March 11, 1952 A. OLSON 2,589,122

BATTERY TERMINAL CONNECTOR

Filed Nov. 20, 1947

Fig. 1

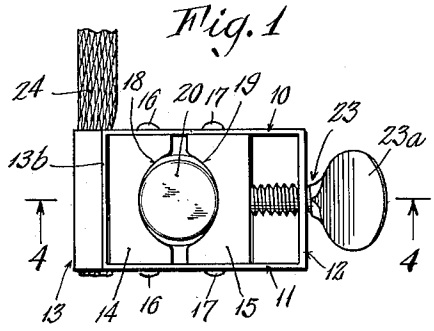


Fig. 3

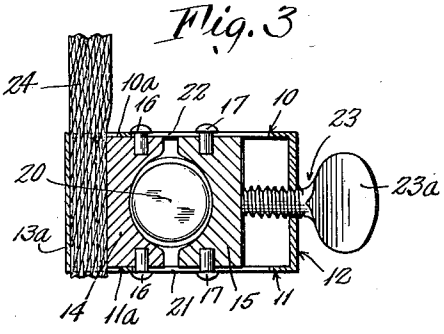


Fig. 2

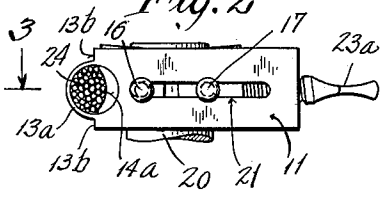


Fig. 4

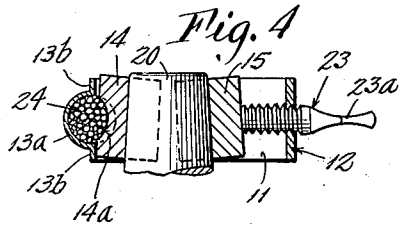


Fig. 5

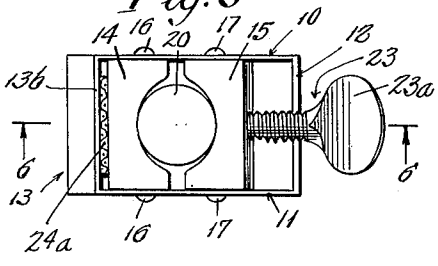


Fig. 6

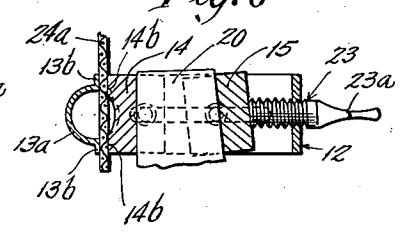
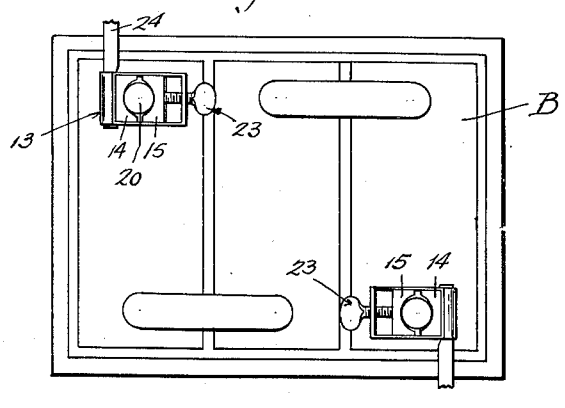


Fig. 7



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BATTERY TERMINAL CONNECTOR

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4 Claims. (Cl. 173—259)

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The present invention relates to a battery terminal clamp for connecting a conductor of electricity to the usual post of a storage battery.

It is an object of the present invention to provide a clamp which may be easily applied to either terminal post of a battery and is universal in its application in that it will accommodate variations in the size of terminal, variations in taper of the terminal post, will connect various types of conductors thereto and has no top or bottom so that it can be readily inserted into position from either side of the clamp.

