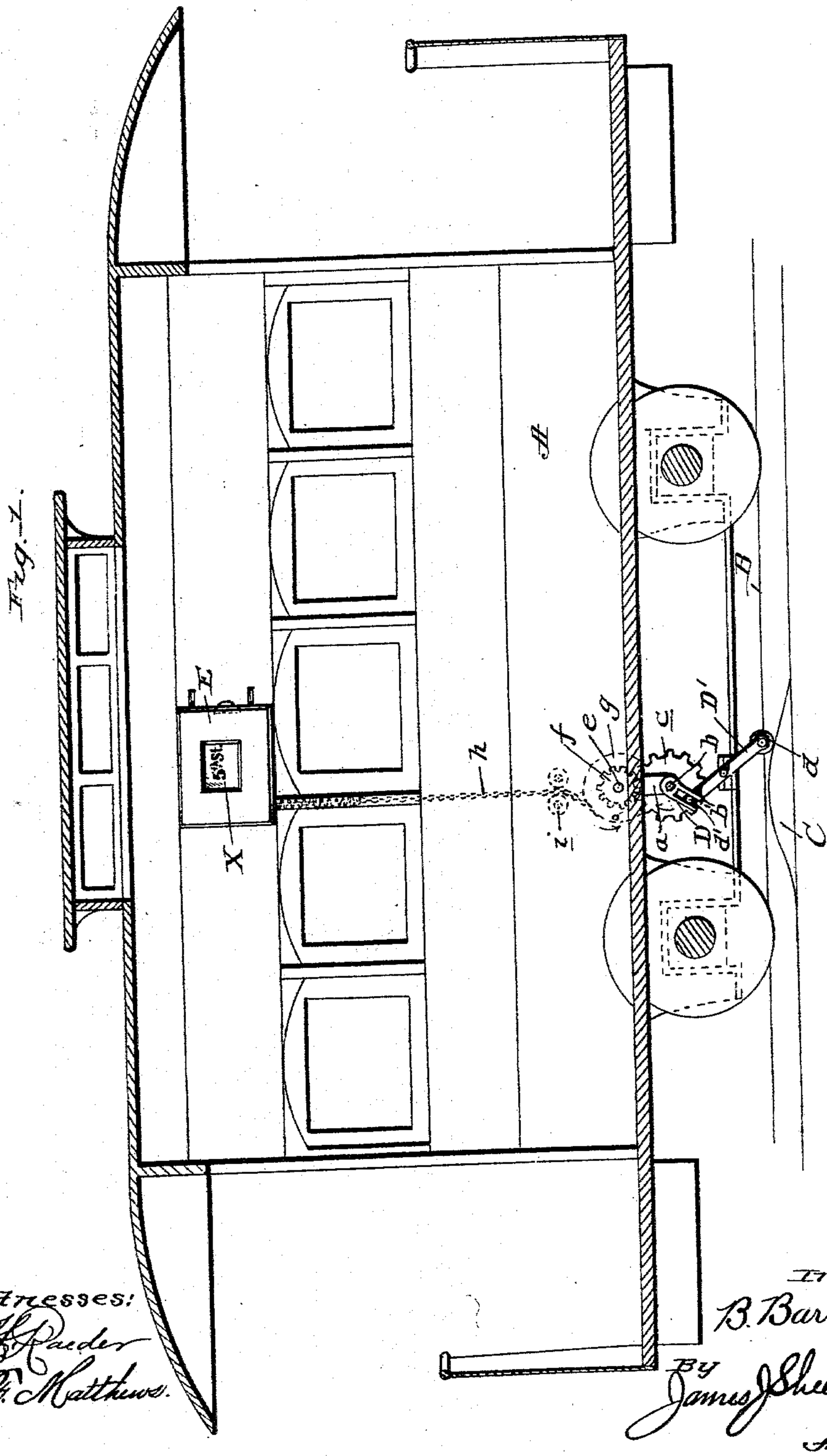
(No Model.)

4 Sheets—Sheet 1.

B. BARNETT.

STREET OR STATION INDICATOR.

No. 515,929. Patented Mar. 6, 1894.



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STREET OR STATION INDICATOR.

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Fig. 2.

