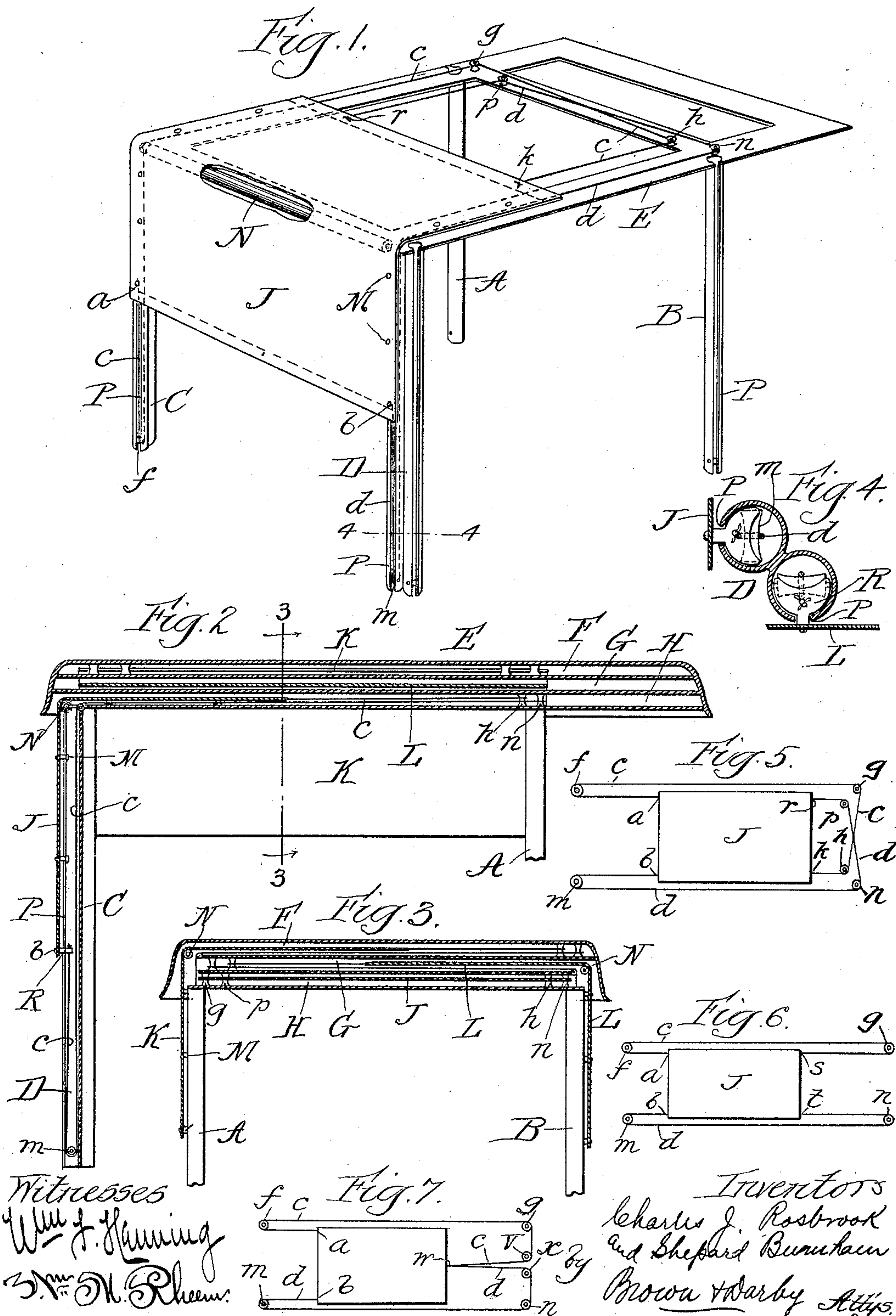


(No Model.)

C. J. ROSBROOK & S. BURNHAM.  
CURTAIN FOR VEHICLES.

No. 603,512.

Patented May 3, 1898.





# UNITED STATES PATENT OFFICE.

CHARLES J. ROSBROOK AND SHEPARD BURNHAM, OF DIXON, ILLINOIS.

## CURTAIN FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 603,512, dated May 3, 1898.

Application filed September 27, 1897. Serial No. 653,243. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES J. ROSBROOK and SHEPARD BURNHAM, citizens of the United States, residing at Dixon, in the county of Lee and State of Illinois, have invented a new and useful Improvement in Curtains for Vehicles and the Like, of which the following is a specification.

This invention relates to curtains for vehicles and the like.

The object of the invention is to provide an arrangement of independent curtains or flaps for the sides and backs of carriage-tops and the sides of street-cars and the like and means whereby said curtains may be raised or lowered without rolling or crumpling the same.

