

M. D. WOOD.
CABLE SUPPORT.

APPLICATION FILED OCT. 21, 1920.

Patented July 12, 1921.

2 SHEETS—SHEET 1.

1,384,583.

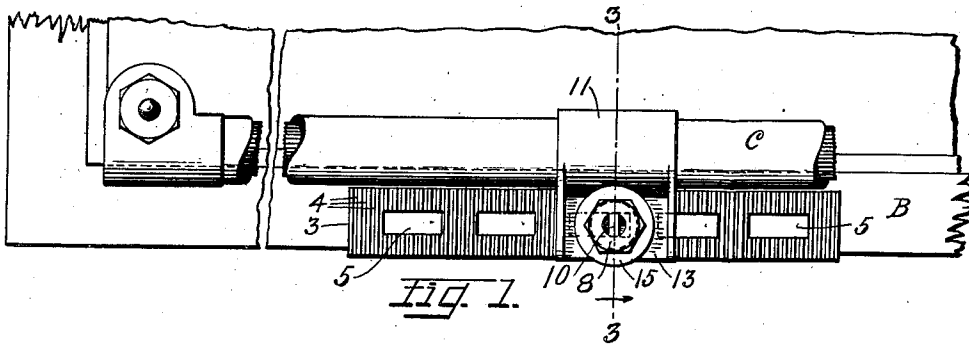


Fig. 1.

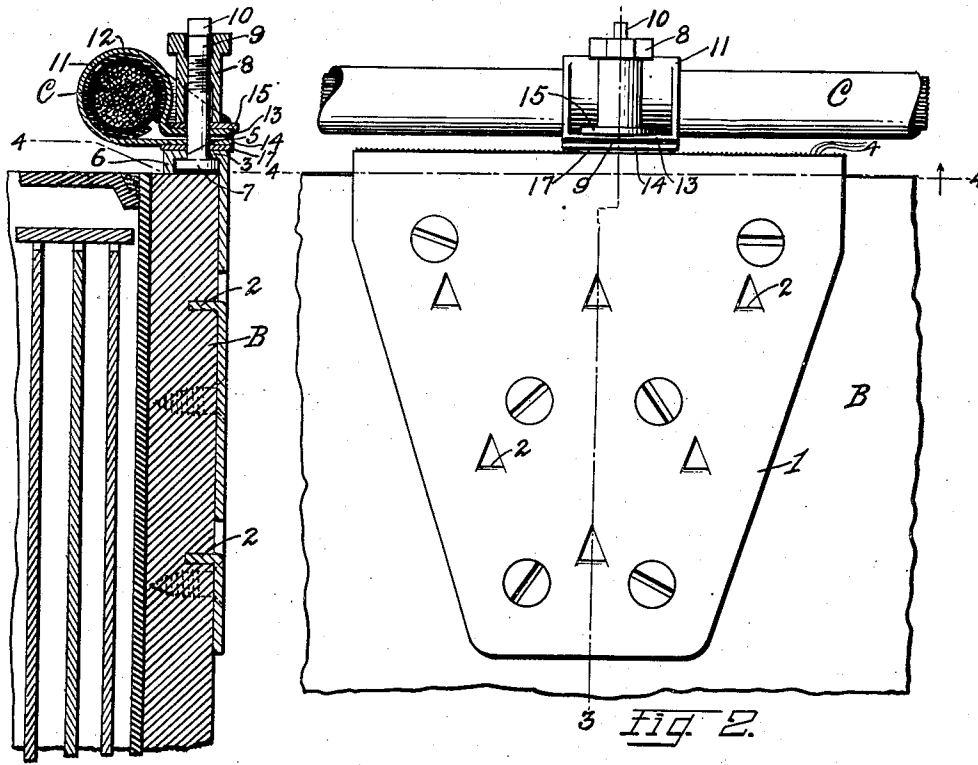


Fig. 2.

Fig. 3.

