

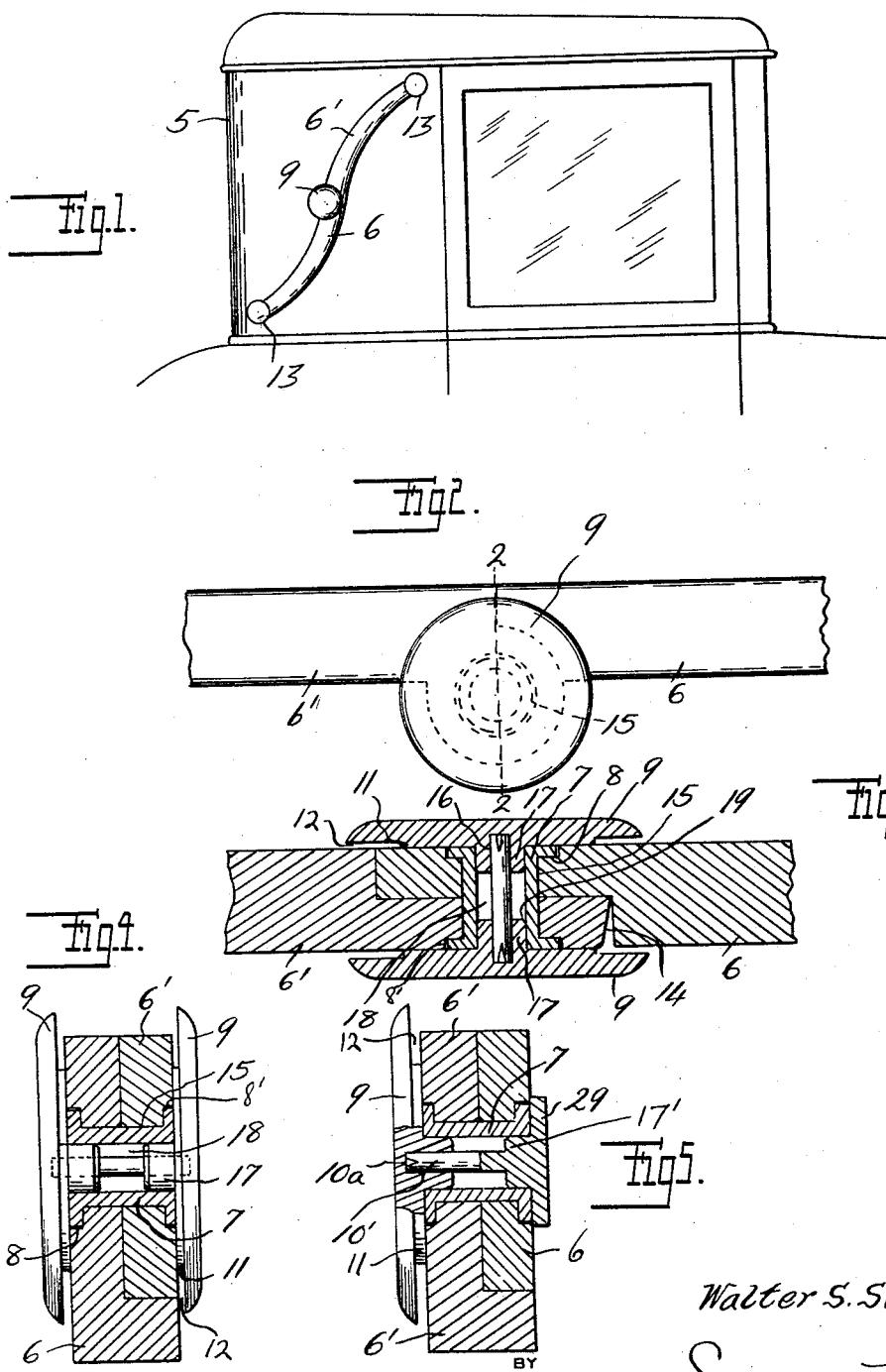
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TOP PROP JOINT

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## UNITED STATES PATENT OFFICE

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## TOP PROP JOINT

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This invention relates to top prop joints and the like and is particularly adapted, though not necessarily limited in its use, to upholding the tops of automobiles of the convertible coupe and landau types, and for supporting the backs of rumble seats on runabouts or coupes in their raised positions.

