

(No Model.)

2 Sheets—Sheet 1.

H. A. RUSSELL.

CLOCK.

No. 373,249.

Patented Nov. 15, 1887.

Fig. 2

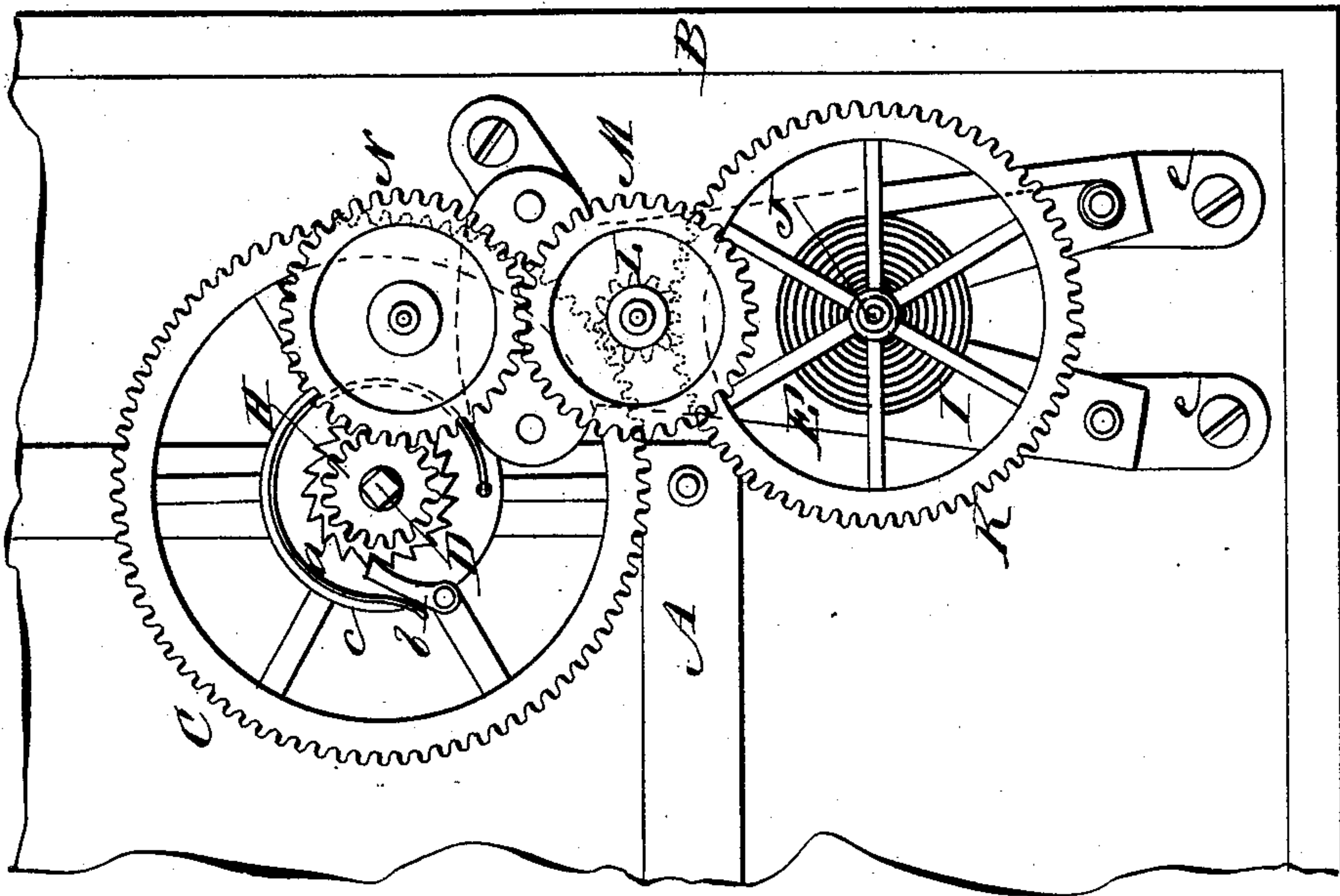
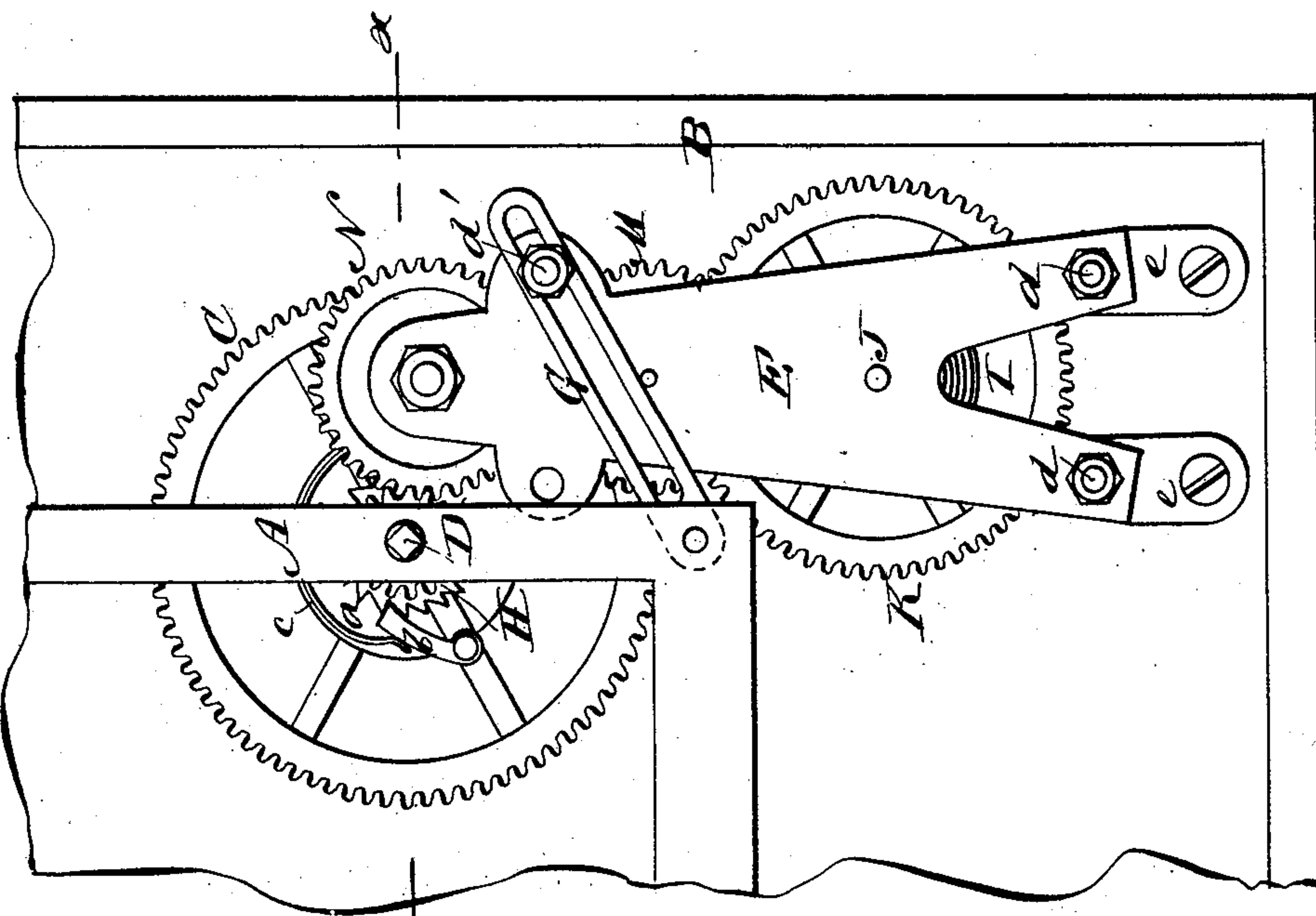