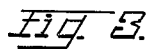
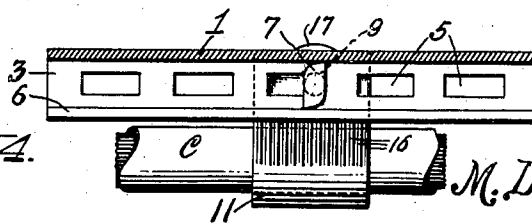


Fig. 4.



Witnesses

S. P. Buck.

Inventor

M. D. Wood.

By *A. B. Willson & Co.*
Attorneys

1,384,583.

M. D. WOOD.
CABLE SUPPORT.
APPLICATION FILED OCT. 21, 1920.

Patented July 12, 1921.

2 SHEETS—SHEET 2.

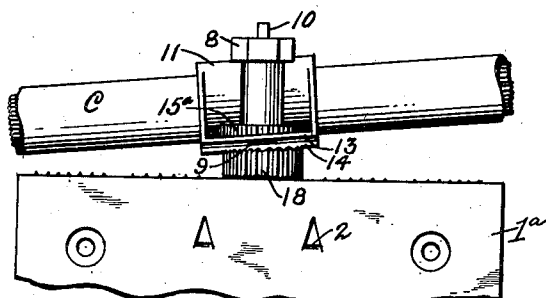


Fig. 5.

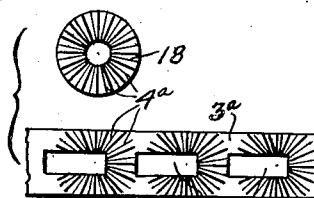


Fig. 6.

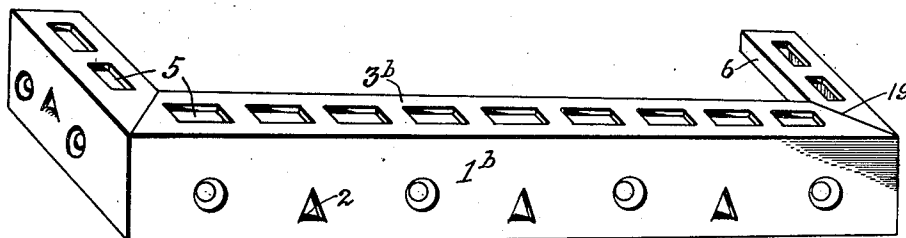


Fig. 7.



Fig. 8.

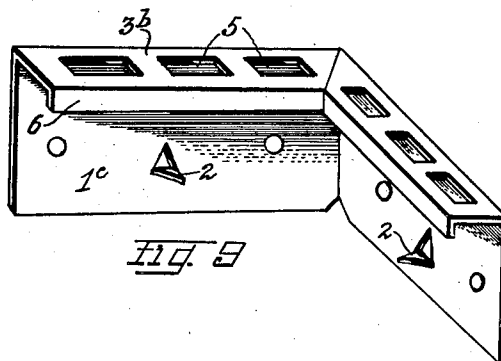


Fig. 9.

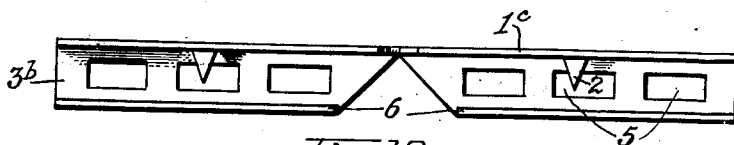


Fig. 10.

Witnesses
S. P. Buck.

Inventor
M. D. Wood

By *A. B. Wilson & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

MERRITT D. WOOD, OF CLARK, SOUTH DAKOTA.

CABLE-SUPPORT.

1,384,583.

Specification of Letters Patent.

Patented July 12, 1921.

Application filed October 21, 1920. Serial No. 418,563.

To all whom it may concern:

Be it known that I, MERRITT D. WOOD, a citizen of the United States, residing at Clark, in the county of Clark and State of South Dakota, have invented certain new and useful Improvements in Cable-Supports; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to cable supports, and more specifically to an improved device for supporting a cable on a storage battery-box of an automobile, although this device is useful in other relations.