Heretofore the mode of manufacturing top prop joints has consisted of arranging a pair 10 of buttons on the sides of the joints with a rivet passing through all the parts to form the pivot member and hold the joints and buttons in place. Or one button has been formed with a shank and the other with an 15 opening for receiving the shank which is then riveted exteriorly of the apertured button. These constructions necessitate complete assembling of all the parts before grinding, 20 polishing and plating of the various parts can be completed, and it has proved both difficult and expensive to perform these various operations after the buttons are in place.

One of the objects of the present invention is the construction of a top prop joint which 25 will readily permit the various operations of grinding, polishing and plating or painting to be wholly completed before the buttons are put in place, or partially completed and then finished after the buttons are put on.

Another object of my invention is the provision of a top prop joint utilizing a hollow rivet which may be flanged at the ends and countersunk into the arms of the joints to insure an even surfaced finish before the buttons 30 are applied.

Other objects and advantages will be apparent from the following description, wherein reference is made to the accompanying drawing illustrating a preferred embodiment of my invention, and wherein similar reference numerals designate similar parts throughout the several views.

In the drawing:

Figure 1 is a side elevation of the top portion of an automobile, showing our improved top prop joint in position.

Figure 2 is an enlarged front elevation of the joint with parts of the arms broken away.

Figure 3 is a detail horizontal section of the

joint shown in Figure 2, with parts of the arms broken away.

Figure 4 is a detail vertical section taken substantially on the line 4—4 of Figure 2,

Figure 5 is a similar vertical section through a modified arrangement of parts.

Referring now to the drawing, the numeral 5 designates the top of an automobile or like vehicle provided with supporting arms 6 pivoted at their outer extremities, as at 13, to foldable portions of the top and jointed at their inner extremities. It will be understood that the construction of the top and its supporting arms other than the joint is 65 immaterial and that our improved top prop joint is adapted for use with various types of tops and supporting arms, and on various types of vehicles. Accordingly, no attempt has been made to illustrate a completely foldable top, and the showing in Figure 1 is merely for purposes of exemplification.

My improved top prop joint comprises a pair of arms 6 and 6', formed preferably of metal or like material, which may be 75 stamped, cut, forged, or otherwise formed into any desired shape. In the illustrated embodiment the arms 6—6' are shown formed in arcuate shape, the arc of the lower arm 6' being reverse to the arc of the upper arm 6. 80 It will be understood, however, that the shape of the arms is immaterial and that our improved joint may be used with arms of any desired shape.

The inner extremities of the arms 6—6' are 85 shown as having the upper face of the former and the lower face of the latter cut to substantially half their thickness and interfitted together to secure an even surface on both sides of the joint, (Figure 3). The extreme inner 90 end of the arm 6' is beveled, substantially as shown at 14, to allow for clearance when the arms are swung on their pivot and to aid in plating, as will be more fully explained. In Figure 2 I have shown the lower portions 95 of the inner extremities of the arms 6—6' terminating substantially in a three-quarter circle, while the upper portions of the arms 6—6' are shown meeting substantially in a continuous line so as to form a perfectly 100

matched plane surface at the outside edge of the joint when the arms 6-6' are in their open, raised or supporting position. The circular portions of the arms 6-6' are apertured substantially in the center, as shown at 15, and the upper and lower faces of the arms are counterbored adjacent the continuous aperture 15, which is formed when the arms are fitted together as shown, substantially as 10 indicated at 8-8'.

A tubular fastening member formed preferably of metal, or like material, such as the hollow rivet 7, is inserted into the aperture 15 and both ends of the rivet flanged to snugly 15 engage the counterbored portions of the arms 6-6' as at 8-8'. The rivet is formed with an axial aperture 18.

After so much of the joint has been assembled, the various operations of grinding, 20 polishing and plating or painting may be performed thereon speedily and thoroughly. It will be apparent that the arms 6-6' are pivoted on and the assembly completely held 25 together by the rivet 7 without the aid of buttons.

