

J. A. Haines,

Time Lock.

No. 90,529.

Patented May 25, 1869.

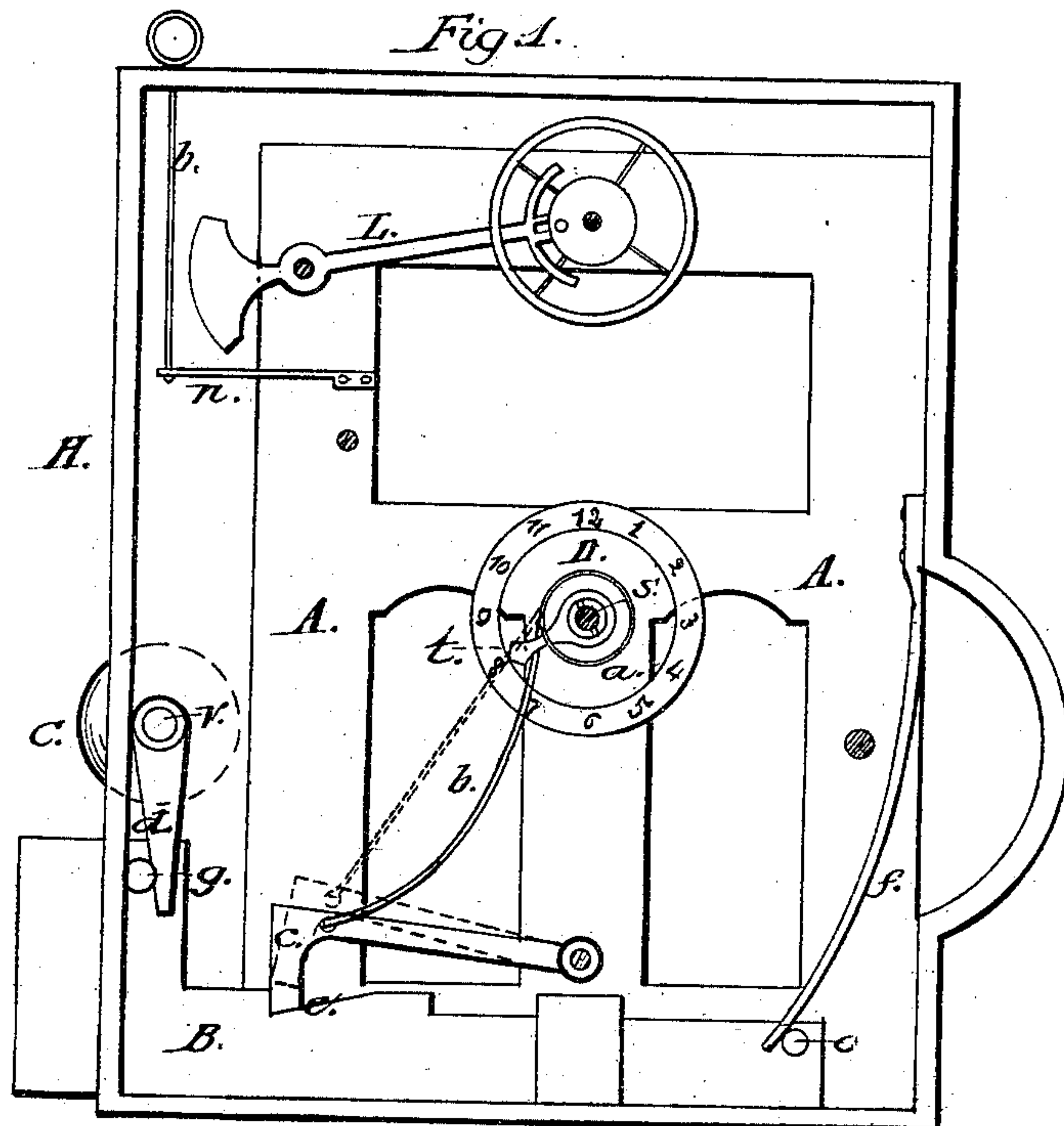
