T. Payne. Sheet 1, 2 Sheets.

Station Indicator.

No. 80,005. Patented Jul. 14, 1868.

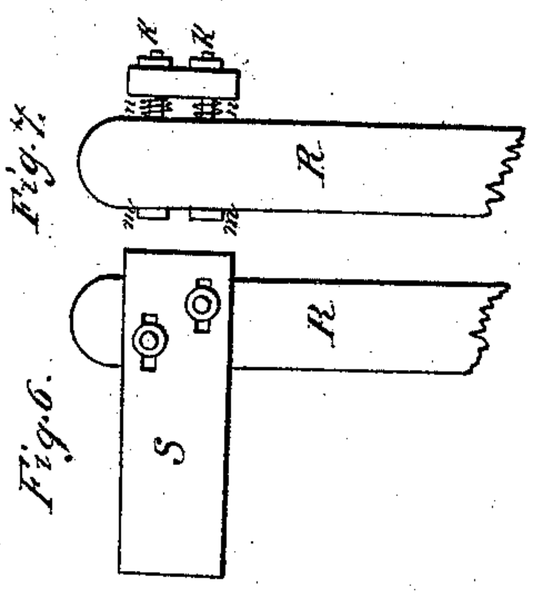

Fig. 6.

Fig. 1.

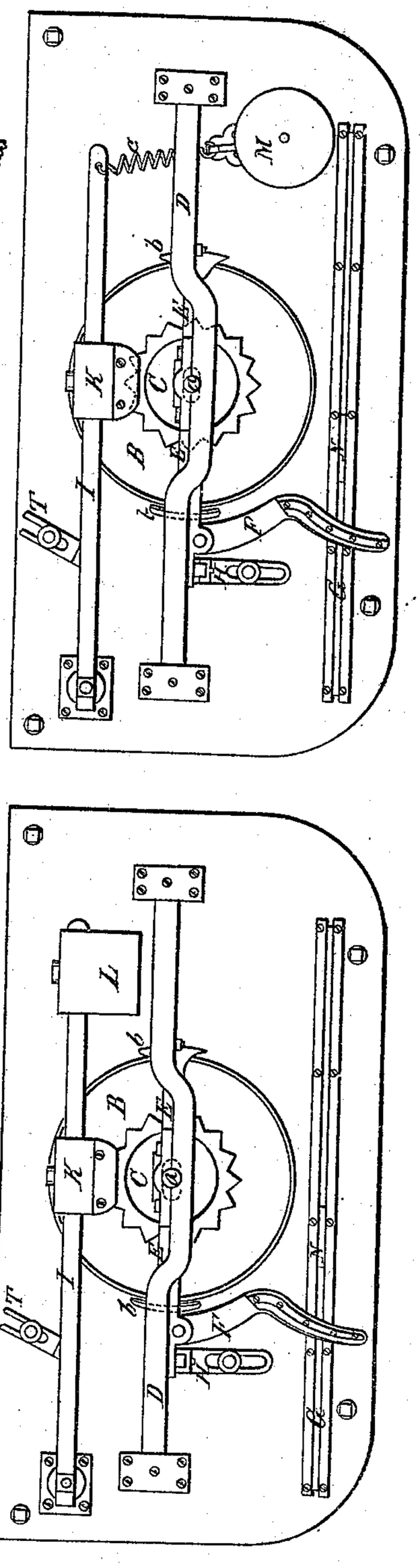

Fig. 3.

Fig. 5.

Fig. 2.

Fig. 4.

Fig. 8.

Witnesses

Jno Mason

A. A Seaman

Inventor.

T. Payne

T. Payne. Sheet 2. 2 Sheets.

Station Indicator.

No. 80,005. Patented Jul. 14, 1868.

Fig. 11.

