July 27, 1937. W. G. MYLIUS 2,088,481

TERMINAL CLAMP

Filed May 21, 1936

Fig. 1.

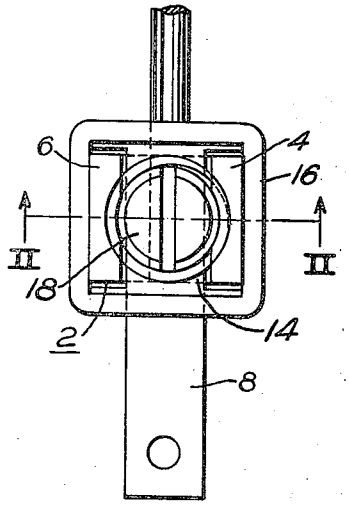


Fig. 3.

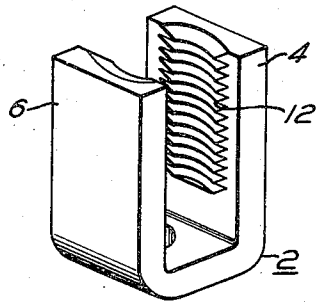


Fig. 2.

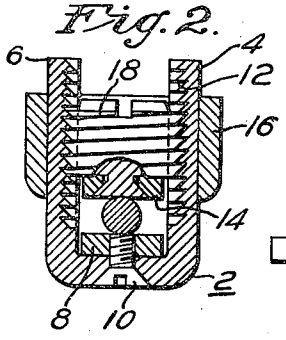
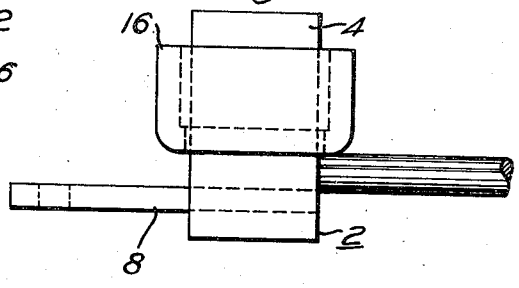


Fig. 4.



WITNESSES:

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TERMINAL CLAMP

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Application May 21, 1936, Serial No. 80,968

1 Claim. (Cl. 173—259)

The present invention relates to terminal clamps for electrical conductors.

Although the clamp hereinafter described was developed primarily for the electrical conductors associated with watthour meter installations, and particularly when a plurality of such meters are mounted on a channel or other type of enclosures, it obviously is not limited thereto and is applicable to any installation where it is desired to firmly and positively grip a conductor or other device.

It is recognized that the clamp art is a crowded one. However, all of the clamps which are now available are subject to the defect that they involve a substantial number of parts, they are not strong enough to ensure a positive clamping action, or are not strong enough to permit exerting a sufficient clamping force without danger of breaking or spreading the parts of the clamp.

It is an object of the present invention to provide a strong and efficient clamp construction which is relatively simple to manufacture and may readily be used to effect a strong mechanical and good electrical clamping action.

The invention will best be understood from the following description and the accompanying drawing, in which:

Figure 1 is a plan view of a clamp constructed in accordance with the present invention,

Fig. 2 is a view in vertical section taken on the line II—II of Fig. 1,

Fig. 3 is a view in perspective of an element of the clamp shown in the preceding figures, and

Fig. 4 is a view in side elevation of the clamp shown in Figs. 1 and 2.

Referring more particularly to the drawing, the clamp comprises a member 2 substantially of U-shape having parallel legs 4 and 6. The dimensions of the member 2, of course, are chosen to meet the particular requirements of a given installation but the distance between the legs 4 and 6 should be such that a conductor of substantial size may be received between them.

The member 2 may be mounted on a support in any desired manner as by a supporting strap 8 to which the clamp is secured as by a screw 10 extending through the base of the member 2. The supporting strap 8 may also serve the purpose of effecting an electrical connection to the clamp.

Referring to Fig. 3, it will be noted that the inner confronting faces of the legs 4 and 6 are provided with segmental screw threads 12. These threads are cut from an axis extending centrally between the legs and preferably are of a shape as illustrated more clearly in Fig. 2, in which the upper surface of each thread is substantially horizontal, or at least it approaches the horizontal more closely than the lower portion of the thread.

The clamping action is effected by a member 14 which extends between the legs 4 and 6 and is preferably integral with a collar 16 of rectangular form which embraces the outside of the legs, as shown more clearly in Fig. 1.

A screw 18 of a diameter to engage the threads 12 is rotatably mounted in the base of the member 14. This may be accomplished, as illustrated in Fig. 2, by providing a reduced lower portion on the screw which may be extended through an aperture in the base of the member 14 and upset, as shown, to prevent removal thereof.

It should be apparent that when a conductor or other object is inserted between the legs of the U-shaped member 2, the member 14 may be forced downwardly against it merely by rotating the screw 18 with a screw driver. In this action, the clamp portion 14 is moved into positive contact with the conductor or other member and substantial pressure may be applied. Ordinarily, such pressure would tend to spread the legs of the U-shaped member 2 and break the threaded engagement with the screw 18. However, as the collar 16 moves downwardly with the clamping member, it is always at a position to counteract the tendency of the legs 4 and 6 to spread. Inasmuch as the width of the collar 16 is substantially the same as the distance between the outer faces of the legs, such spreading cannot occur and it has been found in practice that a force substantially greater than could heretofore be applied may safely be applied to the screw 18 without breaking the parts of the clamp, or permitting a disconnection between the threads in the legs and screw 18.

Preferably the collar 16 and the screw 18 are removed from the member 2 before the conductor is placed between the legs 4 and 6. This greatly facilitates the installation of the wiring and avoids the usual necessity of threading the conductor through the clamp.

The clamping member being substantially of cup shape, it has been found convenient in practice to form it of brass or similar material by a simple stamping operation. Also the member 2 with its threads may also be stamped from similar material. It also has the advantage of being able to remove the cup and lay the wire or cable into the stirrup, then replace the cup and clamp tight. This is quite an advantage when wires are run continuously through meters to load or sev-

eral meters as in channel installations. This results in a uniform product and materially decreases the cost of the assembly.

In accordance with the invention, therefore, an unusually strong and rigid clamp has been obtained which is capable of exerting a greater clamping force and with a fewer number of parts than clamps heretofore used. It is readily conceivable that many modifications may be made and the exact construction shown by the invention should not be limited, except by the scope of the appended claims.

I claim as my invention:

In a terminal clamp, a member of U-shape comprised of flat strip material, an aperture through the base of the U to facilitate attachment of the member to a support, screw threads in the confronting faces of the legs of the U extending from the free ends thereof toward said base, a screw in threaded engagement with said screw threads for movement toward and away from said base, a member of rectangular cup-shape having a pair of spaced slots in opposite sides of the cup base for receiving the legs of said U-shaped member, means for rotatably securing the end of said screw to the cup base between said slots, the sides of said cup being proportioned to constitute a continuous collar engaging the outer faces of the legs of the U-shaped member and of a depth substantially the same as the length of said screw.

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