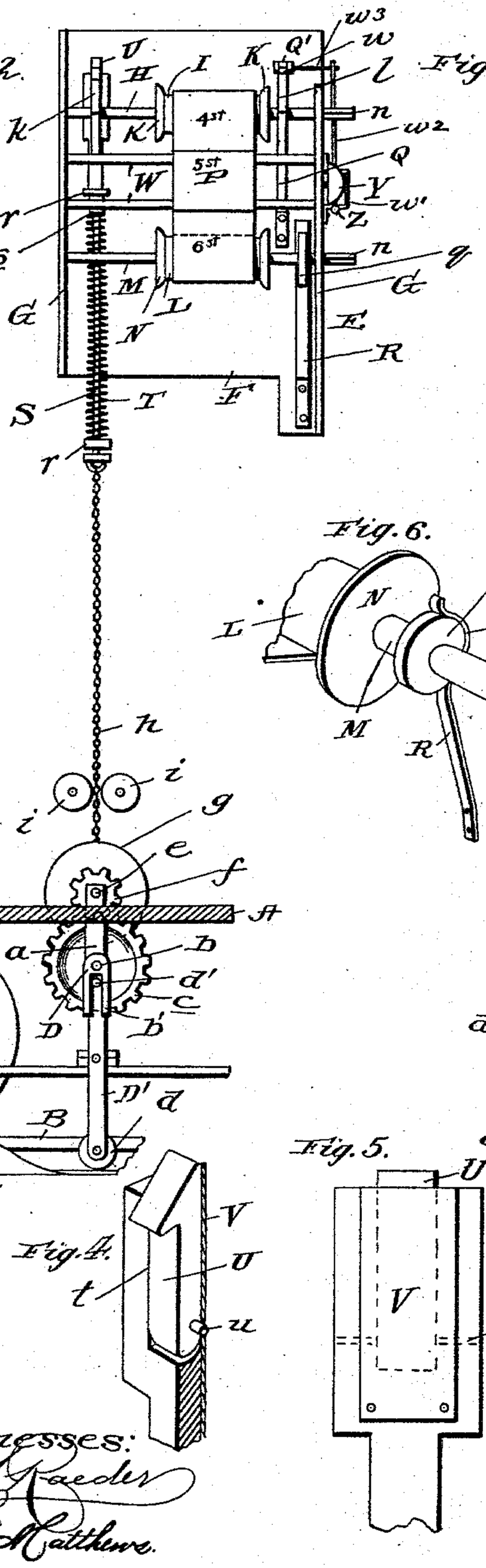

Fig. 3.

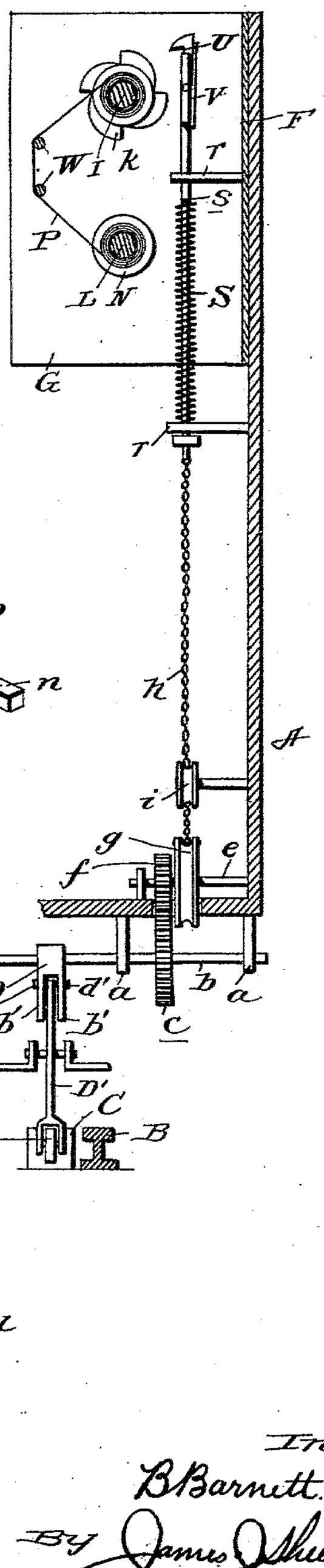

Fig. 6.

Fig. 4.

Fig. 5.