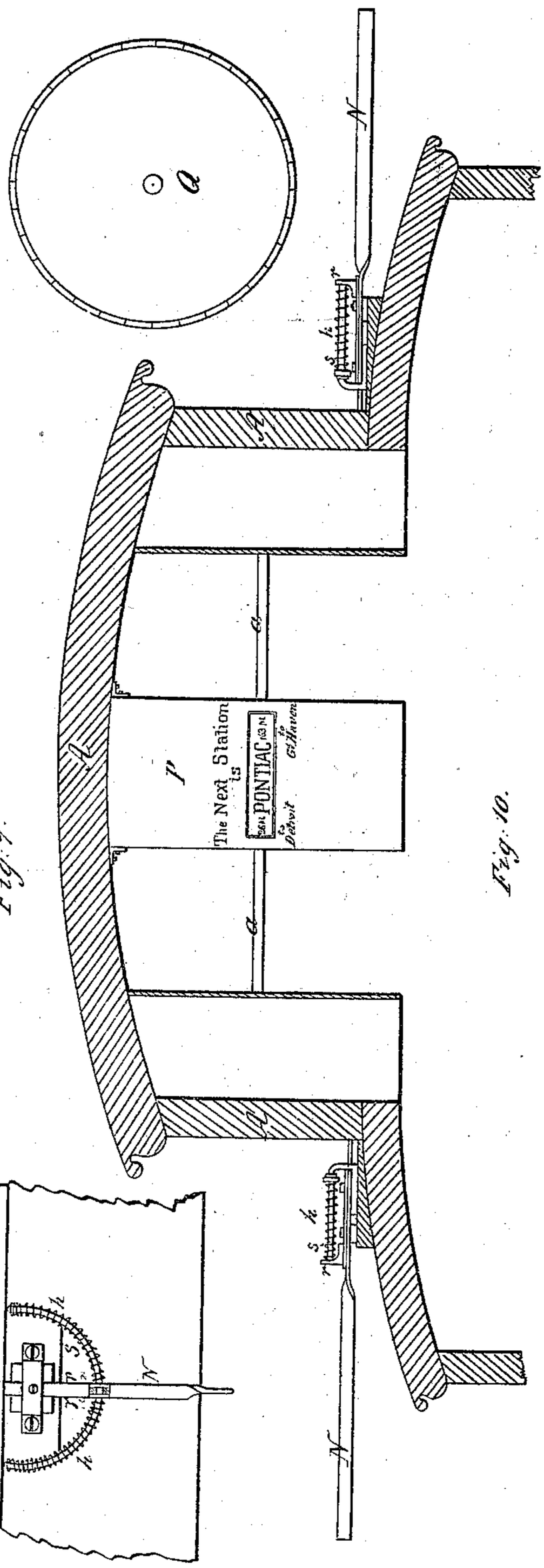

Fig. 9.

Fig. 10.

Fig. 12.

Witnesses.

Jno. Wilson

A. A. Seaton

Inventor.

T. Payne

United States Patent Office.

THOMAS PAYNE, OF DETROIT, MICHIGAN.

Letters Patent No. 80,005, *dated July* 14, 1868.

IMPROVEMENT IN RAILROAD-STATION INDICATORS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, THOMAS PAYNE, of Detroit, in the county of Wayne, and in the State of Michigan, have invented certain new and useful Improvements in Railroad-Station Indicators; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in an arrangement of different devices inside of a passenger-railway car, by which the name of each station, as well as the distances, may be indicated to the passengers before arriving at the same, giving those who intend to get off at the different stations ample time to prepare themselves, as well as imparting a kind of information which is always desired by the travelling public.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a vertical section of the top of a railroad-car with my indicator attached.

Figures 2 and 3 are inside views of the works by which the indicator is operated.

Figure 4 is a vertical section of the drum.

Figure 5 shows the ribbon, with the names, &c., of the stations thereon.

Figures 6 and 7 are views of the posts and arms to be placed alongside of the track to operate the indicator.

Figure 8 is a front view of a slide that may be used in connection with the indicator.

Figure 9 is a vertical section of the top of a railway-car, showing a different drum from the one in fig. 1.

Figure 10 is an inside view of a part of the works; and

Figure 11 is a side view of the drum shown in fig. 9.

