

(No Model.)

2 Sheets—Sheet 1.

J. F. O'BRIEN.
STATION INDICATOR.

No. 413,958.

Patented Oct. 29, 1889.

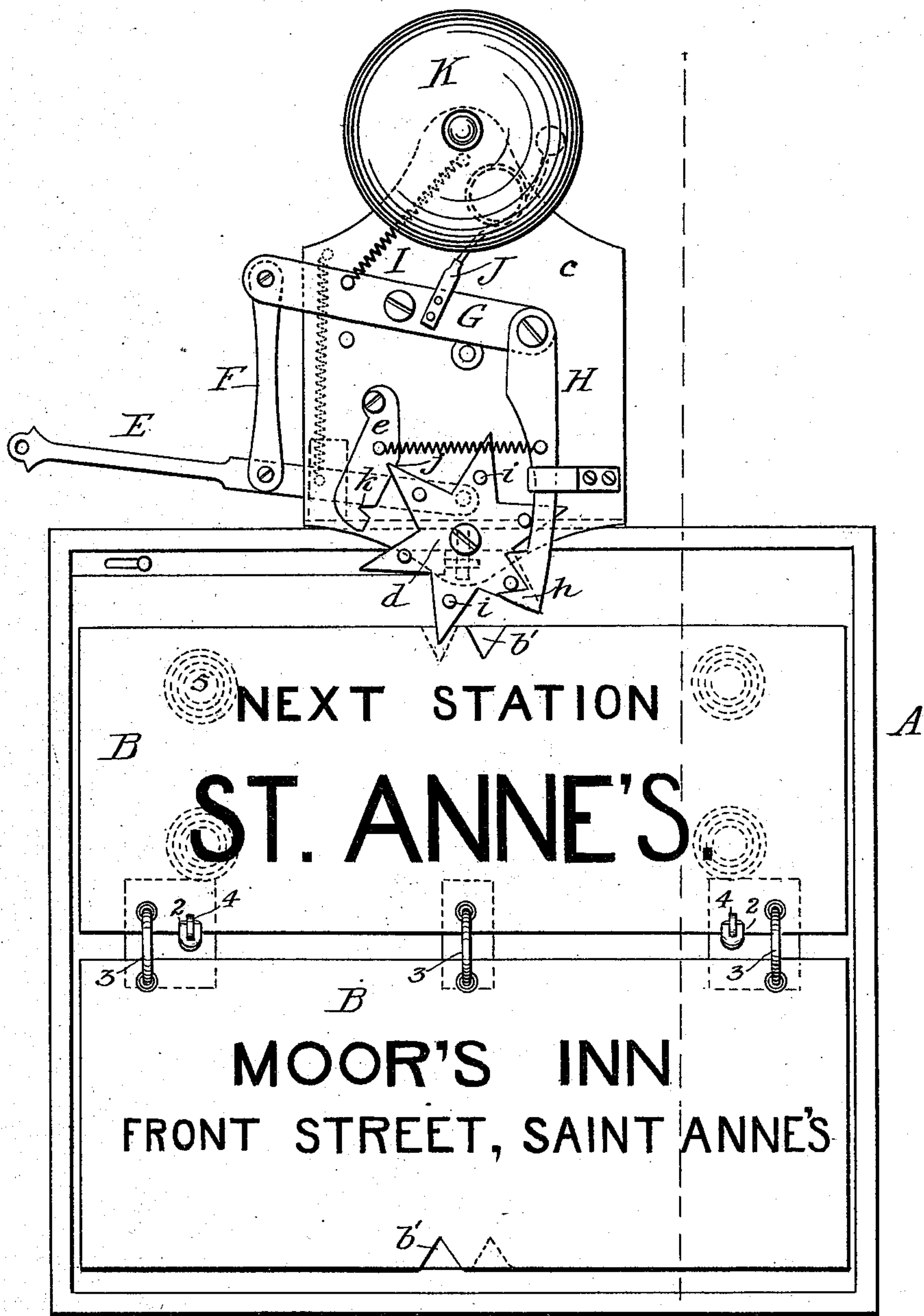


Fig. 1.

