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Carriage-Top.

No. 59,526. Patented Nov. 6, 1866

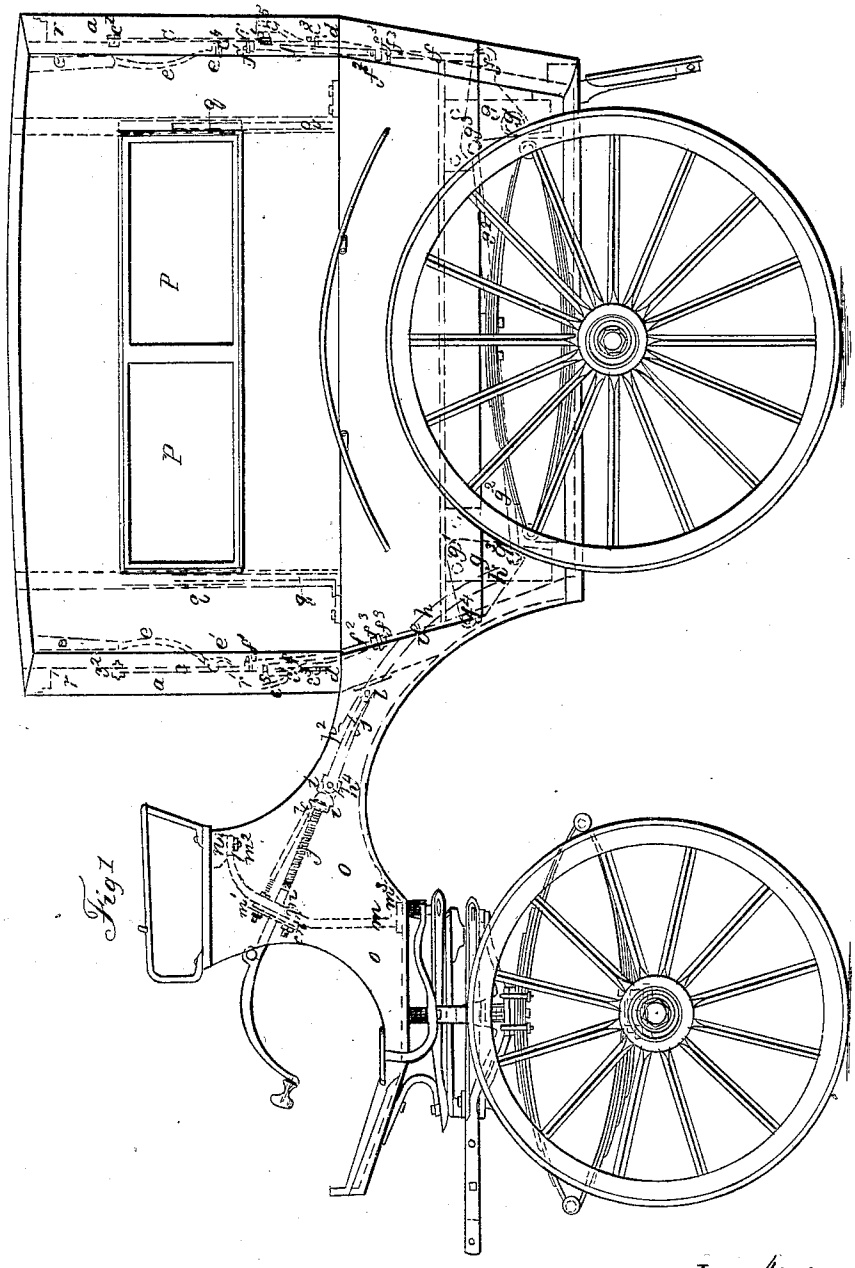

Fig 1

Witnesses;