For ornamental purposes only, a pair of buttons 9, or the like, may be attached. These may also be formed of metal, having shoulders 11 and central apertures 16 circum- 30 scribed by projecting bosses 17. The buttons may be put through the various operations outlined in the preceding paragraph, and then one button may be press fitted over an end of a pin 10 which may be driven into 35 the aperture 16. The bosses 17 are formed of an external diameter enabling them to fit snugly within the bore or central aperture 18 of the rivet 7, the pin being of a size enabling it to tightly fit within the apertures 16 in the 40 buttons, to firmly secure the same when driven therein. Thus one of the buttons, having the pin 10 secured thereto by being driven into the aperture 16, may be positioned by forcing the boss 17 into the aperture in the rivet. The 45 prop may then be turned over and the other button driven into the bore in the rivet, which operation will also of course drive the pin into the button to secure the same and complete the button assembly. To assist in the operation of driving the buttons into the hollow 50 rivets, the entering edges of the bosses carried by the buttons may be chamfered, as at 19, assuring their easy entry into the rivets. The shoulders 11 of the buttons 9, limit the extent 55 of the entry of the ends of the pin 10 and space the main portions of the buttons from the sides of the arms 6-6', this construction being shown in the embodiment illustrated in Figures 1-4.

60 The simplicity and inexpensiveness of my improved top prop joint is believed to be apparent. In Figure 4 I have shown at 12 the recess formed between the buttons and arms when the buttons are in place because of the 65 shoulders 11 engaging the arms. It has here-

tofore been exceedingly difficult to plate the parts adjacent this recess after the buttons were in place, and unless they are plated thoroughly rusting of the joint is apt to result. With our improved method of constructing 70 this joint, however, these parts may be readily and easily plated before or after the buttons are put on. If desired, both the subassembly and the buttons can be separately ground, 75 polished, plated, and buffed, and left in the dull buffed state until the pin and buttons are pressed in place, after which the entire assembly may be buffed. The assembly fits 80 snugly together but sufficient clearances are allowed to permit ready plating, buffing, etc., after the assembly is completed if desired.

In Figure 5 is illustrated a modified arrangement in which only one button is used with a modified headed pin 10', the inner button being replaced, for economy, by the 85 head 29 carried by the pin 10'. The head 29 of the pin 10' may also be formed with a shoulder 17' for engagement with the aperture in the hollow rivet as do the bosses 17 carried by the buttons in the previously de- 90 scribed embodiment. The pin 10' is first driven into the central aperture 18 of the hollow rivet, the shoulder 17' engaging firmly therein. The boss 17 of a button 9 is then driven into the hollow rivet and upon the 95 extremity of the pin 10', as before.

The pins 10-10' may be formed with notches 10<sup>a</sup>, which are preferably made by striking the pin sharply with a hardened tool to thereby force portions of the material of the pin outwardly slightly beyond the periphery of the pin. When the buttons are then pressed over the ends of the pins their outwardly projecting portions aid in gripping the buttons to secure them in position.

While it will be apparent that the illustrated embodiment of my invention herein disclosed is well calculated to adequately fulfill the objects and advantages primarily stated, it is to be understood that the invention is susceptible to variation, modification and change within the spirit and scope of the subjoined claim.

110 What I claim is:

115 A top prop joint comprising a pair of arms, the inner extremities of which overlap each other and are provided with aligned apertures, the outer faces of the arms being countersunk adjacent the apertures, a tubular fastening member extending through the aperture and pivotally connecting said arms, the ends of said fastening member being flanged to fit within the countersunk faces 120 of said arms, a pin passing through and projecting beyond the ends of said tubular member, and a pair of buttons secured to the ends of said pin, said buttons being formed with projecting bosses adapted to fit with- 125 in and reinforce the tubular member, and 130

additional projecting portions adapted to space the buttons from the arms, and portions of the arms beneath the buttons being spaced from each other to permit the entry  
5 of fluid matter from outside.

In testimony whereof I sign this specification.

WALTER S. SAUNDERS.

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