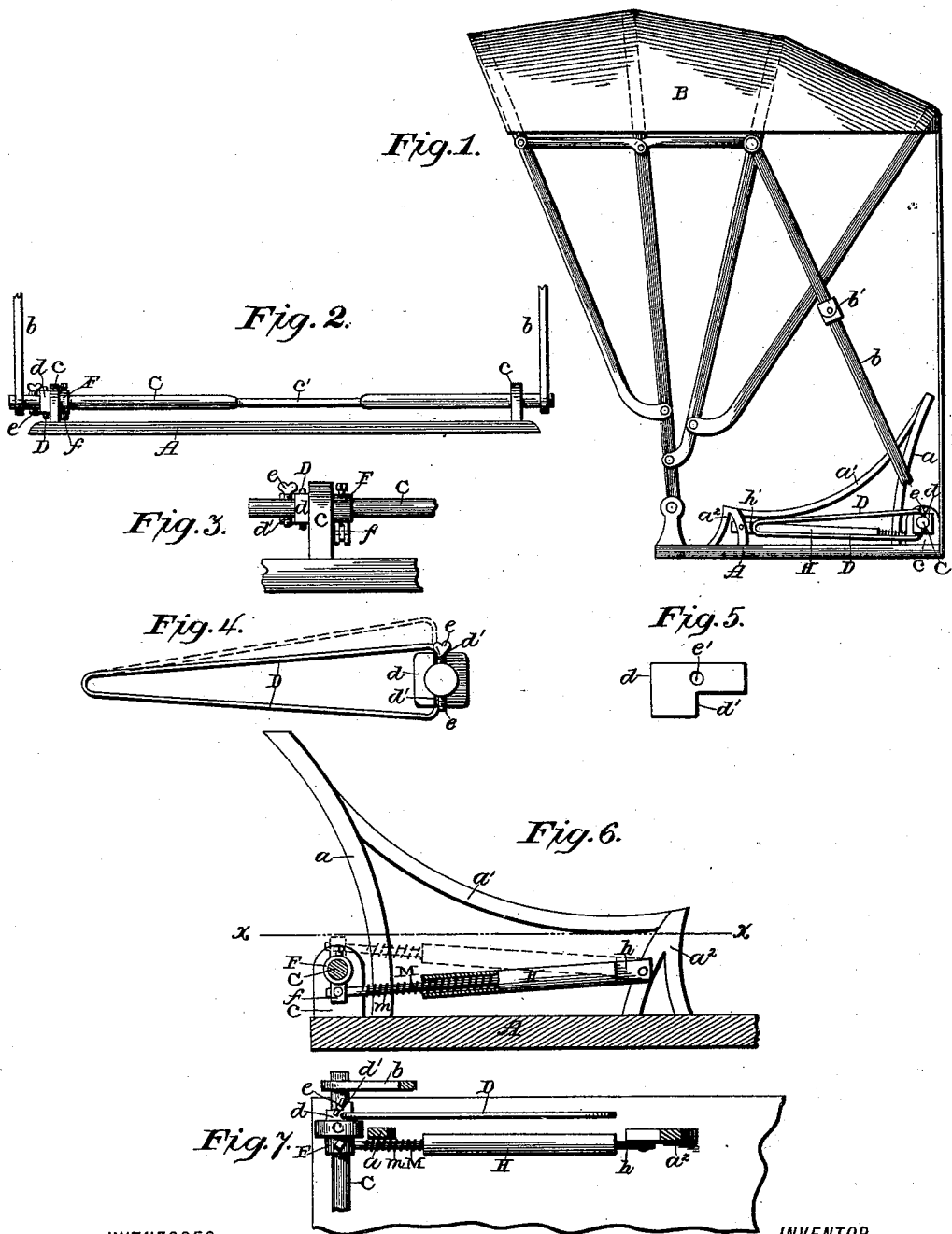


(No Model.)

A. M. HESS.
TOP JOINT FOR VEHICLES.

No. 478,696.

Patented July 12, 1892.



WITNESSES:

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UNITED STATES PATENT OFFICE.

AMOS M. HESS, OF MARTINSVILLE, PENNSYLVANIA.

TOP-JOINT FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 478,696, dated July 12, 1892.

Application filed February 20, 1892. Serial No. 422,187. (No model.)

To all whom it may concern:

Be it known that I, AMOS M. HESS, a citizen of the United States, residing at Martinsville, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Top-Joints for Vehicles, of which the following is a specification.

This invention relates to that class of top-joints in which the raising and lowering of the top of the vehicle are effected by a lever connected with the joint; and the objects of the improvements are, first, to lower the top and then house the lever without affecting the position of the other parts of the mechanism with which the lever is connected; second, to automatically secure the top in a raised or lowered position, and, third, to actuate the braces on the side of the vehicle opposite to that on which the lever is located by a yielding pressure.

The invention consists in the construction and combination of the various parts, as hereinafter described, and then specifically pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a side elevation of a buggy-seat and top attached thereto. Fig. 2 is a rear view of the rock-shaft and attachments, and Fig. 3 is an enlarged rear elevation of one end of the same. Fig. 4 is an enlarged side view of the connection between the rock-shaft and lever. Fig. 5 is an enlarged top view of the lever-head. Fig. 6 is an enlarged inner side elevation of the mechanism for securing the top in a raised or lowered position; and Fig. 7, a horizontal section on the line *x x*, Fig. 6.

Similar letters indicate like parts throughout the several views.

Referring to the details of the drawings, A indicates the seat; *a*, the back thereof; *a'*, the arm, and *a²* the front post of the arm.

