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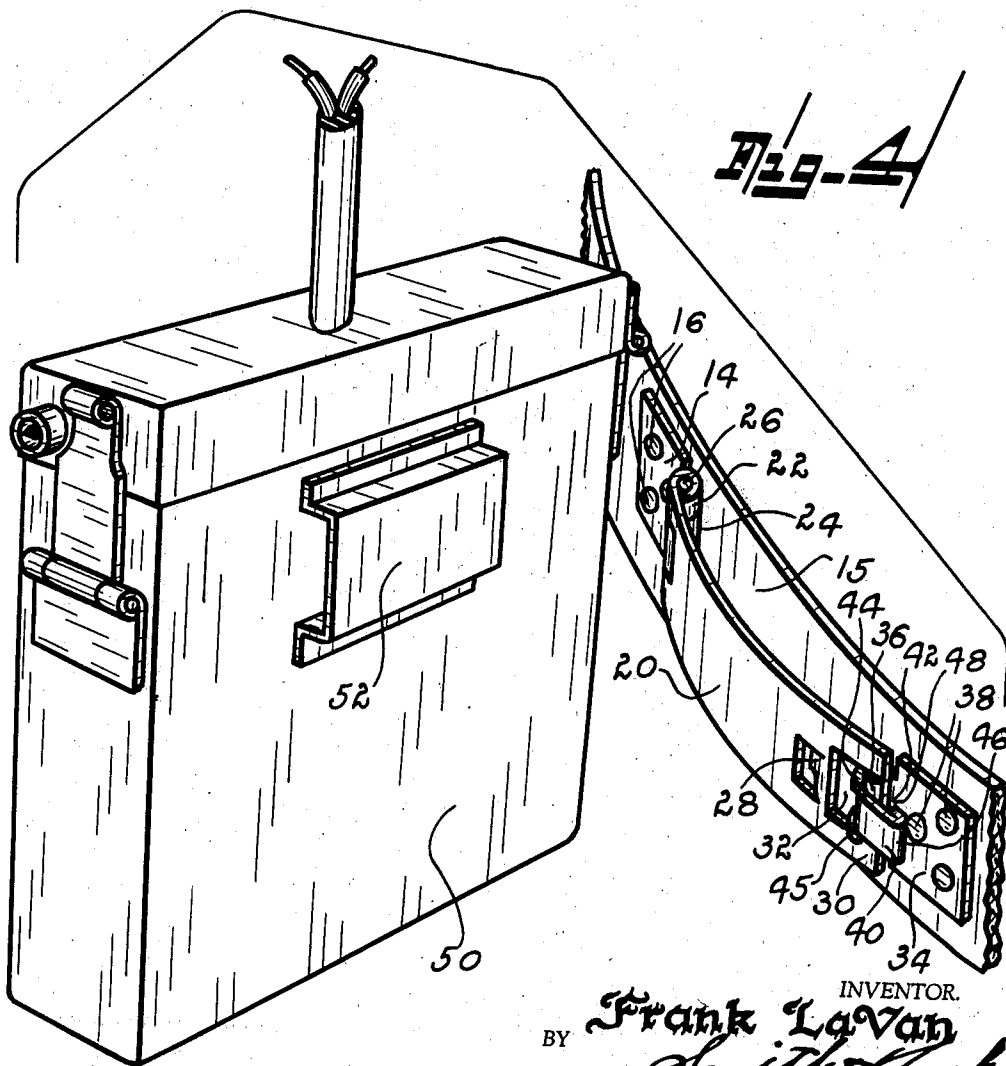
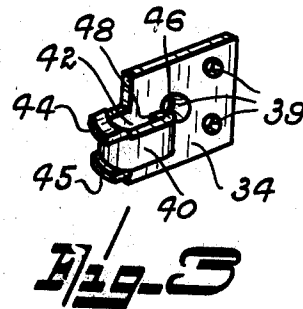
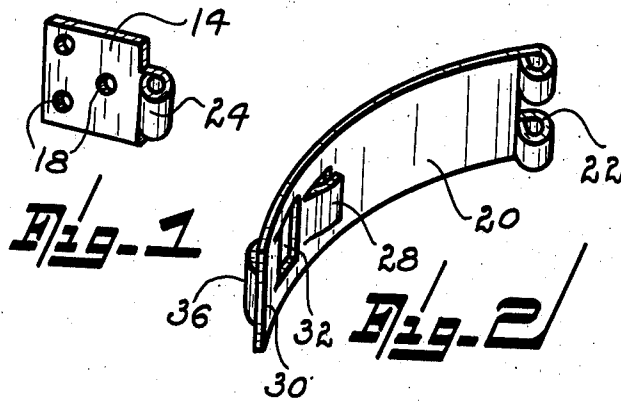
F. LA VAN

