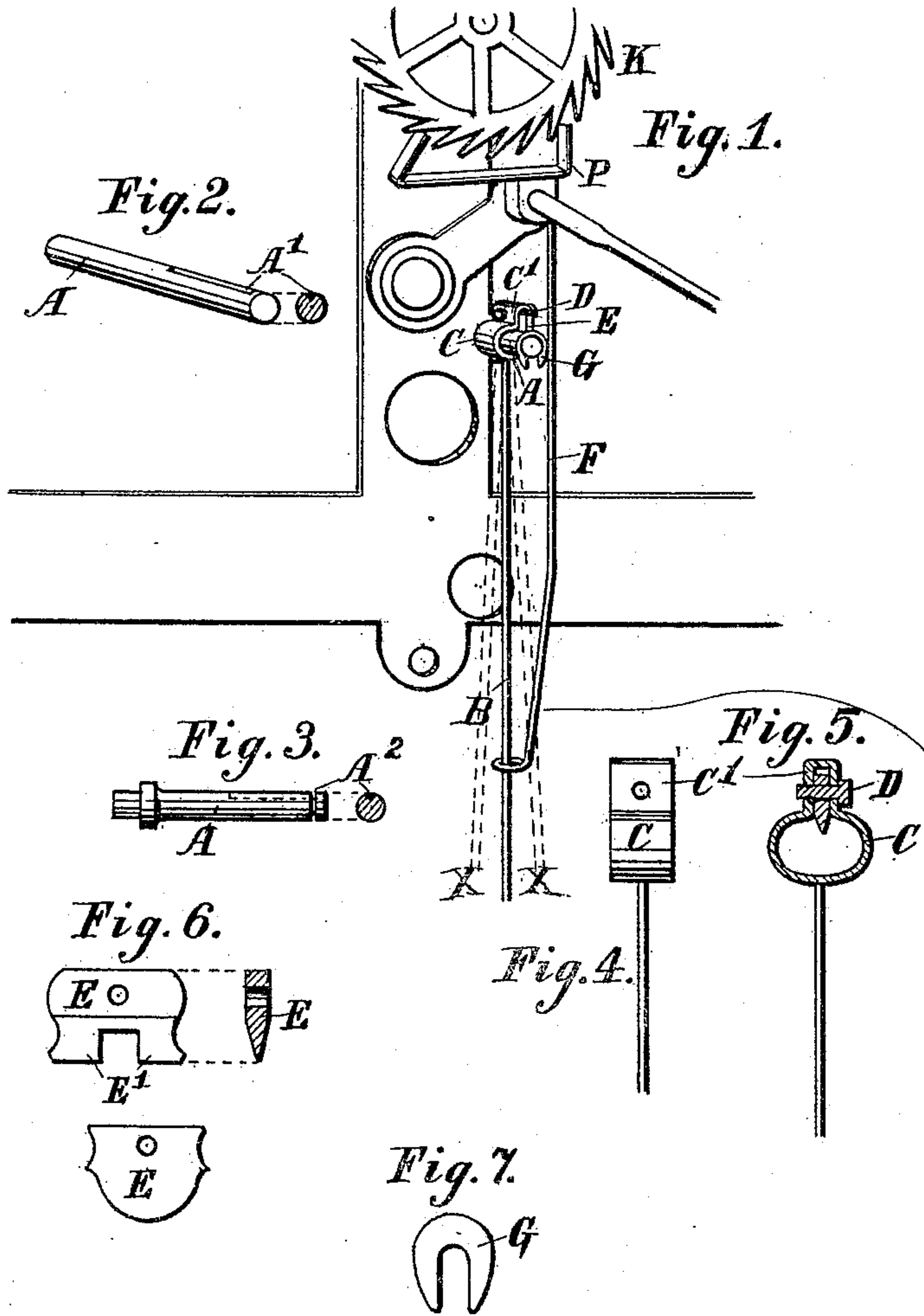


(No Model.)

H. J. DIXON.
CLOCK PENDULUM.

No. 467,161.

Patented Jan. 19, 1892.



WITNESSES:

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HENRY J. DIXON, OF LIVINGSTON, MONTANA, ASSIGNOR OF ONE-HALF TO
W. P. MULHOLLAND AND JOSEPH AINSLIE, OF SAME PLACE.

CLOCK-PENDULUM.

SPECIFICATION forming part of Letters Patent No. 467,161, dated January 19, 1892.

Application filed March 19, 1891. Serial No. 385,576. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. DIXON, a citizen of the United States, residing at Livingston, county of Park, State of Montana, have
5 invented a new and useful Improvement in Clock-Movements, of which the following is a true, full, and complete specification, enabling others skilled in the art to which it pertains to make the same.

