

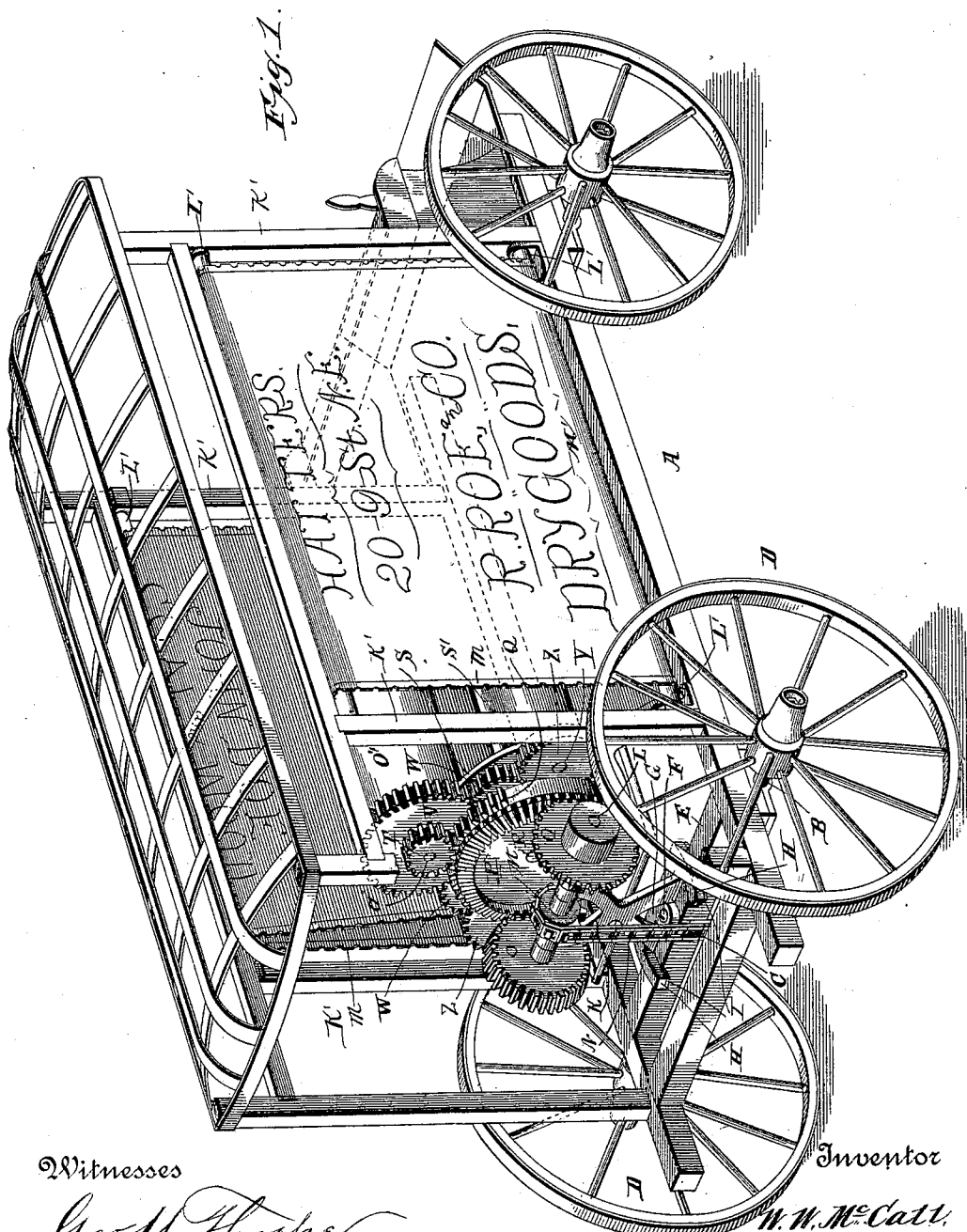
(No Model.)

3 Sheets—Sheet 1.

W. W. McCALL.
ADVERTISEMENT WAGON.

No. 460,537.

Patented Sept. 29, 1891.



Witnesses

Geo. W. Thorne.

H. E. Price.

Inventor

W. W. McCall.

By *H. S. Attorneys.*

Higdon & Higdon.

