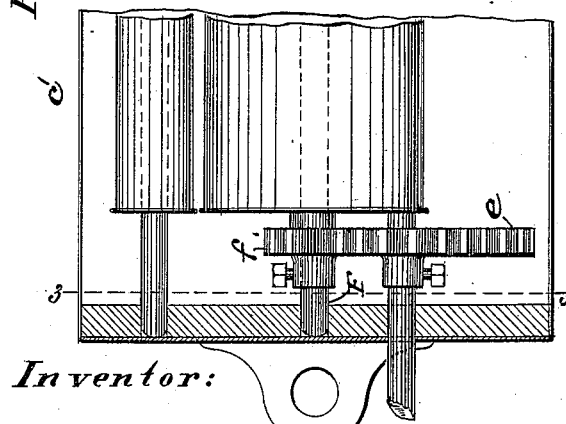
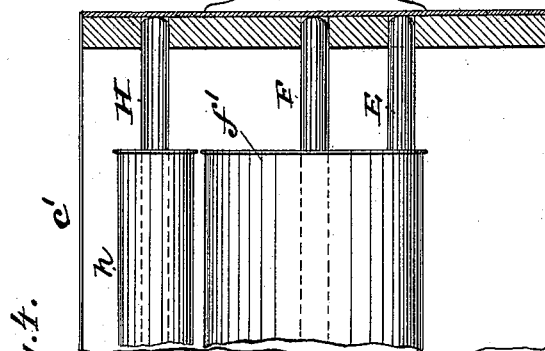
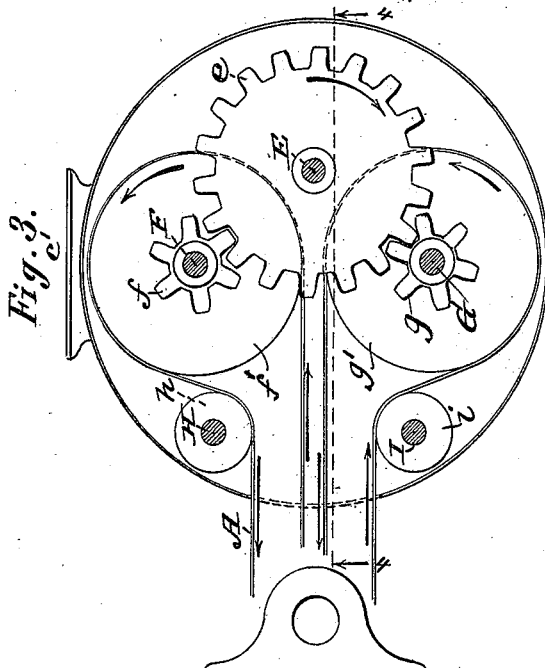
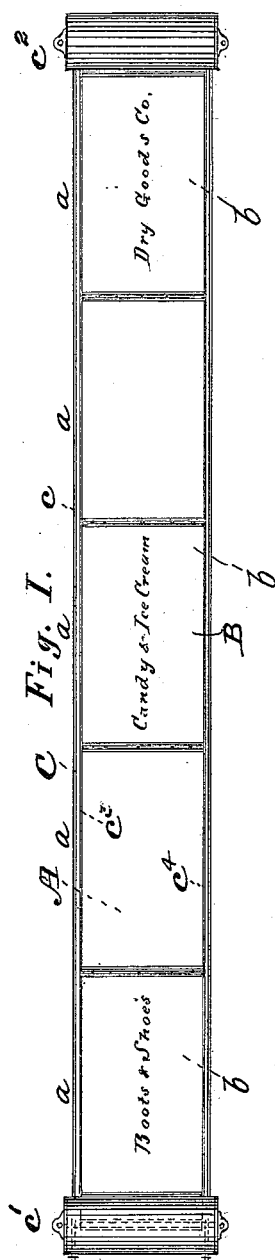


B. DUBINSKI.

STREET CAR AND OTHER ADVERTISING DEVICE.

No. 419,602.

Patented Jan. 14, 1890.



Attest:
C. P. Rudd
Witness

Inventor:
Benjamin Dubinski
by C. D. Moody, atty

B. DUBINSKI.

STREET CAR AND OTHER ADVERTISING DEVICE.

No. 419,602.

