R. THOMPSON.

VEHICLE TOP BOW CLAMP.

APPLICATION FILED APR. 28, 1911.

1,015,360.

Patented Jan. 23, 1912.

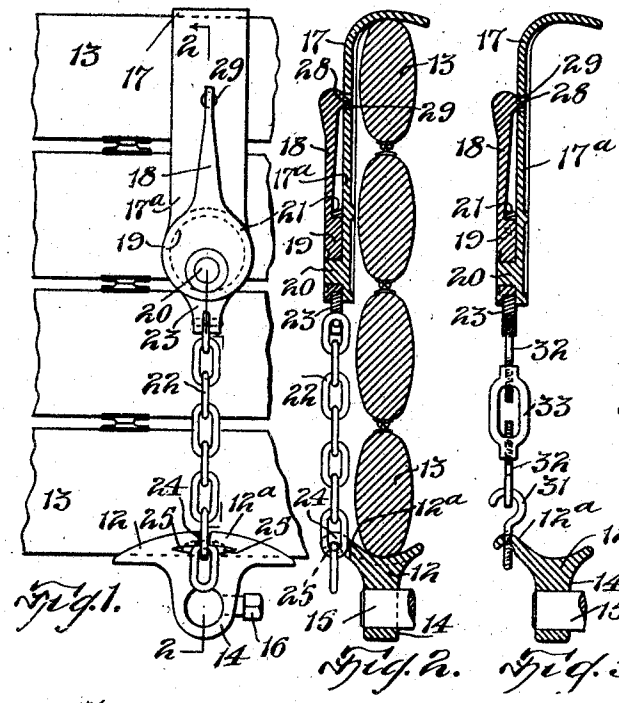

Fig. 1.

Fig. 2.

Fig. 3.

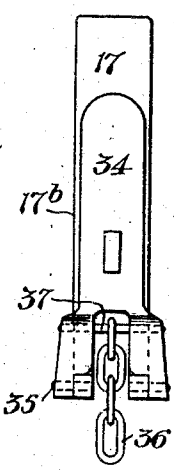

Fig. 4.

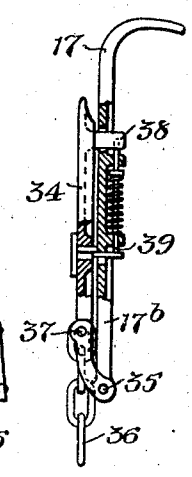

Fig. 5.

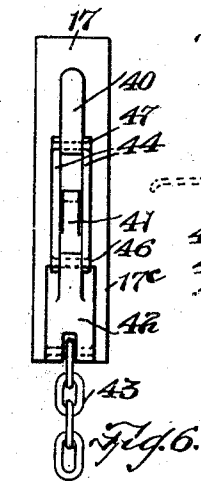

Fig. 6.

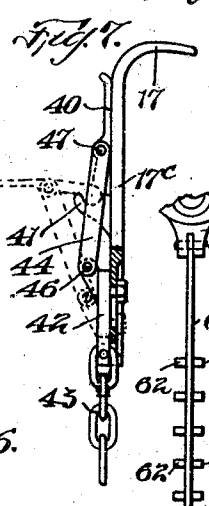

Fig. 7.

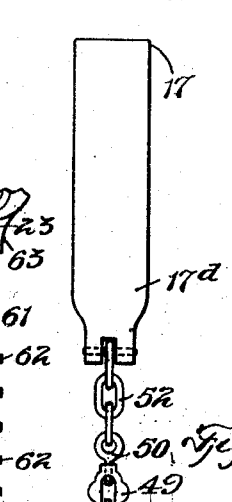

Fig. 9.

Fig. 8.

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UNITED STATES PATENT OFFICE.

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VEHICLE-TOP BOW-CLAMP.

1,015,360. Specification of Letters Patent. **Patented Jan. 23, 1912.**

Application filed April 28, 1911. Serial No. 623,866.

To all whom it may concern:

Be it known that I, RALPH THOMPSON, a citizen of the United States, and a resident of Brookline, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Vehicle-Top Bow-Clamps, of which the following is a specification.

This invention relates to means for confining in a folded condition the top of an automobile or other vehicle, said top being composed of bows hinged to the body, and a flexible cover supported by the bows. When the top is folded the end portions of the bows extend approximately horizontally backward from the hinges that connect them with the body, and are disposed side by side in tiers.