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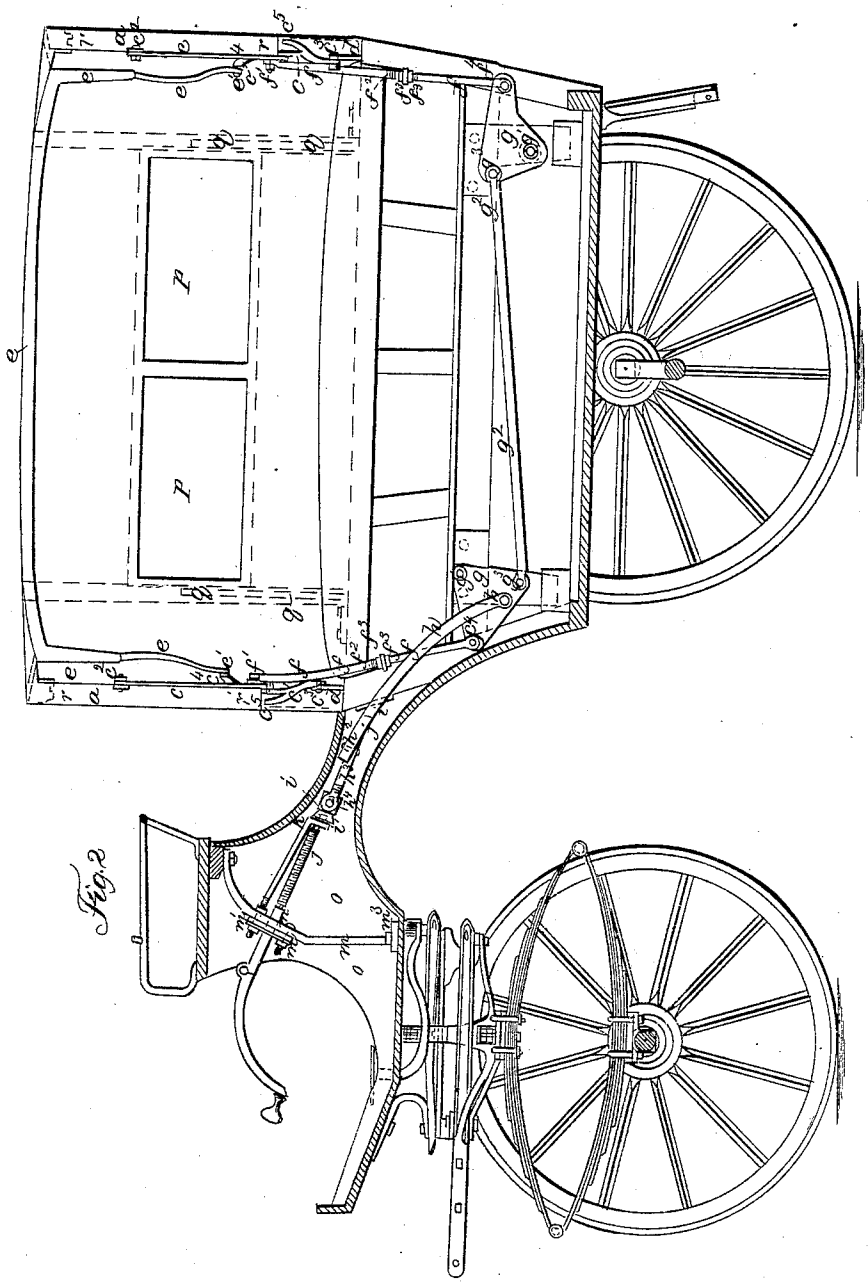

Fig. 2

Witnesses
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7 Sheets—Sheet 3.