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Fig. 5

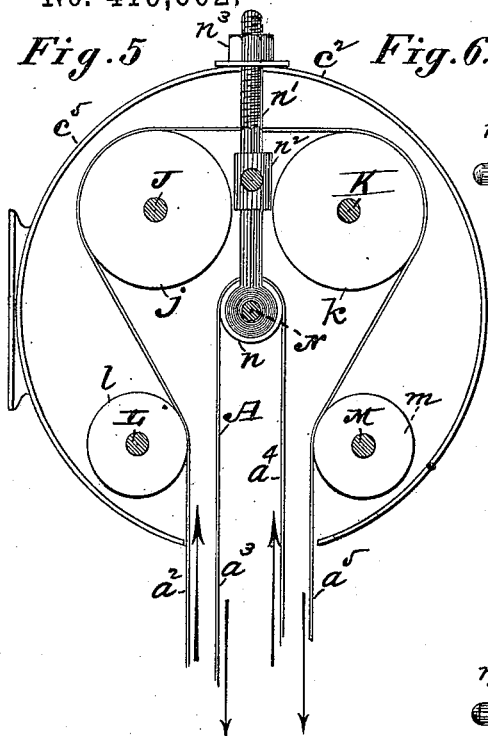


Fig. 6.

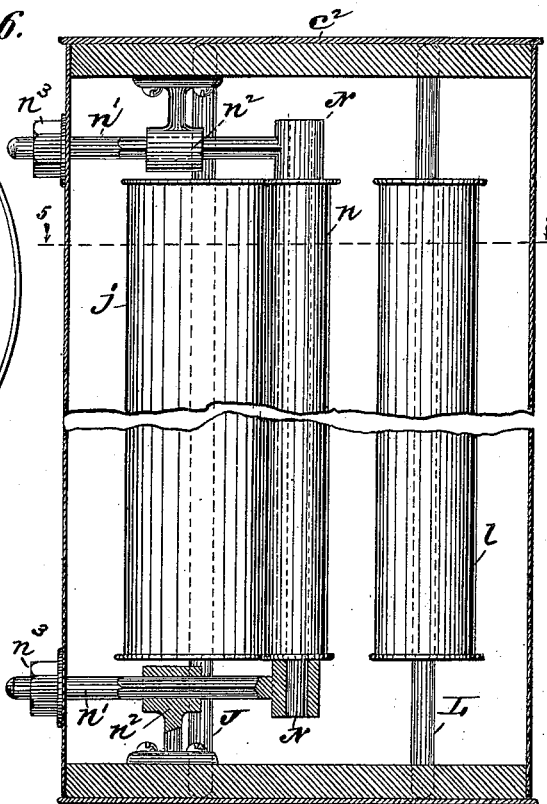


Fig. 8.

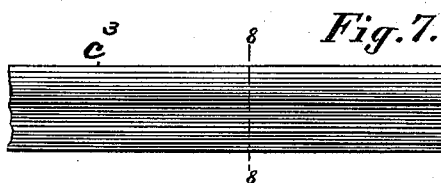
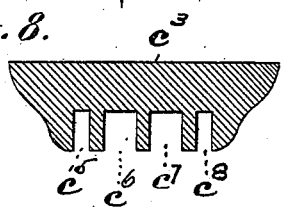


Fig. 7.

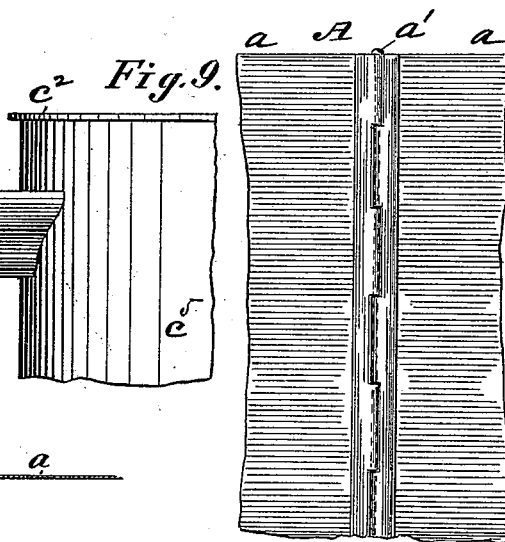


Fig. 9.



Fig. 10.