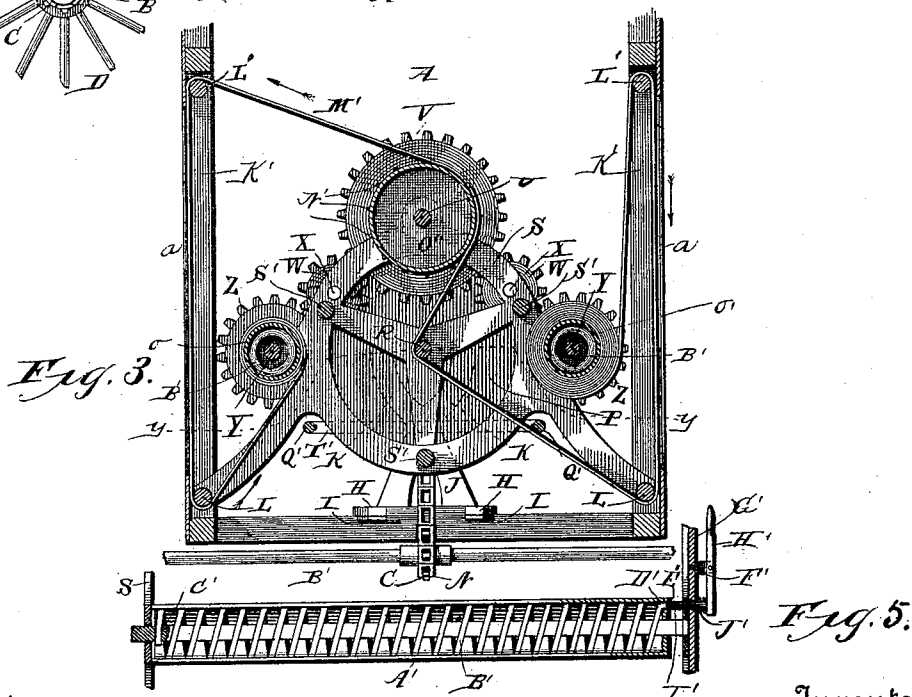
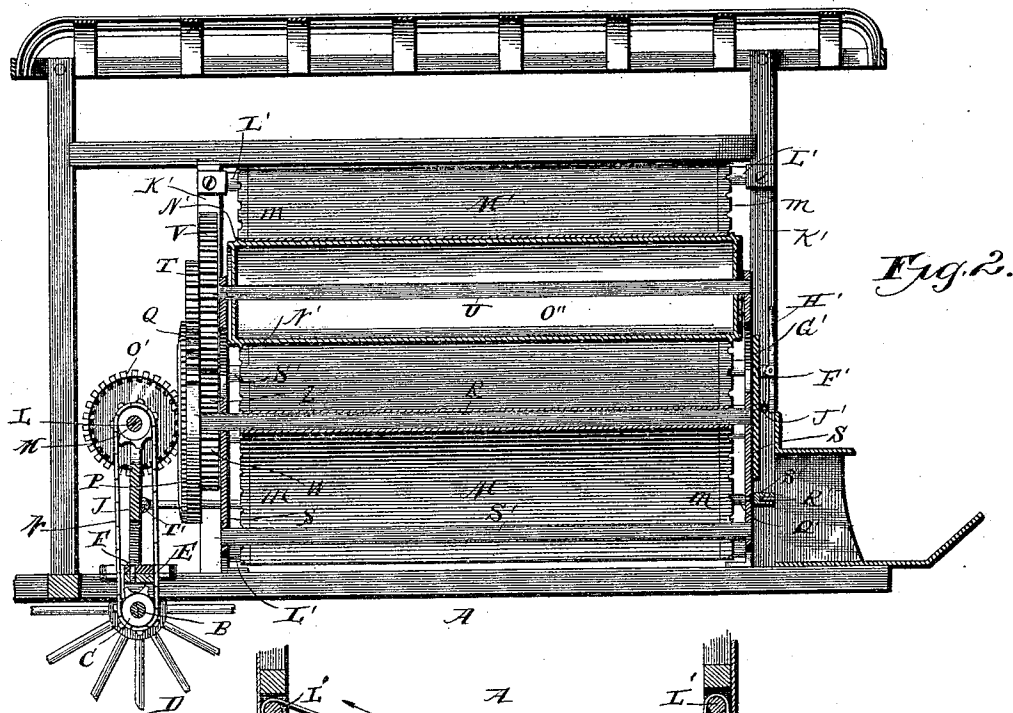
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3 Sheets—Sheet 2.

W. W. McCALL.
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Patented Sept. 29, 1891.



Witnesses

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(No Model.)

3 Sheets—Sheet 3.

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Fig. 4.