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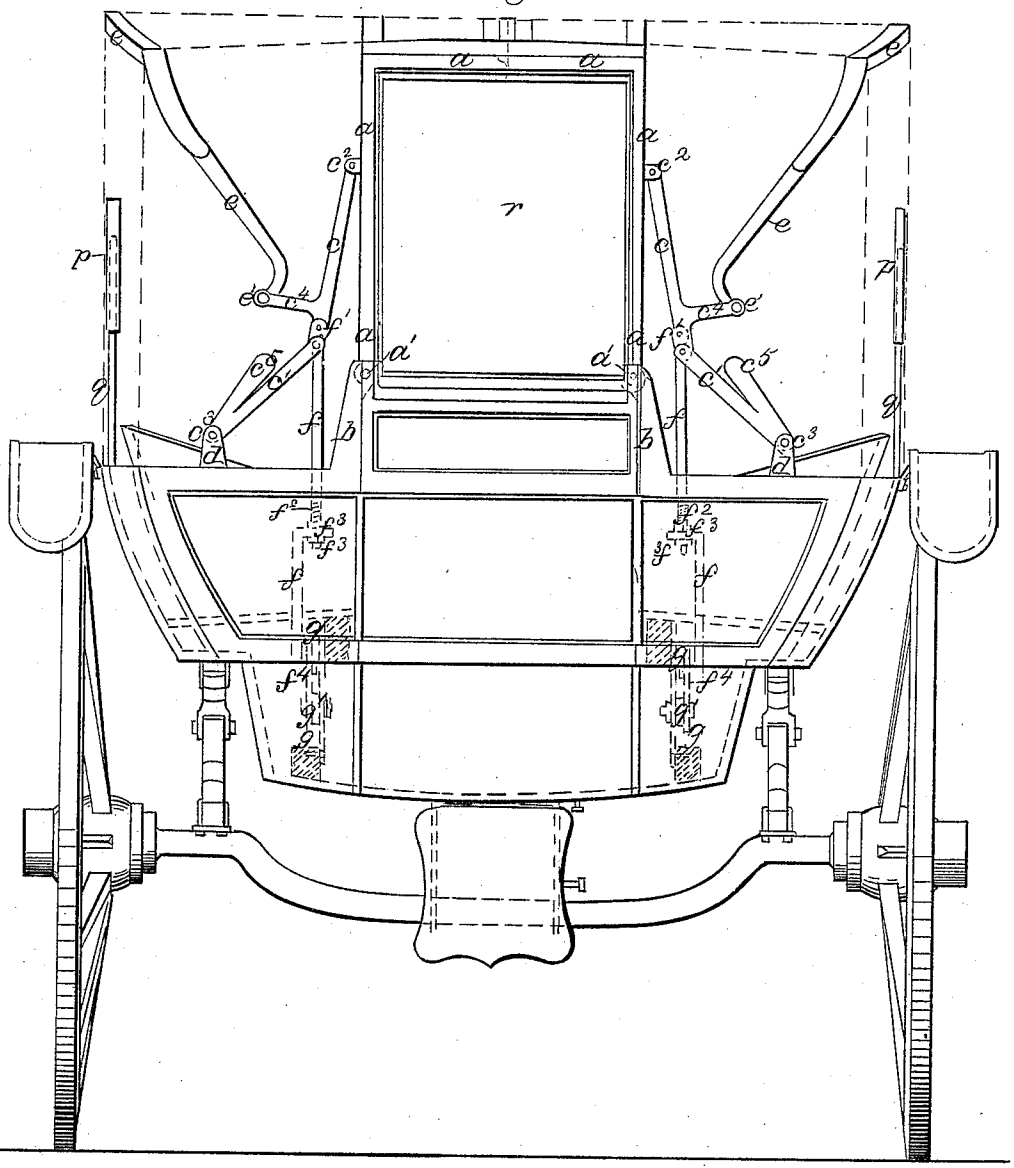
Fig 3



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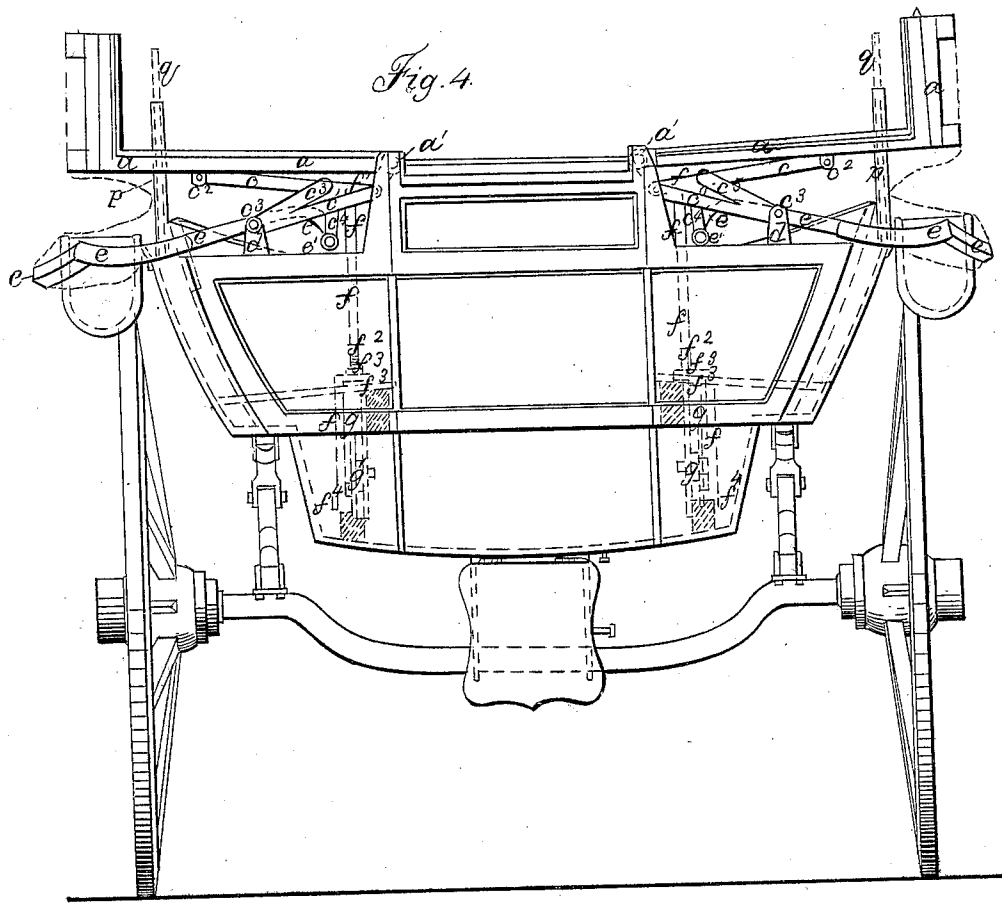
Carriage-Top.

