My invention relates to improvements in storage battery terminal clamps and the object of the invention is to devise a clamp for attachment to the terminal posts of the battery which will not corrode or sulphate as occurs in orthodox clamps and which will establish at all times a good electrical connection between post and clamp. 

A further object is to devise a clamp which may be applied to the post and removed therefrom with ease and which will not require the use of wrenches or spanners, a pair of pliers being the only tool required. 

A still further object is to construct a clamp which may be applied to batteries which may have hitherto been used with the orthodox form of clamp in which the posts may be multilated and in which it is only necessary to drill a vertical orifice of the required size in the post extending down from its top. 

With the above and other objects in view which will hereinafter appear as the specification proceeds, my invention consists, in its preferred embodiment, of the construction and arrangement all as hereinafter more particularly described and illustrated in the accompanying drawing in which:—

Fig. 1 represents a plan view of a storage battery showing my terminal clamps applied to the terminal posts thereof.

Fig. 2 is a vertical section through the line 2—2 (Fig. 1).

Fig. 3 is an enlarged side view of one of my terminal clamps.

Fig. 4 is an inverted plan view thereof.

Fig. 5 is a vertical longitudinal section through the clamp shown in Figs. 3 and 4.

Fig. 6 is a section taken on the line 6—6 (Fig. 5).

Fig. 7 is a similar view to Fig. 4, showing a portion of the clamp in section, and

Fig. 8 is a perspective detail of a spring insert embedded into the clamp.

Like characters of reference indicate corresponding parts in the different views.

My clamp comprises an outer shell 1 of material such as lead, lead and antimony or other suitable material or alloy incombustible to the action of the electrolyte and having good electrical conducting characteristics, said shell having a portion bifurcated to constitute diverging legs 2, and a socket-like portion 3 to receive the cable 4 or the conductor 5 which forms the ground connection. In fact, such sockets 3 may receive any required cable depending upon their formation. A depending tongue 6 extends from each leg 2 in spaced relation to the socket 3 and preferably in the vicinity of the tips of the legs which may be curved outwardly. The adjacent or inner surfaces of the tongues 6 are preferably flat and the outer surfaces are preferably arcuate so that each tongue in cross-section will be of semi-circular form as illustrated in Figs. 4 and 6.

A spring 7 of V-shaped form having tongues 8 depending from the vicinity of the tips of its legs is embedded in the shell 1 with its legs disposed in the legs 2 of the shell and the tongues 8 disposed in the tongues 6 thereof. The legs of the spring taper from their junction with each other toward their tips in order that in forcing the legs of the clamp together for a purpose which will hereinafter appear, the bending will be progressive from the base or V of the spring to its tips thus correspondingly distributing the strain on the material of the enclosing shell 1 and preventing any danger of the same fracturing.

In constructing my device, the shell 1 including the legs 2 and tongues 6 is moulded around the spring 7 which is completely embedded therein and therefore covered thereby, and the end of the cable 4 or conductor 5 is preferably disposed in the socket 3 during the casting operation. However, where the clamps are designed for replacement purposes the clamp may be formed with the socket 3 and the cable 4 or conductor 5 afterwards inserted into the socket being soldered or otherwise secured therein.

So that my clamp as above described may be attached to the terminal posts 9 of a battery 10, a vertical orifice 11 is drilled down from the top of the post as illustrated in Fig. 2. In batteries manufactured particularly for use with my clamps, the orifices 11 may be formed in the posts during the process of their fabrication. By means of a pair of pliers applied to the tips of the legs 2 of the shell, such legs are pressed together until the tongues 8 or the tongues 6 into intimate contact with the wall of the orifice 11 in the terminal post 9, thus establishing an excellent electrical connection therebetwen.

To remove the clamp from the post, it is only necessary to apply the pliers to the tips of the legs of the shell 1 and press such legs together. 

Then, by pulling up the clamp by means of the pliers, the tongues 6 can be disengaged from the post.

A clamp constructed according to my invention is easy to apply to and remove from the terminal post and it is incorrodible to the action of the battery electrolyte, the only part susceptible to corrosion being the spring which is totally enclosed in the shell. By inserting the tongues 6 in the post, a better electrical connection is established than is the case with clamps of ring-like form surrounding the exterior of the post. Furthermore, such construction lends itself to employment with used batteries where the posts may be mutilated, as well as affording a universal connection to either the positive or negative terminal posts which may be of different cross-sectional diameters.

I am aware that hitherto clamps constructed of ductile incorrodible material with springs inserted therein and adapted to engage the exterior face of battery terminal posts have been devised, and I make no claim to the same broadly, but only to the construction hereinafter described and set forth in the appended claims.

What I claim as my invention is:

1. A storage battery terminal clamp comprising a V-shaped resilient member having depending tongues formed on the legs in the vicinity of their tips, a bifurcated encasement of ductile electrical conducting material for the resilient member and including depending tongues covering the tongues of the resilient member, and means for attaching a cable to the bifurcated encasement.

2. A storage battery terminal clamp as claimed in claim 1, legs on the resilient member tapering from their junction with each other towards their tips.

3. A storage battery terminal clamp comprising a bifurcated member of ductile material substantially inert to the action of the battery electrolyte and having the tips of its legs formed into depending tongues of segmental cross-section with their plane portions adjacent each other, said tongues being capable of insertion into an orifice of circular cross-section in a storage battery terminal post, and resilient means wholly enclosed in the bifurcated member for normally tending to force its legs and tongues apart whereby the curved faces of the tongues establish electrical contact with the wall of the terminal post orifice.

4. A storage battery terminal clamp as claimed in claim 3 wherein the resilient means in the bifurcated member comprises a V-shaped spring.

5. A storage battery terminal clamp as claimed in claim 3 wherein the resilient means in the bifurcated member comprises a V-shaped spring having extensions on the tips of its legs depending into the tongues on the bifurcated member and wholly enclosed therein.

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