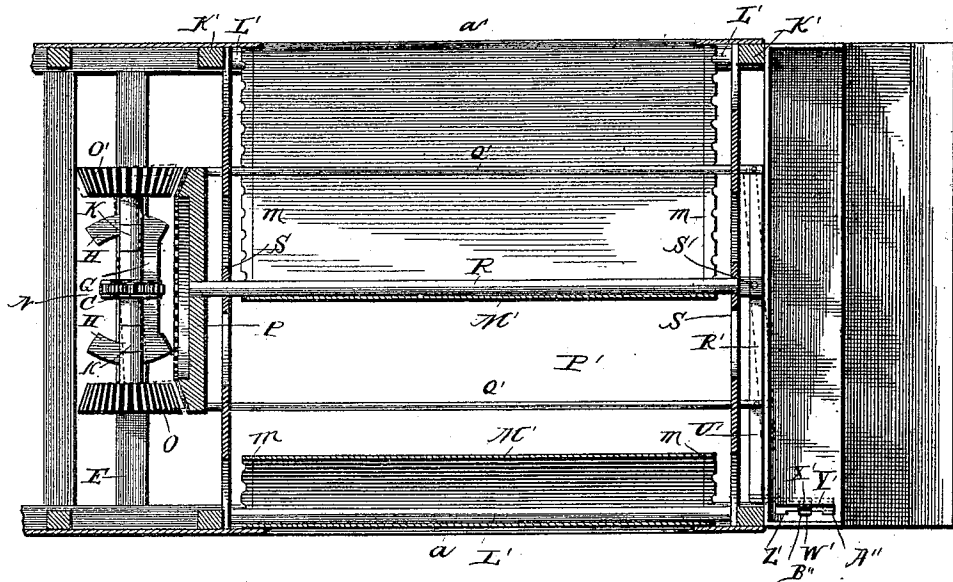
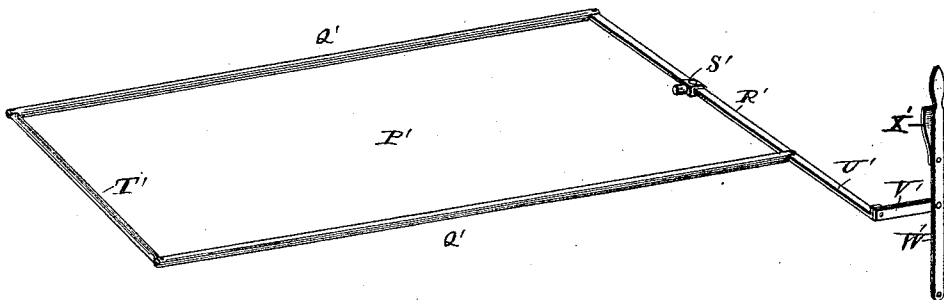


Fig. 6.



Witnesses

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By *his* Attorneys

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UNITED STATES PATENT OFFICE.

WILLIAM W. McCALL, OF KANSAS CITY, MISSOURI, ASSIGNOR OF THREE-FIFTHS TO AMBROSE K. McCALL, JOSEPH W. McCALL, AND ROBERT S. McCALL, ALL OF SAME PLACE.

ADVERTISEMENT-WAGON.

SPECIFICATION forming part of Letters Patent No. 460,537, dated September 29, 1891.

Application filed November 10, 1890. Serial No. 370,869. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. McCALL, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Advertisement - Wagons, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improvement in advertisement-wagons; and it consists in the novel combination and arrangement of its several parts, as will be readily understood from the following specification taken in connection with the accompanying drawings.

My object is to provide mechanism to be applied to a wagon constructed preferably in accordance with my invention, by which an advertising-cloth secured at each end to the spring-rollers and guided over a series of suitably-arranged intermediate rollers may exhibit the advertisements printed thereon immediately opposite openings through each side of the wagon simultaneously, the mechanism being so arranged and constructed as to allow the said advertisements to pause for a stated length of time opposite said openings, thus allowing them to be read without difficulty. The direction in which the cloth is traveling may be reversed by the operation of a lever placed within convenient reach of the driver, as will be readily understood. I may also provide a series of bells forming the musical scale, which will ring automatically as each advertisement moves into view opposite the openings, and thus attract attention to the wagon.

Referring to the drawings, Figure 1 represents a perspective view of my invention as it appears in operation, with the curtains of the wagon removed. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a vertical transverse section of the invention. Fig. 4 is a horizontal sectional view taken on a line *y y* of Fig. 3. Fig. 5 is a sectional view of one of the spring-rollers and showing the connection between the same and the spring-releasing lever. Fig. 6 is a detail perspective view of the pivotal frame and lever for reversing the direction in which the advertising-cloth is traveling.