No. 59,526.

Patented Nov. 6, 1866.

Fig. 4.



Witnesses
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7 Sheets—Sheet 5.

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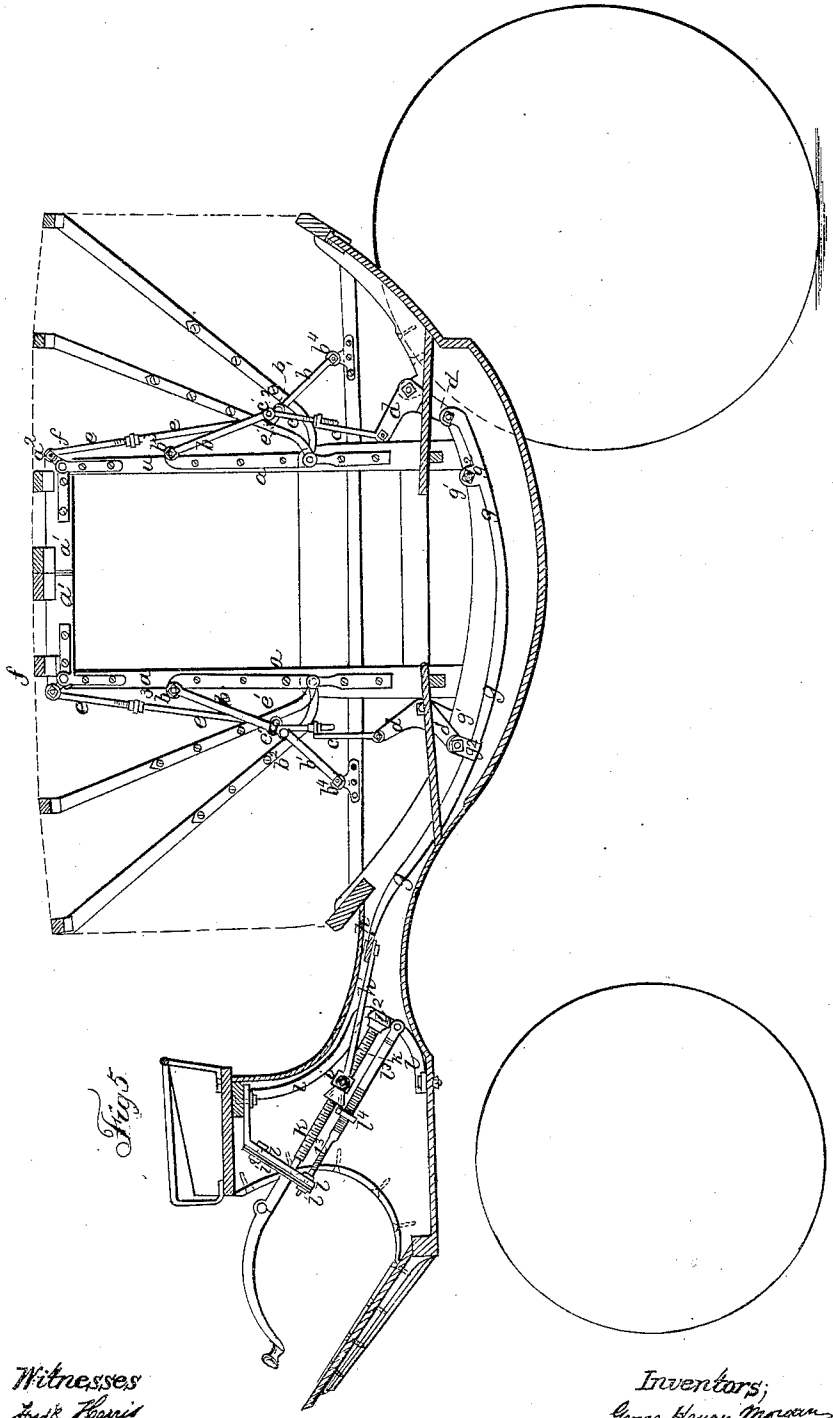