Fig. 1



WITNESSES:

C. Neveux

C. Sedgwick

INVENTOR:

H. A. Russell

BY

Munn & Co

ATTORNEYS.

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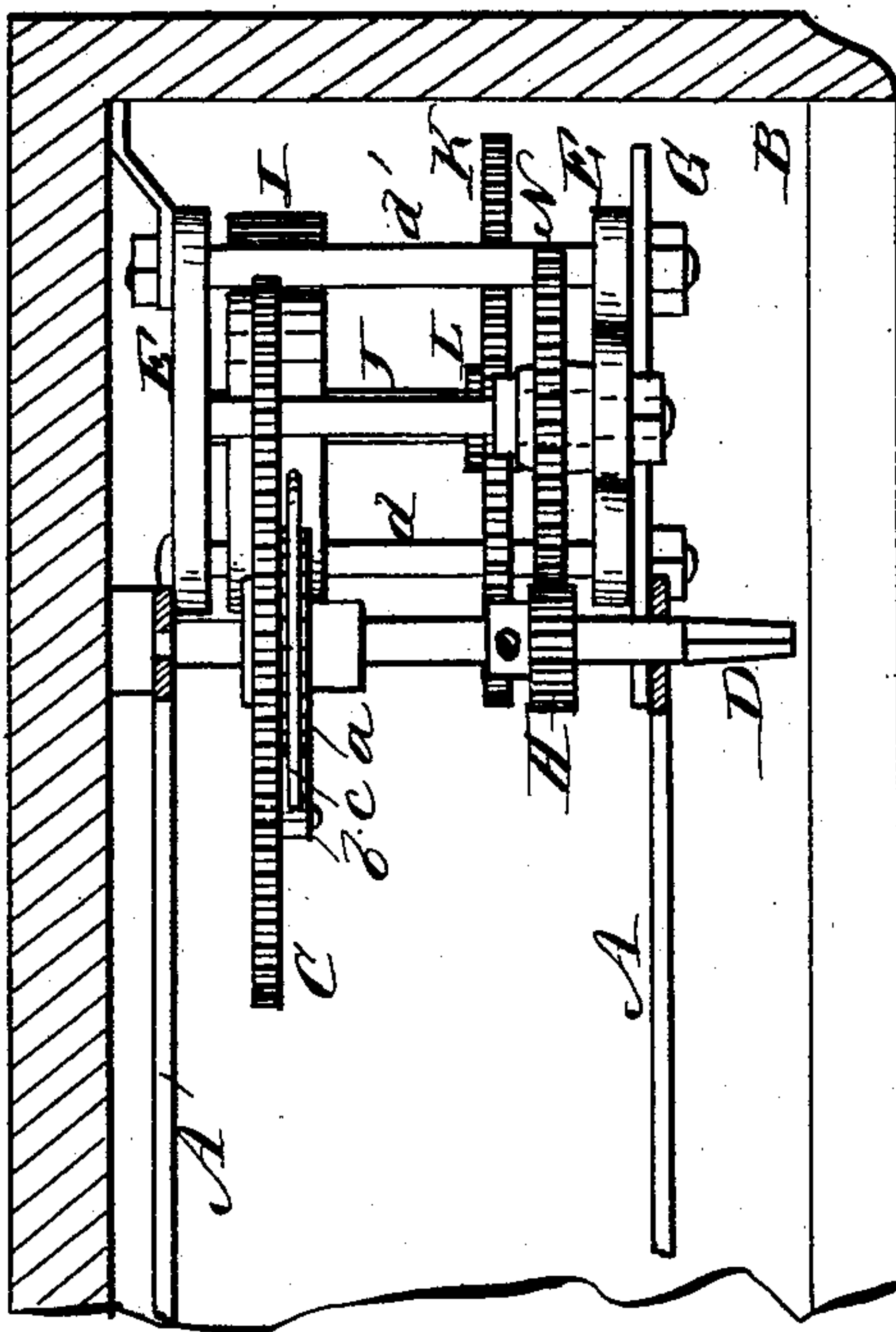
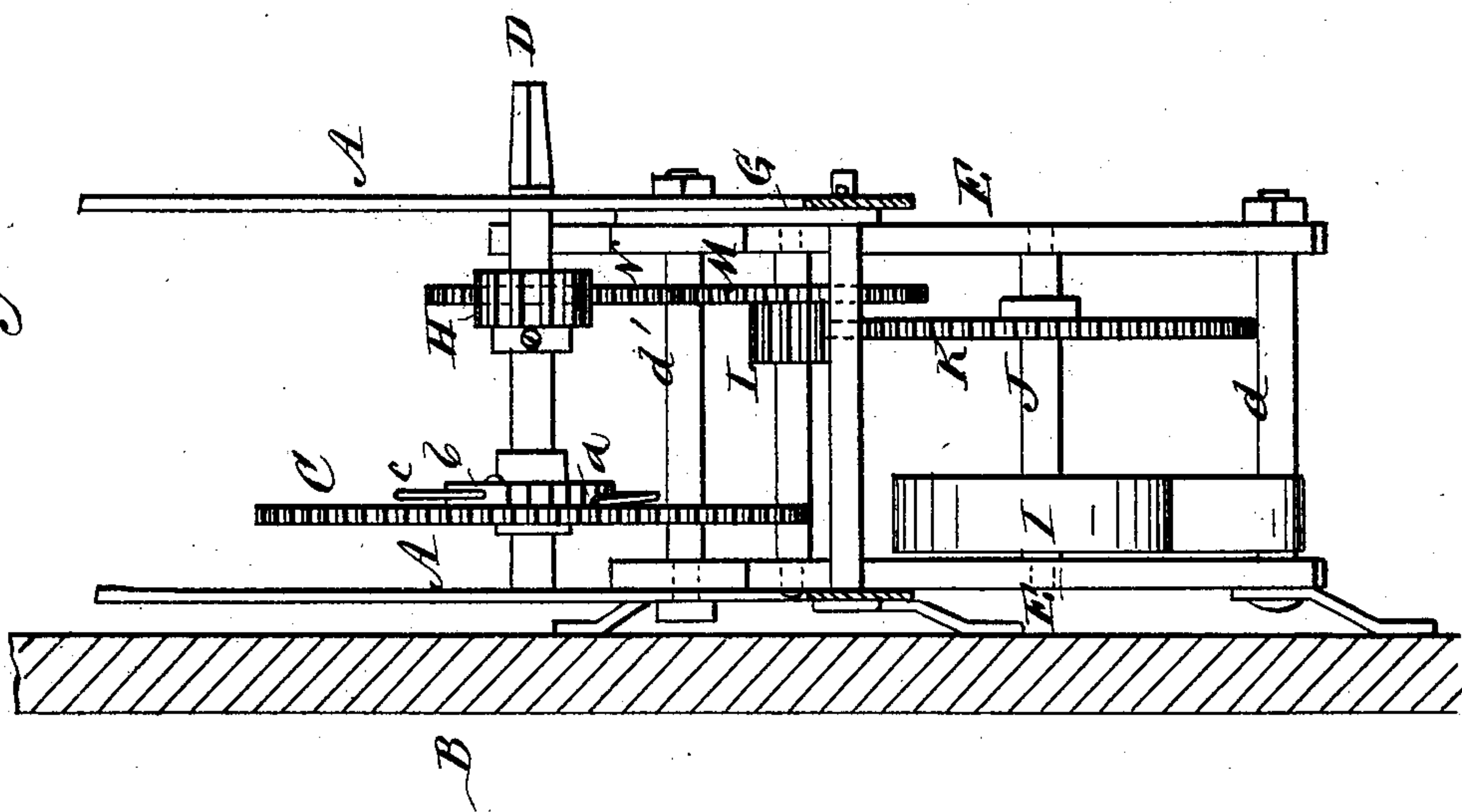


