(No Model.) 3 Sheets—Sheet 1.

C. S. STAFFORD.

ADVERTISING VEHICLE.

No. 588,783. Patented Aug. 24, 1897.

Fig. 1.

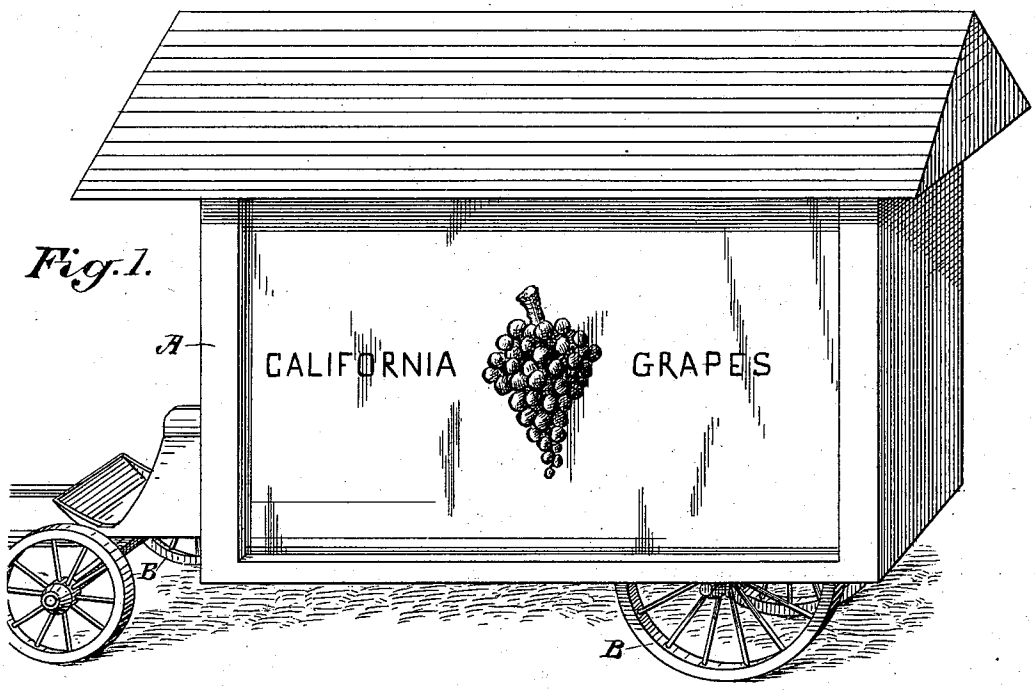
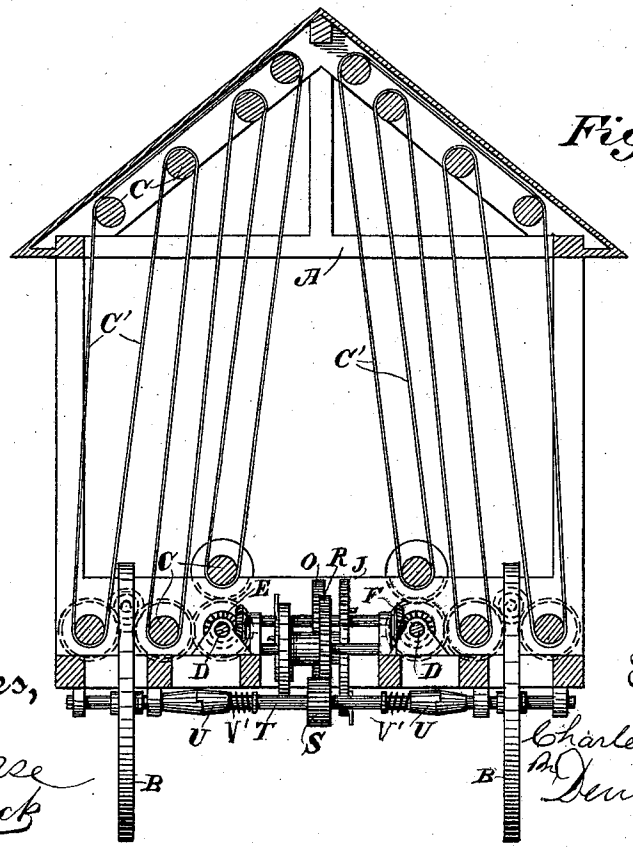


Fig. 2.