Witnesses:

L. L. Apple
Owens Falls.

Inventor:

John F. O'Brien
by L. L. Sealey
Att'y

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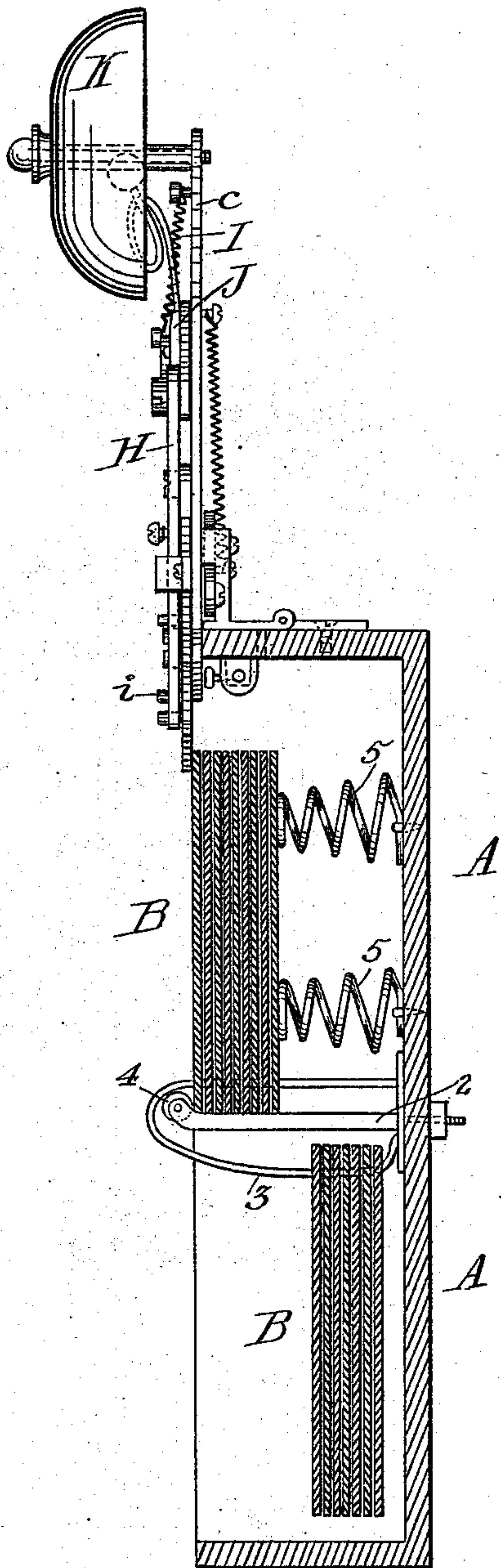


Fig. 2.

Witnesses:

L. L. Apple
Overdairs.

Inventor:

John F. O'Brien
by L. L. Seely
Att'y

UNITED STATES PATENT OFFICE.

JOHN F. O'BRIEN, OF QUEBEC, QUEBEC, ASSIGNOR TO GEORGE H. PATTERSON AND JOHN W. ALLISON, BOTH OF MONTREAL, CANADA.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 413,958, dated October 29, 1889.

Application filed April 11, 1889. Serial No. 306,816. (No model.) Patented in Canada February 20, 1889, No. 30,836.

To all whom it may concern:

Be it known that I, JOHN F. O'BRIEN, a subject of the Queen of Great Britain, residing at Quebec, in the Province of Quebec and Dominion of Canada, have invented certain new and useful Improvements in Station-Indicators, (for which I have obtained a patent in the Dominion of Canada, No. 30,836, bearing date February 20, 1889;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to station-indicators of the class which are exposed to view in railway-cars to indicate for the convenience of passengers the consecutive stations upon the route.

The apparatus may be briefly described as consisting of a box or frame in which is secured a series of cards loosely bound together at their bottom edges and held in an upright position by a retaining device, so as to expose the name of a station printed upon one side of each card. The retaining device referred to is also a releasing device, which, on being operated by the conductor, permits the outer one of the series of cards to fall outward and downward, reversing itself so as to display an advertisement or announcement, while at the same time the name of the next station is displayed at the top of the frame upon the next card.

My invention consists partly in the manner of attaching and displaying the cards, and partly in the retaining and releasing devices, all of which will be specifically described hereinafter in this specification, while the claims following will point out the various features for which novelty is claimed.

I have illustrated my invention in drawings, in which Figure 1 is a front elevation. Fig. 2 is a transverse vertical section.