This is accomplished according to the present invention by having a pair of clamping blocks which are pivotally mounted in a frame or body to turn about a transverse axis to accommodate variations in taper, at least one of the blocks being also slidably mounted on the frame so as to be brought into clamping relation with various sizes of terminal posts.

When the clamping means acts to also secure the conducting means to the frame, both blocks are slidably mounted and one end of the frame is arranged to receive and position either a conductor cable or conductor strap to be clamped thereagainst by the clamping blocks.

Other features and advantages will be apparent from the specification and claims when considered in connection with the drawings in which:

Figure 1 shows a top plan view of the clamp.

Fig. 2 is a side elevational view of the clamp.

Fig. 3 is a sectional view taken along line 3—3 of Fig. 2.

Fig. 4 is a sectional view taken along line 4—4 of Fig. 1.

Fig. 5 is a view similar to Fig. 1 showing a strap-type conductor connected to the clamp.

Fig. 6 is a sectional view taken along line 6—6 of Fig. 5.

Fig. 7 shows a top plan view of a battery with the clamping means of the present invention applied to the terminal post thereof.

As shown in the drawings, the clamp of the present invention comprises a rigid frame or body having side walls 10 and 11 and end walls 12 and 13 and a pair of clamping blocks 14, 15. These blocks are disposed between and pivotally mounted to the side walls by pivot pins 16, 17 which are driven into the ends of the blocks so that the blocks pivot about transverse axes and thereby adapt themselves to various tapers on the terminal posts.

The opposed post-engaging faces preferably are provided with concave surfaces 18, 19 which

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embrace the sides of the terminal post 20. When drawn into clamping relation with the terminal post, the post-engaging surface has good electrical contact with the post.

In order to move the blocks into clamping relation with the post, at least one of them is mounted for sliding movement. This is accomplished by providing the side walls 10, 11 with longitudinally extending guide means, such as slots 21, 22 in which the pivots for the block 15 are mounted to slide therein when acted upon by the actuating means. The actuating means herein illustrated comprises a screw 23 having a thumb-piece 23a. The screw is threaded into the end wall 12 and has its end in engagement with the rear of the block 15 to apply pressure thereto and move it into clamping relation with the terminal post. Preferably, the body or frame, pivots and clamping screw are made of corrosion-resistant metal such as stainless steel and the blocks 14, 15 are made of lead so that the corrosion between the post and clamp is substantially eliminated.

While the conducting means may be connected to the body in various ways, in the preferred form of the invention the conductor means is clamped to the body between the clamping blocks as they are drawn into clamping relation with the terminal post. This is accomplished by providing the end wall 13 with means for supporting a conductor and by mounting the pivots for both blocks 14 and 15 for sliding movement on the walls 10 and 11 so that the blocks can be moved into clamping relation therewith. As shown in the drawings, the wall 13 has a sleeve-like portion 13a projecting therefrom for receiving the end of a conducting cable 24, the side walls 10 and 11 being cut back as shown at 10a and 11a so that the cable, which can be inserted from either end, lies partially within the frame and is engaged by the portion 14a of the block 14. The cable-receiving passage preferably extends transversely of the body as such arrangement provides for maximum clamping engagement of the cable by block 14.

In mounting the terminal clamp as shown in Fig. 1 the bared end of the cable 24 is inserted into the end portion 13a and the terminal clamp mounted on the terminal post of the battery B as shown in Fig. 7 with the post positioned between the blocks 14, 15. The screw 23 is then turned to apply a force to the blocks and to draw the frame to the right as shown in Fig. 3 so as to first clamp the conductor between the wall 13 and block 14 and then pivot the blocks

14 and 15 into clamping engagement with the post. It will be noted from this arrangement that the clamp of the present invention is universal in that it will secure a conducting cable to the device even though it might vary slightly in diameter and will cooperate with either the positive or negative post of the battery, which are of different diameters, and will accommodate variations in taper on the terminal posts because of the pivotal mounting of the clamping blocks.