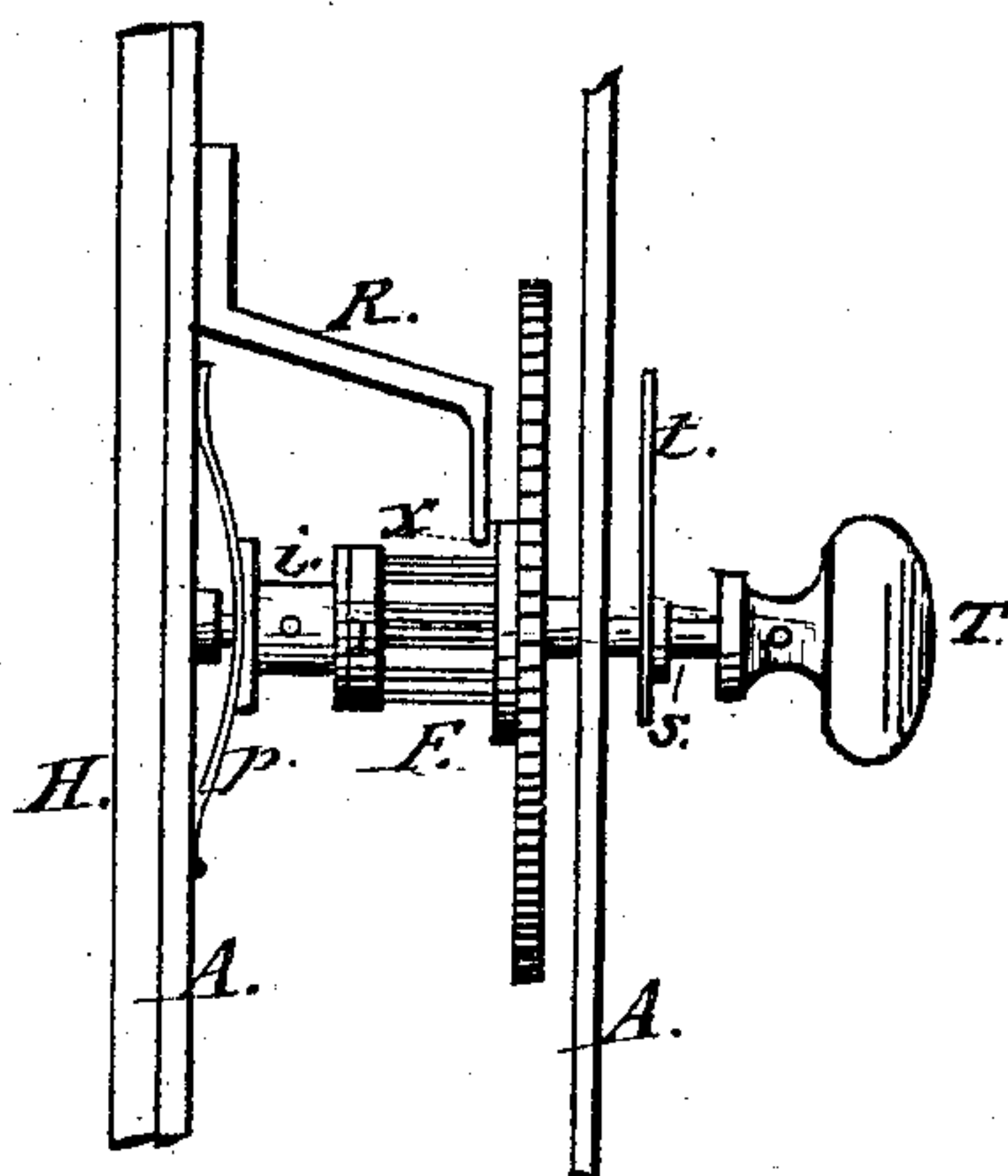
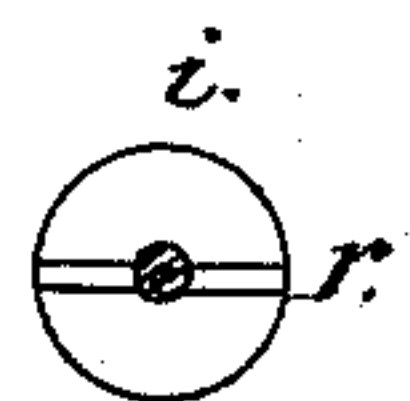