My invention is embodied in a clamp of which two are used, one for each tier of bow-ends, each clamp including a lower jaw adapted to be rigidly and detachably secured to a fixed supporting member on the vehicle body and having a seat formed to engage and support the lower bow, said jaw being provided at the outer portion of said seat with one part or member of a quickly detachable coupling, a movable upper jaw formed to engage and press downwardly on the upper bow, and having a downwardly projecting shank and pressure-applying mechanism connecting said jaws and adapted to relatively adjust the jaws in such manner as to apply a forcible clamping pressure to the tier of bows, and to maintain said pressure, the said connecting mechanism including a tension member provided with a plurality of complemental coupling parts or members adapted to interchangeably and detachably engage the coupling member in the lower jaw, the construction being such that the pressure may be readily applied and removed, and that the upper jaw and the connecting mechanism may be quickly engaged with and separated from the lower jaw, so that when the device is not in use they may be quickly removed and stored, the lower jaw being allowed to remain in place on the fixed supporting member and being adapted to take the place of an ordinary bow rest or support applied as heretofore to the fixed supporting member.

Of the accompanying drawings which form a part of this specification,—Figure 1 represents a side elevation of the preferred embodiment of my invention applied to a tier of bows; Fig. 2 represents a section on line 2—2 of Fig. 1; Fig. 3 represents a view similar to a portion of Fig. 2; showing a modification; Fig. 4 represents a side view of a second modification; Fig. 5 represents an edge view of the modification shown by Fig. 4; Figs. 6 and 7 represent respectively side and edge views of a third modification; Fig. 8 represents a side view of a fourth modification; Fig. 9 represents a substitute for the chain shown by Figs. 1, 2, 6, 7 and 8.

Same reference characters indicate the same or similar parts in all the figures.

Referring first to Figs. 1 and 2, 12 represents a fixed jaw or rest having a grooved upper surface on which the lower bow 13 of the top bears, and a shank 14 which is apertured to receive a fixed supporting member such as a bracket or stud 15 attached to the vehicle body, the shank 14 having a set screw 16 whereby it may be rigidly and detachably attached to the stud. In practice, the jaw 12 is usually allowed to remain on the vehicle as a permanent fixture, the described attaching means enabling it to be substituted for an ordinary bow rest.

17 represents the movable jaw which is hooked to engage the upper bow 13, and is provided with a shank 17^a. The pressure-applying mechanism which connects the jaws 12 and 17, and relatively adjusts said jaws to exert clamping pressure on the interposed bows, comprises in this embodiment of the invention, a lever 18 having a circular hub 19 (Fig. 2) eccentrically pivoted on a stud 20 attached to the shank 17^a, a strap 21 loosely surrounding the hub 19 and a tension member 22 engaged at one end with an eye 23 or otherwise attached on the strap 21, and at its opposite end with the fixed jaw 12, said tension member being preferably a short chain. The outer portion of the jaw 12 is extended to form a flange 12^a overhanging the shank 14, said flange having a slot 24 adapted to receive one of the chain links. In the under side of the flange are notches or recesses 25 opening into the slot 24 and adapted to receive the upper end of the chain link below the link received by the said slot. The slotted and recessed flange constitutes a coupling part on the fixed jaw, and the chain link engaged with the recesses 25 constitutes a complemental coupling part on the tension mem-

ber, said coupling parts permitting a quick separation of the tension member from the fixed jaw when it is desired to remove the movable jaw and its attachments. Either of several links of the chain may serve as a coupling part so that various portions of the chain may be interchangeably engaged with the fixed jaw. When the lever 18 is turned upwardly, as shown, its eccentric hub moves the strap 21 in the direction required to exert tension on the tension member 22, the effect being to draw the upper jaw 17 toward the lower jaw and clamp the interposed bows. Means are provided for locking the lever to the shank 17^a to maintain the tension on the member 22. As here shown, the lever 18 is provided with a teat 28 adapted by the resilience of the lever to spring into an orifice 29 in the shank 17^a, the lever being thus locked.

A modification is shown by Fig. 3, in which the coupling member on the fixed jaw 12 is a hook 31, the tension member being composed of screw-threaded rods 32, one engaging the hook 31, and the other the eccentric strap 21, and a turn-buckle 33 connecting said rods, the length of the tension members being adjustable by a manipulation of the turn buckle.

In the embodiment of the invention shown by Figs. 4 and 5, the pressure-applying mechanism is composed of a lever 34 pivoted at 35 to the shank 17^b of the upper jaw and a chain tension member 36 connected at 37 with the lever 34. A movement of the lever 34 to the position shown, exerts tension on the member 36, the latter being engaged as described with a fixed jaw. The lever 34 is provided with an ear 38 adapted to pass through a slot in the shank 17^b and engage a spring-pressed locking bolt 39 movable in guides on said shank.