One object of this invention is to provide and include an improved, and exceedingly effective device which securely, rigidly and adjustably holds the terminal portion of a conducting cable against bending, twisting, and vibrating relative to the battery-box while permitting various adjustments of the cable relative to the battery-box, also permitting the cable and its clamping device to be very quickly and easily removed from and replaced on a battery-box when necessary or desirable.

A further object is to provide an improved cable support including a comparatively inexpensive sheet metal supporting plate which strengthens and stiffens the battery-box so as to avoid splitting or separating of joints in the vertical sides and corners of the battery-box.

Other objects and advantages will be pointed out or implied in the following details of description, in connection with the accompanying drawings in which:

Figure 1 is a top plan view of my improved cable support shown in connection with a fragment of a battery-box.

Fig. 2 is a side elevation of the cable support shown in Fig. 1.

Fig. 3 is a sectional view substantially along the line 3—3—3 of Figs. 1 and 2.

Fig. 4, is a horizontal sectional view along the line 4—4—4 of Figs. 2 and 3.

Fig. 5 is a front view illustrating a slightly modified form of the cable support, the supporting plate having its lower portion broken off.

Fig. 6 is a detail plan view illustrating portions of the structure shown in Fig. 5.

Fig. 7 is a perspective view illustrating a

form of a supporting plate intended to extend along the top edges of 3 sides of the battery-box.

Fig. 8 is a plan view of an adjusting and securing block or disk to be used in connection with any one of the several forms of the supporting plate.

Fig. 9 is a perspective view illustrating a rectangular supporting plate for adjustment to one upright corner and two upright sides of the battery-box.

Fig. 10 is a bottom plan view of the supporting plate intended to be used either on one plane side of the battery-box, or bent into the shape shown in Fig. 9 for use on a corner and 2 sides of the box.

Referring to these drawings in detail, in which similar reference characters correspond with similar parts throughout the several views, and in which the battery-box B and insulated cable C are illustrated merely to show how the device is applied to a battery-box, the invention consists of the construction and arrangement of parts which will now be described as follows:

In each form of the device, the supporting plate comprises an upright portion, a horizontal portion and a depending flange. The upright portion 1, in Figs. 1, 2, 3 and 4, is preferably of a vertical extent approximately equal to its horizontal extent, and the same may be true of the upright portion 1^a of Fig. 5, so that a considerable number of screws or other fastening means may be distributed through a comparatively large area from the top toward the bottom of the battery-box; thereby holding the supporting plate securely against movement on the battery-box, and also greatly strengthening the side to which it is secured. As a supplemental securing means, each plate 1, 1^a, 1^b and 1^c is provided with a number of prongs or spurs 2 which are embedded in the side or sides of the battery-box as shown in Fig. 3.

The horizontal seat or flange in each form of the invention, is indicated at 3, 3^a, and 3^b in the several figures of the drawings, the portion 3 being provided with parallel corrugations 4, the part 3^a being provided with concentric corrugations 4^a and the part 3^b being plain or devoid of corrugations. In each form of the device, the horizontal seat or flange is provided with slots or openings 5 for a purpose which will presently appear.

In each form of the device, the depending flange or seat-supporting element is indicated at 6.

Referring now to Fig. 3, it will be seen that the horizontally apertured seat is held in spaced relation above the top of the battery-box by means of the vertical attaching portion 1 and the depending flange 6, thereby providing a closed space in which a head 7 of the bolt or fastener is normally seated. The fastener includes a nut 8 which is threaded on a shank 9, this shank being provided with a flat outer end 10 which serves as an index to show when the relatively long narrow head 7 is in its locking position or in its detaching position, as will presently appear. In Fig. 4, it will be seen that the length of the head 7 is substantially equal to or slightly greater than the width between the vertical portion 1 and depending flange 6, and that its length is less than that of any one of the slots 5 while its width is slightly less than that of any one of said slots, so that this head may be easily passed in and out through any one of the slots 5 or interchanged therewith, and may be turned crosswise of the slots so as to have locking engagement with the lower surface of the seat or flange 3, 3^a or 3^b. The nut or tightening element 8 includes a tubular portion of relatively small diameter which is united with the hexagonal or non-cylindrical portion, and the lower end of the tubular portion of this nut is non-threaded, while the upper and lower ends of the shank 9 are non-threaded. In other words, the elements 8 and 9 are in threaded engagement with one another at their intermediate portions only. This provides for comparatively quick detachment and attachment of the nut 8 when desirable.