2,190,601

ATTACHMENT FOR CARRYING BATTERIES SUSPENDED ON A BELT

Filed Jan. 6, 1938

2 Sheets-Sheet 1



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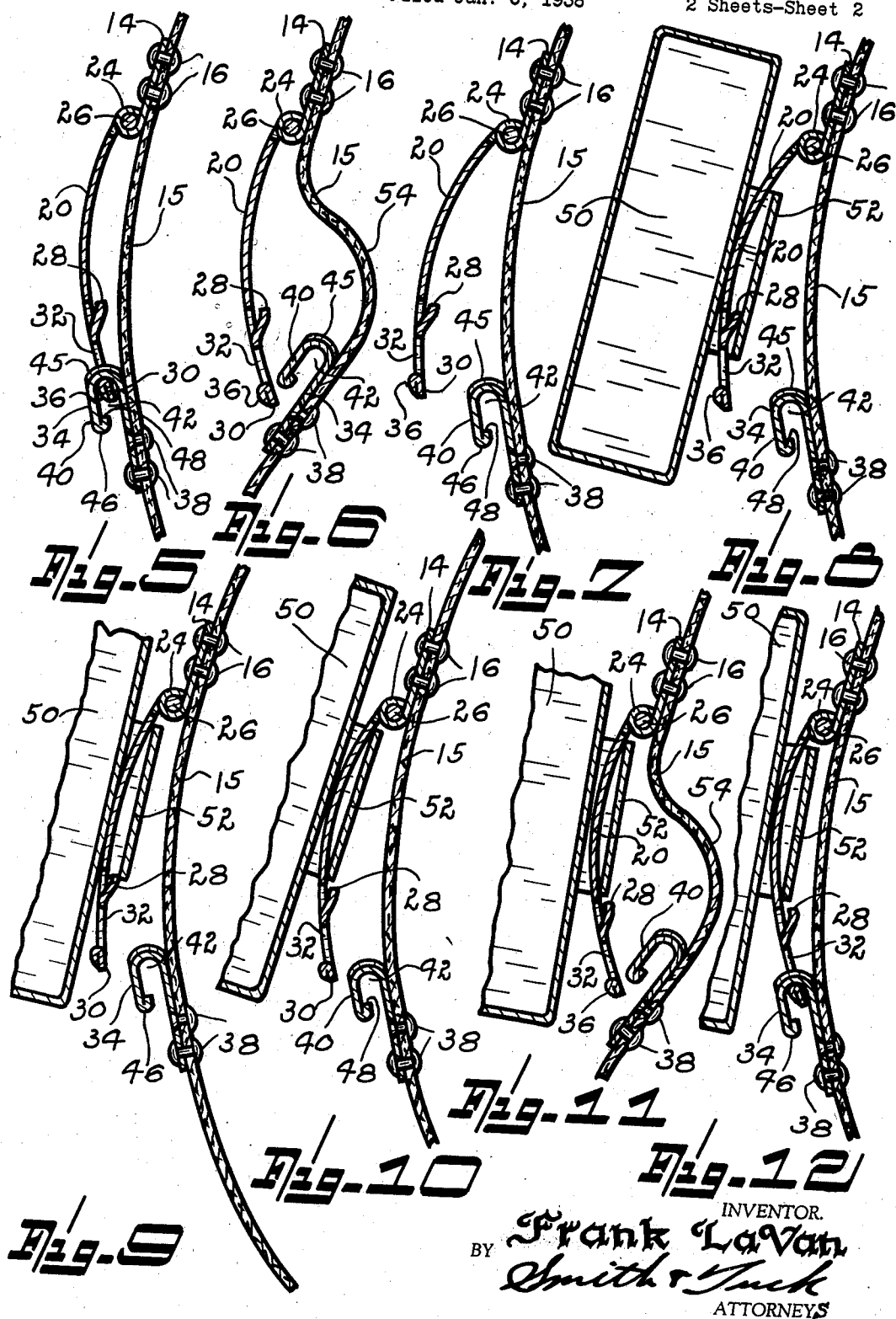
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2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE

2,190,601

ATTACHMENT FOR CARRYING BATTERIES
SUSPENDED ON A BELT

Frank La Van, Bryn Mawr, Wash.

