R. H. PFAFF.

VEHICLE TOP SUPPORT.

APPLICATION FILED NOV. 15, 1911.

1,050,167.

Patented Jan. 14, 1913.

2 SHEETS—SHEET 1.

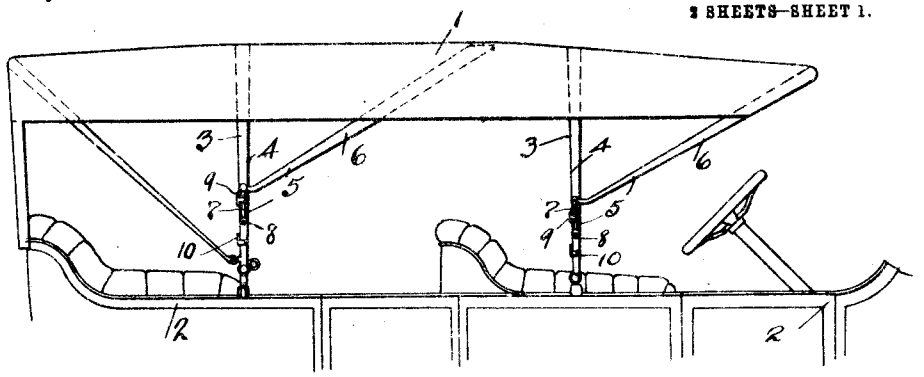



FIG. 1.

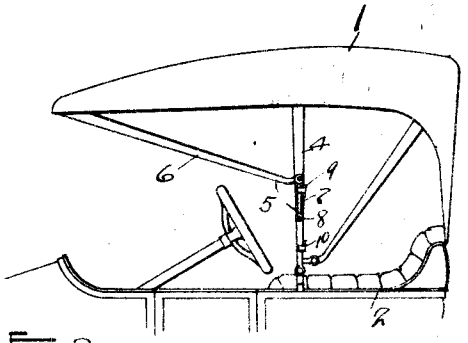



FIG. 2.

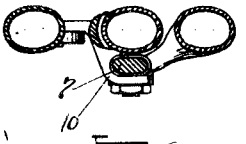



FIG. 6.

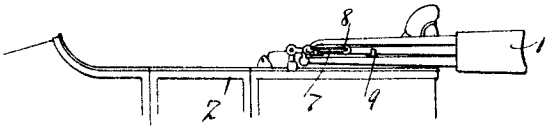



FIG. 3.

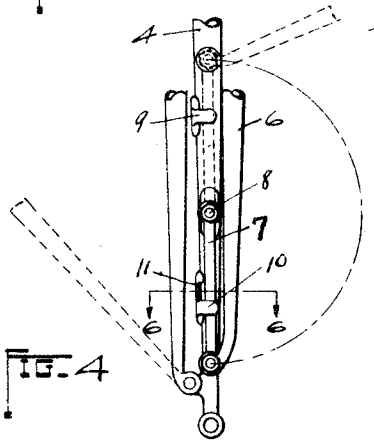



FIG. 4.

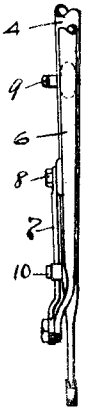



FIG. 5.

WITNESSES-

Oliver M. Kappler

Howard Gay

INVENTOR-

Rudolf H. Pfaff

BY J. B. Gay

ATTORNEY-

R. H. PFAFF.

VEHICLE TOP SUPPORT.

APPLICATION FILED NOV. 15, 1911.