Attest:
C. P. Budd
S. M. Crawford

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Benjamin Dubinski
by C. P. Moody
his atty

(No Model.)

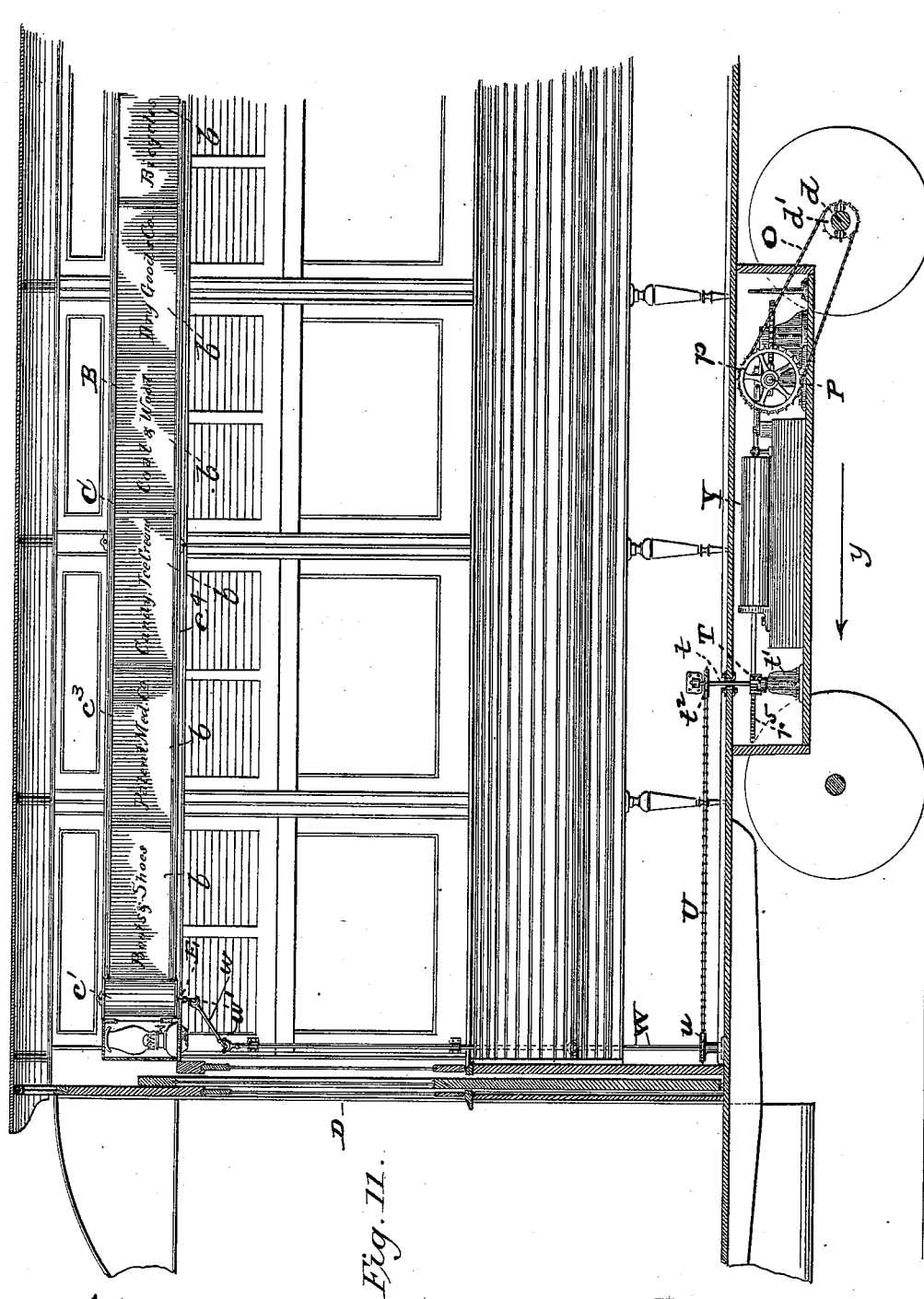
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B. DUBINSKI.

STREET CAR AND OTHER ADVERTISING DEVICE.

No. 419,602.

Patented Jan. 14, 1890.



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B. DUBINSKI.

