(No Model.) 2 Sheets—Sheet 1.

S. R. GRAVES & D. J. KIRKMAN.

STATION INDICATOR.

No. 255,969. Patented Apr. 4, 1882.

Fig. 1.

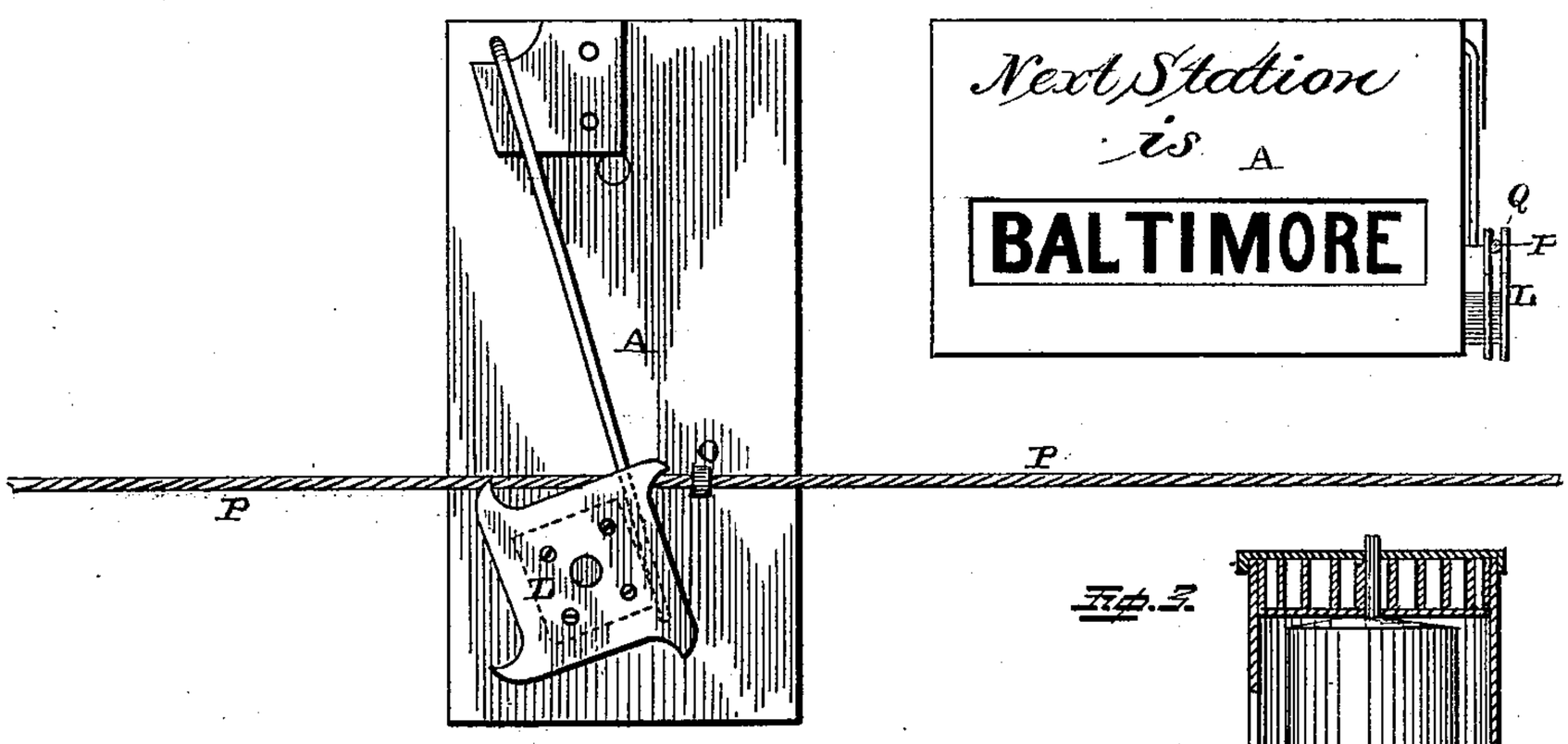


Fig. 5.

Fig. 3.

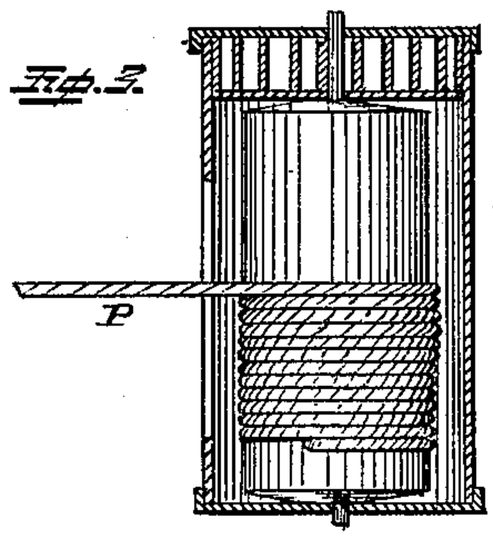


Fig. 2.