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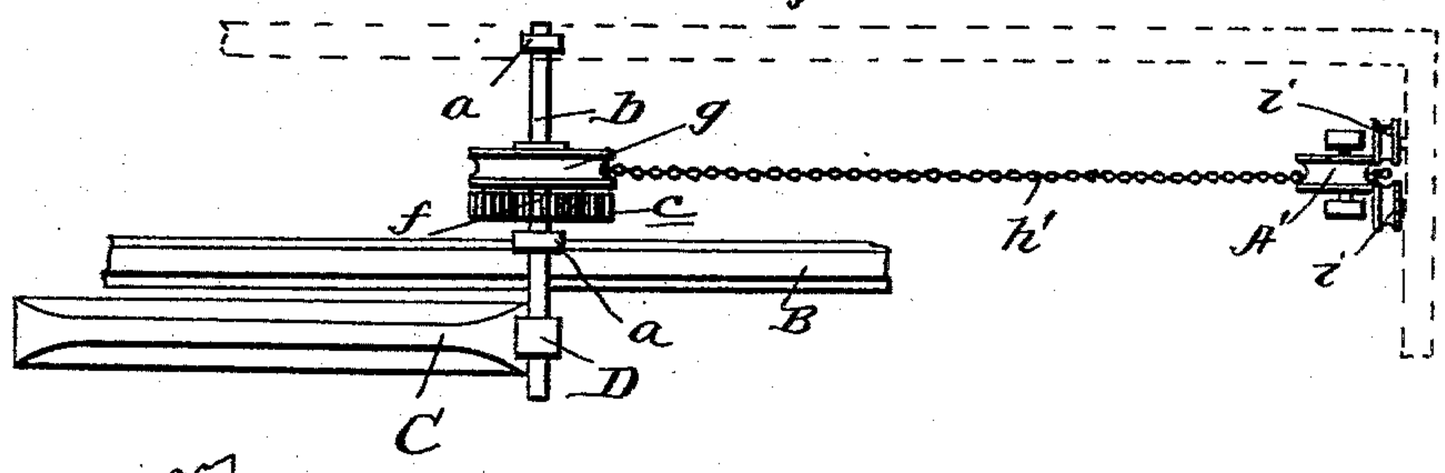
Fig. 7.



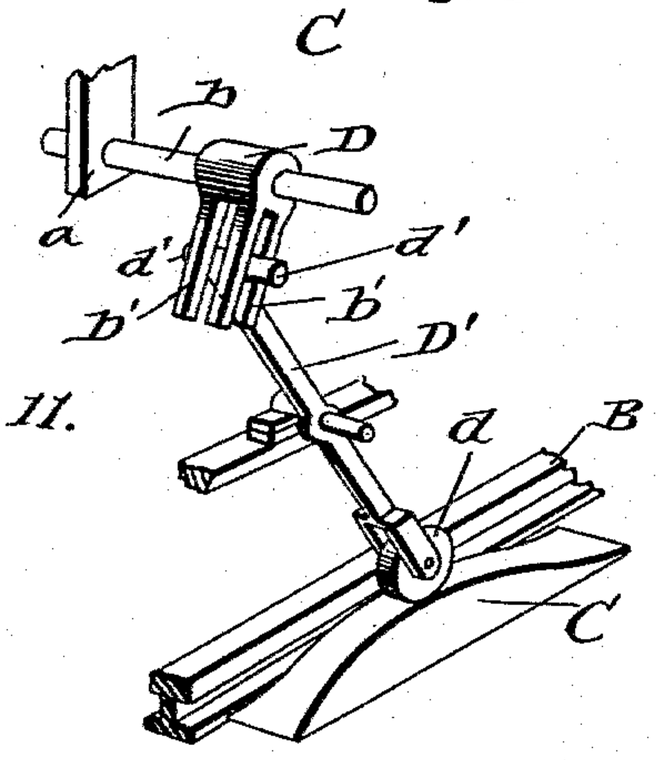


Fig. 11.

Fig. 8.