Similar letters refer to similar parts in the several figures, in which—

A represents a wagon of suitable construction having keyed or secured rigidly on the rear axle B the sprocket-wheel C, about midway between the rear wheels D, which are also secured rigidly to said axle.

Pivotaly secured on the cross-beam E, which is vertically arranged above the axle by means of vertical bolt F, is a casting G, which is provided with the arms H H, concentric to said pivotal bolt, and which rest and are adapted to oscillate upon the bearing-plates I I, directly beneath and similarly concentric to said pivotal bolt. Constructed integrally with the casting G or erected vertically therefrom is the bracket J, which is provided with the laterally-forked arms K K, the upper ends of which are provided with the horizontally-aligned perforations in which the transverse shaft L is journaled. Keyed or otherwise rigidly secured to this shaft L, between said forked arms and in vertical alignment with the sprocket-wheel C of the axle, is a similar sprocket-wheel M, which is connected with the sprocket C by the endless sprocket-chain N. Keyed rigidly on the opposite ends of this horizontal shaft L are the double cog-wheels O and O', which are adapted alternately through suitable means to be hereinafter described to engage with the beveled teeth and mutilated gear-wheel P. This gear-wheel P is provided with teeth Q, extending preferably about one-third of the way round its periphery, the object of which will be presently specified.

The mutilated gear P is keyed rigidly on the rear end of the longitudinally-extending shaft R, which is journaled in suitable supporting-brackets S, secured at opposite ends of the wagon and braced by rods S'. Vertically above and adapted to engage with the teeth Q of the mutilated gear-wheel P is a pinion T, provided with teeth equal in number to the peripheral teeth Q of said mutilated gear, said pinion being keyed or otherwise secured rigidly on the rear end of the longitudinally-extending shaft U, which is also journaled loosely and supported in the castings or bracket S. Secured or keyed on the

shaft U, immediately in the rear of the pinion T, is a cog-wheel V, the teeth of which are in continual engagement with the teeth of the smaller cogs or pinions W, journaled on the rear end of the short spindles or shafts X, which are secured rigidly in the rear casting S. Similar shafts Y, journaled near their opposite ends in the casting S, are provided with cog-wheels Z on their rear ends, which are always in engagement with cog-wheels or pinions W. Hollow cylindrical castings A' are journaled loosely around the shafts Y, and are provided on their inner sides with the spring B', secured rigidly at C' near the rear end of the casting A', through a perforation in the shaft Y, and is coiled around the said shaft, and has the forward bent portion D' thereof normally engaging perforation E', extending through the front end wall of the casing A'.

Pivotally secured in bracket F' at the front wall or transverse bar G' of the wagon is the hand-lever H', the upper end of which is within convenient reach of the driver. The lower end of said lever has a rearward extension I', which passes through an opening in the front wall or bar G' of the wagon in continued alignment with the bent portion D' of the spring B', but which is held out of engagement normally by the coiled spring J', which surrounds said rearward extension and bears against the adjacent sides of the lever and wall G' of the wagon. Journaled at the opposite sides of the wagon in the uprights K' are the similar pairs of vertically-aligned and horizontally-extending guide-rollers L', around which passes the advertising-cloth M', which is secured at opposite ends to the spring-rollers o and o'. The advertising-cloth M' is provided with flexible strips of metal m, extending the whole length of the advertising-cloth on each side, which are provided with notches in their edges for the engagement of the circumferential projections N' of the frictional roller O'', keyed or otherwise secured on the shaft v between the supporting-brackets. A rectangular frame P', consisting of a longitudinally-extending and parallel side bars Q', pivotally secured at their lower ends to the opposite ends of a transverse bar T', is secured rigidly at its central portion to the vertical bracket J. The forward ends of the side bars Q' also pivotally engage at one end and near its opposite end the transverse bar R', which is pivoted midway between said side bars in the bracket S', which projects forwardly from the front casting S. The extending portion U' is secured to the rear end of a forwardly-extending bar V', which pivotally engages vertically-arranged lever W', the lower end of which is pivoted to the bottom of the wagon, and the upper end, provided with a leaf-spring X', projects to and through a forwardly-extending slot Y' in the seat of the wagon. This slot is provided at the side of the lever opposite to that on which the spring X' is secured

with the end and intermediate slots Z', A'', and B'', in the central one B'' of which, when the advertising-roll is not in operation, the lever W' is adapted to rest, the spring X' bearing against the opposite edge of the slot Y', forcing and holding it in position, as will be readily understood.