Figure 12 represents a plan view of one side of the car, showing the exterior arms and their springs.

A represents the top of a railroad-car of any construction or size, to which my indicator may be attached.

A shaft, *a*, passes across the car inside of said top, and has its bearings in angular bars, D D, one on each side thereof, and the ends of this shaft are each provided with a circular disk, B, and cog-wheel, C, between the side of the top, A, and the angular bar, said wheels being so placed that the cog-wheels are nearest to the angular bars. The shaft *a* passes also through a box or casing, O, which is suspended, by means of a stirrup, *g*, from the roof of the car.

On the ends of the shaft *a*, and on each side of the disk B, are slotted bars, E E, which are fastened together, forming a frame, which is provided at each end with a shoe, *b*, for turning said disk.

In the front end of the frame thus formed by the bars E E, a lever, F, is pivoted, extending downwards, and so arranged, with a lug or projection at the point where it is pivoted, that when turned or moved forward, it presses against the front shoe, *b*, and tightening both the shoes on the disk B, turns it, and with it the shaft *a*.

The lever F is moved by means of an arm, N, which is pivoted on the outside of the roof of the car, one end extending through a slot, G, into the car, striking the lever, and the other extending suitable distance beyond the side of the car where it is operated, as will hereafter be described.

Above the cog-wheel C is a bar, I, which is pivoted in one end, and provided at the other with a weight or spring, L. On said bar is a corrugated adjustable clamp, K, the corrugations of which fit into the cog-wheel C, and serve to hold said wheel, so that when the lever F has turned the shaft *a* a certain distance, this clamp prevents it from turning more than what it is designed to do.

The distance the shaft is to be turned may be regulated by means of a slotted stay, H, under the front end of the frame formed by the bars E E, so that the lever F can be raised or lowered at will, thereby causing the arm N to strike it higher up or lower down, whichever may be desired.

The top of the stay H is provided with rubber, so that the bars E E, in coming down on the same, will not strike too hard. I also apply a similar stay, T, a suitable distance above the arm I, to prevent the same from rising too high.

The works on each side of the car are alike, except that only one of the arms I is provided with a weight or spring, the other being attached by a spring, *c*, to a bell, M, so that when moved the bell will be struck, calling the attention of the passengers to the change on the indicator. They are also so arranged that when operated from one side, the shaft *a* is turned in one direction, but when operated from the other side, it is turned in the opposite direction.

The casing O is shaped so as to surround a cylinder, *d*, which is placed inside of the same on the shaft *a*, which cylinder revolves with the shaft. The casing O turns downward under said cylinder, and has a slot or opening on each side, then bulges outward again at the bottom to surround the roller *o*.

A band or ribbon, *e*, is fastened on the cylinder *d*, and passes downward, guided by the pins *i i* on to the roller *o*, which is turned by a spring, *p*, in such a manner that when the shaft *a* is turned in one direction, the band unrolls from the cylinder, and said spring winds it up on the roller, and when turned in the opposite direction, the cylinder takes it from the roller, the spring, however, at all times keeping it stretched, and in the latter case being wound up by the ribbon. On both sides of the band *e* the names of the stations are placed in regular order, with the distance from the terminus of the road marked at each end, so that each name will come in rotation at the opening in the drum.

Above said openings, on the outside of the casing, I place the words, "The next station is," and below, the names of the termini of the road, so that the passengers may see at a glance how far a station is from each end of the road.

To operate the indicator thus constructed, I place alongside of the track, a little beyond each station, a post, R, with an arm, S, extending at right angles towards the track, and so arranged that the end of said arm will strike the projecting arm N on the car, and, by the movement of the works already described, thus turn the ribbon *e* sufficiently to change the name at the opening in the casing, and give the alarm at the same time. The arm N is provided with two lugs, *r r*, on its upper side, which enclose a circular rod, *s*, fastened to the roof of the car, and on each side of the arm around said rod is a spiral spring, *h*, which serves to bring the arm N out again in its proper position, and prevents any wabbling or lost motion. As the train passes beyond each station, the name on the casing is thus changed, and when the train returns, the posts on the other side of the track, and at the other side of each station, operate the arm N on the other side of the car, turning the ribbon back, by the movement already described, the former post of course striking the first arm, N, but in the opposite direction from the lever F, so that it does not affect the indicator.