In some installations it is desired to use a conductor strap instead of a conductor cable. This may be accomplished with the battery terminal clamp of the present invention without modification of the clamp. As is noted in Fig. 6, the wall 13 is provided with flat portions 13b which are opposed to the portions 14b of the clamping block 14 and provide a space for receiving the conducting strap 24a therebetween. When the blocks 14, 15 are drawn into clamping relation by the screw 23, the block 14 will clamp the strap between the portions 13b, 14b and will clamp the post 20 between blocks 14, 15. Thus, the device operates with equal facility with both cable and strap conductors.

The clamps are open at the top and bottom and, because of the pivotal action of the blocks, may be put on a terminal from either side of the clamp. As shown in Fig. 7, they lie close to the battery and securely hold the conductor in desired position. They are readily released by merely releasing the thumb screw and by rocking the clamp which frees the blocks and permits them to slide in the slot in the side walls.

From the foregoing, it will be seen that the clamp of the present invention is easy to manufacture, easy to apply and is universal in its operation in accommodating itself to various sizes and shapes of terminals and to various types of conductor means with which it may be used.

Variations and modifications may be made within the scope of this invention and portions of the improvements may be used without others.

I claim:

1. A battery terminal connector comprising a body having connected opposed parallel side members; a pair of terminal post clamping blocks of electrical conducting material having opposed post-engaging surfaces, said blocks being disposed between said parallel side members with their ends in substantial engagement with said side members and having their ends pivotally connected to said side members to enable the blocks to pivot about transversely extending axes and grip terminal posts having different tapers, said side members having means to mount at least one of said blocks for sliding movement toward or away from the other block; and means on the body cooperating with said slidable block to slide the block into clamping relation with a post disposed between said blocks.

2. A battery terminal connector comprising a rigid body having parallel side walls connected by end walls; a pair of terminal clamping blocks of conducting material having opposed faces

curved to receive a battery terminal extending between the side walls for substantially the distance therebetween; means pivotally and slidably connecting both of the blocks to said side walls for pivotal movement about a transverse axis and sliding movement longitudinally of the side walls, said walls having means for guiding the blocks during sliding movement, said body having on one end a wall or conductor receiving portion opening toward said blocks for receiving a conducting means and positioning the same to be engaged by the adjacent block; and means on the other end of the body for moving the blocks relative to the body and into clamping relation with said terminal post and conducting means.

3. A battery terminal connector comprising a rigid body having end walls and parallel side walls extending therebetween provided with longitudinally extending slots; a pair of terminal clamping blocks of electrical conducting material with their ends in substantial engagement with said side members; means pivotally and slidably mounting said blocks in the slots on the side walls for pivotal movement about a transverse axis and sliding movement longitudinally of the side walls, said blocks having opposed battery terminal post engaging faces; conductor receiving means on one end wall of the body opening toward said blocks for receiving and positioning a conducting means to be engaged by one of the blocks; and means on the other end wall of the body for moving the blocks relative to the body and into clamping relation with said terminal post and to clamp the conducting means against the first end wall.

4. The invention as defined in claim 2 wherein said end wall having the conductor receiving portion is flat and is formed with a cable receiving channel extending transversely thereof and wherein the adjacent end of a side wall has a cable access opening to receive the cable whereby flat straps or round conductors may be positioned to engage the flat wall or channel and be clamped to said wall by said adjacent block.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
928,857	Donnelly	July 20, 1909
1,741,804	Zilliox	Dec. 31, 1929
1,959,713	Goff et al.	May 22, 1934
2,132,967	Pennell	Oct. 11, 1938
2,198,262	Bergan	Apr. 23, 1940
2,453,474	Thumann	Nov. 9, 1948

FOREIGN PATENTS

Number	Country	Date
100,378	Austria	Mar. 11, 1937
262,397	Switzerland	Oct. 1, 1949
909,231	France	Dec. 10, 1945