Witnesses,

H. T. Fourse

H. F. Ascheck

Inventor,

Charles S. Stafford

by Dewey & Co.

attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

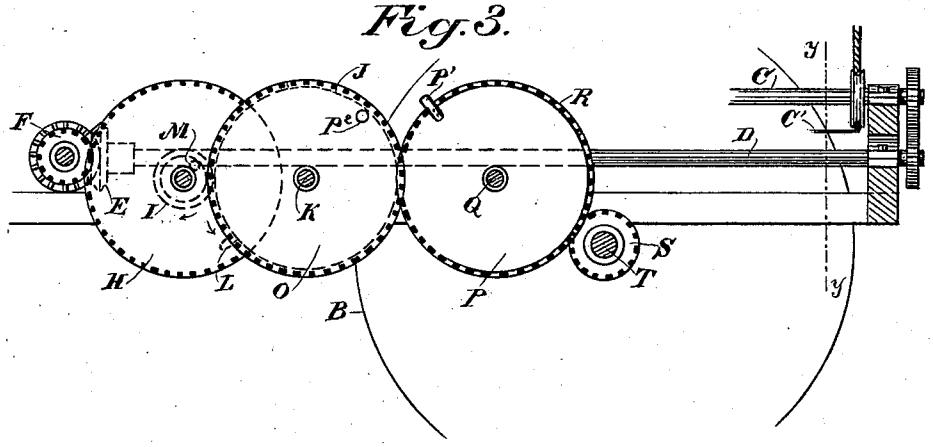
(No Model.) 3 Sheets—Sheet 2.

C. S. STAFFORD.

ADVERTISING VEHICLE.

No. 588,783. Patented Aug. 24, 1897.

Fig. 3.



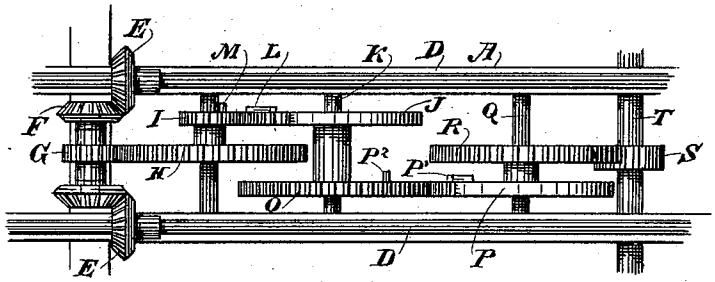
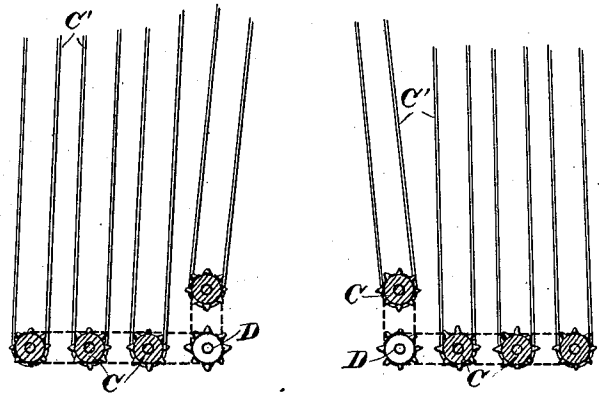


Fig. 4.

Fig. 5.



Witnesses,
H. F. Ascheck

Inventor
Charles S. Stafford
By Dewey & Co.
Attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 3 Sheets—Sheet 3.

C. S. STAFFORD.

ADVERTISING VEHICLE.

No. 588,783. Patented Aug. 24, 1897.

Fig. 6.