A further object of the invention is to provide simple, novel, and efficient means for operating the side or end curtains of vehicles easily and readily.

Other objects of the invention will appear more fully hereinafter.

The invention consists, substantially, in the construction, combination, location, and arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally specifically pointed out in the appended claims.

Referring to the accompanying drawings and to the various views and reference signs appearing thereon, Figure 1 is a detached view in perspective of a carriage-top, showing the application thereto of a covering or flap for the rear end thereof in accordance with the principles of the invention, a portion of the carriage-top being omitted and a portion of the curtain being broken off. Fig. 2 is a view in vertical longitudinal section of a carriage-top, showing the application thereto of the side and rear flaps or curtains in accordance with the principles of the invention. Fig. 3 is a broken view, in transverse section, on the line 3 3, Fig. 2, looking in the direction of the arrows. Fig. 4 is a detail view, in transverse section, on the line 4 4, Fig. 1. Fig. 5 is a diagrammatic view illustrating the operation of raising and lowering the curtains or flaps in accordance with the principles of the invention. Fig. 6 is a view similar to Fig. 5, showing a slightly-modified arrangement of the device for raising and lowering the curtains or flaps. Fig. 7 is a view simi-

lar to Figs. 5 and 6, showing another slightly-modified arrangement for raising and lowering the curtains or flaps and embodying the principles of the invention.

The same part is designated by the same reference sign wherever it appears throughout the several figures of the drawings.

Heretofore it has been customary to detachably fasten the side and rear end flaps of carriage-tops along the edges thereof to the uprights or supports of the top. In such cases in order to raise such curtains or flaps it was necessary to roll the same and to support the roll by means of straps on a top beam of the carriage-top or else to wholly detach such curtains or flaps, fold the same, and place them under the seat out of the way. This has proved objectionable, and particularly in the finer grades of carriages, for the reason that the rolling or folding of such curtains or flaps rapidly caused the material out of which they were made to crack or wrinkle. In the case of such curtains for street-cars the same objection has been experienced. In some cases, however, it has been endeavored to employ sliding curtains for street-cars; but such curtains were objectionable for the reason that difficulty was met in raising or lowering the same, the end piece of such curtains frequently binding in the guides in which they slid. In order to overcome these objections and to provide a construction and arrangement whereby curtains or flaps of the nature referred to are constantly maintained in a stretched condition and whereby such curtains or flaps may be easily and readily raised or lowered and when not required for use may be maintained in their flat condition and readily stored in the roof of the car or vehicle is the purpose of the present invention.

While we have shown and will now describe the application of the invention to a carriage-top, we desire to be distinctly understood that the principles of the invention may be equally well adapted for use in other relations, such as street-cars and the like, and we do not desire, therefore, to be limited or restricted in this respect in the use of the invention.

In the particular form shown reference signs A B designate the standards or supports for the front of a carriage-top; C D, the rear supports for same, and E the framework



of the roof of the top, supported by the said uprights and standards A, B, C, and D.

The roof of the vehicle has formed or arranged therein the pockets or recesses F G H, separated by suitable parallel partitions and adapted to receive the side and end or rear flaps or curtains when said curtains are not in use.

Reference sign J designates the rear or end curtain or flap of the vehicle, and in the particular arrangement shown, to which, however, we do not desire to be limited, is arranged to be received and to operate within the lowermost pocket or recess H in the roof of the vehicle.

K designates the flap or curtain on the left-hand side of the vehicle and is arranged to be received and to operate within the pocket or recess F, and L is the curtain or flap of the right-hand side of the vehicle and is arranged to be received and to operate within pocket or recess G in the roof of the vehicle.

In order to secure the desired results and to raise and lower the curtains or flaps with facility and without folding, rolling, or crumpling them, we provide the following arrangement: At the corners *a b* of the lower edge of the curtain or flap J is attached a cord *c d*. The cord *c* extends from the corner *a* downwardly to and around a suitable support, which may be a friction-roller *f*, arranged at the lower end of the upright C, thence upwardly to the roof of the vehicle-top and thence along through a recess or chamber H, over a roller or other suitable support *g*, thence transversely across the width of the top, over a roller or other suitable support *h*, mounted upon a suitable part of the framing of the top, and is finally secured at the point *k* to the corner of the upper edge of the curtain or flap J, diagonally opposite the point or corner *a*, to which the other end of said cord or rope *c* is connected. In a similar manner cord or rope *d* is arranged to pass from the point *b* downwardly to and around a suitable support—as, for instance, a friction-roller *m*—at the lower end of the upright or standard D, thence upwardly to the roof of the vehicle-top and through recess or chamber H to and around a suitable support *n*, thence transversely across the vehicle-top to and around a suitable support *p*, and is finally secured, as at the point *r*, adjacent to the corner of the upper edge of the curtain or flap J, diagonally opposite the point *b*, to which the other end of said cord *d* is secured. In Fig. 5 is shown diagrammatically the leads of the operating-cords *c d*.