Fig 5

Witnesses
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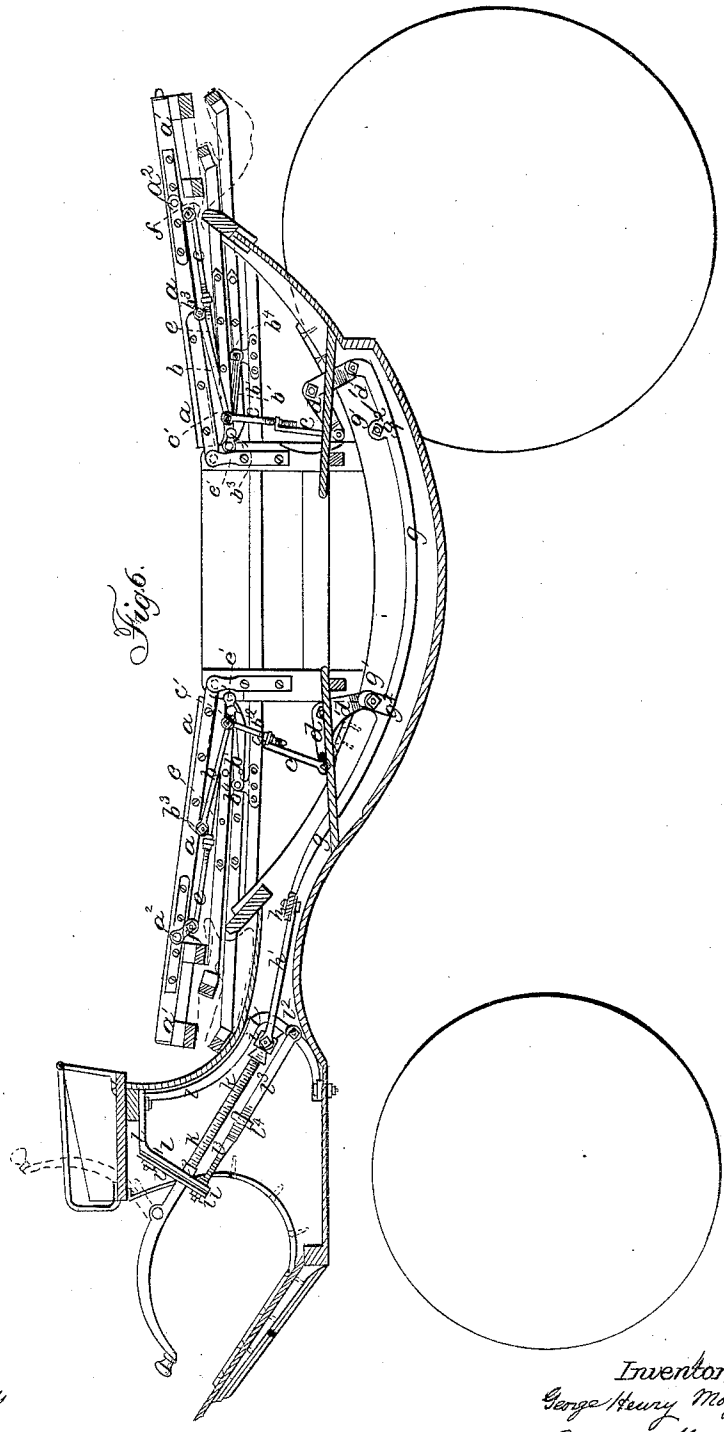

Fig. 6.

Witnesses;
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Fig. 7

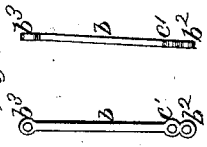


Fig. 8

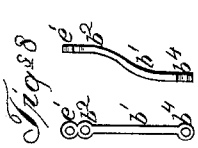
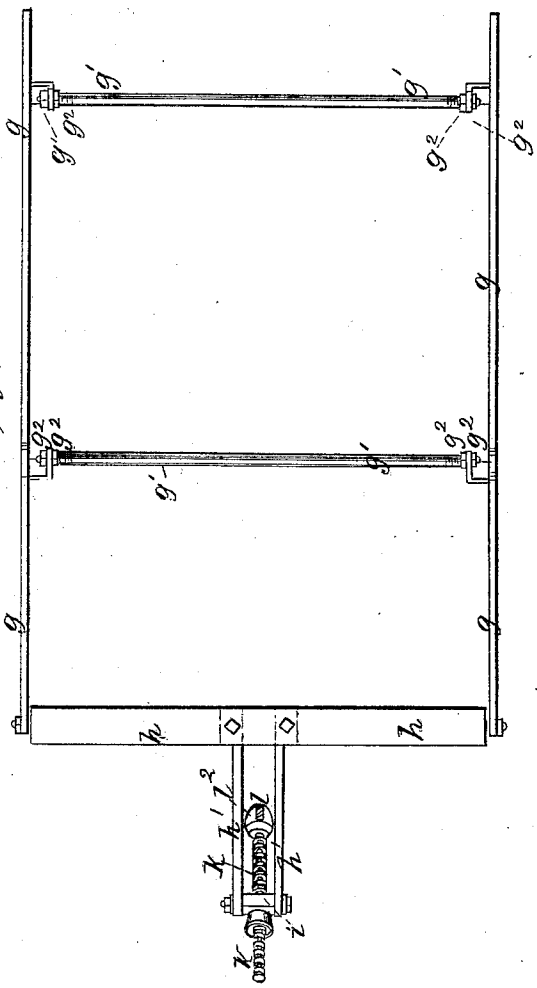


