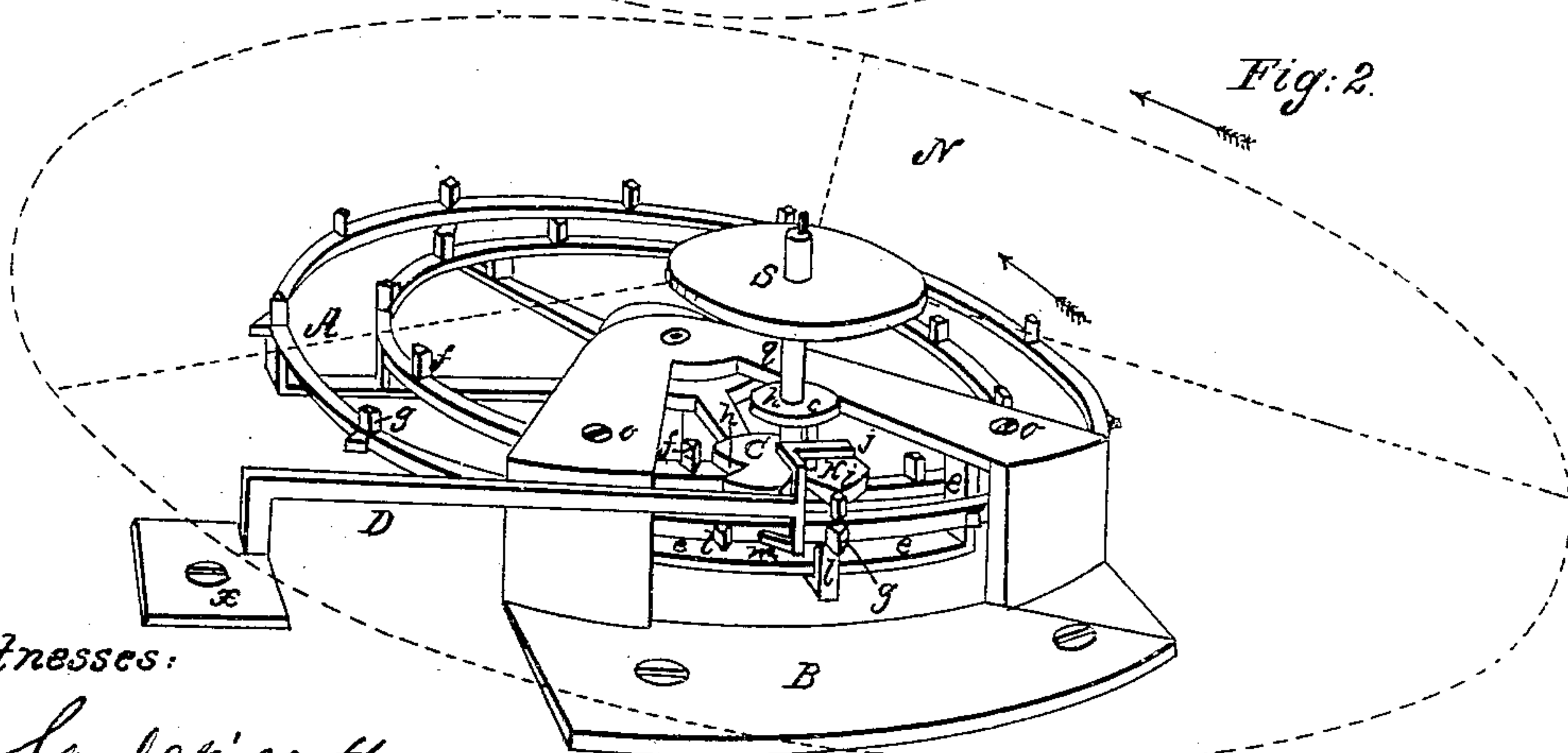
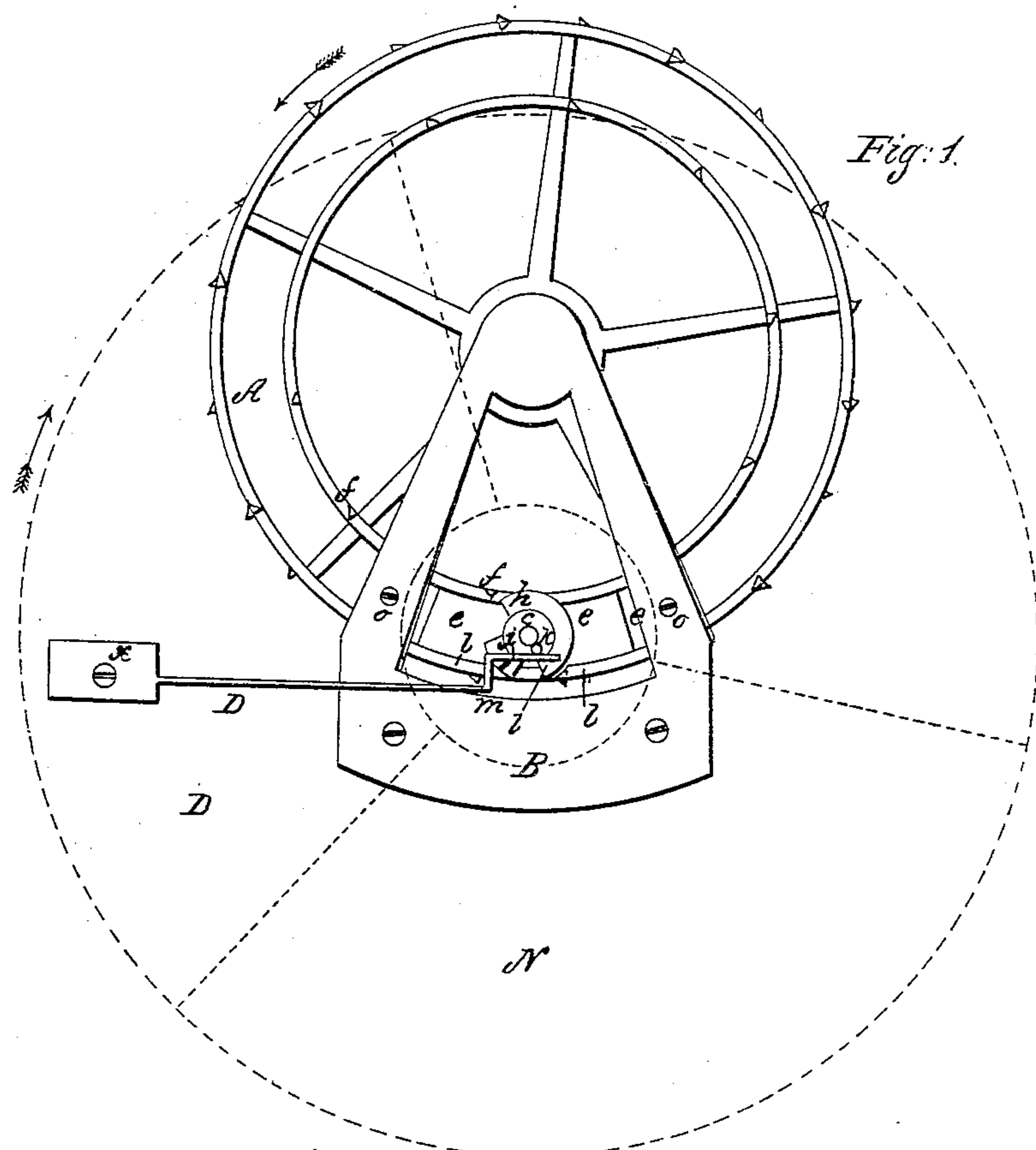