**1,050,167.**

Patented Jan. 14, 1913

2 SHEETS—SHEET 2.

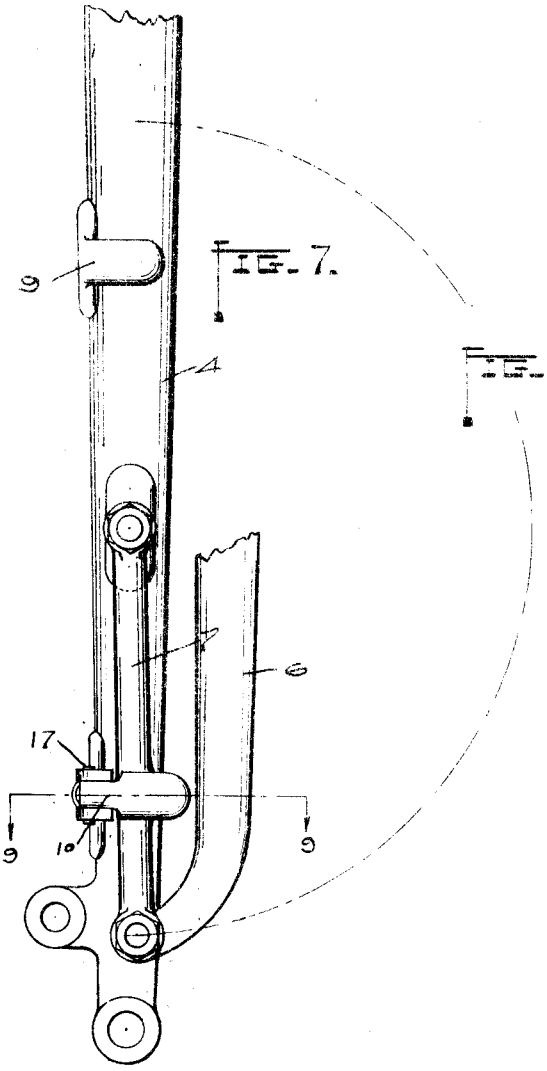
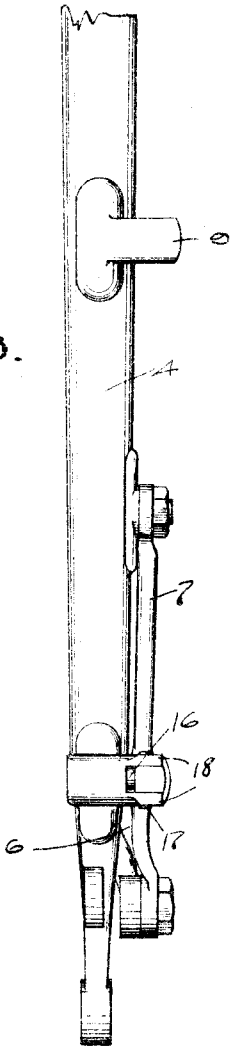



FIG. 7.

FIG. 8.



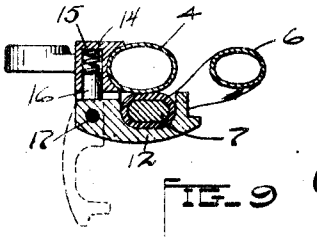




FIG. 9.

WITNESSES-

Oliver M. Kappler.

Horace B. Fay

INVENTOR-

Rudolf H. Pfaff

BY

J. B. Fay

ATTORNEY.

# UNITED STATES PATENT OFFICE.

RUDOLF H. PFAFF, OF ASHTABULA, OHIO.

## VEHICLE TOP-SUPPORT.

1,050,167. Specification of Letters Patent. Patented Jan. 14, 1913.

Application filed November 15, 1911. Serial No. 660,482.

*To all whom it may concern:*

Be it known that I, RUDOLF H. PFAFF, a citizen of the United States, and a resident of Ashtabula, county of Ashtabula, and State of Ohio, have invented a new and useful Improvement in Vehicle Top-Supports, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to an improved supporting bow of the folding type so generally used in cape tops for automobiles and carriages, and will hereafter be referred to for convenience as a carriage bow, although it is not limited to use in carriages, but may be adapted to supporting awnings, motor boat tops and folding shades of various types.

My improved carriage bow provides a more rapidly and conveniently adjusted bow than any heretofore used, although it requires no more space when folded and is simple in operation and inexpensive to manufacture.

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawings and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings:—Figure 1 is a side elevation showing a cape top constructed with my improved bows and attached to the body of an automobile; Fig. 2 is a similar view but showing a smaller size of top; Fig. 3 is a similar view to that of Fig. 2 but with the top folded; Fig. 4 is a side elevation of my improved carriage bow; Fig. 5 is an end elevation of the bow shown in Fig. 4; Fig. 6 is a sectional view on the line 6—6, Fig. 4; Fig. 7 is a side elevation of a modification of my device, which will probably be my preferred form of construction; Fig. 8 is an end elevation of the device shown in Fig. 7; and Fig. 9 is a section on the line 9—9 Fig. 7.