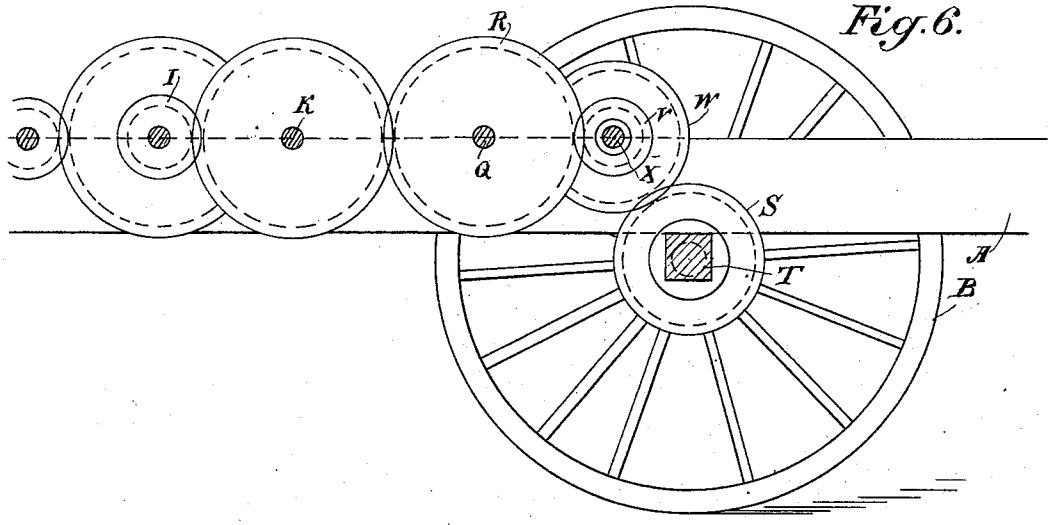
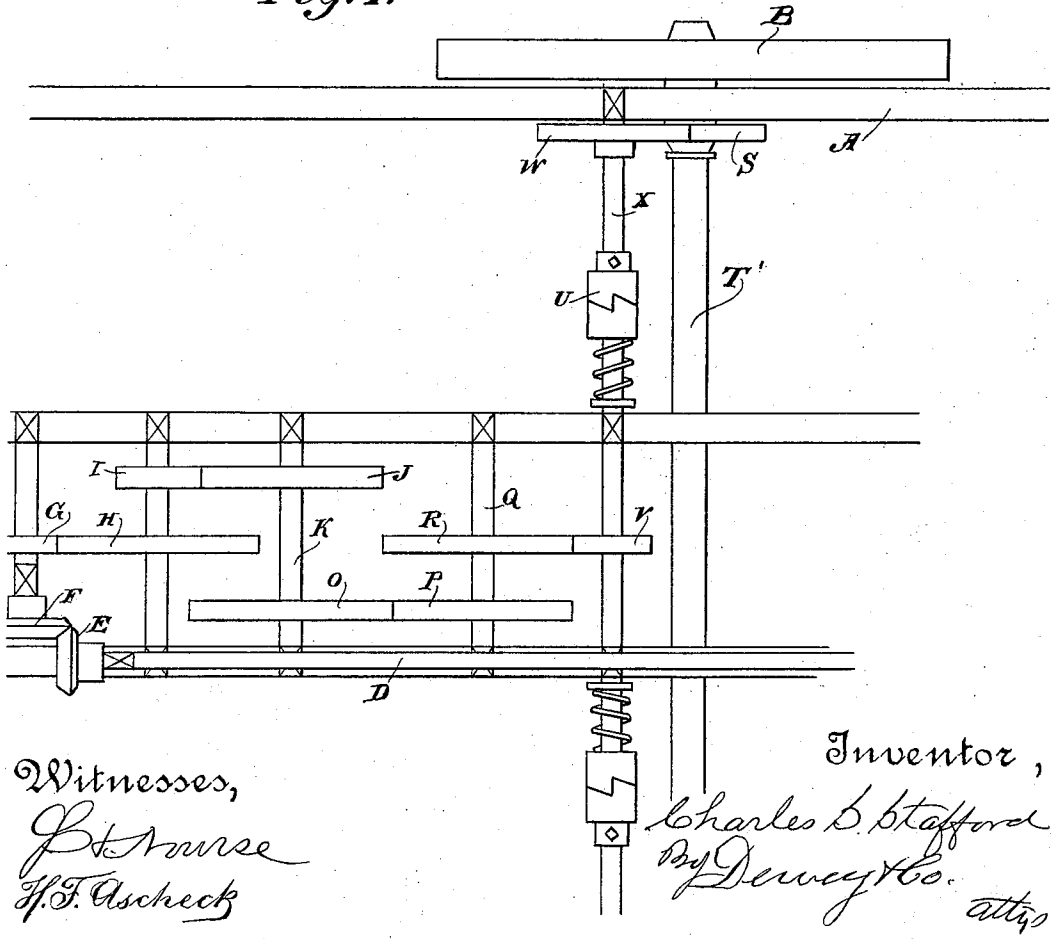


Fig. 7.



Witnesses,
F. L. Ames
H. F. Ascheck

Inventor,
Charles S. Stafford
By Dewey & Co.
attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES S. STAFFORD, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-THIRD TO THOMAS LEACH, OF SAME PLACE.