Fig. 9



Witnesses;
Fredk Harris
Benj J B Mills

Inventors;
George Henry Morgan
Edward Morgan

UNITED STATES PATENT OFFICE.

G. H. MORGAN AND E. MORGAN, OF EDGEWARE ROAD, COUNTY OF MIDDLESEX, ENGLAND.

IMPROVEMENT IN CARRIAGES.

Specification forming part of Letters Patent No. **59,526**, dated November 6, 1866.

To all whom it may concern:

Be it known that we, GEORGE HENRY MORGAN and EDWARD MORGAN, both of Edgeware Road, in the county of Middlesex, England, subjects of the Queen of Great Britain, have invented or discovered new and useful Improvements in Carriages; and we, the said GEORGE HENRY MORGAN and EDWARD MORGAN, do hereby declare the nature of the said invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement thereof—that is to say:

The invention has for its object improvements in carriages, and relates, first, to improvements in wagonettes and other vehicles of a similar description.

Heretofore, when applying covers to wagonettes and vehicles of a similar description, it has been usual to apply the covers in such way that when it is desired to open or close the cover of the carriage it has been necessary to act upon such covers by hand at each side of the carriage. Now this part of our invention consists in the application of heads or covers to such description of carriages which shall be capable of being raised or lowered simultaneously or held in any position by a person on the driving-seat or other convenient part of the carriage, according to whether it is desired that the vehicle be used as an open or closed carriage. This part of our invention also relates to the means employed for raising and lowering such covers. For this purpose we employ head-joints of a somewhat similar character to that previously employed for other descriptions of carriages, the upper parts of such head-joints being connected to the head of the carriage and the lower parts thereof being connected to the body of the carriage. To the upper limb of each of the head-joints a projection is fixed, and to these projections the hoop-sticks are pin-jointed. To each of the head-joints the upper end of a connecting-rod is pin-jointed, the lower end of which is also pin-jointed to a bell-crank or plate-lever, which turns upon a center of motion fixed below the seats of the carriage or in other convenient position.

The two bell-crank or plate levers on each side of the carriage are connected together by a link or connecting-rod in such manner that when motion is given to one of such levers the other lever may simultaneously receive motion. To each of the bell-crank or plate levers at the front of the carriage an arm from a cross-bar is pin-jointed, while other arms from this cross-bar are pin-jointed to a nut, to which a to-and-fro motion is given when desired by the revolution of a screw, to the end of which a handle is connected in any convenient manner. This screw is provided at one end with a collar, which is mounted in a bearing fixed in the "driving-boot" or below the driver's seat, and at the other end it is formed into a pivot, which works in a step or bearing fixed to the front "pillars," or to any suitable part of the framing; and in order that means may be provided for effectually lubricating the nut and the bearings of the screw, we fix a grease-cup to the nut and another to the step, while the collar of the screw is held between two plates, and is surrounded with leather or other absorbent material, which may be supplied with grease as desired.

The connecting rods or links connecting the head-joints with the bell-crank or plate levers are made in two parts, on one of which is formed a screw, with which it is connected to the other part of the lever by lock-nuts, thereby affording facility for adjustment. We also provide the head or cover with side and end lights or windows, the side lights being guided in descending, when the head of the carriage is being lowered, in suitable guides, while the end lights are received into suitable recesses formed in a similar manner to that adopted for the doors of other descriptions of carriages. A projecting piece is provided to each of the lower limbs of the head-joints, in order that when the head of the carriage is lowered the covering thereof shall be prevented coming between the levers for raising and lowering the head of the carriage, and thereby be protected from injury. The head-joints and other parts employed for raising and lowering the head of the carriage are placed between the cover and the lining thereof, and thereby hid from view. Suitable stops are provided to prevent over-winding of the parts.