In Fig. 1 is shown a cape top 1 of familiar design attached for purposes of illustration to an automobile body 2. The top is mounted on bows 3, which comprise main supporting means 4, here illustrated as oval rods of suitable material, and auxiliary supporting means 5. The latter comprise a supporting member proper 6, and a second or adjusting member 7 which is pivotally attached to the main supporting means 4 at 8.

Before continuing the description of my improved bow, the construction of the bow which it is designed to supplant, will be briefly outlined and the objections thereto mentioned. The long tops now in use must of course be supported at the forward or overhanging end. This is a simple matter in itself and heretofore has been accomplished by providing members similar to my members 6 which were detachably connected to the supporting members 4 or their equivalents. In folding the top the first-named members were detached and engaged in eyes adjacent to the lower ends of the supports. This construction necessitated the use of fastening means to hold the detachable members in their positions and these had to be removed and replaced at every adjustment of the top. The present construction eliminates all necessity for detaching these members, the only thing required being a pull on the members, when they fall into bent lugs or "keepers" provided for them as will be further described.

The adjusting members 7 are adapted to rest in one of two positions. When the top is raised the two adjusting members in each bow will extend upward from the point of attachment, as shown in Figs. 1 and 2, and will be held in keepers 9 which are mounted on the supports 4. The adjusting member is then parallel with the support 4. The member 7 may be constructed so that it snugly engages the keeper or it may enter loosely, since the weight of the member and the tension across the top will tend to keep it in place.

When it is desired to lower the top, the members 6 are pulled downward and forward thus disengaging the members 7 from the keepers 9. The members 7 will then swing downwardly as indicated by the dotted arc in Fig. 4 but will be stopped by engagement with a second pair of keepers 10 mounted on the lower ends of the supports 4. The member 7 will preferably be enlarged or otherwise adapted to snugly engage keeper 10 since it is desirable to have this engage-

ment a snug one to prevent rattling. To still further insure quietness I preferably wind the engaging portion of the member 7 with some soft material such as leather, thus deadening all sound and increasing the snugness of the fit.

The keeper 10 is provided with an aperture 11 through which some flexible binding means such as a strap may be passed and is then wound around the several members, retaining them in close relation and preventing any looseness or tendency to rattle. In practice I prefer to dispose the keepers 9 and 10 at equal distances from the point of attachment of the adjusting member, in which case the latter may be wrapped with such soft material which will then make each engagement close and snug.

In my preferred construction I use the same main supporting means 4, and adjusting member 7, the only change being in the type of keeper members 10, which here comprise a locking member 12 with an extension 13 adapted when closed to prevent disengagement of the member 7. The keeper is provided with a recess 14 in which there is a spring 15 acting on a plunger 16 which operates to retain the locking member in a closed position. The latter is pivoted at 17 by pin between the ears 18 of the keeper. This construction eliminates the necessity for using a strap to bind the members together as in my other device and is somewhat tighter and less liable to rattling.

The general construction and operation of my improved carriage bow now having been described, some of the more important results will be pointed out.

It will be noted that the adjusting member is on the side of the main supporting means 4. It is not, therefore, in the same plane as the main and auxiliary supporting means but in a parallel plane. This renders it necessary to offset the lower terminal of the auxiliary supporting means 6, as shown in Fig. 5. The advantage of such a construction will be apparent. The supporting means, when in the folded position as in Fig. 3, are practically in contact. A modified construction which would give equally good operating results would comprise the same members but with the adjusting set into one of the other two members. Such a construction would be very compact but would be too complicated and expensive to be of practical value. Another construction, which would be the mechanical equivalent of my preferred form would permit of the placing of the adjusting member between the two other members. This construction would take up too much space when folded however, the advantages of my preferred form will be obvious. It will also be obvious that it is a matter of indifference whether the adjusting members 7 and associated parts be located on the outside or the inside of the main supporting means 4. For convenience in illustration they are here shown attached on the outside but in practice they are preferably attached on the inside in order to give a neater appearance by reason of their being completely hidden from the outside of the vehicle.

The practical advantages of my new bow are now evident. Greater compactness when folded, the absence of detachable members, less liability of looseness and noise, greater ease of operation by one person, and simplicity of construction are now obtained and by a device which comprises few parts and is comparatively inexpensive to manufacture.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. A carriage bow, comprising main supporting means, and auxiliary supporting means comprising two pivotally connected members, one of said members being pivotally attached to said main supporting means, and two keepers mounted on said main supporting means one on either side of the point of attachment of said pivotally attached member, said keepers being adapted to receive said pivotally attached member when the latter is swung into a position substantially parallel with said main supporting means.