In the drawings, A represents an ornamental frame of wood or metal, somewhat like an ordinary picture-frame in general appearance and of any suitable size. Within this frame, which is of suitable depth to contain them, is a series of stiff cards B, supported edgewise upon two brackets or pins 2, secured to the back of the case, and said cards

are held loosely and separately by staples 3, passing through eyelet-holes in the cards and secured to the back of the case. The exposed end of the bracket or pin is provided with an anti-friction roller 4, upon which each card falls in its turn-over movement, and to the back of the case are secured springs 5, which force the cards up to the friction-roller when one card has dropped away by turning over the end of the staples. In this manner the cards may be turned over one after another, like the leaves of a book. Each card is of about half the area of the interior of the frame. Upon one side of each card is printed the name of a station on the route, and the cards are arranged so that these names occur consecutively and in their proper order. The cards as secured in the frame have a tendency to fall outward and downward, and hence must be retained in an elevated position until the station is passed, and it is required to drop one card and show the next one. These retaining devices, which are also releasing devices, are fully illustrated in the drawings.

On top of the frame is mounted a plate c, in which is journaled a revolving toothed wheel d, which projects down below the top of the frame A so as to slightly overlap and hold in place the elevated series of cards. Each card is provided with a notch or recess b' in the upper edge, where a binding-strip may be placed if additional strength should be required. These notches, however, are not placed in line throughout the series, for, if we consider the "St. Anne's" card shown as the second of a series, the notch in the first card, which is supposed to have just fallen, will be slightly out of line with the notch in the St. Anne's card. The purpose of this arrangement of the notches upon alternate cards will be clearly set forth. It is necessary in order that the wheel may permit the first card to drop when its notch registers with a tooth of said wheel and yet at the same time retain the next card in position. The wheel is revolved step by step by a series of levers and connections operated by the external lever E, which projects within reach of the conductor, or having a cord or wire within his reach. This lever is pivoted to the plate c, and is

connected by a link F to a pivoted lever G on the plate c. To the end of lever G is pivoted an arm H, having a hook *h*, which engages with one of a series of pins *i* on the wheel *d*, there being one pin for each tooth. A latch *e* is provided to retain the wheel in either of its two positions, such latch having notches *j k* for the teeth.

If we suppose the parts to be in the position shown in the drawings, the train would be approaching St. Anne's, and the card designating the station preceding will have fallen. After passing St. Anne's the conductor pulls the lever E, which will raise the arm H and revolve the wheel until the tooth 1 registers with the slot in the St. Anne's card. This card will then fall, exposing whatever announcement or advertisement may be displayed upon its back. The tooth 1, however, will retain the next card with the name of the next station. When the lever is released, the lever G is pulled up by a spring I and the arm H is thrown down so as to engage with the next tooth. The movement of these parts caused by the spring also causes a bell-hammer J, mounted on the lever G, to strike a gong K, secured to the back plate, and thus call attention to the change. When the next station is passed, another pull at the lever will carry the tooth 1 forward sufficiently to register with the notch in the next card, which will drop in like manner. Thus each tooth is alternately a retaining and releasing device.

The mechanism for operating the wheel would preferably be inclosed in an ornamental box or case from which the operating-lever would project.

What I claim is—

1. In a station-indicator, the combination, with a series of cards arranged in consecutive order and loosely bound together at one edge and having non-registering notches in the

opposite edge, of a revolving wheel having teeth projecting down in front of said cards, for retaining and releasing the cards successively, and mechanism for operating said wheel, substantially as set forth.

2. The combination, with a series of cards having non-registering notches in their upper edges, of a wheel revolving by a step-by-step movement and having teeth which register at one step with the notch in one card and at the next step with the notch in the next card, and mechanism for operating said wheel, substantially as and for the purposes set forth.

3. In a station-indicator, the combination of an open-fronted frame, a series of cards bound together mounted therein with their free edges uppermost, and a wheel for retaining such cards in an elevated position and also for releasing them consecutively and permitting them to fall and display their backs, and mechanism, substantially as described, for giving a step-by-step motion to the wheel, substantially as set forth.

4. The combination, with the frame A, of the case carrying the wheel *d* and mechanism for operating the latter, and notched cards mounted on staples in the frame A and alternately held and released by said wheel *d*, substantially as set forth.

5. In a station-indicator, the combination, with a frame A, carrying the notched cards D, of the toothed wheel *d*, the pivoted lever G, the arm H, connecting one end of said lever to the said toothed wheel, and the lever E, connected to the other end of said lever G, all substantially as and for the purposes set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOHN F. O'BRIEN.

Witnesses:

HENRY GRIST,
J. W. ALLISON.