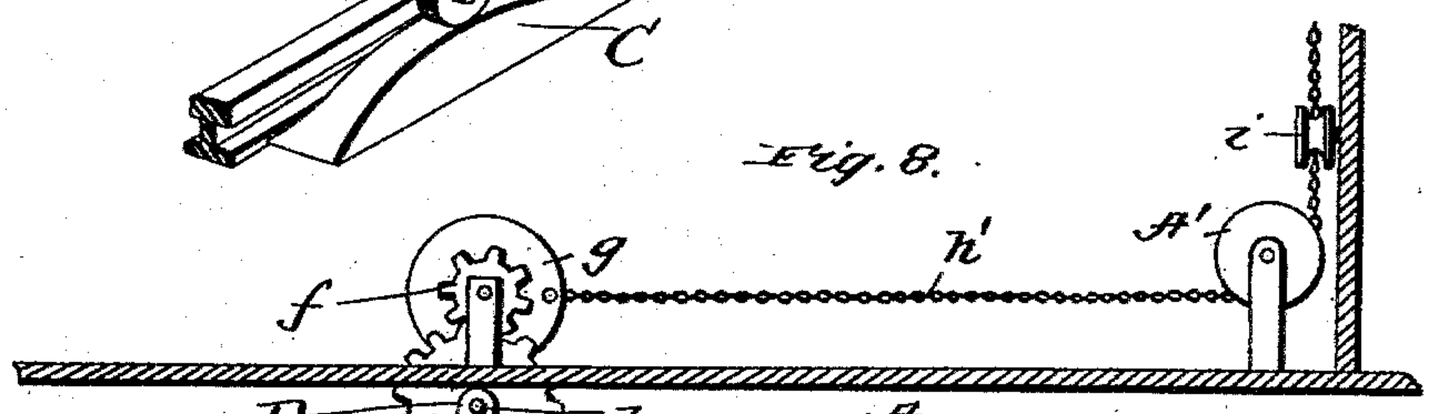
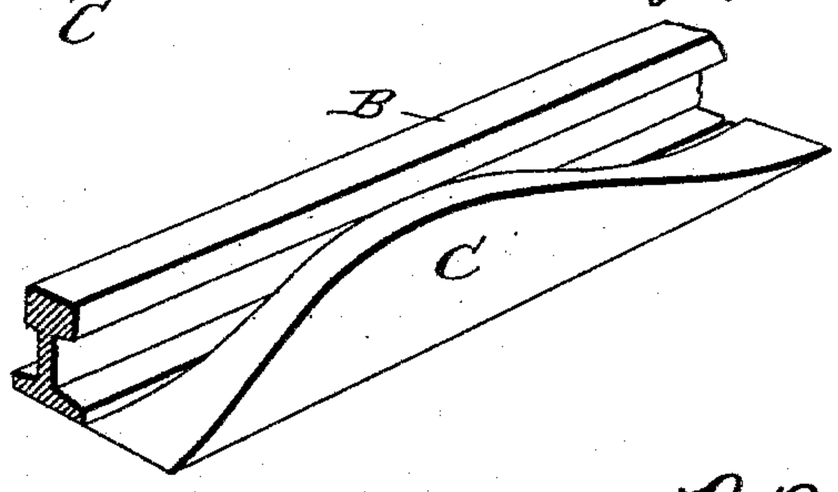


Fig. 9.