The cable C extends through a cylindrical portion of a clamping member 11, and this clamping member may include or be provided with shims 12 which enables it to clamp cables of different diameters. The clamping member 11 includes an upper jaw 13 and a lower jaw 14, and these jaws are provided with registering apertures through which the shank 9 extends, a washer 15 may be provided between with the upper jaw 13 and the nut 8, to add rigidity to this upper jaw and to frictionally or otherwise engage with nut 8 for preventing it from jarring loose. When the nut 8 is tightened while the head 7 is in the position shown in Figs. 2 and 3, the flat outer end 10 will be in the position shown in Figs. 1 and 2, thereby indicating to the user that the bolt or fastener is in its locking position, and it will be seen that the shank tends to turn to this locking position in consequence of tightening of the nut 8 thereon. However, if the frictional engagement between the threads of the members 8 and 9 is not sufficient to turn the head

7 to its locking position, it may be thus turned by means of the fingers or a wrench in connection with the flat portion 10, and the nut 8 may then be tightened to press the jaws 13 and 14 toward one another and to press these jaws upon or toward the seat 3.

Referring to Fig. 4, it will be seen that the lower surface of the clamping member 11 is corrugated as indicated at 16, and these corrugations may intermesh with the corrugations 4 when the cable is to be held in parallel relation with the battery-box, as shown in Fig. 1. However, for enabling the clamping member and cable to be angularly adjusted in a horizontal plane, and held secured in any adjusted position, a washer of lead, copper or other appropriate material may be employed, as indicated at 17 (Fig. 3), or a crosswise-corrugated washer 17^a such as illustrated in Fig. 8 may be employed. This washer may be of tempered steel, so that the minute pyramids, which are formed by the cross-corrugations, will engage with the parallel corrugations 4 for securing the device in the desired adjustment. Where the adjusting block or washer 17^a is employed, the corrugations of the cable clamp and its supporting seat may be eliminated, as in Figs. 7, 9 and 10, because the apexes of said minute pyramids will penetrate the surface of the relatively soft sheet metal supporting plate thereby maintaining the desired adjustment.

Another means of securing the parts in angular adjustment is illustrated in Fig. 6, wherein the corrugations are concentric. In this form of the invention, provision is made for vertical adjustment, the adjusting block being shown at 18 in Figs. 5 and 6. This adjusting block has its upper and lower surfaces corrugated concentrically as shown in Fig. 6, or cross-corrugated as shown in Fig. 8. The adjusting block 18 is substantially wedge shaped or thicker at one end than at its other end, and it is obvious that by turning this block 18 about the shank 9, the vertical angular position of the cable C will be changed accordingly. In order that the consequent lateral inclination of the upper jaw 13 may be compensated for, the washer 15 may be replaced by a laterally tapered washer 15^a. The peripheral surface of the adjusting block 18 may be knurled or corrugated, as illustrated, the same being true of the washer 15^a, so that these elements may be easily rotated by engagement with a thumb or finger of the user.

The supporting plate illustrated in each of the figures may be attached to a single side of the battery-box, it being intended that the plates shown in Figs. 7 and 9 may be straightened as shown in Fig. 10, since, as previously explained, this primarily straight plate 1^c can be bent at right-angles as shown in Figs. 7 and 9. On the other

hand, if desirable, the joints 19 of the device shown in Fig. 7 may be brazed, soldered or electrically welded. In cases where the supporting plate is intended for use on a new battery-box; that is, where the supporting plate is applied to the battery-box at the place where the latter is manufactured, and the device extends a considerable distance along the edge of the box (as would the device in Fig. 7), the vertical width of the plate 1^b may be considerably less than where the horizontal extent of the plate is relatively slight (as in Figs. 1, 2, etc.). Moreover, where the device extends around the corner of a box as in Fig. 9, the vertical extent may be relatively slight.