Our invention relates, secondly, to various improvements on an invention for which we

are also applying for Letters Patent in the United States of America; and consists, first, in an improved mode of communicating motion from the driver's seat to the bell-crank levers for raising and lowering the head of a carriage. For this purpose we employ a screw giving motion to a nut thereon, which is pin-jointed to rods fixed to a cross-bar, which at its ends is pin-jointed to connecting rods or links, which are also pin-jointed to the bell-crank levers already referred to. The screw is supported in bearings in a similar manner to that described with respect to the first part of our invention, and is provided with similar means for lubrication. The frame carrying the bearings in which the screw turns is fixed at the upper part to a bar under the driver's seat, and at the lower part to the bottom of the driving-boot, while a tie-rod is also employed to prevent the top and bottom bearings springing apart from each other. This tie-rod is also provided with a screw for adjustment, a suitable stop being fixed thereon with capability of ready adjustment.

This part of the invention also relates to improved means of turning over the upper part of the framing over the doors of the carriage. This is effected by connecting the head-joints by a link or connecting rod with a short crank fixed to the upper parts of the framing described.

The invention also relates to forming the links or connecting rods, connected to the head-joints and giving motion thereto and to the upper part of the frame of a carriage, in two parts, connected together by a screw and lock-nuts, as previously described in the first part of the invention.

This part of the invention also relates to improved means of connecting together the links on each side of the carriage, so as to form a rigid frame, by which the various parts of the mechanism are controlled to work at the same time. This is effected by forming a screw on the ends of the cross bars or rods and connecting them to the side links or connecting-rods by lock-nuts, thereby affording facility for adjustment to varying widths.

Having thus described the nature of our invention, we will proceed to describe the drawings annexed.

Figure 1 is a side view, and Fig. 2 a sectional side view, of a wagonette constructed according to the first part of our invention. Fig. 3 is an end view of the same, with the head or cover thereof and the parts for giving motion thereto in the position they would assume when the carriage was being used as a closed carriage; and Fig. 4 is an end view thereof, with the parts shown in the position they would assume when open.

a a are the two parts of the framing forming the head of the wagonette. These parts are hinged at a^1 to the pillars *b* of the carriage.

c c are the upper limbs of the head-joints, and *c′ c′* are the lower limbs thereof. The upper limbs are pin-jointed at c^2 to the parts *a* of the head of the wagonette, while the lower limbs are pin-jointed at c^3 to standards *d*, fixed to the body of the carriage. c^4 are projections from the upper limbs, *c*, to which the hoop-sticks *e* are pin-jointed at e^1 by jointing the hoop-sticks, as shown in the drawings, instead of to the frame of the carriage. They are drawn in when the cover is open to a level, or nearly so, with the top framing of the head or cover. To the upper limbs are also pin-jointed at f^1 links or connecting-rods *f*, which are formed, as shown, in two parts, for facility of adjustment, there being a screw-thread, f^2, formed on one part which, by lock-nuts f^3, is connected to the other part thereof, as shown. The connecting-rods at f^4 are pin-jointed to bell-crank or plate levers *g*; and these bell-crank or plate levers are fixed with capability of turning on studs or axes g^1, while they are connected together by connecting-rods g^2, pin-jointed thereto at g^3, as shown.

h h are arms or rods pin-jointed at h^1 to the two front bell-crank or plate levers *g*. These bars are rigidly connected to a cross-bar, h^2, having arms h^3 fixed thereto, which are pin-jointed at h^4 to the nut *i*, to which motion is given by means of a screw, *j*, as shown. The nut *i* is provided with a grease-cup, *i′*, and is limited in its motion in the one direction by coming against the stop *k*, and in the other direction by coming against the step or bearing *l*. The end *j′* of the screw *j* is supported in the step or bearing *l*, while the other end is provided with a collar, which is held between the frame *m* and the plate m^1, leather or other absorbent material being applied around the collar to facilitate the greasing of the bearing. The frame *m* is fixed at m^2 to the bar *n*, and at m^3 to the lower part of the driving-boot *o*.

c^5 are projections fixed to the lower limbs of the head-joints, and acting to press the cover of the carriage outward, and prevent injury thereto in the lowering of the head of the carriage.

p are side lights, which are connected to the webbing of the head of a wagonette, and are guided in their up and down motions in the guides *q*.

r is a light or window, which, when desired, is dropped into a recess formed for it in the door; and *r′* is another light, which may be dropped into a suitable recess formed for it in the body of the carriage.

The head-joints and parts connected therewith are placed between the cover and the lining of the carriage and are hid thereby.