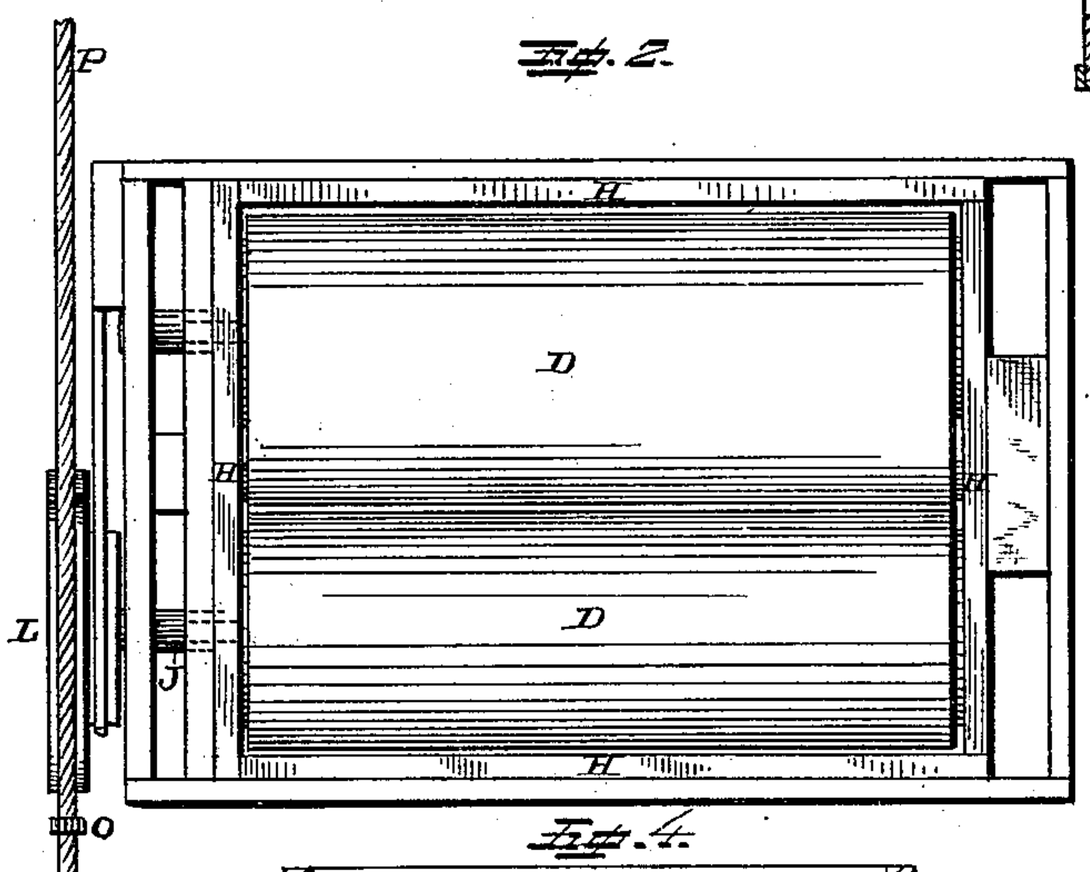
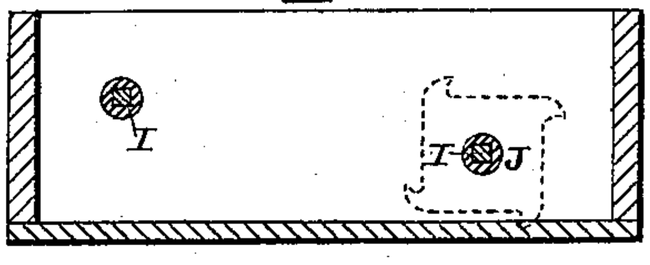


Fig. 4.



Witnesses.
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W. H. Kerr

Inventor.
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S. R. Graves,
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F. A. Lehmann, atty

(No Model.) 2 Sheets—Sheet 2.

S. R. GRAVES & D. J. KIRKMAN.

STATION INDICATOR.

No. 255,969. Patented Apr. 4, 1882.

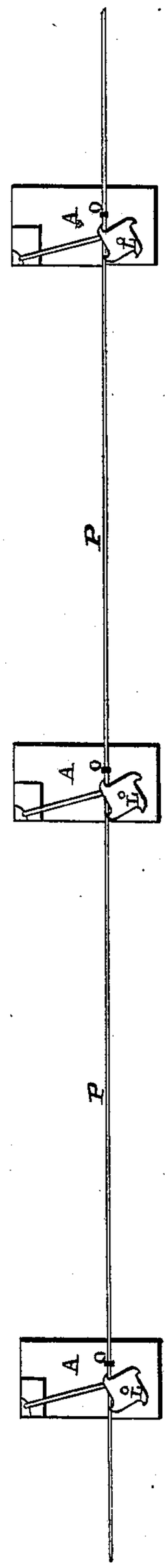

Fig. 2.