STREET CAR AND OTHER ADVERTISING DEVICE.

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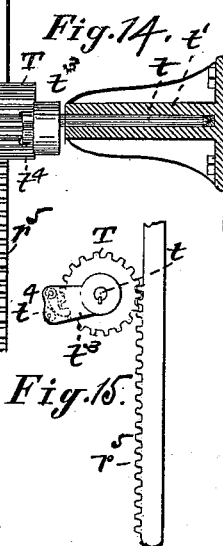
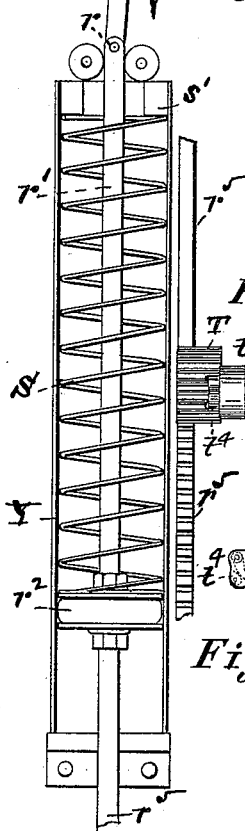
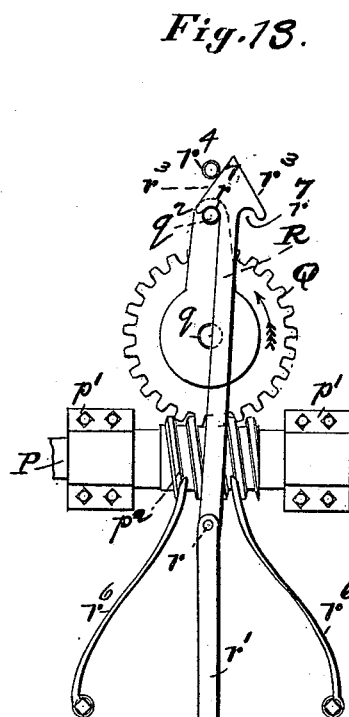
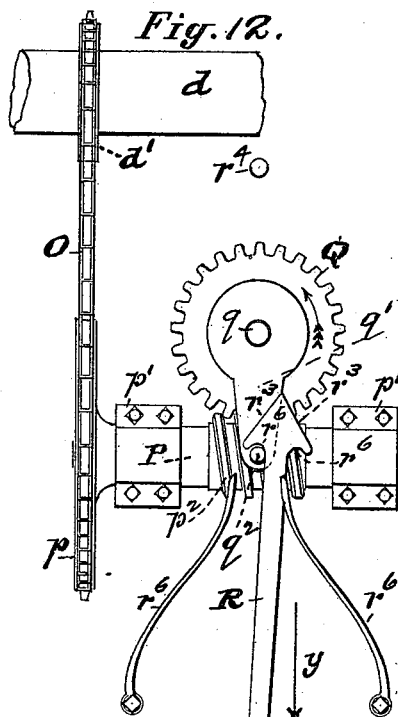
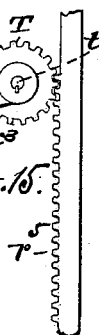


Fig. 15.



Attest:
G. P. Reed
Witness

Inventor:
Benjamin Dubinski.
by C. D. Moody
Notary

(No Model.)