From the foregoing description, it will be seen that the cable clamping member 11 is not only adjustable horizontally about the shank 9, but is also adjustable to different positions along its supporting seat. This longitudinal adjustment can be effected either by adjusting the clamping member 11 along one of the slots 5 through which the shank 9 extends, or the shank may be interchangeably seated in the apertures of the series of slots 5; and besides, the clamp is capable of the vertical adjustment described in connection with Fig. 5.

It is not intended to limit this invention to the exact details of construction and arrangement as shown and specified, but changes may be made within the scope of the inventive ideas as implied and claimed.

What I claim as my invention, is:

1. In a cable-supporting device, a supporting plate attachable to a battery-box or the like and including a channel provided with a series of apertures between its opposite sides, and a combined cable-clamping and support-attaching unit including a headed fastener which is interchangeably seatable in said apertures by movement of its head inward through the respective apertures, said fastener being operable to turn its head into locking engagement with said channel and being provided with means to engage said opposite sides and prevent it from turning beyond the locking position, said fastener including means to coact with said head for rigidly securing the said unit to said plate.

2. In a cable-supporting device, a supporting plate attachable to a battery-box or the like and including a channel provided with a slot extending therealong and spaced from the opposite sides of the channel, and a combined cable-clamping and support-attaching unit including a headed fastener whose head is relatively long and narrow for passing through said slot and for turning across the slot to effect locking engagement with said plate, the length of said head being substantially equal to the distance between said sides of the channel and adapted

to abut against said sides to limit the turning of said fastener, said head having curved portions which permit it to be turned between said sides into position to pass through said slot.

3. In a cable supporting device, a plate including an upright portion and an apertured seat, said upright portion being attachable to an upright side of a storage battery-box or the like in such position that the apertured seat will extend over and in spaced relation to a top portion of the battery-box, a cable-clamping device including two apertured jaws and being removably seated on said apertured seat, and a headed fastener including an adjustable tightening element, said fastener extending through said apertured jaws and seat while its adjustable tightening element coacts with its head and with the apertured seat for pressing said jaws toward one another and securing them in rigid relation to said seat, said head being seatable against the under side of said seat and being movable from its securing position to a position which permits it to pass through the aperture of said seat.

4. In a cable supporting device, a plate including an upright portion and an apertured seat, said upright portion being attachable to an upright side of a storage battery-box or the like in such position that the apertured seat will extend over and in spaced relation to a top portion of the battery-box, said plate also including a flange which depends from the inner edge of said seat and is adapted to rest on top of the battery-box and space said seat therefrom while co-acting with said upright portion in supporting said seat, a cable-clamping device seated on said apertured seat, and a headed fastener to secure said cable-clamping device on said seat, said fastener having a shank extending through said cable-clamping device and through the aperture of said seat, the head of said fastener being seated in the space under said seat and turnable from its securing position to a position which permits it to be moved through the aperture of said seat, said head being provided with means to coact with an upright part of the plate for stopping said fastener against rotation beyond its securing position.

5. In a cable-supporting device, a supporting plate attachable to a battery-box or the like and including an apertured seat, an apertured adjusting block, on said seat, an apertured cable-clamping member on said block and a fastener extending through the apertures of said cable-clamping member, adjusting block and supporting plate, said adjusting block having two opposite faces corrugated and inclined toward one another and movably engaged respectively with said supporting plate and cable-clamping member to coact with said fastener for holding

said cable-clamping member rigid with said plate, said adjusting block being turnable to angularly adjust said cable-clamping member.

- 5 6. In a cable supporting device, a supporting plate including a vertical portion for attachment to a vertical side of a battery-box or the like, said plate including a horizontal seat provided with apertures and
10 with a V-shaped notch between two of said apertures and having its apex at said vertical portion, the latter being weakened along a

vertical line at said apex to permit said plate to be easily bent to conform to a vertical corner of the battery-box in such relation that 15 said horizontal portion will extend over two top edges of the battery-box, and means interchangeably securable in said apertures for holding a cable in an elected position on either one or the other of said top edges. 20

In testimony whereof I have hereunto set my hand.

MERRITT D. WOOD.