Figs. 6 and 7 show as the pressure-applying mechanism a lever 40 fulcrumed on a boss 41 on the shank 17^c of the upper jaw 17, a tension member composed of a slide 42 movable on the shank 17^c, a chain 43 engaged with the slide, and links 44 pivoted at 46 to the slide and at 47 to the lever 40. A movement of the lever from the full line to the dotted line position Fig. 7, exerts tension on the tension member, the fulcrum 41 being so arranged relatively to the pivots 46 and 47, that when the lever is elevated it will be retained by the tension on the tension member.

Fig. 8 shows a simpler embodiment of the invention in which the pressure-applying mechanism is contained in the tension member and comprises a turn buckle 49, threaded rods 50 engaged therewith, connections 51 between the lower rod and the fixed jaw, and connections 52 between the upper rod 50 and the shank 17^a of the upper jaw. In this embodiment the turn buckle 49 constitutes an equivalent of either of the levers previously described, as a means of applying clamping pressure to the upper jaw.

Each of the above-described embodiments of the invention includes a lower jaw adapted to be fixedly and detachably secured to a fixed supporting member 15 on a vehicle body as a substitute for an ordinary bow rest such as has heretofore been attached to said member, said jaw having a seat for the lower bow of a folded top, and a coupling member at the outer portion of said seat, an upper jaw adapted to bear on the upper bow, and having a downwardly projecting shank, and pressure-applying mechanism connecting said jaws and including a tension member adjustably connected with said shank and provided with a plurality of complemental coupling members adapted to be interchangeably and detachably engaged with the coupling member on the lower jaw, and means for exerting tension on said tension member to press the upper jaw toward the lower jaw and hold the jaws firmly against the upper and lower bows, said coupling members being adapted to be quickly connected and disconnected so that the minimum expenditure of time is required in installing and removing the upper jaw and the jaw-connecting mechanism. In each of said embodiments the upper jaw and its connections, to wit, the pressure-applying mechanism, are removable as one part from the lower jaw, so that when the clamp is not required, all its obtrusive parts may be quickly removed, only the unobtrusive lower jaw remaining in place. The coupling parts with which the lower jaw and the pressure-applying mechanism are provided, enable the clamp to be rendered operative by the simple operation of applying the upper jaw to the top bow, and coupling the tension member of the pressure-applying mechanism to the lower jaw.

A bar 61 may be substituted for the chain 22 as shown by Fig. 9, said bar being pivoted at 63 to the eye 23 and provided with laterally projecting pins 62 arranged in pairs, the pins of each pair being adapted to interchangeably engage the recesses 25 in the fixed jaw 12.

I claim,—

1. A bow clamp comprising a bow-supporting lower jaw adapted to be detachably secured to a fixed supporting member and having a seat for the lower bow and a coupling member at the outer portion of said seat, an upper jaw formed to bear on the upper bow and having a downwardly projecting shank, a depending tension member adjustably connected with said shank and having a plurality of coupling members adapted to interchangeably and detachably engage the coupling member on the lower jaw, and means for exerting tension on said

member to press the upper jaw toward the lower jaw.

2. A bow clamp comprising a bow-supporting lower jaw adapted to be detachably secured to a fixed supporting member and having a seat for the lower bow and a coupling member at the outer portion of said seat, an upper jaw formed to bear on the upper bow and having a downwardly projecting shank and an outwardly projecting stud, a lever having an eccentric hub adapted to turn on said stud, a strap surrounding said hub, and a tension member depending from said strap, and provided with a plurality of coupling members adapted to interchangeably and detachably engage the coupling member on the lower jaw, the lever being adjustable to exert tension on the tension member and press the upper jaw toward the lower jaw, and means being provided for locking the lever to the shank in its tension-exerting adjustment.

3. A bow clamp comprising a bow-supporting lower jaw adapted to be detachably secured to a fixed supporting member and having a seat for the lower bow and a coupling member at the outer portion of said seat, an upper jaw formed to bear on the upper bow and having a downwardly projecting shank, an outwardly projecting stud, and an orifice above said stud, a lever having an eccentric hub adapted to turn on said stud and a teat adapted to spring into engagement with said orifice, a strap surrounding said hub, and a tension member depending from said strap and provided with a plurality of coupling members adapted to detachably and interchangeably engage the coupling member on the lower jaw, the lever being adjustable to exert tension on the tension member and press the upper jaw toward the lower jaw, and the lever teat and the shank orifice being adapted to lock the lever in its tension-exerting adjustment.

In testimony whereof I have affixed my signature, in presence of two witnesses.

RALPH THOMPSON.

Witnesses:
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