From the foregoing description it will be seen that by grasping the lower edge of the curtain or flap J and exerting an upward pull thereon such pull will be exerted upon the cords *c d* in a direction to increase the distance between the rollers or supports *f m* at the lower ends of the uprights C D and the points *a b*, at which said cords are attached to the corners of the lower edge of said cur-

tain or flap, and that correspondingly such pull will be exerted or extended throughout the length of said cords *c d*, thereby exerting corresponding pulls on the upper edge of the curtain or flap J at the points *r k*, at which the inner ends of said cords *c d*, respectively, are attached, and since the ends of the cords *c d* are connected, respectively, to diagonal corners of the curtain or flap J it will be observed that a constantly uniform pull will be exerted, tending to always maintain a tension on the curtain or flap J, whether such curtain or flap is being raised or lowered, and hence such curtain will be always maintained in a stretched condition, thereby avoiding the rolling, folding, or crumpling of same, and when not in use it may be raised until it is entirely received within the pocket or chamber H in the roof of the vehicle or may be lowered to any desired point.

In Fig. 6 we have shown an arrangement which, while operative, is not the preferred arrangement of the leads for the operating-cords *c d*. In this arrangement after cord *c* passes around the roller *f* and the guide roller or support *g* it is carried directly back to the curtain or flap J at the point *s*, being the upper corner of the curtain or flap on the same side with the corner to which the other end of said cord is attached, and, similarly, operating-cord *d* is carried from support *n* directly back to the point *t* on the same side of the curtain or flap J, to which the other end of said cord is attached. In this arrangement, however, greater care must be exercised to exert the same degree of pull on each of the corners at the lower end of the curtain or flap in order to operate the same, for otherwise danger would be incurred of tilting the curtain or flap sidewise if a greater degree of strain is exerted on one corner than on the other.

In Fig. 7 is shown another modified arrangement wherein cord *c*, for instance, after passing over its guide roller or support *g*, is arranged to pass transversely across the roof of the vehicle-top to a support or roller *v* about midway the transverse width of such roof, and thence is carried to the point *w* about midway the width of the upper edge of the curtain or flap J, and, similarly, cord *d* is carried from its guide roller or support *n* to and around guide roller or support *x*, located with respect to guide-roller *v* of the cord *c*, and thence to a similar point *w*, at which cord *c* is attached, to the upper edge of the curtain or flap J. In this arrangement, however, care is also required to be exercised in raising or lowering the curtain in order to avoid the objection of tilting the curtain or flap laterally or edgewise and causing the same to bind in its guides. Therefore while the arrangements shown in Figs. 6 and 7 are included in the spirit and scope of the invention the arrangement shown in Fig. 5 is deemed the preferable arrangement.

While we have described specifically and



in detail the arrangement for raising and lowering only the rear or end curtain or flap J, it is to be understood that the side curtains or flaps K L are similarly arranged, and hence specific description thereof is unnecessary, it being understood that the operating-cords of the side flap or curtains and the guide-rollers therefor are identical in arrangement with the arrangement above described with respect to the curtains or flaps J and that said side curtains or flaps are arranged to operate in their respective chambers or recesses F G in the roof of the vehicle.

In order that the operating-cords may be concealed from view, thereby presenting a neater appearance and removing such cords from the possibility of being caught or easily broken, the standards A B C D are preferably tubular, and the guide-rollers *m f*, through which the operating-cords *c d* of the rear flap or curtain, and the corresponding guide rollers or supports for the side curtains or flaps, are arranged and suitably journaled within these tubular supports, as clearly shown in the drawings, and said cords are arranged to pass and to operate within said tubular standards.

In order that the curtains or flaps may be suitably guided and suitably attached to their respective operating-cords, the tubular standards are slitted longitudinally, as at P, and a suitable block or other projection R, suitably connected to the lower corners of the curtains or flaps, are arranged within said tubular standards, and to these blocks or projections are attached the ends of the operating-cords of the curtains or flaps.

If desired, and in order to prevent the flapping of the curtains by the wind or otherwise in their lowered position, we may provide suitable blocks or projections M and suitably attach the same at suitable distances along the edges of the curtains and arrange the heads or enlarged parts of such projections or blocks to slide vertically in the slots or openings P in the tubular standards, as clearly indicated in Fig. 2.

Since the side and rear or end curtains of a carriage-top operate in planes at right angles to each other, it is necessary to provide two standards at each rear corner of the carriage-top, with the slots or openings P thereof presented at right angles to each other, as most clearly shown in Fig. 4 of the drawings.