The operation of my invention is as follows: The advertising-cloth, being secured to one end of the spring-rollers o and o', is then passed under and over the series of guide-rollers and shafts shown in Figs. 1 and 4 and is secured at its other end to the opposite roller, the slack being wound upon the same. To wind upon the spring-roller o the cog-wheel O is thrown in engagement with the beveled teeth of the mutilated gear-wheel P by means of the operation of the swinging or oscillating bracket J, which is moved at the will of the driver by the simple forward movement of the lever W', which is connected, as before described, to said swinging bracket, and thus the movement in either direction of the advertising-roll may be reversed at any time at the will of the driver, who may be notified by the automatic ringing of a bell when it is necessary to change the direction in which the cloth is moving. The movement of the wagon causes the operation of the rear wheels D, which, being secured rigidly on the ends of the axle, causes said axle, and therefore the sprocket-wheel C, keyed thereon, to revolve at the same time. The revolution of this sprocket-wheel causes, through the endless sprocket-chain N, the operation of the sprocket-wheel M, which, being also rigidly secured on the transverse axle L, causes the revolution of the beveled cog-wheels O and O', rigidly secured on either end thereof. When the lever V' is in engagement with the central notch B'' in the seat, the cog-wheels O and O' are disengaged from the mutilated cog-wheel P, and the wagon may be moved in any direction without operating or causing the advertising-cloth to move. When the lever is in engagement with the forward notch A'' of the seat, the cog-wheel O, through pivotal connection by means of the frame P', is in engagement with the teeth of the mutilated gear P, causing the cloth to move in the direction indicated by the arrows in Fig. 3. When the lever is in engagement with the rear notch Z' of the seat, the opposite wheel O' is in engagement with the teeth of the mutilated cog-wheel P, therefore causing the cloth to move in the opposite direction to that indicated in Fig. 3.

The object of having the teeth of the mutilated gear extending only a portion of the way round is to allow the advertisement to pause before the openings a in each side of the wagon until the pinion T is again in engagement with the peripheral teeth Q of the wheel P. Thus it will be seen that the arrangement of the peripheral teeth Q and wheel T allows the advertisements on each side of the cloth to show on opposite sides of

the wagon, both passing in the same direction, either downward or upward, to pause until the revolution of the mutilated cog-wheel P is completed, thus allowing time for the advertisement to be read. The friction-roller O'', provided with the circumferential projections N' at regular intervals, engaging the similarly-spaced notches in the flexible metal strips m, binding the edge of the cloth, it causes said cloth to pass over said roller without any possibility of slipping, the rollers O and O' being constructed, preferably, of about one-half the size of the friction-roller O', and therefore compelled to travel at first about twice as fast as said roller to prevent the cloth from sagging. This is accomplished by the meshing gear-wheels connecting said rollers. As the diameter of the roller o' (or o) increases by the winding of the cloth upon it, the speed at which it revolves must necessarily be lessened. To accomplish this, and allow the rollers to perform their functions correctly, I provide a roller constructed and operated as follows: The shaft Y has the gear-wheel Z, which moves at a rate of speed proportionate to the speed of the roller O''. The spring B', being secured rigidly to the shaft Y at C' and engaging the notch E' at the opposite end, causes the casing A' to revolve with the shaft Y. As the diameter of the roller increases in size, the connection, by means of the spring B' between the shaft Y and casing A', causes the cloth on the casing to revolve more slowly as the tension of the said cloth on the casing increases. After a portion of the cloth has been wound on the roller, the diameter of the same will be increased, and being revolved at the same rate of speed more cloth will be wound at each revolution; but the cloth can only pass over the roller O'' at a certain speed, owing to the pins N' engaging the notches in the cloth, in consequence of which the tension on the cloth will be increased; but the tension on the spring in the casing up to this time has only been sufficient to revolve the casing when the tension of the cloth on it was at a minimum. Therefore the shaft Y must make a few revolutions, which will not be communicated directly to the casing, in order to wind the coiled spring to a slightly greater tension. It will thus be seen that the roller will automatically revolve slower and slower as the diameter of the same increases in size by the accumulation of cloth thereon. If the advertising-cloth is very long, it may be necessary to release the spring inside the roller occasionally, and to accomplish this I provide the releasing-lever H', which, when operated forward by the driver, causes the extension I' thereof at its lower end to force the bent portion D' of the spring from its engagement with the opening or perforation E' in the end wall of the casing, when the spring B' immediately revolubly expands. When the lever H' is released, the spring J' forces the lower end outward and allows the projecting por-

tion D' of the coiled spring B' to resume its normal position in the end of the casing, as will be readily understood. In case the advertising-wagon is used at night there may be placed in the same a light with reflector attached which may serve to deflect the light on the inner side of each advertisement as it appears before the openings a in each side of the wagon.