10 My invention relates to clock-movements, and particularly to that class of movements that are dependent upon the isochronal vibrations of a pendulum.

The object of my invention is to provide a
15 sure and automatically-adjustable bearing for the pendulum-rod, which object I attain by means of the device shown in the accompanying drawings, in which like letters refer to like parts in each.

20 Figure 1 is a perspective of the device. Fig. 2 is a detail of one form of cock. Fig. 3 is a side view and cross-section of a cock. Fig. 4 is a side view of the yoke. Fig. 5 is a vertical section of the yoke. Fig. 6 is a side view and
25 cross-section of the knife. Fig. 7 is a perspective view of shoe used in form of cock shown in Fig. 3.

In the drawings, A is the cock, which carries the pendulum-rod B and has a groove A'
30 on its upper surface.

C is the yoke attached to the end of the pendulum-rod B, having vertical flanges C', which are provided with threaded holes to admit a screw.

35 D is a screw passing through the vertical flange of the yoke C and also through the knife E.

E is the knife.

E' are bearing-points in one form of knife.

40 F is the pallet-crutch.

P is the pallet.

K is the escapement.

As the accurate performance of a clock depends essentially on the pendulum, it is of the
45 utmost importance that its motion be as free from friction as possible. The prime object of this invention is to secure that end.

Heretofore clock-pendulums have been made with the pendulum-rod flattened upon
50 one end and this flattened end inserted in a vertical slot made in the end of the cock which

carries the pendulum. The least inaccuracy in the cutting of the slot causes the pendulum to twist in its motion, and the time-keeping quality of the clock is thus impaired. Again, 55 the inequalities of thickness existing in the flattened end referred to have always been a cause of more or less disturbance to the correct action of the pendulum, and the constantly-changing climatic influences result in 60 a continual loss or gain in time. Another drawback to the clock as at present made is that it is necessary to place it on a perfectly level plane in order to obtain a correct movement. 65

In this device the usual pendulum is provided with the rod B, terminating in the yoke C. The shape of this yoke is best shown in Figs. 4 and 5. It will here be seen that on its upper side it has two vertical flanges C'. 70 These flanges have holes through them, and one or both of these holes are threaded. In the jaws between these two vertical flanges is placed what is termed a "knife" with an orifice corresponding to the holes in the flanges 75 of the yoke. The knife thus placed is held in position and pivoted loosely upon the screw D, so as to admit of the pendulum having a rocking motion without disturbing the bearing of the knife in the groove A'. This is 80 one of the special features of the device, as it will be seen that, the screw being engaged in the metallic jaws of the yoke C and the knife hung loosely between the two jaws and on the center, the pendulum may swing backward 85 and forward on the screw as a pivot and sideways upon its bearing. In this way it will have an unimpeded motion, while the bearing remains undisturbed. The object attained is simply to make allowance for the almost 90 certain inequalities that exist in hanging or standing the clock. In the transportation of a clock with this pendulum-bearing the possibilities of breaking or damaging the spring end of the pendulum are entirely obviated. 95 The lower part of the knife rests in the groove A' of the cock A. This groove A' may extend to the end of the cock or it may terminate before reaching the end, as shown in Fig. 2. When it extends to the end, a shoe G, Fig. 7, 100 is fitted in a groove A², to prevent the bearing edge of the knife from being displaced. Two

forms or shapes of knives are shown, one bridge-shaped. This one I prefer, but do not confine myself to any particular shape nor material in its manufacture.

5 I prefer that the yoke should be made of metal and the knife be made of steel. The groove A' may be formed of steel, agate, or any other hard stone, fitted into cock A.

By making my device as above it will readily be seen that the friction of the pendulum on its bearing is reduced to a minimum. The bearing also admits of the clock keeping time correctly when not standing or hanging plumb, as shown in Fig. 1 by dotted lines X.
10 No alteration is essential in the pallet-crutch, pallet, or escapement.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

20 1. The combination, in a pendulum-bearing,

of a pendulum-rod terminating on its upper end in a yoke having two vertical flanges, and a bearing-knife held between the said flanges loosely by means of an adjustable screw passing through the perforations in the flanges 25 and through a perforation in the knife, as herein described and set forth.

2. The combination, in a pendulum cock or stud, of the groove A² and shoe G, the groove adapted to receive and the shoe to retain in 30 position a metallic or stone knife loosely held between the vertical flanges of a yoke located upon the end of a pendulum-rod, as herein described, and for the purpose set forth.

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Witnesses:

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