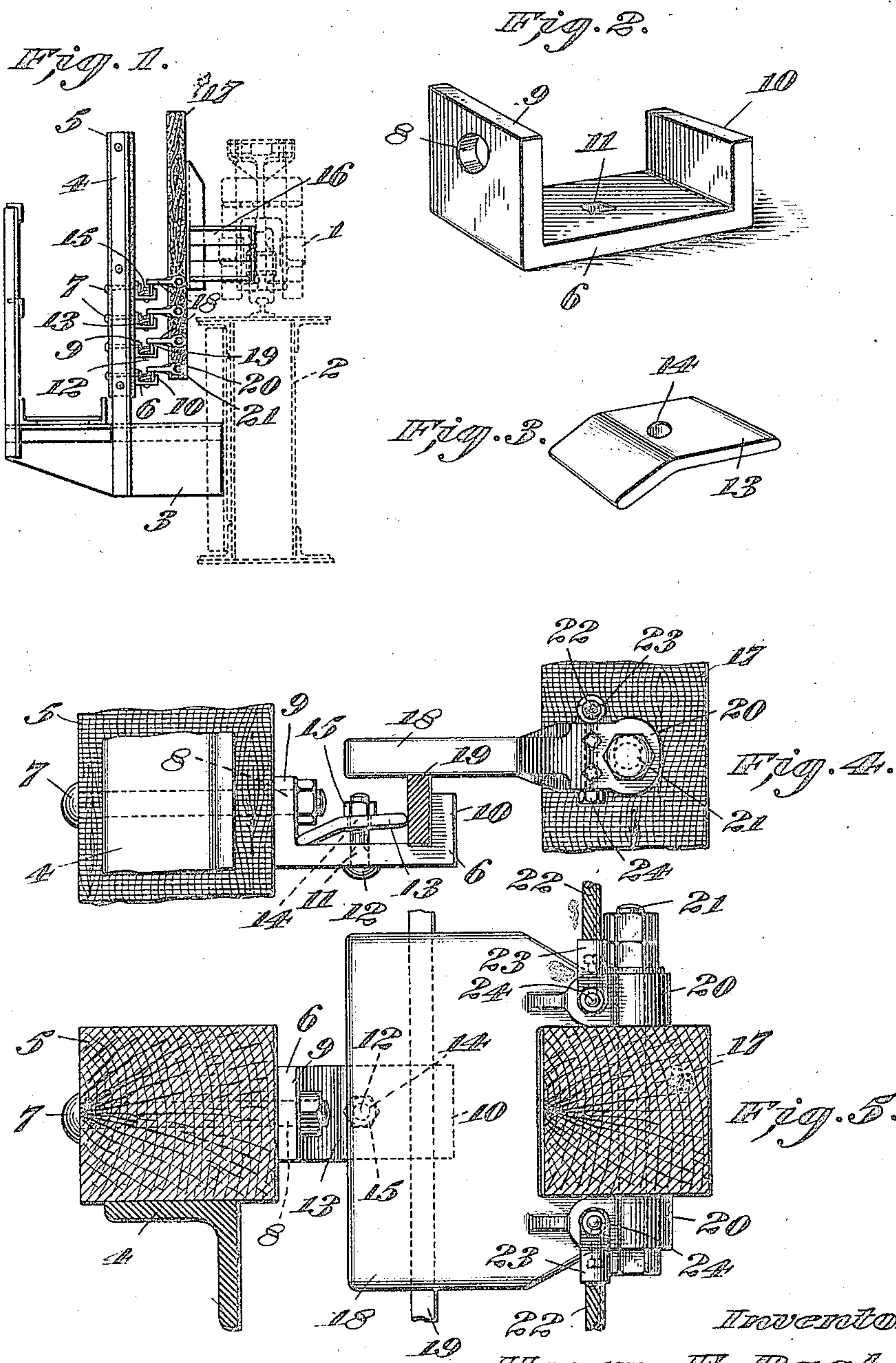


Jan. 2, 1923.

