October 21, 1913.

DRAWING

5,045

A careful search has been made this day for the original drawing or a photolithographic copy of the same, for the purpose of reproducing the said drawing to form a part of this book, but at this time nothing can be found from which a reproduction can be made.

Finis D. Morris,

Chief of Division E.

AWK

UNITED STATES PATENT OFFICE.

CHARLES KIRK, OF BRISTOL, CONNECTICUT.

CLOCK.

Specification of Letters Patent No. 5,045, dated April 3, 1847.

To all whom it may concern:

Be it known that I, CHARLES KIRK, of Bristol, county of Hartford, and State of Connecticut, have invented a new and useful Improvement in Clocks; and I do hereby declare that the following is a full and exact description thereof.

The nature of my invention consists in using two pallet or scape wheels in combination with a detached lever and balance, by this arrangement, I am enabled to put my movements into cases of much smaller dimensions and external motions does not interrupt the time, making them much more convenient than those with a pendulum, and not as liable to be deranged.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct my clocks with three wheels besides the pallet wheels.

B is the main or first wheel D the second and E the third wheel, Figure 1, being a side elevation of the clock.

A, A, is the pillar or back plate made of sheet brass pressed out; connected with the main wheel is the mainspring barrel this barrel is not shown in the drawings, but as a spring is used as the motive power the peculiar construction of the barrel is not essential, connected with the main wheel is a ratch and click for the purpose of holding the main-spring when wound up the latch is confined to the square of the barrel arbor and moves freely on the side of the main wheel, the number of teeth in the wheels and leaves in the pinions of course must correspond with the number of hours it is intended the clock to run at once winding up, those I at present make run 30 hours, F F the pallet wheels, these are arranged on one pinion—so that the point of the tooth of one wheel corresponds to the middle of the space of the other.

(*b*) is a pallet arbor and (*d*) the pallets these are long enough to reach from the teeth of one wheel to that of the other, made of a flat bar of steel, and where the tooth of the wheel works on the pallet it has an inclination in, or is made on an inclined plane for the purpose of giving impulse to the pallets and lever after the tooth of the wheel is unlocked the tooth of one wheel drops on and rests upon the flat or detent part of one pallet, while the other wheel moves down the inclined part of and escapes from the other pallet, each wheel acting alternately on each pallet as it turns.

(C) is a lever fastened to the pallet arbor having a forked end (*a*) through which a pin passes which is attached to a pallet connected with the balance arbor, this lever receives its motion from the escaping of the pallet wheels, and by its alternate motion gives impetus to the balance by means of the pin passing through its forked end, the oscillations of the balance being kept up and constant by the hair-spring (*n*).

(*g*) is the balance and (*m*) the hair-spring stud.

Fig. 2, is a perspective view of the scapement, the same letters in each figure referring to the same parts.

Fig. 3, A, A, is the front plate with the dial wheels attached to it, (*q*) is the communicating wheel and (*v*) the hour wheel.

What I claim as my invention and desire to secure by Letters Patent, is—

The two pallet or scape wheels, in combination with the detached lever, substantially as set forth in the foregoing specification.

CHARLES KIRK.

Witnesses:

LESTER GOODWIN,

JOSEPH B. STARR.