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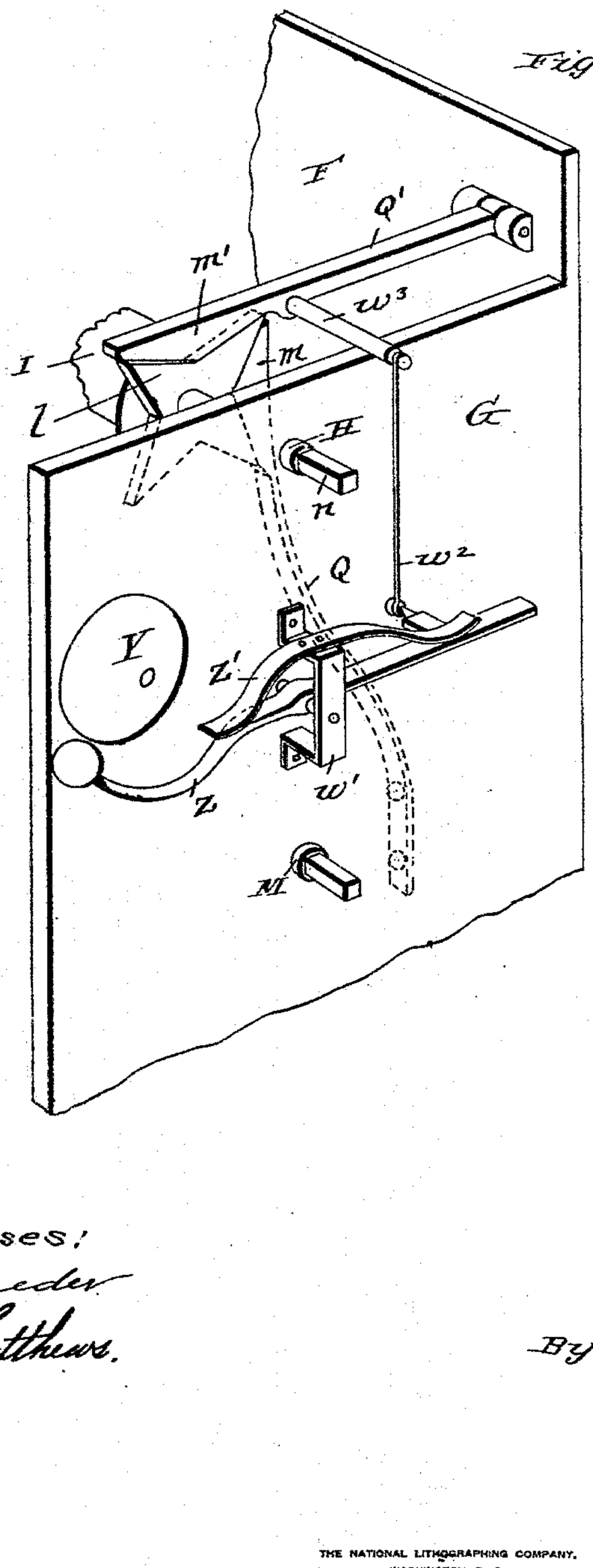
B. BARNETT.

STREET OR STATION INDICATOR.

No. 515,929. Patented Mar. 6, 1894.

Fig. 10.



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UNITED STATES PATENT OFFICE.

BERNARD BARNETT, OF NEW ORLEANS, LOUISIANA.

STREET OR STATION INDICATOR.

SPECIFICATION forming part of Letters Patent No. 515,929, dated March 6, 1894.

Application filed November 16, 1893. Serial No. 491,155. (No model.)

To all whom it may concern:

Be it known that I, BERNARD BARNETT, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Street or Station Indicators; and I do 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.

This invention has relation to an improvement in street and station indicators, as used upon railway and other cars; and it has for its prime object to so construct such devices as to render them very effective for the purposes designed, and to adapt the same to be operated automatically, and at a comparatively small expense.

Other objects and advantages will appear from the following description and claims when taken in connection with the annexed drawings, in which—

Figure 1, is a longitudinal, vertical, sectional view of a street railway car, showing the same mounted upon a section of track, and my improvements applied. Fig. 2, is a front elevation of my improvements with the casing removed so as to illustrate the operating mechanism and with a part of the floor of the car in section. Fig. 3, is a vertical, sectional view taken through a part of a car and transversely through a railway rail. Fig. 4, is a perspective, detail, sectional view of the slidable bar and the spring-backed-catch carried thereby. Fig. 5, is a rear view of the same. Fig. 6, is a perspective, detail view of a part of the lower drum, and tension spring with a part of the indicating band broken away. Fig. 7, is a horizontal, sectional view of a modification, illustrating a part of a railway rail and one of the elevations along the track or rail in plan. Fig. 8, is a vertical, sectional view of the same. Fig. 9, is a perspective, sectional, detail view of a rail and one of the elevations. Fig. 10, is an enlarged perspective view illustrating a portion of the casing and the mechanism for sounding an alarm when the indicating belt is moved, and Fig. 11, is a detail, perspective view illustrating a portion of a rail and an elevation together with the tappet lever or arm and the swinging arm which it engages.

Referring by letter to said drawings:—A, indicates a street railway car which may be of any ordinary or approved construction. Such car forms no part of my invention and is here shown merely for the purpose of showing one manner of applying my improvements.