1,441,025.

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CONDUCTOR BAR HOLDER.  
FILED SEPT. 20, 1922.



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## UNITED STATES PATENT OFFICE.

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## CONDUCTOR-BAR HOLDER.

Application filed September 20, 1922. Serial No. 589,320.

*To all whom it may concern:*

Be it known that I, HENRY F. RAAB, a citizen of the United States, and a resident of the city of Johnstown, county of Cambria, and State of Pennsylvania, have invented certain new and useful Improvements in Conductor-Bar Holders; and I do hereby 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.

My invention relates to means for holding electrical conducting bars used for conveying electric current to the motors of electric traveling cranes or the motors of cars or other somewhat similar devices which move along their tracks.

The conductor bar, to which the electric current is supplied from any convenient source, is mounted in my holder and extends substantially parallel to the movement of the car, crane or the trolley thereof, and although I will refer herein to a conductor bar, for the purpose of simplicity of description I wish it to be understood that I may use any number of conductor bars held by my holders, arranged in a group substantially parallel with each other. My holder consists essentially of a grooved or channel-shaped member, the flanges of which extend integrally from each edge of the bottom or web member at substantially right angles thereto and one of the flanges is secured to any convenient support while the other flange serves as a support and abutment for the conductor bar. The conductor bar, which may be of a rectangular section, is inserted within the holder with a portion of its side adjacent to the inner surface of one flange of the holder, and to secure it in place a clamping member of length slightly greater than the distance from the inner face of the conductor bar to the inner angle of the holder is located with one of its edges against the conductor and the other in said angle. This clamping member is preferably provided with a hole, and a threaded bolt is passed through said hole and the support and a nut screwed on the

end of the bolt serves to hold the clamping member firmly against the conductor, and by screwing up the nut, a wedging action is produced due to the inclination of the clamping member, so that the conductor bar is very firmly held in position without the necessity of any hole or bolts therethrough. This is a very simple and efficient construction, and allows the conductor bar to be placed in position and removed and replaced with a minimum amount of time, expense and labor.

Having thus given a general description of my invention, I will now, in order to make the matter more clear, refer to the annexed sheet of drawings which form part of this specification and in which like characters of reference refer to like parts.

Figure 1 is a detail view showing a portion of the bridge of a traveling crane illustrating the application of my invention; Figure 2 is a perspective view of the conductor bar support; Figure 3 is a perspective view of the clamping member; Figure 4 is a detailed end elevation of the conductor bar support and clamp and the collector shoe, the conductor bar being shown in cross section; Figure 5 is a top plan view of the parts shown in Figure 4, the insulating blocks for the conductor bar holder and collector shoe being shown in cross section.

Referring now to the characters of reference on the drawings:—1 is a portion of the trolley of an electric traveling crane which is mounted on the girder 2, which girder is provided with the bracket 3 secured thereto, having an upwardly extending angle 4 mounted thereon. Secured to the angle 4 is the insulator block 5, to which my grooved or channel-shaped conductor bar supports 6 are secured by means of the bolts 7, which pass through the block 5 and through the holes 8, of the longer flange of the conductor bar supports. The inner longer leg of the conductor bar support is 9, and the shorter leg of same is 10. Although the legs or flanges 9 and 10 are shown of different lengths they may also be of the same length if desired. In the lower or web portion of