S. CARPENTER.  
Watch Escapement.

No. 20,252.

Patented May 18, 1858.



Witnesses:

Samuel Millett  
Seabrook E. Millett

Inventor:

Samuel Carpenter

# UNITED STATES PATENT OFFICE.

SAML. CARPENTER, OF FLUSHING, NEW YORK.

## ESCAPEMENT FOR TIMEKEEPERS.

Specification of Letters Patent No. 20,252, dated May 18, 1858.

*To all whom it may concern:*

Be it known that I, SAMUEL CARPENTER, of Flushing, in the county of Queens, State of New York, have invented a new and Improved Chronometer-Escapement for Watches, Timepieces, &c., and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure I, is a plan view, and Fig. II, a perspective view.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and useful escapement for watches, time pieces, etc.

The nature of my invention consists, in a horizontal escape wheel, with three rows of teeth, two rows vertical, and one horizontal, the vertical teeth so arranged, that the staff which carries the pallets, can have its bottom bearing between them, so as to allow a tooth of each row of said vertical teeth to act alternately, the mechanism of which will be fully described hereafter.

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

A, Figs. I and II, represents the scape wheel with three rows of teeth—*e e*, *f f*, and *g g*, said wheel having its lower bearing in or under the bottom plate of the watch or time piece (not represented in the drawings), and its top bearing in the cock B, which is raised high enough to enable the teeth to pass under, as seen in Fig. II.

C is a table with two pallets *h*, *i* cut opposite to each other. Said table is carried by staff *q* having its lower bearing in potence *e e e* which is made fast at *o o* to cock B, the two rims or rows of teeth of wheel A, are raised above the crosses to allow the potence *e, e, e*, to be placed between said rows of teeth.

D is a detent spring having a catch *m* and arm *j* at one end; the other end secured to the bottom plate of the watch at *r*.

The dotted line N represents the balance, secured to the staff *q* at *s*.

*p* is a collet to secure the top end of pin *k*.

Operation: When the balance is at rest, if the hair spring is rightly adjusted, the pin *k*, pallets *h*, *i*, and center of scape wheel A, will be exactly in line, so that pin *k*, acting on arm *j*, will have raised catch *m*, clear of the teeth *l, l*. The wheel A will then be at liberty. Then, by applying the power, the wheel A, will move in the direction as shown by the arrow in Fig. II, tooth *g*, of said wheel carrying around with it pallet *i* and balance N, said wheel continuing to move till it is stopped by tooth *l* coming in contact with catch *m*, as shown in Fig. I, pallet *i* being now free from tooth *g*, will move back by the recoil of the hair spring, and the pin *k* will again raise the catch *m* clear of the tooth *l* and allow tooth *f* to act on pallet *h*, etc.

I do not claim the detent spring D, as that is used in all chronometers. But

I claim as my invention,

1. So constructing a scape-wheel with two rims or rows of vertical teeth or their equivalent, as to admit the potence or lower bearing of the staff, which carries the pallets and balance, to be placed between said rims or rows of teeth, for the purpose of giving double action to the pallets, by which means the watch is prevented from setting by a sudden jerk, as a tooth of one or other of the rims will be acting on its corresponding pallet.

2. I claim the pallets in combination with the wheel and detent spring as specified.

SAMUEL CARPENTER.

Witnesses:

SAML. WILLETT,

SEABROOK E. WILLETT.