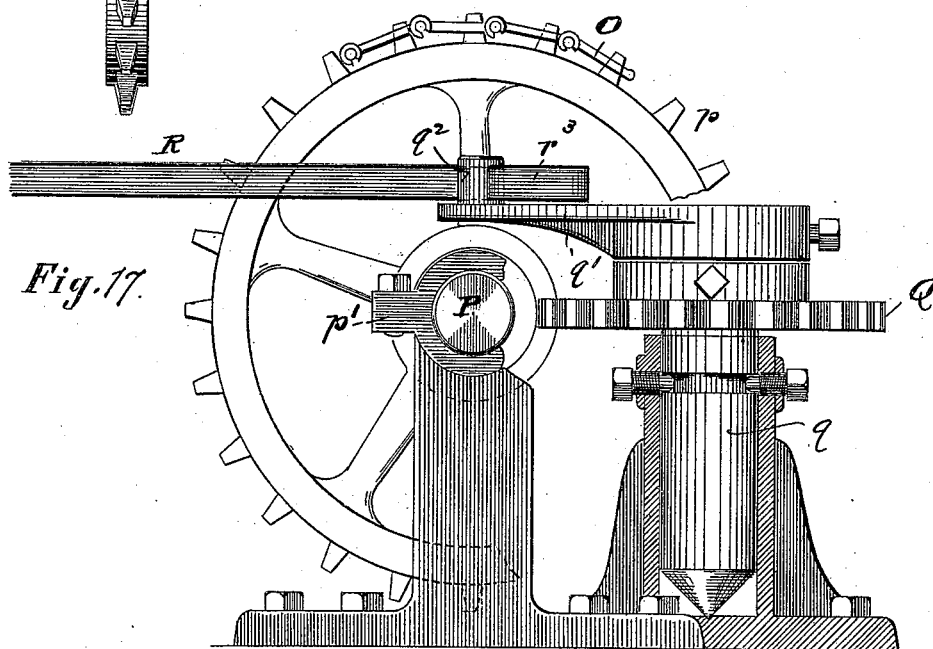
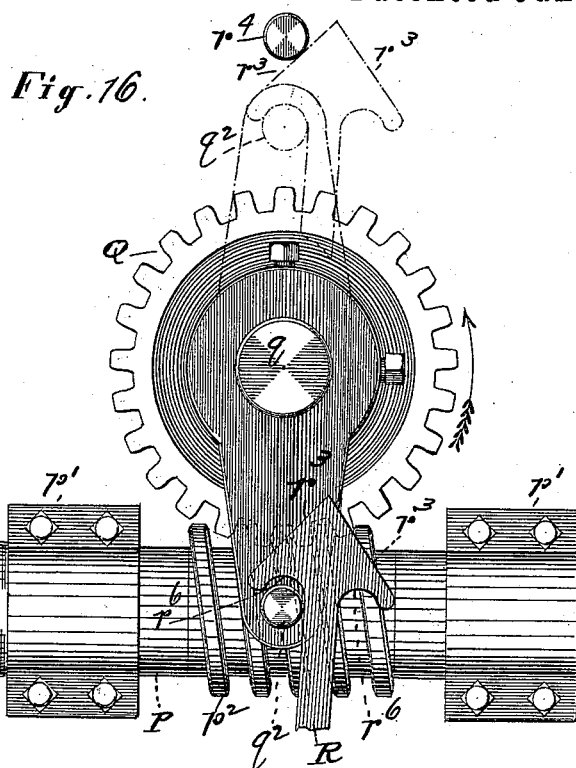
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B. DUBINSKI.

STREET CAR AND OTHER ADVERTISING DEVICE.

No. 419,602.

Patented Jan. 14, 1890.



Attest:
C. P. Budd
Scribe

Inventor:
Benjamin Dubinski
by C. P. Moody not atty

UNITED STATES PATENT OFFICE.

BENJAMIN DUBINSKI, OF ST. LOUIS, MISSOURI.

STREET-CAR AND OTHER ADVERTISING DEVICE.

SPECIFICATION forming part of Letters Patent No. 419,602, dated January 14, 1890.

Application filed July 29, 1889. Serial No. 319,101. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN DUBINSKI, of St. Louis, Missouri, have made a new and useful Improvement in Street-Car and other Advertising Devices, of which the following is a full, clear, and exact description.

A portion of the improved construction under consideration is a traveling endless belt or equivalent device applied to the interior or other part of a street-car, and to which advertising-cards or other matter to be displayed can be attached. The belt is extended upon some part—such as the side of the interior—of the car to be in the view of the passengers and others and to expose the matter attached to it, and the belt is movable at intervals, not only to enable all parts of the belt to be brought to view and the matter thereon to be exhibited, but by reason of the abruptness of the movement to more effectually attract the attention of the passengers.