The cloth is provided with a series of advertisements on both sides, which, by reason of the cloth traveling diagonally from the upper corner to the lower corner, or vice versa, causes said advertisement in passing either up or down to always appear opposite the same opening a in the side of the wagon.

I may also provide an endless apron or advertising-cloth to operate by means of suitable connecting mechanism at the rear end of the wagon. I may also use this mechanism in connection with a stationary motive power—such as electric, hydraulic, steam, or hand power—for exhibiting the advertisements in a window or against the wall of a building.

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

1. In an advertising apparatus, a vehicle, an intermittently and automatically operated advertising-cloth carried thereby, a series of rolls actuated at regular intervals by the movement of the vehicle to operate said cloth, and casings encircling and having spring connection with the axles of the rolls on which the cloth is wound, whereby the speed of said rolls is diminished as their diameter increases by the accumulation of cloth thereon, substantially as described.

2. In an advertising device, a cloth carrying the advertising matter, a series of rolls upon which said cloth moves, additional rolls upon which the cloth is wound, gearing connecting one of said first-mentioned rolls with the axles of the latter, cylindrical casings adapted to revolve on said axles, coiled springs within the casings connecting the said casings with the axles, and levers adapted to release the springs when wound, substantially as described.

3. In an advertising apparatus, a series of rolls, a cloth carrying the advertising matter moving thereon, a gear-wheel having teeth on a portion of its circumference meshing with a pinion on the axle on one of said rolls, a revoluble bracket carrying gear-wheels adapted to be connected to the driving mechanism, either of said gear-wheels being adapted to mesh continuously with teeth on the face of the mutilated gear, and means for operating said revoluble frame, substantially as described.

4. In an advertising device, a series of rolls, a cloth carrying the advertising matter moving on said rolls, an additional roll or rolls on which the cloth is adapted to be wound, the last-mentioned roll having a cylindrical casing thereon revoluble independent of the axle

or roll proper, a coiled spring within the casing, one end of which is secured to the axle, an aperture in the end of the casing in which the other end of the spring is adapted to rest, 5 a spring-arm adapted to press said spring from the aperture, and a lever to operate said spring-arm, substantially as described.

5. In an advertising device, a series of rolls, a cloth carrying the advertising matter moving thereon, a gear-wheel operating said rolls, 10 a revoluble bracket carrying gears connected with the driving mechanism, either of which is adapted to engage the first-mentioned gear, the pivotal frame P', consisting of the parallel side bars or rods Q' Q', pivotally engaging 15 at opposite ends the transverse rods T' and R', the rod R' being suitably pivotally connected to the lever W a suitable distance above its pivotal connection with the wagon, 20 and the spring X', adapted to force and hold said lever into engagement with either one of the notches Z' A'' B'' of the slot Y' of the wagon-seat, substantially as described.

6. The combination of a pivotal rectangular frame P', operated by a suitable lever of 25 a vertical curved bracket pivoted or bolted and secured to the said frame and carrying gears operated by suitable driving mechanism and provided with bearing-arms concentric

to said pivotal point resting and adapted 30 to oscillate upon similar concentric bearing-plates secured in cross-bar of wagon, a series of rolls carrying advertising matter, and a mutilated gear-wheel connecting said rolls with the gears on the pivoted bracket, substantially as described. 35

7. The combination, with a frame P', pivoted in bracket S', of forward supporting casting S and secured permanently at the middle portion of rear cross-bar T to a vertical bracket G, having at its upper end the short 40 transverse shaft L, provided with sprocket-wheel and beveled gear O and O', keyed or otherwise rigidly secured upon opposite ends of said shaft L, substantially as described. 45

8. The combination, with a mutilated spur-wheel P, meshing with and adapted to operate a series of gears and pinions secured to rollers over which advertising-cloth passes, of 50 the actuating power or rear wheels D of said wagon through the mechanism described, substantially as set forth.

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

WILLIAM W. McCALL.

Witnesses:

G. G. THORPE,

H. E. PRICE.