C. KIRK.

Clock.

No. 3,233. Patented Aug. 26, 1843.

Fig. 3

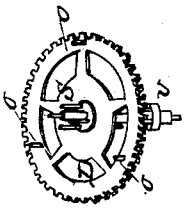


Fig. 4

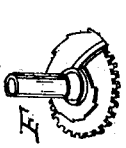


Fig. 2

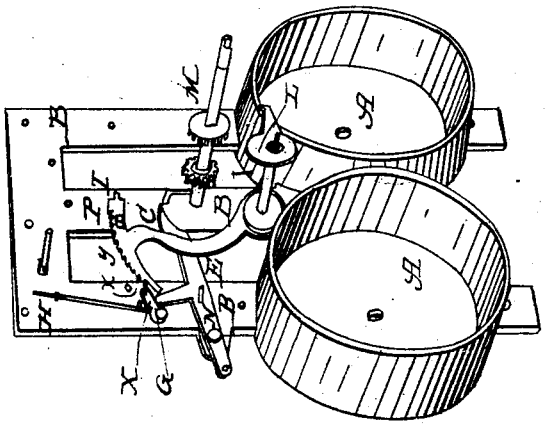
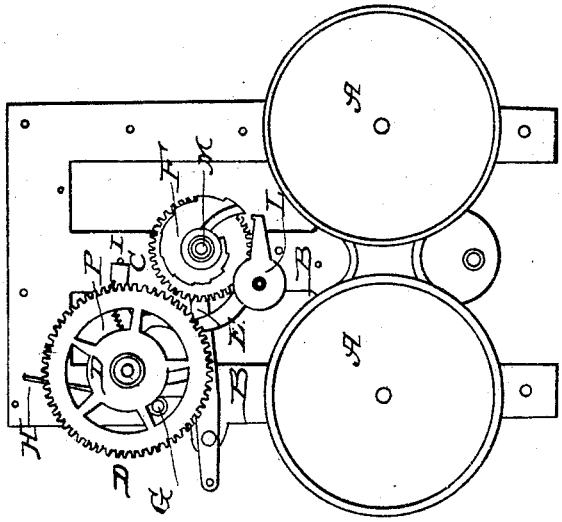


Fig. 1



WITNESSES

Isaiah Rich

Joseph R. Rich

INVENTOR

Charles Kirk

UNITED STATES PATENT OFFICE.

CHARLES KIRK, OF BRISTOL, CONNECTICUT.

CLOCK.

Specification of Letters Patent No. 3,233, dated August 26, 1843.

To all whom it may concern:

Be it known that I, CHARLES KIRK, of Bristol, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in the Construction of Spring-Clocks; and I do hereby declare that the following is a full and exact description thereof.

My first improvement consists in the forming of boxes, or barrels, which are to contain the springs by casting them in one piece with the pillar plate; by means of which device a large amount of labor is saved, as these parts of the instrument may be thereby manufactured at about one fourth of their usual cost.

My second improvement consists in a new and simple construction and arrangement of the apparatus which constitutes the striking part of the clock, which apparatus is more simple, less liable to get out of order, and may be made at considerably less cost, than any of those ordinarily employed. The time part of my clock may be formed in any of the known ways, my improvements being limited to the portions above named.

In the accompanying drawing, Figure 1, is a front view of the pillar plate and the boxes, or barrels, for containing the springs, together with the wheel, D, which is used by me as a substitute for the count wheel, the striking wheel, the gathering pallet, and the locking wheel used in many other clocks. In this figure, the snail, F, also, is shown in place, on the center pinion arbor, M. Fig. 3, shows the wheel, D, on the opposite side to that seen in Fig. 1; and Fig. 2, is a front view of the pillar plate and spring boxes, or barrels, in perspective, the wheel D, and the snail being removed to show the parts which would otherwise be hidden by them.

A, A, are the spring boxes, or barrels, and B, B, the pillar plate, the whole of which I cast in one piece, making them, usually, of iron; these parts being thus delivered from the mould in what may be called a finished state, requiring little, or no, dressing in preparing them for use.

I will now proceed to describe the manner in which I construct and arrange the striking part of my clock; and it will be seen, by those who are acquainted with movements of this description, that my arrangement is much less complex than any other, while the desired end is attained by it in a very perfect manner.

E, E, is a lifting piece which works on a joint pin at *a*, and has a pin projecting from it as shown at N, Fig. 2, but which is hidden by the wheel, D, in Fig. 1. The pin, N, when the lifting piece is raised, is brought into contact with one of the pins, O, O, which project out from the back side of the wheel, D, and hold it at the time of the alarm. The piece, E, is lifted by means of the pin, T, which projects from the center pinion arbor, M, said pin being bent at right angles, as shown in the drawing, or otherwise so formed as to raise the piece E, by its revolution every hour.

C, is the rack which is taken up by the gathering pins, S, on the back of the wheel, D, this rack being constructed, and operating, as in other clocks.

P, is a detent on the rack, C, which locks the wheel, D, by its contact with the pins, O, after striking.

G, is a click which is forced down by the spring, H; the click carries a pin X, that falls into the teeth, Y, of the rack, and when the lifting piece is raised the rack, C, falls, so that the tail, L, drops into the snail F, which is graduated at the twelve hours; this snail being formed, and operating, in the same manner as in other clocks.

I, is the pin on the pillar plate, which serves to stop the rack C. The pins, S, of the wheel, D, work into the teeth, Y, of the rack, C, taking up three teeth of the rack for one revolution of the wheel, and giving three blows of the hammer; the wheel moving forward until the rack is brought into contact with the pin, I.

The arrangement and combination of the click, G, and pin, X, with the lifting piece, E, operated upon by the pin, T, is new, and takes the place of the lock shaft, lift shaft, or dog shaft, with their appended wires, used in other movements, rendering the two lifts employed in them, unnecessary; and in the manner in which they coöperate with, and govern, the motions of the wheel D, introduce a feature in the striking movement which is altogether new. The manner of connecting these parts with the regulating fly is not shown in the drawing, this being

the same as in other clocks. The whole of the time part, also, is omitted, excepting the center pinion arbor, and the snail, connecting with the pin, T, and the lifting piece, E; the whole being, in other respects, as above remarked, the same with movements before in use.

Having thus fully described the nature of my improvements in spring clocks, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The manner herein described of forming the pillar plate and the barrels, or boxes, for containing the springs of one single piece of cast metal.

2. I claim, also, the manner of forming and combining the lift piece, E, the click G, the wheel, D, and their appendages, arranged and operating in the manner above set forth, for the purpose of governing the striking part of the clock.

CHARLES KIRK.

Witnesses:
THOS. P. JONES,
JOHN HITZ.