ADVERTISING-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 588,783, dated August 24, 1897.

Application filed September 21, 1896. Serial No. 606,460. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. STAFFORD, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Advertising-Vehicles; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to advertising-vehicles; and it consists of the parts and the construction and combination of parts hereinafter described and claimed.

Figure 1 is a view of my vehicle. Fig. 2 is a vertical section of the same on the line *y y* of Fig. 3. Fig. 3 is a side view of the driving mechanism, the canvas being moved by ropes and pulleys. Fig. 4 is a plan of the same. Fig. 5 shows the arrangement of parts when using sprocket-wheels and chains. Figs. 6 and 7 are modified constructions to be hereinafter referred to.

The object of my invention is to provide a wagon or vehicle with movable flexible sides or surfaces and a mechanism interposed between these and the wheels of the wagon, so that the rotation of the latter will advance the movable surfaces periodically and intermittently.

A is a frame of any suitable or desired form and construction mounted upon wheels B, so as to form a wagon or vehicle.

In the present case I have shown a device in the form of a rectangle of considerable height having a roof of triangular cross-section.

Between the ends of the frame, near the top and bottom, are drums or rollers C, so journaled that they will rotate easily, and upon these drums or rollers the flexible belt or advertising-surface C′ is disposed. In the present case I have shown one of these surfaces with its rollers upon each side of the structure, and it will be understood that these surfaces may be moved by independent mechanism, or, if preferred, both may be moved by one intermediate mechanism.

The belts or surfaces are passed over the rollers up and down. There is a sufficient number of rollers to provide for as great a surface as may be desired, and the belts being endless will be propelled by the rotation of the rollers, so as to advance them as may be desired.

The rollers may be driven in various ways, either by intermeshing gear-wheels fixed upon the ends of the roller-shafts and engaging each other in the manner to rotate the rollers in the proper direction with relation to each other, or the roller-shafts may have sprocket-wheels fixed upon them adapted to be driven by chains which pass over the wheels.

The rollers at the bottom of the apparatus are thus variously connected, while those above are free to move independently as the belt or surface passes over them. In some cases it may be found advisable to fix ropes in the edges of the belt-surfaces, the ropes passing over suitable pulleys, by which they are moved.

It will be manifest that rope or belt pulleys could also be fixed upon the roller-shafts to transmit motion, but these various transmitting devices being well known I do not especially limit myself to either.

The term "gear" is generally used to indicate any intermediate driving mechanism.

My arrangement enables me to use a belt or surface of considerable length and adapted to contain a large number of advertisements in a comparatively small space.

The lower rollers are each positively driven, which overcomes the tendency of the folds of the belt slipping at points intermediate of the end rollers and also enables the said intermediate portions to be positively acted on to give a uniform motion to all parts of the belt, insuring an easy movement to the latter without danger of cramping or binding.

In order to transmit the power to drive the rollers and belts, various combinations of gearing may be employed, which gearing is driven from the wheels of the vehicle. In the present case I have shown two longitudinal shafts D, journaled at the ends of the vehicle and having driving devices fixed to them to intermesh with those upon the drums or rollers. These shafts have also fixed upon them bevel-gears E, which engage with the corresponding gears F upon a horizontally-journaled shaft. This shaft has a pinion G fixed upon it, and the pinion is engaged by a gear-wheel

H, mounted upon another horizontal shaft, which in turn carries a pinion I, and this pinion is engaged by a mutilated gear-wheel J upon still another shaft K. This mutilated gear-wheel has teeth upon one-third or other desired portion of its periphery. In the present description I have shown it having teeth upon one-third of its periphery. Upon one side of this gear-wheel is a projecting spur L, which engages a projecting pin or lug M upon the shaft of the gear-wheel H when the teeth of the mutilated wheel have arrived at a point which will cause them to mesh with the pinion I. This guide always places the teeth of the gear and pinion with such relation to each other that they are sure to mesh properly and not strike against each other in opposition.

Upon the same shaft with the wheel J is another gear-wheel O, which in turn engages with a mutilated gear-wheel P fixed upon the shaft Q. This gear in the present case is shown as having teeth upon one-fourth of its periphery, and it also has a guide-lug P′, which engages a lug P^2 upon the gear-wheel O, so as to insure the correct intermeshing of the teeth. Upon the shaft of the gear P is another gear-wheel R, and this engages with a pinion S upon the driving-shaft or axle T.