Fig. 3.



WITNESSES:

C. Severance
C. Sedgwick

INVENTOR:

H. A. Russell

BY *Munn & Co.*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HENRY A. RUSSELL, OF BOYNE CITY, MICHIGAN.

CLOCK.

SPECIFICATION forming part of Letters Patent No. 373,249, dated November 15, 1887.

Application filed March 18, 1887. Serial No. 231,411. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. RUSSELL, of Boyne City, in the county of Charlevoix and State of Michigan, have invented a new and
5 Improved Clock Attachment, of which the following is a full, clear, and exact description.

This invention consists in a novel attachment adapted to carry multiplying-gearing, whereby
10 clocks constructed to run only a short period of time can be readily converted at but a comparatively trifling expense to run for a much longer period without winding up—as, for instance, a thirty-hour clock into an eight-day,
15 or even longer time, clock, if desired, substantially as hereinafter described, and pointed out in the claims.

The attachment may be applied both to clocks which run by spring and clocks which have a cord and weight to operate them.

20 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a front elevation, with
25 the clock frame and case in part only, of a clock-movement having the attachment applied; and Fig. 2, a similar view with the front standard of the frame of the attachment removed. Fig. 3 is a partly-sectional side view
30 of the works of the clock and attachment with the back of the clock-case shown only in part in section, and Fig. 4 is a horizontal section mainly upon the line *xx* in Fig. 1.

35 A is the frame of a thirty-hour or other short-timed clock, and B the clock-case, both shown only in part.

C is the usual main wheel, and D its winding spindle or arbor, and *a b c* the ratchet-wheel, pawl, and spring, which control the
40 movement of said wheel in winding up the clock.

E E indicate the frame of the attachment or two standards thereof, *d d d'* being posts connecting said standards and holding them at the
45 proper distance apart to contain the mainspring and necessary gear in between them. Such frame of the attachment is adjustable and may be secured to the back of the clock-case by screws *e*, passing through feet on the back
50 standard. It is adjustably connected with the frame A of the clock by a slotted bar, G, that

receives the post *d'* through it, and whereby the frame of the attachment may be clamped to its connection with the clock-frame by the outside nut on said bolt. This adjustability
55 of the frame of the attachment, which, it will be seen, is independent of the clock-frame, not only provides for securing a proper mesh of the gears carried by it with a pinion, H, on the main-wheel arbor D, but also provides for
60 its adjustment to either side of the clock or opposite sides of the pinion H; or, where the clock-works interfere, said attachment-frame may be placed wholly on the outside of the clock-frame on either side of the arbor D of the
65 main wheel. These changes are necessary to adapt the attachment to different clocks, and accordingly as it is required to convert the clock into a longer or shorter long-timed one—as, for instance, a thirty-hour clock into an
70 eight-day one or into a thirty-day one. Said adjustability of the attachment to opposite sides of the axis of the main wheel C likewise provides for adapting the attachment to clocks
75 which wind up by turning to the right or to the left, as the case may be, the mainspring, which is carried by the attachment, being turned over when it is required to reverse the winding or running movement of the clock,
80 which may either be a silent or striking time-piece.

I is the mainspring it is required to convert from a short to a long timed one. This mainspring hooks onto an arbor, J, carried by the frame or standards E E of the attachment,
85 and on this arbor is a gear-wheel, K, which forms one of a train of gear that connects the mainspring-arbor J with the pinion H on the main-wheel shaft D of the clock. Such train of gear may be varied, according to the re-
90 quirements of the clock, but is here shown as consisting of the gear-wheel K, and a pinion, L, into which said wheel meshes, a wheel, M, on the arbor of said pinion engaging with another
95 wheel, N, which in its turn meshes into the pinion H on the main-wheel arbor D, all of said gearing that communicates motion as derived from the mainspring to the pinion H being carried by the frame of the attachment, and being properly proportioned to give the nec-
100 essary speed to the main-wheel arbor D.

The independence and adjustability of the

frame of the attachment relatively to the clock-frame and manner of clamping and holding it to the clock-frame by the slotted bar G provide for every contingency or change it is necessary to make.

The attachment, too, secures a steadier action for the mainspring, so that a short-timed clock may be converted at very little expense into a long-timed one.

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

1. An attachment for clocks, comprising frame E, the mainspring and train of gearing 15 mounted therein, and the slotted bar G, to adjustably connect said attachment to a clock-frame, substantially as set forth.

2. The combination, with the clock-case, the frame, and the movement having no mainspring, and provided with an additional pinion, H, on the main arbor D, of an attachment consisting of the frame E E, secured to the clock-case, a train of gearing and a mainspring

therefor on the frame E, wheel N of the said train meshing with the pinion H on the main arbor of the clock, and a connection between the clock-frame and the frame of the attachment for adjusting the latter with respect to the former, substantially as set forth. 25

3. The slotted bar G, in combination with the clock-frame A and the adjustable independent frame E E, having connecting-posts and means for clamping the independent frame to said slotted bar and clock-frame, the main wheel C of the clock, with its winding-arbor 35 D, the pinion H on said arbor, and the mainspring I and gears carried by the adjustable independent frame, adapted to communicate motion to the pinion H, substantially as herein shown and described, and for the purposes set forth. 40

HENRY A. RUSSELL.

Witnesses:

ELY F. ALLEN,
WALTER WARE.