The improvement relates also to the construction, arrangement, and operation of the belt, and the special means for communicating the motion of the car axle or wheel to the belt, so that it can be thus moved, is another feature of the improvement, all substantially as is hereinafter described and claimed, aided by the annexed drawings, making part of this specification, in which—

Figure 1 is a face view of the belt as in use; Fig. 2, a horizontal section thereof. Fig. 3 is a view, upon an enlarged scale, of the right-hand end portion of the construction shown in Fig. 2, and being also a section on the line 3 3 of Fig. 4, which in turn is a section on the line 4 4 of Fig. 3. The belt is not shown. Fig. 5 is a plan view, upon an enlarged scale, of the left-hand end portion of the construction shown in Fig. 2, and being also a section upon the line 5 5 of Fig. 6, which in turn is a section on the line 6 6 of Fig. 5. The belt is not shown. Fig. 7 is a detail, being an elevation of a portion of the belt frame or guide. Fig. 8 is a section on the line 8 8 of Fig. 7; Fig. 9, an elevation showing a portion of the belt and the mode of uniting its ends; Fig. 10, a section on the line 10 10 of Fig. 9. Fig. 11 is a general view, being a sectional elevation of a street-car to which the improvement is applied; Fig. 12, a plan, partly in horizontal section, showing the mechanism more im-

mediately connected with the car-axle. Fig. 13 is a view analogous to that of Fig. 12, the car-axle, belt leading therefrom, and the sprocket-wheels with which the belt coacts being omitted, and the movable parts of this part of the construction being in a different position. Fig. 14 is a detail, being a view, partly in side elevation and partly in vertical section, of the parts next in order proceeding from the axle to the parts shown in Figs. 12 and 13; Fig. 15, a plan of the rack-bar and pinion shown in Fig. 14; Fig. 16, a plan, upon an enlarged scale, of a portion of the mechanism shown in plan view in Fig. 12; and Fig. 17, a side elevation, partly in vertical section, of the same.

The views, as stated, are not all upon the same scale, and the same letters of reference denote the same parts.

A, Figs. 1, 2, 3, 5, 9, and 10, represents the belt upon which the advertisements or other displayed matter B appears. The matter B may be painted, printed; or otherwise produced immediately upon the belt, or it may be upon cards, sheets, or plates, which, in turn, are attached or applied to the belt, and which are of such a nature, and so attached or applied to the belt; as to permit of the belt being made in the endless form shown and carried around rollers. The matter B may be continuous upon the belt, or it may be in separate pieces, as indicated at *b b*, Figs. 1 and 11. In order that the pieces *b*, which in practice are frequently flexible cards, may be carried along with the belt, any suitable means may be employed to unite them with the belt, and I desire not to be restricted to any special mode or means so long as the movement (indicated by the various arrows in the figures named) of the belt is not interfered with, and the pieces are carried along therewith in a suitable manner. As it is desirable to open the belt at various points along its length, it may be made in sections, such as *a a*, Figs. 1, 9, and 10, which are joined substantially as shown, and capable of being readily separated by withdrawing the interlocking pin *a'*, and each section *a* may be appropriated to a piece *b*, whose end may be confined between the joints at the ends of the section.

C represents the frame for containing the belt. It consists, substantially, of an ex-

tended central portion c , connected at its ends, respectively, with chambers c' c^2 . The portion c in practice is composed of an upper c^3 and lower c^4 rail, Figs. 1, 7, 8, and 11, which serve to guide the belt in its movement and the front portion of the belt to be presented to view, and the chambers c' c^2 are mainly for containing the rollers and mechanism for sustaining and operating the belt. They also are utilized for supporting the portion c and to give a finish thereto. The frame C, containing the belt and the parts for sustaining and moving it, as presently described, can be handled as a single part and be attached to any part of the car D or other support, and any suitable motor may be employed to effect the movement of the belt in the frame. The parts within the frame C for supporting and operating the belt will now be described.