B, indicates a railway rail which is also of the form usually employed, and C, indicates an elevation. These elevations are arranged at suitable points along the rails such as the approach to a station or a cross street. In the present embodiment of my invention, I have shown an elevation in connection with one rail, although it is obvious that such elevations may be placed alongside of both rails or a single elevation may be placed in the center or other suitable point of a railway; the object being to provide such means as will afford a contact for a tappet lever or arm, as will be presently described.

Depending from the floor of the car at a suitable point, are hangers *a;* there being two shown in the present illustration. Journaled in these hangers beneath the car is a transversely disposed shaft *b*, and on this shaft is a gear or toothed wheel *c*, which is fixed to said shaft so as to turn therewith.

D, indicates a depending arm. This arm is rigidly secured or fixed to the shaft *b*, at its upper end and it is provided with two bifurcations at right angles to each other so as to form the branches or prongs *b'*, which are designed to receive the tappet lever or arm D', and the lateral branches *d'*, of the same between them as better shown in Fig. 11. The lever or arm D', is fulcrumed in any approved manner upon a truck or other suitable part of a car and it carries a friction roller *d*, at its lower end, which roller is designed to contact with the elevations C, along the roadway. The peculiar arm D, is advantageous since by reason of its construction but a slight movement of the lever D', is necessary to rotate the shaft *b*, the desired distance, and consequently very low elevations C, may be employed, which is a desideratum. By reason of the lever or arm D', simply engaging instead of being connected to the depending arm D, it will be perceived that said lever D', will

occupy the same position no matter whether the body of the car is depressed by a heavy load or is raised by its supporting springs which is an important advantage as is obvious. In some cases it is desirable to have an indicator in each side wall of the car, when it will then be necessary to extend the shaft *b*, throughout the width of the car below the floor, and provide it with another tappet lever, depending arm and gear wheel, although one is usually sufficient.

Arranged above the floor of the car and in suitable bearings is a horizontal, transverse shaft *e*, which has keyed or otherwise fixed to it a pinion *f*, designed to mesh with the toothed or gear wheel *c;* and *g*, indicates a vertically disposed pulley or wheel which is also made to turn with the shaft *e*, and is provided with a circumferential groove as shown to receive a chain *h*, or other flexible connection. This chain *h*, is suitably guided in its vertical movements by means of two circumferentially grooved rollers *i*, or the like.

E, indicates the indicator which is here shown as comprising a base plate F, and two parallel side plates or brackets G. In these plates or brackets is journaled a shaft H, carrying an upper drum I, provided with guide flanges K, and a lower drum L, is secured to a similar shaft M, and has similar guide flanges N.

P, indicates the indicating belt. This belt which may be composed of any suitable material, is secured at its opposite ends to the winding drums, and is provided upon its face with the names of streets, stations, or other matter of similar import. The upper shaft H, is provided at one side of the drum with a vertically-disposed, fixed ratchet wheel *k*, and on the opposite side of the drum is fixed a vertically-disposed, stellated wheel *l*. Both the upper and lower shafts are provided at one end with projected angular key seats *n*, to receive a key or wrench when it is desired to shift the band from one drum to the other without affecting the movement of the operating mechanism.

Q, indicates a spring which is connected at one end to the plate F, as shown, and its opposite end is provided with an angular swell *m*, which is designed to enter between the teeth of the stellated wheel *l*, and serve as a locking device for the upper drum so as to prevent casual rotation of the same.

R, indicates a tension spring for the lower drum. This spring is also secured at one end to the plate F, and its upper or opposite end is curved as shown at *p*, and impinges against a circular disk *q*, fixed to the lower shaft M.

S, indicates a vertically slidable rod or bar. This rod is arranged in suitable guides *r*, and is provided with a shoulder *s*, between which shoulder and the lower guide *r*, is a spiral or coiled spring T, which surrounds said rod and bears at its upper end against the shoulder *s*, and at its lower end against the lower guide *r*. This spring has a tendency to keep the rod raised for a purpose which will presently appear and said rod as better shown in Fig. 5, of the drawings, is slotted at its upper end as at *t*, and within this slot is a pivoted catch U, held therein by means of a cross pin *u*, and is backed by a flat spring V. This catch is so disposed with respect to the pitch of the teeth on the ratchet *k*, that when the rod makes an upward thrust or movement, it will in nowise effect a movement of the ratchet wheel; the spring backing the catch allowing it to move on its pivot, while by a downward movement, the catch will positively engage one of the teeth of the ratchet and move the indicator band a distance sufficient to expose another name through the sight aperture of the casing.