B is the buggy-top; *b*, the brace of the buggy-top, and *b'* the knuckle of the brace.

C is a rock-shaft extending across the buggy behind the back of the seat. This shaft is journaled in posts *c*, located at opposite sides of the seat A, and to the ends thereof are keyed or otherwise rigidly secured the lower ends of the braces *b*.

On one end of the shaft C and outside of

the adjacent post *c* there is loosely mounted a lever-head *d*, having a vertical shoulder *d'*, extending vertically across its entire outer face in front of the longitudinal axis of the shaft. This head is secured on the shaft by a thumb-screw *e*, which passes through a threaded opening through the said shaft parallel with and back of the shoulder *d'*.

In the top and bottom of the head *d* are formed recesses or holes *e'*, adapted to be engaged by prongs on the actuating-lever D. This lever is preferably made of stout spring-wire, one end of which is bent back on the other, as shown in Figs. 1 and 4, and the free end of each spring-arm thus formed is bent inward to form a prong constructed to engage the holes *e'* of head *d*, the action of the spring holding the prongs in engagement with those holes. The position of the shaft, lever, and lever-head when the top of the buggy is raised is fully shown in Figs. 1, 2, and 4. The raising of the outer end of the lever lowers the top, as will be readily understood, and by screwing outward the thumb-screw *e* when the lever is raised, so as to relieve the lower part of the shoulder *d'* from contact with the lower end of the screw, the lever can be returned to its original position outside the arm of the seat without disturbing the position of the shaft or top. To entirely disengage the lever, the arms thereof need be simply sprung from their connection with the holes in the lever-head.

On the shaft on the inside of one of the posts, preferably that against which the head *d* rests, is keyed a collar F, having radial jaws *f*. (Shown more particularly in Figs. 3 and 6.) A hollow cylinder H is pivoted through its stem *h* to the post *a²* of the seat-arm opposite to the collar F. In the cylinder there is a plunger-rod M, the outer end of which is pivoted between the jaws *f*, and it is forced outward from the cylinder by a spring *m*, coiled about it. When the top of the buggy is in an elevated position, the jaws *f* depend vertically, and are held in that position by the action of the plunger and spring, as shown in full lines in Fig. 6. As the lever is turned up the jaws *f* are revolved inward and upward until they assume a vertical position, in which position they are also held by the

plunger, as shown by dotted lines in Fig. 6. It will be seen that as the cylinder is pivoted in front and the plunger has a hinge connection with the jaws *f* the movements of the parts readily conform with each other. The center of the rock-shaft C is flattened, as shown at *c'*. This flattened portion of the shaft is tempered to form a spring, so that as the lever at the one end of the shaft is operated to turn the same motion may be communicated to the brace on the other side with a yielding pressure, thus preventing sudden and unusual strain on that end of the shaft.

It is not absolutely necessary that the form of lever described be used, nor that the lever be detachable from its head; nor do I restrict myself to the precise construction of the parts for preventing the accidental turning of the shaft, nor to that for connecting the ends of the shaft by a spring, as a number of changes may be made in the construction of those parts without varying from the spirit or scope of my invention.

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

1. The combination, with the rock-shaft and braces, of a lever-head loosely mounted on the rock-shaft and having a shoulder formed on the face thereof, a detent passing through an opening in the shaft and adapted to engage said shoulder, and a lever-arm connected with the head, substantially as and for the purpose specified.

2. The combination, with the rock-shaft and braces, of a lever-head loosely mounted on the rock-shaft and having a shoulder formed on the face thereof, a screw passing through the rock-shaft back of said shoulder, and a lever-arm connected with the head, substantially as and for the purpose specified.

3. The combination, with the rock-shaft and braces, of a lever-head loosely mounted on the rock-shaft and having a shoulder formed on the face thereof, a detent passing through the rock-shaft back of said shoulder, and a lever-arm detachably connected with the head, substantially as and for the purpose specified.

4. The combination, with the rock-shaft and

a lever for operating the same, of a spring-actuated plunger having a pivotal connection at one end with the frame of the vehicle and pivoted at the other end to an arm on the rock-shaft, substantially as and for the purpose specified.

5. The combination, with the rock-shaft and a lever for operating the same, of a cylinder pivoted to the front of the seat, and a spring-actuated plunger located in the cylinder and having the outer end pivoted to an arm on the rock-shaft, substantially as and for the purpose specified.

6. The combination, with the rock-shaft and braces, of a lever-head loosely mounted on the rock-shaft and having a shoulder formed on the face thereof, a detent passing through the rock-shaft back of said shoulder, a lever-arm connected with the head, and a spring-actuated plunger having a pivotal connection at one end with the frame of the vehicle and pivoted at the other end to an arm on the rock-shaft, substantially as and for the purpose specified.

7. The combination, with the rock-shaft and braces, of a lever-head loosely mounted on the rock-shaft and having a shoulder formed on the face thereof, a detent passing through the rock-shaft back of said shoulder, a lever-arm detachably connected with the head, a cylinder pivoted to the front of the seat, and a spring-actuated plunger located in the cylinder and having the outer end pivoted to an arm on the rock-shaft, substantially as and for the purpose specified.

8. The combination, with the rock-shaft and braces, of means for operating said shaft and a spring connection between the ends of the shaft, substantially as and for the purpose specified.

9. The combination, with the braces, of a rock-shaft having a reduced portion between its ends, said reduced portion being tempered to form a spring, and a lever secured to the shaft, substantially as and for the purpose specified.

A. M. HESS.

Witnesses:

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WM. R. GERHART.