2. A carriage bow, comprising main supporting means, and auxiliary supporting means comprising two pivotally connected members, one of said members being pivotally attached to said main supporting means, and two keepers mounted on said main supporting means one on either side of the point of attachment of said pivotally attached member and equally distant therefrom, said member having a thickened portion adapted to snugly engage one of said keepers when said member is swung into a position substantially parallel with said main supporting means.

3. A carriage bow, comprising main supporting means, and auxiliary supporting means comprising a member adapted to support a part of the carriage top and to move in the same plane as said main supporting means, and a second member pivotally connected at one end with said main supporting means and at the other end with an offset terminal of said first-named member, whereby said second member is adapted to move in a plane substantially parallel to the plane of said first member and said main sup-

porting means; and a keeper mounted on said main supporting means and being adapted to receive said second member whenever the latter is substantially parallel to said main supporting means.

4. A carriage bow, comprising main supporting means, and auxiliary supporting means comprising a member adapted to support a part of the carriage top and to move in the same plane of said main supporting means, and a second member pivotally connected at one end with said main supporting means and at the other end with an offset terminal of said first-named member, whereby said second member is adapted to move in a plane parallel to the plane of said first member and said main supporting means; and two keepers mounted on said main supporting means and being adapted to receive said second member whenever the latter is substantially parallel to said main supporting member.

5. A carriage bow, comprising main supporting means, and auxiliary supporting means including two pivotally connected members, one of said members being pivotally attached to said main supporting means, and a keeper mounted on said main supporting means, adapted to receive said pivotally attached member when the latter is swung into a position substantially parallel with said main supporting means, said keeper including a pivotally mounted locking member adapted to engage said pivotally attached member.

6. A carriage bow, comprising main supporting means, and auxiliary supporting means including two pivotally connected members, one of said members being pivotally attached to said main supporting means and a keeper mounted on said main supporting means, adapted to receive said pivotally attached member when the latter is swung into a position substantially parallel with said main supporting means, said keeper including a locking member adapted to engage said pivotally attached member and means for retaining said locking member in engagement.

7. A carriage bow, comprising main supporting means, and auxiliary supporting means including two pivotally connected members, one of said members being pivotally attached to said main supporting means and a keeper mounted on said main supporting means adapted to receive said pivotally attached member when the latter is swung into a position substantially parallel with said main supporting means, said keeper including a locking member adapted to engage said pivotally attached member, a plunger reciprocably mounted and adapted to retain said locking member in engagement and means for actuating said plunger to act against said locking member.

8. A carriage bow, comprising main supporting means, and auxiliary supporting means including two pivotally connected members, one of said members being pivotally attached to said main supporting means, and a keeper mounted on said main supporting means, adapted to receive said pivotally attached member when the latter is swung into a position substantially parallel with said supporting means, said keeper including a locking member adapted to engage said pivotally attached member, a plunger reciprocably mounted and adapted to retain said locking member in engagement and a coiled spring adapted to press against said plunger, thereby causing the latter to retain said locking member in engagement.

9. A carriage bow, comprising main supporting means, and auxiliary means comprising two pivotally connected members, one of said members being pivotally attached to said main supporting means, and two keepers mounted on said main supporting means one on either side of the point of attachment of said pivotally attached member and equally distant therefrom, said member having a thickened portion adapted to be received in one of said keepers when said member is swung into a position substantially parallel with said main supporting means, and a compressible covering for such thickened portion adapted to secure snug engagement between the latter and said keeper.

10. A carriage bow, comprising main supporting means, and auxiliary means comprising two pivotally connected members, one of said members being pivotally attached to said main supporting means, and two keepers mounted on said main supporting means one on either side of the point of attachment of said pivotally attached member and equally distant therefrom, said member having a thickened portion adapted to be received in one of said keepers when said member is swung into a position substantially parallel with said main supporting means, and a leather covering for such thickened portion adapted to secure snug engagement between the latter and said keeper.

Signed by me this 11th day of November, 1911.

RUDOLF H. PFAFF.

Attested by—
MYRTLE K. SCHUCH,
JNO. F. OBERLIN.