W, indicates two parallel, transverse, rollers. These rollers are arranged in advance of the drum shafts and are designed to back the indicator band and hold the same in a convenient position within the sight aperture. The chain *h*, is connected to the periphery of the pulley *g*, and to the lower end of the vertically-slidable rod S, so as to draw down said rod and consequently the catch when the pulley has been turned through the medium of the pinion and gear wheel, as will be presently described.

Y, indicates a bell or gong which is connected to the outside of the casing E, as better shown in Fig. 10; and Z, indicates a hammer which is fulcrumed at an intermediate point of its length in a bracket *w'*, and is designed to strike the bell or gong so as to attract the attention of the passengers to the indicator. This hammer Z, is normally held in the position shown by the flat spring Z', which is connected to the bracket *w'*, and bears upon the hammer on opposite sides of its fulcrum and said hammer has its rear portion connected by a cord or rod as w^2, with a branch w^3, extending laterally from the arm Q'. Said arm Q', is connected to the plate F, and is provided with an angular swell *m'*, which engages the stellated wheel *l*, whereby it will be seen that when the upper drum H, is rotated incidental to a movement of the belt P, the arm Q', will rise and suddenly fall when the spring Z', exerting a pressure against the rear portion of the hammer Z, will forcibly carry the forward end of said hammer against the bell so as to ring the same and attract the attention of the passengers to the new name displayed by the indicator.

The indicator is placed within a suitable casing having a sight aperture X, and is shown as arranged in one of the side walls of a car above the windows, but as it is sometimes desirable to have the indicator arranged in the front or rear wall of a car I provide a guide pulley A', at a suitable point below the place where the indicator is to be arranged and pass a chain or connection *h'*, from the pulley *g*, around said pulley A', and connect its opposite end with the slidable spring-surrounded rod. I do not however wish to con-

fine myself to any particular means for connecting the shaft carrying the cog wheel with the depending tappet arm to the indicator mechanism as I am aware that other connections may be constructed and employed without departing from the spirit of my invention.

Having described my invention, what I claim is—

1. The combination with a car; of the indicator arranged therein, and having the two drums and the indicator band wound thereon, the ratchet wheel on the shaft of one drum, the shaft journaled beneath the car, the toothed wheel on said shaft, the arm also on the shaft, a tappet lever or arm engaging said arm, the shaft carrying the pinion in engagement with the toothed wheel, the pulley secured to the pinion shaft, the vertically slidable and spring-surrounded rod, carrying a catch at its upper end, and the flexible connection between said rod and pulley, substantially as specified.

2. In a station indicator, the combination of a drum, a rotary shaft, mechanism intermediate of the rotary shaft and drum, an arm D fixed on said rotary shaft and provided with a series of branches or prongs b', a tappet lever fulcrumed at an intermediate point of its length and having lateral branches d' adapted to engage and slide between the prongs or branches of the arm on the rotary shaft, and a suitable means for engaging and rocking the tappet lever, substantially as and for the purpose set forth.

3. In a station indicator, the combination of a drum, a rotary shaft, mechanism intermediate of the rotary shaft and drum, an arm D fixed on the rotary shaft, an independent tappet lever D′ fulcrumed at an intermediate point of its length and engaging the arm D of the rotary shaft, and adapted to move with respect to said arm D and a suitable means for engaging and rocking the tappet lever, substantially as and for the purpose set forth.

4. In a station indicator, the combination of a casing or frame, two drums mounted on shafts journaled in the side walls of the casing or frame, a stellated wheel fixed on the shaft of one of the drums so as to turn therewith, an indicator band wound on the drums and adapted to be wound off one and onto the other, an arm pivotally connected to the casing or frame and having a swell in engagement with the stellated wheel and also having a lateral branch, a bell or gong arranged upon the outside of the casing or frame, a hammer fulcrumed at an intermediate point of its length and connected with the lateral branch of the arm, a spring arranged above the hammer and adapted to exert a pressure on the same on both sides of its fulcrum point and a suitable means for rotating one of the drums, substantially as and for the purpose set forth.

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

BERNARD BARNETT.

Witnesses:

BERNARD SELMARTZ,

ISIDORE JACOBS.