the support a square hole 11 is provided and through this is inserted the carriage bolt 12, having a square ended shank fitting in the square hole to prevent it from turning. A clamping member 13 is provided and this is preferably of bent form as shown in order to provide a proper seat for the nut 15 and this clamp is provided with a central hole 14 through which the bolt 12 passes. The clamping member 13, preferably has rounded contact edges as shown, to provide suitable bearings in all positions. My clamping member 13 is bent or arched as shown and arranged with its convex side above, or facing away from, the grooved supporting member, while its concave side is below and facing the grooved supporting member and particularly the web portion thereof. It will thus be seen that in addition to being inclined or slightly sloping in such a way as to produce a powerful toggle action for securing the conductor bar in position when the nut is screwed tightly, my clamping member is bent and of arch form so that it is very strong and not liable to be bent when screwed up tightly. By reason of this bent and arch form and the proportions of the parts my clamping member cannot be bent, but will maintain its shape and still act as a toggle to secure the conductor bar in position. A bracket 16 is mounted on the trolley 1, and provided with an insulating block 17 secured thereto, on which the collector shoes 18 are mounted as illustrated. The conductor bars are 19, and these are preferably formed of rectangular shape, as illustrated. The collector shoes 18 are provided with enlarged ends 20, each provided with a hole therethrough through which the bolt 21 passes to pivotally secure these shoes to the insulating block 17. 22 are the electrical circuit connections, and 23 are the terminals thereof which are secured to the collector shoes 18, by the bolts 24.

Assuming that the parts are in position as illustrated, particularly in Figure 4 of the drawings and it is desired to remove a conductor bar, the nuts 15 are unscrewed, the clamping members 13 are lifted up, and the conductor bar can at once be removed. In order to replace the same, the bar is set in the position illustrated in Figure 4, the clamping member 13 and the bolts 12 are put in position, the nuts 15 are screwed down; whereupon the clamp 13 by reason of its diagonal position and length wedges itself firmly against the conductor bar which is therefore firmly and frictionally held in position thereby.

Although I have shown and described my invention in considerable detail, I do not wish to be limited to the exact and specific details thereof, as shown and described, but

may use such modifications in, substitutions for, or equivalents thereof, as are embraced within the scope of my invention or as pointed out in the claims.

I claim:—

1. The combination with a conductor bar, of a holder therefor, comprising a grooved supporting member with the conductor bar located therein at one side of said groove, a bent inclined clamping member with its concave side facing the grooved member, extending diagonally in said groove with one of its edges in contact with the conductor bar and its other opposite edge in contact with the surfaces forming the opposite interior angle of said groove, and means for clamping the same firmly in position.
2. A conductor bar holder comprising a grooved member, a conductor bar mounted against one side of said groove, a bent inclined clamping member with its concave side facing the grooved member, extending diagonally from the opposite interior angle of said groove to the inner surface of said conductor bar, and means for clamping the same firmly in position.
3. A conductor bar support comprising a channel-shaped supporting member with projecting flanges, a conductor bar mounted within the same adjacent to one of the flanges, a clamping member comprising a bent plate, with its concave side facing the supporting member, one edge of which contacts with the conductor bar, with its other edge in the interior angle of the supporting member opposite said bar, and means for securing the same firmly in position.
4. A conductor bar support comprising a member provided with a groove, a conductor bar located against one of the sides of said groove, a clamping member of bent form, one portion of which is substantially parallel with the bottom of said groove, and with an inclined portion extending integrally therefrom and contacting with the surface of the interior angle of said groove opposite said conductor bar, registering holes in said supporting member and clamping member, a bolt passing there-through and a nut on said bolt adapted to firmly secure the clamping member in position against said conductor bar by wedging action.
5. A grooved conductor support, a conductor bar located therein against one side of said groove, a bent clamping member between the conductor bar and the other side of said groove, with its concave side facing said grooved support, said clamping member being diagonally arranged and with its edges contacting with said conductor bar and said supporting member respectively, and means for drawing said clamping member toward the bottom of said groove, where-



by a wedging action is produced which firmly secures said conductor bar in place.

6. A conductor bar holder, comprising a grooved member, a conductor bar mounted therein against one side of said groove, a bent clamping member one edge of which contacts with the lower portion of the opposite side of said groove, with its other edge in contact with said conductor bar at a greater distance from the bottom of the

groove, the concave side of said clamping member facing said grooved member, and means for drawing the clamping member toward the bottom of the groove; whereby a powerful wedging action is provided to secure the bar in the holder.

In witness whereof I hereunto affix my signature.

HENRY F. RAAB.