It will be manifest that the mutilation of the gears may be varied in any desired proportions, the duration of movement produced when the gears are in mesh being the point to be considered, and it will be manifest that the train of gears here described is simply representative of any train which will produce equivalent results.

The operation will then be as follows: The vehicle being drawn or propelled in any usual or suitable manner, the shaft T will be rotated and will transmit power through the various gears to rotate them when all are in mesh and to interrupt the rotation when either of the mutilated gears are out of mesh with their fellows. The proportion of the smooth to the gear part of these wheels and the relation of their diameters are such that the belts or surfaces upon which the advertisements are displayed will be moved at each engagement a sufficient distance to bring a new advertisement upon the surface and cause the former one to disappear, or, if preferred, two or more may be exposed at one time.

In order to enable the vehicle to turn corners, it is necessary to provide a clutch or clutches, as shown at U, one part being fixed upon the shaft and the other slidable upon the key or feather and preferably actuated by a spring, as shown at V′, so that the two parts are normally kept in mesh; but if either wheel runs faster than the other one or both the clutches will act, the parts sliding over each other, so that the faster moving wheel will be allowed to travel temporarily independent of the remainder of the shaft, and when the machine is again moving the clutch action is such as to revolve the shaft from the wheels.

In Fig. 3 the pinion S is shown as fixed upon the main wheel-shaft.

In Figs. 6 and 7 I have shown the shaft X as a supplemental one journaled parallel with the main wheel-axle T′, which in this case is stationary. The driving-gears S are fixed to the wheel-hubs and engage corresponding gears W upon the ends of the shaft X, the rest of the mechanism operating as before described.

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

1. An advertising attachment for vehicles consisting of a structure mounted upon wheels, a series of parallel drums or rollers journaled longitudinally at the bottom thereof and a second corresponding series journaled near the top and approximately in line above the lowermost ones, an endless band or flexible surface passing around said rollers, power devices on the rollers of the lower series whereby said rollers are positively connected and driven while those of the upper series are free to move independently as the belt or surface passes over them, and a gear or mechanism driven from the shaft of one of the vehicle-wheels whereby power is transmitted to rotate the rollers and advance the belt.

2. An advertising attachment for vehicles consisting of a structure mounted upon wheels and having a series of parallel-connected and positively-driven rollers at the bottom and a series of parallel rollers near the top movable independently as the advertising belt or surface advances, an endless belt or flexible surface passing around said rollers, and provided with advertisements, mechanism by which each of the lower rollers is positively driven, in the same direction, gear-wheels mounted upon the apparatus intermediate between the wheel-axle and the rollers and an interposed mechanism whereby the rotation of the apparatus and advance of the surface are rendered intermittent.

3. In an advertising attachment for vehicles, a structure mounted upon bearing-wheels, a series of parallel rollers journaled at top and bottom, an endless band or surface containing the advertisements passed about said rollers, a gear or mechanism by which the lower rollers are connected in series to rotate in unison, a longitudinal shaft having a gear engaging one of the roller-gears to transmit motion thereto, a transverse shaft journaled horizontally upon the frame with beveled gear to transmit to the longitudinal shaft, one or more mutilated gears intermediate between the driving-shaft and the gear G, mechanism whereby the teeth of the mutilated gears are caused to engage with those of their connected pinions at each partial revolution.

4. An advertising device for vehicles consisting of a structure mounted upon wheels, longitudinally-journaled drums or rollers situated in the upper and lower part of the

structure respectively, an endless flexible band or surface passing alternately up and down over the various rollers having the matter to be exposed imprinted upon its exterior surface, gears or mechanism connecting the roller-shafts so that they will rotate in unison, the longitudinally-journaled shaft with a gear engaging and driving the rollers, a transverse shaft with beveled gear intermediate between it and the longitudinal shaft, a pinion G upon said shaft through which power is transmitted from the wheel-axle, one or more mutilated gears mounted upon independently-rotating shafts intermediate between the wheel-axle and the pinion G, whereby the latter and the connected belts or surfaces are given an intermittent movement to expose new surfaces upon the belt and lugs or devices formed upon the mutilated gears with corresponding lugs or pins upon their engaging pinions or gears whereby the teeth of the mutilated gears will be caused to mesh correctly with those of the continuous ones, after a period of non-rotation when the two have been brought together.

In witness whereof I have hereunto set my hand.

CHARLES S. STAFFORD.

Witnesses:
S. H. NOURSE,
H. F. ASCHECK.