Fig. 5 is a sectional side view of a landau, constructed according to the second part of our invention, and showing the head thereof and the parts for giving motion thereto in the position they would assume when the head of the carriage is raised.

Fig. 6 is a sectional side view of a landau, showing the parts in the position they would assume when the head thereof is lowered.

a a are the two parts of the framing forming the head of the carriage, and a^1 a^1 are the up-

per parts thereof, which are capable of turning upon joints at a^2 a^2. b b are the upper limbs of the head-joints, and b^1 b^1 are the lower limbs thereof, separate views of which are shown at Figs. 7 and 8. They are pin-jointed together at b^2. The upper limbs are also pin-jointed at b^3 to the part a of the frame, while the lower limbs are pin-jointed at b^4 to standards fixed to the body of the carriage, as shown.

c c are links or connecting-rods, which are at their upper end, c^1, pin-jointed to the upper limbs b of the head-joints, while at their lower ends they are pin-jointed to the bell-crank levers d d, which are shaped to the curves required to fit the interior of the carriage. e e are other links, which at e^1 e^1 are connected to lower limbs, b^1 b^1, of the head-joints, and at e^2 e^3 are connected to the short cranks f f, fixed to the parts a^1 a^1 of the head of a carriage.

The links c c and e e are formed, as shown, in two parts, the one part being formed with a screw-thread and connected to the other part by lock-nuts, as previously described with reference to similar links employed in the first part of our invention. The bell crank levers d d are pin-jointed to connecting-rods g g, which, at their front ends, are pin-jointed to a cross-bar, h, having arms h^1, pin-jointed to the nut i, as shown. The nut is provided with a grease-cup and receives motion by means of the screw k, which is provided with a handle, pin-jointed thereto, as shown. The upper end of the screw is provided with a collar, which is held in position between the frame l and plate l^1, leather or other absorbent material being placed around the collar, while the lower end thereof is formed into a pivot and turns in a step or bearing, l^2, formed on the frame l. The frame l is fixed at the upper part, as shown, to the under side of the driver's seat, and at the lower part to the bottom of the driving-boot, while the two bearings for the screw k are held firmly together by the tie-bar l^3, as shown. l^4 is a stop to limit the amount of motion given to the nut i in the one direction, and the step or bearing l^2 forms a stop to limit the amount of motion given thereto in the contrary direction. The tie-bar l^3 is fixed at the lower end to the frame l by a bolt and nut, and at the upper end it is provided with a screw-thread and lock-nuts, by which it is fixed at that part and ready means of adjustment are afforded.

The connecting-rods g g are connected together transversely by rods or bars g^1 g^1, which at each end are provided with screw-threads, and are fixed to the connecting-rods g g by lock-nuts g^2 g^2, as shown more clearly by Fig. 9, which is a plan of some of the parts separately. By these means facility is afforded for ready adjustment to varying widths.

Having thus described the nature of the invention and the manner of performing the same, we would have it understood that we do not confine ourselves to the precise details herein shown and described; but

What we do claim is—

1. The application of a head or cover to a wagonette, or other similar vehicle, capable of being raised or lowered as desired, substantially as herein shown and described.

2. The application to wagonettes or other similar carriages of means or apparatus for raising and lowering the head or cover thereof, which apparatus is capable of being put in motion from the driver's seat or other suitable part of the carriage, substantially as herein shown and described.

3. The mode of applying the mechanism for raising and lowering the heads or covers of wagonettes and other similar vehicles between the cover and the lining of the carriage, substantially as herein shown and described.

4. The mode of applying side lights p to the heads or covers of wagonettes constructed according to our invention, in such manner that they shall be capable of rising and falling with the heads or covers thereof, and be guided in their motion in suitable guides, substantially as herein shown and described.

5. And in respect to the second part of our invention, we claim the mode of giving motion to the upper parts, a^1 a^1, of the heads or covers of landaus and other similar carriages, substantially as herein shown and described.

6. The mode of constructing the connecting-rods c c and e e, when applied to landaus or other carriages, in two parts, connected together so as to afford facility for adjustment, substantially as herein shown and described.

7. The mode of connecting together the connecting-rods g g, so as to form a rigid frame, by means of rods or bars provided with screws at their ends and fixed to the connecting-rods by lock-nuts, substantially as and for the purpose herein shown and described.

8. The mode of supporting and working the screw by which motion is given to the apparatus for raising and lowering the heads of carriages, substantially as herein shown and described.

9. The mode of communicating motion from the screw k to the connecting-rods g g, and of limiting the amount of motion in either direction of the nut i, substantially as herein shown and described.

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