The chamber c' has journaled in it an upright driving-shaft E, Figs. 3 and 4, provided with a gear e . This gear engages with the two pinions f g , respectively fastened to the upright shafts F G, also journaled in the chamber c' and respectively furnished with the pulleys f' g' . There are also two other upright shafts H I journaled in the chamber and respectively provided with the pulleys h i . The chamber c^2 , Figs. 5 and 6, at the opposite end of the frame C, has journaled in it four upright shafts J K L M, provided, respectively, with the pulleys j k l m . There is also a fifth upright shaft N, bearing a pulley n and journaled in the arms n' n'' , which in turn are adjustably held in the bearings n^2 n^3 , and extend thence through the shell of the chamber c^2 , and at their ends are provided with nuts n^3 n^4 . By screwing these nuts onto the arms the shaft N and its pulley n can be drawn outward and the belt A thereby tightened. The belt is carried around the above-described pulleys, preferably in the manner shown in Figs. 2, 3, and 5, and its movement is indicated by the arrows X, Figs. 2, 3, and 5, for it is within the purview of the invention to have the belt held in various ways in the frame C, and also to be moved in various ways therein; and I desire not to be confined to any special way, so long as the belt is held and moved in a frame having an extended central portion having chambers at the end thereof, substantially as and for the purpose set forth. The particular way exhibited is considered the best, as thereby a belt of a length several times longer than the frame can be used, and the entire device at the same time be so compacted as to take up but little room, for, as seen in Fig. 2, the central portion c of the frame needs only to be slightly thicker than the combined folds of the belt, and those folds (four folds a^2 a^3 a^4 a^5 are shown) can be and are arranged closely together. The rails c^3 c^4 , which form the portion c , are, as shown in Fig. 8, each grooved at c^5 c^6 c^7 c^8 to admit the edge of the belt, and the belt between the chambers c' c^2 is thereby guided and prevented from sag-

ging, and in addition thereto the belt, as well as anything applied thereto, is made to present a better appearance.

The motion may be imparted to the belt in various ways. To enable the belt to be readily moved, and also to enable the belt to be held stationary and moved at intervals, and, further, when moved, to be shifted promptly, the following-described means are adopted as being the most desirable: The motion is derived from the car-axle d , Figs. 11 and 12. The axle is provided with a sprocket-wheel d' , from which a belt O leads to another sprocket-wheel p on a counter-shaft P, Figs. 11, 12, 16, and 17, which in turn is journaled in bearings p' p'' upon the car and having a worm-gear p^2 . The shaft P, when the car is in motion, is thereby rotated. Its motion in turn is transmitted to a gear Q upon an upright shaft q , journaled in suitable bearings upon the car, (not shown,) and it is also provided with an arm q' , having a stud q^2 . The shaft q is thus caused to rotate and the arm q' carried around. In the rotation of the arm the stud encounters a hook-shaped rod R, Figs. 12, 13, 16, and 17, and cause such rod to be drawn from its position of Fig. 12 into its position of Fig. 13. The rod at r is jointed to an extension r' , which is provided with a shoulder r^2 . A spring S is held between said movable shoulder and a fixed shoulder s' , and when the rod R is drawn, as described, into its position of Fig. 13 the spring is compressed. As the rod R reaches said position its beveled end r^3 encounters a stop r^4 , and in consequence of the continued rotation of the arm q' the rod R is cast off from the stud q^2 . The spring S at once acts to move the rod R and extension r' sharply back into the position of Fig. 12. The extension r' is extended beyond the shoulder r^2 , and terminates in a rack-bar r^5 , Figs. 11, 14, and 15. This rack-bar engages with a pinion T, Figs. 14 and 15, upon an upright shaft t , journaled in a bearing t' , and also provided with a sprocket-wheel t^2 , Fig. 11. A belt U leads from the wheel t^2 to a sprocket-wheel u upon an upright shaft W, Fig. 11. At the upper end of the shaft W is a tumbler-shaft w , connecting said end with the lower end of the shaft E, there being universal joints w^2 w' at the junction with each shaft, as shown in Fig. 11, by which means the reciprocating motion of the rack-bar and rod R is converted into a rotary motion and transmitted to the driving-shaft of the belt. As the motion is communicated to the belt, preferably so as to cause the belt to move in one direction so long as the car is moving in either direction, the pinion T is contrived not to drive its shaft t when the rod R is being moved from its position of Fig. 12 into its position of Fig. 13, but only when the rod R is moving in the opposite direction. To this end the pinion is loose on the shaft t , and it is adapted to be tightened thereon by means of the arm t^3 , which is fast

on the shaft t , and is provided with the pawl t^4 , which engages with the pinion and causes it to rotate when the spring S is acting to move the rod R and rack-bar in the direction of the arrow y , Figs. 11 and 12. The movement of the rod R is guided by the springs r^6 , Figs. 12 and 13, and the movement of the rod-extension, spring S, and rack-bar by means of the case Y.