Application January 6, 1938, Serial No. 183,701

1 Claim. (Cl. 224-5)

My invention relates to the general art of devices for attaching packages and equipment to waist belts and more particularly to an attachment for carrying batteries suspended on a belt.

In many lines of work, particularly mining, in the military, and in many fields of sport it is desirable to have a battery energized lamp that may be secured to the hat, or to the body of the user, and to have a convenient means for supporting the weight of the battery. When a person is walking through the dark on mountain trails, in hunting areas, or is employed in physical effort such as mining, or the like, it is very desirable to have the maximum illumination that can be practically carried. Naturally, there is a limit to the size of battery that a user can conveniently carry while engaged in work; however, it is necessary that the battery be of such a size as to last for one normal day's work of eight hours. No matter what type is used it is difficult to obtain the ampere hour capacity in a battery without getting considerable weight; so it naturally follows that if the lamp is to be of maximum usefulness it should, normally, be affixed to the cap of the user so that as he turns his head the light will always illuminate that area in which the next move is to be made. This, therefore, calls for a division between the light itself and the battery and for a connection between the two in the form of a cable.

It is for this type of equipment that my device is particularly desirable in that it gives a quick and fool-proof means for attaching a considerable weight to the belt.

Miners and sportsmen place an unusual requirement upon such lighting equipment in that they must go through narrow places with an insufficiency of light and quite often will brush against trees, or projecting wall faces or timbering of tunnels. Consequently, it is desirable that, once the device is attached, it will definitely stay attached until the user desires to discard it.

Further, it is desirable that the battery box be easily removable from the belt so that it can quickly be replaced with a fresh unit. This replacement often must be made in darkness or semi-darkness, and it is therefore an added requirement that the device not only provide a secure means of attachment but that it will also operate easily under adverse conditions.

The principal object of my present invention, therefore, is to provide an attaching means whereby a battery case or other desirable case may be quickly attached to a waist belt of a suitable character.

A further object of my present invention is to provide a securing means such that, if for any reason the latch itself became unhooked, the case would not fall off of the latch thus greatly inconveniencing the user, or if it became entirely lost even endangering him.

Still another object of my present invention is to provide a secure means, for fastening the tongue of my attaching device, which will be simple in operation and when secured in place will provide a positive engagement.

Another important object of my invention is the provision of means whereby devices may be attached to a belt without the necessity of running the belt through a fixed loop on the container; and further, so that a container having a relatively narrow loop can be attached to a belt of considerable width, it having been found that for carrying considerable weight a reasonably wide belt is desirable.

Other and more specific objects will be apparent from the following description taken in connection with the accompanying drawings, wherein:

Figures 1, 2, and 3 are perspective views of the three principal elements making up my attaching means.

Figure 4 is a bracketed, perspective view showing one type of container to which my device is readily adaptable and also showing a section of a waist belt with my attaching means shown in its closed position.

Figures 5 to 12, inclusive, are plan views in section.

Figure 5 shows my device in its normal carrying position.

Figures 6 and 7 show consecutive steps in the disengagement of the load carrying tongue.

Figures 8, 9, 10, 11, and 12 illustrate successive stages in securing a load to a belt through the use of my device.

Referring to the drawings, throughout which like reference characters indicate like parts, 14 designates the fixed pivot member. This is normally secured to belt 15 as by a plurality of rivets 16 which pass through suitable openings 18 in member 14. Pivotaly secured to member 14 is the tongue member 20. This has complementary hinge members at 22 which are adapted to engage the hinge member 24 of the fixed pivot member 14; the exact arrangement of this hinge is a matter of individual preference. A hinge pin as 26 is provided so that when pivot member 14 is fixedly secured to the belt, tongue member 20 also becomes a fixture with the belt.

Tongue 20 is bowed along its longitudinal axis as will best be understood by reference to Figures 2, 4, 5, and 12. This bowing is an essential part of this structure in that it makes possible obtaining the greatest usefulness from certain other portions of this device.

