F. ECKEL.

Pendulum-Clock.

No. 161,674. Patented April 6, 1875.

Fig: 1

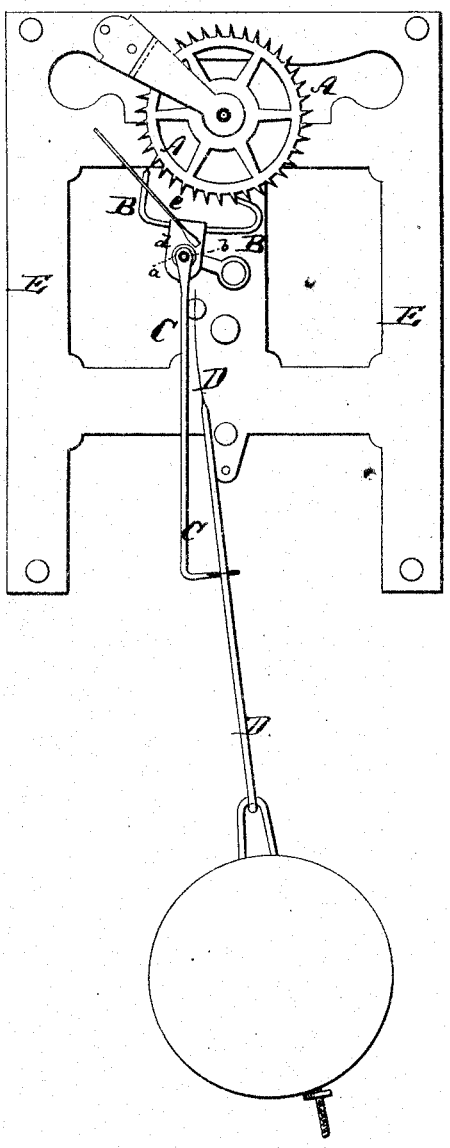
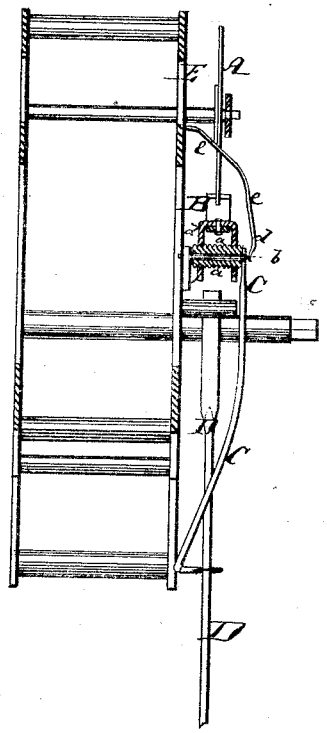


Fig: 2



Witnesses:

A. Morago.

O. Steidner.

Inventor:

Fredk. Eckel

by his attorney

A. v. Briesen

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UNITED STATES PATENT OFFICE.

FREDERICK ECKEL, OF NEW YORK, N. Y.

IMPROVEMENT IN PENDULUM-CLOCKS.

Specification forming part of Letters Patent No. **161,674**, dated April 6, 1875; application filed February 4, 1875.

To all whom it may concern:

Be it known that I, FREDERICK ECKEL, of the city of New York, in the county and State of New York, have invented a new and Improved Pendulum-Clock, of which the following is a specification:

Figure 1 is a face view of a clock-escapement provided with my improvement. Fig. 2 is a vertical transverse section of the same.

Similar letters of reference indicate corresponding parts in both figures.

This invention relates to that style of pendulum-clock which has a flexible joint formed between the anchor of the escapement and the crutch-wire, and has for its object to simplify the form of such joint and utilize the anchor-pivot for the joint, in the manner hereinafter described.

In the drawing, the letter A represents the escapement-wheel, B the anchor, C the crutch-wire, and D the pendulum-rod, of a clock. The upper end of the crutch-wire C is rigidly fastened to a tube, *a*, which has a screw-thread cut around its entire length, and which is supported on a stationary horizontal pin, *b*, that projects from the frame-work E of the clock. The crutch-wire C is thus capable of vibrating on the pin *b*, which allows the clock to operate properly, even if the frame should not stand or hang quite perpendicular. The lugs *d d*, of the anchor B, are perforated to size to admit the said anchor to be screwed upon the tube *a*, and said lugs have, therefore, (or at least one of them has,) a female screw-thread matching the screw *a*. Being screwed upon the tubular screw *a*, the anchor is supported by the same on the pin *b*, the screw *a* constituting the pivot of the anchor. In normal operation the anchor will vibrate with the crutch-wire on the pin *b*; but the crutch-wire, if it needs to move independent of the anchor, will swing by turning the tube *a* within the lugs of the anchor. The axis of the anchor and that of the crutch-wire joint are thus identical. A suitable spring-latch, *e*, bears on the end of the pin *b* to prevent the tube *a* sliding off. The screw-thread on *a* will cause sufficient friction to insure joint movement of anchor and crutch-wire during normal action, and only when the pendulum swings farther to one side, owing to an inclination of the clock, will the crutch-wire follow without carrying the anchor along.

I do not claim to have invented a joint between crutch-wire and anchor, which is the invention of V. Himmer; but I do claim as my invention—

The combination of the crutch-wire C, which carries the tubular screw *a*, with the fixed pin *b*, and with the anchor B, having the threaded lug *d*, all arranged substantially as herein shown and described.

FREDK. ECKEL.

Witnesses:

E. C. WEBB,

A. MORAGA.