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UNITED STATES PATENT OFFICE.

SOCRATES R. GRAVES AND DAVID J. KIRKMAN, OF WINCHESTER, ILLINOIS.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 255,969, dated April 4, 1882.

Application filed January 27, 1882. (No model.)

To all whom it may concern:

Be it known that we, S. R. GRAVES and D. J. KIRKMAN, of Winchester, in the county of Scott and State of Illinois, have invented certain new and useful Improvements in Station-Indicators; and we 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improvement in station-indicators; and it consists, first, in using the bell-rope which passes through the train for the purpose of operating the indicators; second, in making the frame in which the rollers are removable from the box in which it is placed, so that it can be reversed, as will be more fully described hereinafter.

The object of our invention is to so connect the indicators, which are placed in every car, with the bell-rope that the rope can be used for operating the indicators without in any manner interfering with its function for ringing the bell.

Figure 1 is a side elevation of our invention complete. Fig. 2 is a plan view of the indicator itself. Figs. 3, 4, and 5 are detail views. Fig. 6 shows a series of indicators, all operated by a single line.

The mechanism of each one of the indicators is to be placed in a box or frame, A, which has an opening through its front side in the usual manner, so that the name of the next station can be readily seen upon the endless band or ribbon. This frame is provided with a lid upon its rear side, so that the mechanism of the indicator can be taken out for the purpose of being reversed when the cars are running back over the line.

The indicator itself consists of two or more large rollers, D, around which the endless band is placed in the usual manner and the small guiding-rollers. The names of the stations are to be printed or painted or otherwise marked upon the endless band, and the name of the next station at which the train will arrive will be shown through the opening in the front of the frame A. These four rollers are placed in a rectangular frame, H, which is to be placed inside of the frame A, and which is made removable therefrom, so that the mechanism can be taken out and reversed when the cars are run backward over the line.

For the purpose of making the mechanism reversible each one of the large rollers is provided with a square tenon or shaft, which projects a suitable distance beyond the end of the frame H, and one of these square tenons or shafts I will always catch in the hollow hub J of the operating-wheel L.

The frame H is made considerably shorter than the interior of the frame A, so that the frame H can be moved endwise, and thus withdraw the square tenons from their sockets, so that the frame H, with its mechanism, can be lifted out of the frame and then reversed. The square tenon on the end of each roller being the same when the machine is reversed, the tenon which was not brought into play in the first instance will exactly fit in the hollow hub, and thus the mechanism will be operated equally as well, no matter in which direction the train is moving. The frame H being made shorter than the box in which it is placed, when the mechanism is in gear so as to be operated by the driving-wheel the frame H is pressed closely against the end of the box to which the driving-wheel is attached.

When it is desired to remove the frame for the purpose of reversing the mechanism the frame H is moved horizontally in the box, so as to withdraw the tenons. Any suitable device may be used for holding this frame H pressed against the end of the box, and this device must be removed when it is desired to move the frame endwise.

The operating-wheel is made angular, as shown, and the rim of the wheel is made double, so that the projections O upon the ordinary bell-cord P will catch against the corners Q of the wheel when the bell-rope is pulled from the forward end of the train. This bell-rope runs through the entire train in the usual manner, and has its rear end fastened to a suitable spring or other equivalent device, which will be placed in the rear car for the purpose of taking up any slack in the rope, and thus hold it always taut. When the rope is pulled

in the usual manner toward the rear end of the car the bell will be rung without in any manner interfering with the indicators. Whenever the rope is pulled from the forward end of the train toward the locomotive the projections fastened to the rope will catch behind the corners of the operating-wheels and turn them just far enough to cause the indicator to show the name of the next station. The indicator will remain unchanged until after the station has been passed, and then the conductor or some person upon the front of the train will pull the rope forward, and thus operate every indicator placed in the forward end of the car.

Having thus described our invention, we claim—

1. The combination of a series of station-indicators, each one of which is provided with a grooved wheel, with the bell-rope, which passes through the groove in the wheel, the rope being provided with a series of projections for the purpose of operating the wheels when the rope is pulled toward the front of the train, substantially as shown.

2. In a station-indicator, the combination of the frame A, provided with a station-indicating mechanism, the wheel L, having a grooved edge and hooked corners, with the rope P, having the projections O, and a spring for taking up the slack of the rope, substantially as set forth.

3. In a station-indicator, the combination of the frame A, provided with the wheel L, which has the hollow hub J projecting through the frame, the removable frame H, rollers D, having the square shafts I, the rope P, and stops O, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

SOCRATES RINALDO GRAVES.
DAVID J. KIRKMAN.

Witnesses:
JOHN H. COATS,
D. N. LANDER.