If desired, suitable antifriction-rollers N may be provided in the roof of the vehicle, over which the curtains may roll while being raised or lowered, as clearly indicated in Figs. 2 and 3.

The curtains or flaps may be made of any suitable or desirable material, and when formed of dressed material, such as is usually employed, the objection of wrinkling or crumpling the same is entirely obviated by the use of our invention, and the carriage-top maintains, even after extended use, its neatness of appearance.

The provision of pockets or chambers in the roof of the vehicle in which the curtains operate not only enables the curtains to be maintained in their tension while in use, but also when not in use they are kept in their flat condition, thereby preventing wrinkling or crumpling the same, and thereby also is attained the important advantage of securing circulation of air between the curtains or flaps when stored therein, hence avoiding mildewing of such curtains.

From the foregoing description it will be seen that we provide an exceedingly simple and efficient construction and arrangement for operating curtains or flaps for carriages, cars, or other vehicles wherein said curtains may be easily and readily raised or lowered and conveniently stored when not in use.

Many variations and changes in the details of construction and arrangement may readily suggest themselves to persons skilled in the art and still fall within the spirit and scope of our invention. We do not desire, therefore, to be limited or restricted to the exact details shown and described; but,

Having now set forth the object and nature of our invention and various forms and arrangements embodying the principles thereof, what we claim as new and useful and of our own invention, and desire to secure by Letters Patent of the United States, is—

1. The combination with a carriage or other vehicle, having false roofs, thereby forming pockets or chambers, of side and end curtains or flaps adapted to be received or stored respectively in such chambers and operating-cords for each of such curtains or flaps, said cords being connected at the respective ends thereof to the top and bottom edges of such curtains, whereby said curtains may be raised and lowered and constantly maintained in stretched condition, as and for the purpose set forth.

2. The combination with a carriage or other vehicle top having false roofs or partitions, thereby forming chambers or recesses in the roof thereof, of side and end curtains or flaps arranged to be received and stored respectively in said chambers or recesses and cords connected at the respective ends thereof to the bottom and top ends of each of said curtains, and guides arranged in said roof over which said cords operate, whereby said curtains may be raised and lowered and constantly maintained in stretched condition, as and for the purpose set forth.

3. The combination with a carriage or other vehicle top having partitions, thereby forming independent chambers or recesses in the roof thereof, of side and end curtains or flaps arranged to operate and to be stored respectively in said chambers or recesses, means for guiding said curtains or flaps and operating-cords connected at the respective ends thereof to the bottom and top edges or ends of each of said curtains or flaps, and guides arranged in the respective chambers in said



roof over which said cords operate, as and for the purpose set forth.

4. The combination with a carriage or other vehicle, of slidable curtains and means for operating said curtains, and constantly maintaining the same in stretched condition, comprising operating-cords connected at the respective ends thereof to diagonal corners of said curtains or flaps and guides over which said cords operate, as and for the purpose set forth.

5. In a carriage or other vehicle, corner supports or standards, slidable curtains or flaps, operating-cords connected at the ends thereof to the top and bottom edges of said curtains at diagonally opposite points, and a support or guide arranged adjacent to the ends of said standard over which said cords operate, as and for the purpose set forth.

6. In a carriage or other vehicle, tubular corner standards or supports, said supports being slitted longitudinally, slidable curtains or flaps, guides connected to the edges of said curtains or flaps and arranged to project through said slits or openings and into said tubular standards, operating-cords arranged within said tubular standards and connected at the ends thereof to the edges or ends of said curtains or flaps, guides arranged in said standards and over which said cords operate, as and for the purpose set forth.

7. In a carriage or other vehicle, a roof hav-

ing partitions, thereby forming independent pockets or chambers, corner-standards for supporting said roof, slidable end and side curtains or flaps, guides arranged adjacent to the lower ends of said standards, other guides arranged within the chambers in said roof, and operating-cords connected at the respective ends thereof to the top and bottom edges or ends of each of said curtains and arranged to pass around said guides, as and for the purpose set forth.

8. In a carriage or other vehicle, a roof having pockets or chambers, tubular corner standards or supports therefor, guides arranged within the lower ends of said tubular standards, slidable curtains, operating-cords connected at the respective ends thereof to the bottom and top ends of the curtain, said cords arranged within said tubular support and adapted to pass over said guide, and other guides arranged in the chambers in said roof and over which said cords are arranged to pass, as and for the purpose set forth.

In witness whereof we have hereunto set our hands, this 24th day of September, 1897, in the presence of the subscribing witnesses.

CHARLES J. ROSBROOK.  
SHEPARD BURNHAM.

Witnesses:

E. A. BARTHOLOMEW,  
M. J. MCGOWAN.