Fig. 2.

Fig. 3.



Witnesses:
L. Hauler,
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UNITED STATES PATENT OFFICE.

LEWIS A. HAINES, OF WAKEFIELD, MARYLAND.

IMPROVEMENT IN TIME-LOCKS.

Specification forming part of Letters Patent No. 90,529, dated May 25, 1869.

To all whom it may concern:

Be it known that I, L. A. HAINES, of Wakefield, in the county of Carroll and State of Maryland, have invented certain new and useful Improvements in Locks for Safes, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts, wherever they occur.

To enable others skilled in the art to construct and use my invention, I will proceed to describe it.

My invention consists in constructing a lock for safes, vaults, &c., in connection with a clock, so arranged that the lock shall be unlocked or opened, by the operation of the clock, at such time as the clock may be set for.

Figure 1 is a front elevation, with a portion detached; and Figs. 2 and 3, views of portions detached.

In constructing my improved lock, I provide a suitable frame, H, and locate therein a small clock-work, of the style known as a "marine" or "lever" movement, the frame of which is represented by A in Fig. 1. The mechanism of the clock, being well understood, is not shown in full in the drawings, as any ordinary clock-work will answer the purpose.

In the lower part of the case I place the lock-bolt B, arranged to slide to and fro in the usual manner, and arrange a spring, *f*, so as to draw the bolt back when released. In the upper side of the bolt B, I form a notch, *e*, into which a pivoted dog or catch, *c*, drops when the bolt is thrown forward, as shown in Fig. 1. To this dog *c*, I attach a cord, *b*, having its opposite end attached to a pulley mounted on the arbor or shaft that carries the hand *t*, so that, as the clock runs, the cord *b* is gradually wound up on said shaft, and thereby raises the dog *c* out of the notch, as represented in Fig. 1, thus releasing the bolt B, which is then thrown back by the spring *f*.

In order to shove the bolt forward, to lock the safe or door, I attach a knob, C, outside of the case, to a shaft, *v*, which latter has an arm, *d*, secured rigidly to it inside the case,

and which arm bears against a pin, *g*, projecting from the side of the bolt B, as shown in Fig. 1, so that, by turning the knob *c*, the bolt B may be forced forward until the dog *c* drops into the notch *e* and locks it in place.

In order to have the means of setting the clock to run any desired length of time before the bolt shall be released, the cord *b*, instead of being secured directly to the shaft *s*, is attached to a pulley, *i*, placed loosely on said shaft, as shown in Fig. 2. This pulley *i* has a projection, *r*, on one end, which projection fits into a corresponding recess in the rear end of a pinion, F, mounted on a sleeve on said shaft *s*, there being a spring, *p*, placed behind the pulley *i* to force it forward and keep the projection *r* in the recess in the pinion, so that, as the latter is driven by the mechanism, it drives or carries the pulley along with it. The shaft *s* projects through the case on the back side, and has a knob, T, attached to it, as represented in Fig. 2, this being on the inside when the door is closed, so that it cannot be reached from the outside. There is also a small dial, D, as represented in Fig. 1, arranged on the back of the case H, and a hand, *t*, is mounted on the shaft *s*, so that to set the apparatus it is only necessary to take hold of the knob T, and first push it back, so as to disconnect the pulley *i* from the wheel F, and then, by turning the knob T, turn the pulley *i* back, carrying the hand *t* back as many hours on the dial D as it is desired to have the clock run before releasing the bolt B. When thus set, the cord *b* will hang loose, as represented in Fig. 1; but as the shaft *s*, with the pulley *i*, is turned by the movement of the mechanism, the cord *b* will be wound up until it is drawn tight, and raises the dog *c* out of the notch *e*, when the bolt B flies back. To prevent difficulty by the accidental stoppage of the clock, I arrange a spring or lever, *n*, under the end of the clock-lever L, and attach to it a rod or wire, *l*, the end of which extends up through a hole in the top, where it can be reached, so that, by pulling it, the lever L will be set in motion, and the clock started. A bracket, R, is arranged to engage behind the flange of pinion F, and prevent it

from sliding back with the pulley *i*, as shown in Fig. 2.

Having thus described my invention, what I claim is—

1. The combination of the shaft *s* with the pinion *F*, pulley *i*, and spring *p*, all constructed and arranged to operate substantially as set forth.

2. The bar *n* and rod *l*, arranged in relation to the lever *L*, substantially as shown and described.

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Witnesses:

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