10 To enable the belt to be operated in whichever direction the car is going, the rod R, at its outer end, is made in the form, substantially, of an arrow-head, it having at each side thereof a hook-shaped shoulder r^7 , as well as a bevel r^3 . The arm q' is carried around in either direction, according to the direction of the movement of the car and of the rotation of its axle d , and its stud q^2 engages with that one of the shoulders r^7 toward which the arm is moving, and, whichever shoulder of the hook is engaged, the bevel r^3 corresponding to that shoulder, by encountering the stop r^4 , causes the rod to be released from the stud q^2 .

25 The chambers c' c^2 may be spaced apart by any suitable means which are equivalent to the rails c^3 c^4 .

The power may be derived from a wheel upon the car-wheel.

30 I claim—

1. In an advertising device for attachment to a car, the combination of an endless belt having advertisements upon it, a frame supporting said belt, having upper and lower rails provided with longitudinal grooves, into which the edges of the belt enter and are guided thereby, the rollers over which the belts pass, mounted in casings at the ends of the frame, the meshing gearing to drive the belt, mounted in one of said casings, and mechanism, substantially as described, whereby said gearing is caused to rotate by a rotation of an axle of the car at intermitting intervals, as specified.

45 2. The combination of the endless belt A, having advertisements upon it, the supporting-frame having upper and lower rails, grooved on their facing edges to receive and guide the edges of said belt, the rollers and pulleys f' , g' , h , and i , mounted on shafts journaled in a chamber or casing at one end of said frame, the meshing gearing f , g , and e , having their shafts mounted in said casing, driving mechanism constructed substan-

55 tially as described and connected with the shaft E of the gear-wheel e , and the rollers or pulleys j k l m n , mounted on shafts having bearings in a chamber or casing at the opposite end of the guide and supporting-frame, substantially as specified.

60 3. The combination, with the endless belt and the vertical shaft actuating said belt, of the sprocket-wheel on said shaft, a vertical shaft t , having bearings on the car-frame, a sprocket-wheel on said shaft t , the chain connecting said sprocket-wheel, the pinion mounted on the shaft t , and the rack engaging said pinion and reciprocated by mechanism substantially as described, actuated by the rotation of the car-wheel, as specified.

70 4. The combination, with the vertical shaft actuating the endless belt, the sprocket-wheels and connecting-chain rotating said shaft, the reciprocating rack-bar, and pinion engaging said rack-bar, of a transverse shaft mounted in bearings on the car-frame and provided with a sprocket-wheel and worm, the vertical shaft provided with a gear-wheel engaging said worm and with a horizontal rotating arm having an upstanding pin, the chain connecting the sprocket-wheel on the transverse shaft and a sprocket-wheel on the car-axle, the arrow-headed bar pivoted to the stem of the rack-bar and engaging the pin on the rotating arm, the disengaging stop, and the spring causing the recoil of the rack-bar when the arrow-headed bar is disengaged from said pin, substantially as specified.

90 5. The combination, with the endless belt, the vertical shaft driving said belt, the sprocket-wheels and chain rotating said shaft, and the pinion T, loose on its shaft and controlled by a spring-pawl t^4 , of the reciprocating rack-bar having the shoulder r^3 , the spring S between the shoulders r^2 and S' , the arrow-headed bar R, pivoted to the stem of the rack-bar, the transverse shaft P, having the worm p^2 , the gear-wheel Q, the arm q' , having the pin q^2 , the stop r^4 , the sprocket-wheels p d' , and the chain O, connecting said sprocket-wheels, substantially as specified.

Witness my hand this 24th of July, 1889.

BENJAMIN DUBINSKI.

Witnesses:

C. D. MOODY,
C. P. BUDD.

Correction in Letters Patent No. 419,602.

It is hereby certified that Letters Patent No. 419,602, granted January 14, 1890, upon the application of Benjamin Dubinski, of Saint Louis, Missouri, for an improvement in "Street-Car and other Advertising Devices," was erroneously issued to said "Benjamin Dubinski" as owner of said invention; that said Letters Patent should have been jointly issued to *Charles P. Budd*, said Budd being the assignee of the one-half interest in said patent, as shown by the record of assignments in this Office; and that the Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned and sealed this 4th day of February, A. D. 1890.

[SEAL.]

CYRUS BUSSEY,

Assistant Secretary of the Interior.

Countersigned:

C. E. MITCHELL,

Commissioner of Patents.