The arm S is fastened to the post R by means of screw-bolts *m m* and nuts *k k*, working in slots on said arms, as shown in fig. 6, and between the post and arm, around said bolts, are spiral springs *n n*, to allow the arm to give slightly when striking the arm N. Any kind of springs may be used for this purpose. The indicator may be operated, instead of with these posts and arms, by ropes or wires attached to the outer ends of the arms N N, and so placed that they can easily be pulled by the conductor or other person designated to tend to the same.

Instead of using the casing O with cylinder, roller, and ribbon, I can use a large drum, Q, fastened to the shaft *a*, and on the outside periphery of which the names of the stations, &c., are marked twice in regular order, so that each name appears in rotation on each side of the casing P, in which I enclose said drum, this casing being fastened to the roof of the car, and slotted, to show the names, (see figs. 9 and 11.)

But in this case a larger cog-wheel, C, must be substituted, as it will require a very small fraction of a revolution of the shaft *a* to change the name at the opening in the casing.

Should there be too many stations on the road to get them all on the drum, I place two names on each line, or I place two drums in the casing having the names alternate from one to the other, but in both cases covering part of the openings in the casing with a slide, *f*, as shown in fig. 8, which slide must, however, be moved backwards and forwards by hand.

By this invention the passenger never is at a loss to know the name of the next station, as it is constantly before his eyes, and warning is given him of every change of station by the striking of a bell. It obviates danger of being conveyed past the stopping-place of a passenger unawares, and the trouble of frequent inquiry of passengers or employees as to distance or localities. It can be attached to each passenger-car at a small cost, and furnishes an ornamental as well as useful improvement.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The arms N N, arranged as described, on the roof of a car, and provided with ears *r r*, to guide them along the circular rods *s s*, in combination with the spiral springs *h h*, on said rods, to prevent any wabbling or lost motion, substantially as and for the purposes herein set forth.

2. The slotted bars E E, forming a frame, and placed on the shaft *a*, on each side of the circular disk B, in combination with the shoes *b b* and levers F F, for the purpose of turning the shaft in either direction, substantially as and for the purposes herein set forth.

3. The arms I I pivoted at one end, one having a weight or spring, L, attached to the other end, and the other attached to a bell or alarm, M, by means of a spring, *c*, and both provided with adjustable corrugated clamps, K K, in combination with the cog-wheels *c c*, when arranged and operating substantially as and for the purposes herein set forth.

4. The slotted stays H and T, when arranged so as to regulate the movement of the cog-wheels *c c*, substantially as and for the purposes herein set forth.

5. A drum, constructed as described, for the purpose of indicating names, figures, or characters, suspended in a car, and operating substantially as set forth.

6. The cylinder *d* and roller *o*, in combination with the spring *p* and ribbon *e*, when arranged as described, so that when said cylinder is revolving in one direction, the spring winds up the ribbon on the roller, and when

revolving in the opposite direction, the ribbon unwinds from the roller and winds up the spring, substantially as and for the purposes herein set forth.

7. The arms S S, when attached to the posts R R in the manner described, with springs *n n*, to soften or lessen the blow, and used for the purpose of making the station-indicator self-operating from any station or direction, substantially as herein set forth.

8. The arrangement of the circular disk B and its cog-wheel C, the bars I D, lever F, bars E E, and shoes *b b*, when constructed and operating substantially as set forth.

9. The arrangement of the arms N N, and their springs, when operated by the arms S S upon the posts R R, substantially as specified.

In testimony that I claim the foregoing, I have hereunto set my hand, this 18th day of June, 1868.

THOS. PAYNE.

Witnesses:

J. M. MASON,

C. M. ALEXANDER.