Near the opposite end of member 20, from pivot 22, is struck inwardly a retaining lug 28, outwardly toward end 30 from lug 28 an opening 32 is formed. This opening is adapted to receive the hooked over portion of latch member 34. The metal which is struck out from opening 32 is folded outwardly and toward end 30 so as to form an edge of greater thickness; in this way a greatly increased wearing surface is provided for that portion of opening 32 which encounters the most wear. This is preferably formed after the showing at 36 so that at least double the thickness of metal is employed at this point. It will naturally follow that for certain uses it might be desirable to bend the metal back on itself once more so as to provide possibly a triple thickness.

Adapted to engage in opening 32 is the latch member 34 which itself is fixedly secured to belt 15 as by rivets 38 which are passed through openings 39 in member 34. The hook portion 40 of member 34 is probably best illustrated in Figure 3 and in the sectional views 5 to 12, inclusive. It will be noted that the gap in the hook, as 42, is of considerable extent so as to easily accommodate the increased thickness of tongue 20 occasioned by the folding back of the metal at 36. This gives a relatively large bearing surface which has been found to give good service over a long period. To further assist in promoting long life in this unit, I have provided bearing plates at 44 and 45. These take the vertical wear that comes on hook member 40 or the upper and lower margins of opening 32. It will be apparent, it is believed, that by having bearing plates 44 and 45 of liberal proportions, it will result in substantially decreased wear which would otherwise be occasioned because of the light gauge of the metal from which part 20 and 34 are preferably formed. Hook member 40, at its extreme end, is bent back on itself at 46 so as to provide a sharp abutting surface at 48. This has been found to add materially to the security of the fastening and, in addition, provides a rounded edge which is most easily operated under conditions of poor light and in distorted positions of the wearer.

Method of operation

In using my device it is customary to provide the ordinary battery box, or instrument case, as 50 with a belt loop as 52. This should be reasonably long or in duplicate so as to give longitudinal stability to case 50. The actual manner of using my device will probably be best understood from a study of Figures 5 to 12, inclusive.

In Figure 5 my attaching means is shown in the position in which it would normally be carried on the belt of the user. In order to open tongue 20 it is necessary to loop the belt back on itself as is illustrated at 54 in Figure 6. In this position it is then possible to release end 30 of tongue 20 from hook 40. As soon as this is accomplished the device should be allowed to assume its normal po-

sition as shown in Figure 7. The battery box 50 is then put in position and tongue 20 passed through loop 52. In Figure 8 is shown the normal curve of tongue 20; then, as the tongue is forced further through loop 52, it will, of necessity, have to straighten or take a curve of longer radius after the showing of Figure 9. As it is passed more fully through loop 52 it arrives at the position indicated at Figure 10 where lug 28 has passed entirely through loop 52 and because of the curvature of tongue 20, lug 28 is placed in a position to definitely prevent loop 52 from sliding off tongue 20. This is a desirable relationship and forms an essential feature of this engagement. To engage tongue 20 on hook member 40 again, it is necessary to again produce the loop indicated at 54 in Figure 11 which is similar to that shown in Figure 6. As soon as hook 40 is engaged in opening 32 the belt can be allowed to assume its normal position shown in Figure 12. The operation is complete. To remove the cannister or battery case from the belt a reversal of the operation described is sufficient.

Attention is invited to the fact that the persons who have need for a light of this order are normally accustomed to working in tight places, brushing against obstructions and equipment in badly lighted places and it is under such conditions that any reasonably, easily operated latch arrangement can be unintentionally unhooked. In my present arrangement, however, even though the hook member 40 should become disengaged from opening 32, the battery box still is held to the belt by lug 28 and, as a result, the light is in no danger of damage that might otherwise make it inoperative. This is a matter of vital concern to persons who must light their way, sometimes for miles; particularly is this true under ground where if a person's light were to fail it might take hours to get to a point where adequate lighting would be available and during this travel they would probably be in constant danger from obstructions, openings, shafts, or inclines that would add greatly to their already hazardous occupation.

The foregoing description and the accompanying drawings are believed to clearly disclose a preferred embodiment of my invention but it will be understood that this disclosure is merely illustrative and that such changes in the invention may be made as are fairly within the scope and spirit of the following claim.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is:

In an article carrier, the combination with a flexible belt, of a resilient, curved article-supporting tongue mounted on a pivot extending transversely on the belt, said tongue having an opening adjacent its free end, a hook secured to the belt and adapted to engage the walls of said opening, the distance from the free end of the hook to the pivot being greater than the chord of the curved tongue, an offset lug on the tongue adjacent said opening, and said lug extending in a plane parallel with the axis of the tongue pivot and located between the tongue and the belt.

FRANK LA VAN.