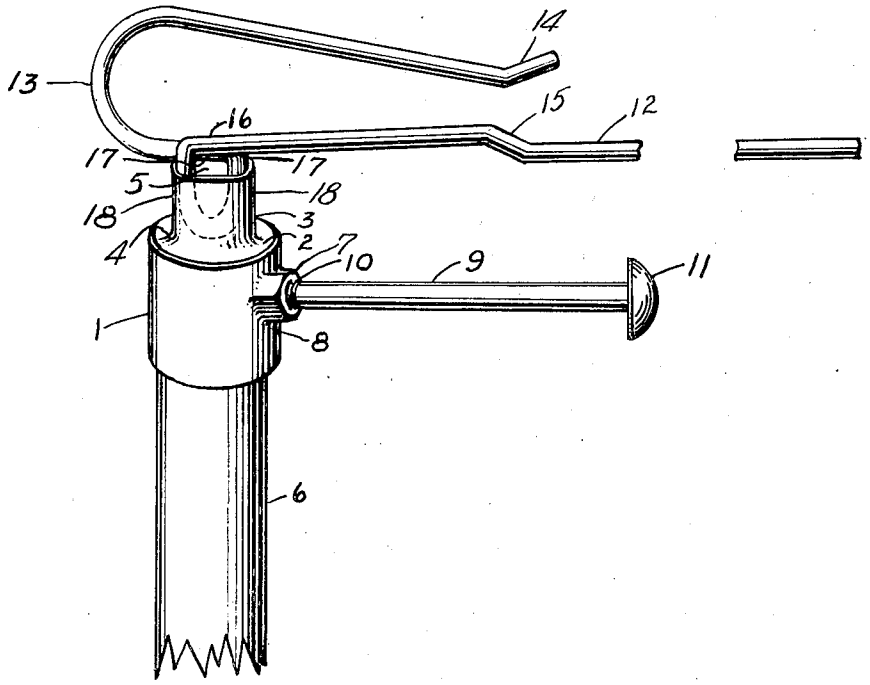
Nov. 15, 1949 C. G. GOTTHOLM 2,488,396

WIRE WORKING TOOL

Filed April 22, 1948



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Patented Nov. 15, 1949 2,488,396

UNITED STATES PATENT OFFICE

2,488,396

WIREWORKING TOOL

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Application April 22, 1948, Serial No. 22,609

7 Claims. (Cl. 294—19)

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This invention relates to a wire working tool adapted to be used in connection with a railroad bridge guard for the attachment and removal of the stiff steel wire pendants connected to the hanger loops on a spacing hanger such as disclosed in my prior Patent No. 2,392,529, issued January 8, 1946, or such as disclosed in my co-pending application Serial No. 31,724, filed June 8, 1948. For the purpose of affording a complete understanding of my invention, it is desired to incorporate in the present disclosure, all of the disclosure in my prior patent above referred to.

The primary object of my invention is to provide a tool of the aforementioned type which is of simplified construction compared with the tool disclosed in my prior patent, and which is adapted for use specifically with the new pendant disclosed herein, and disclosed and claimed in my above mentioned co-pending application.

A further object of my invention is to provide a tool of the aforementioned type comprising a tubular member adapted to receive a handle, a wire loop holder including an elongate recess, means connecting said wire loop holder to the tubular member, and means including elongate means for securing the tubular member to the handle, said elongate means also providing a means for manipulating the loop at the end of the pendant to open and close the same; and the novel subcombinations thereof.

Other and further objects of the invention will become apparent as the description proceeds, reference being made to the accompanying drawing forming a part of the present disclosure, wherein for purposes of illustration one embodiment of the invention is illustrated, and wherein:

The single figure of the drawing is a fragmentary perspective view of a wire working tool constructed in accordance with the teaching of my invention, illustrating the manner in which a pendant is secured thereto to place the same in a hanger loop.

My wire working tool is preferably constructed of metal, and in the embodiment illustrated comprises a tubular member 1 of any desired cross-sectional configuration, having an end wall 2 at one end thereof. A flattened, tubular member or loop holder 3 is secured to the end wall 2 as by means of a weld 4. The loop holder 3 provides an elongate recess 5 ovalescent in cross-section adapted to receive a wire loop as will be later described.

One end of a long, wooden, or tubular metal handle 6 is received within the tubular member

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1, and in the embodiment illustrated, the wall 2 functions to limit the inward movement of the handle and also provides a means connecting the loop holder 3 with the tubular member 1.

A radially directed, internally threaded, hollow boss or nut 7 surrounds or is in registry with an opening in the tubular member 1 and is suitably secured thereto as by means of a weld 8. An elongate bolt 9 having a threaded end 10 is received in the boss 7 for securing the tubular member 1 to the handle 6. The bolt 9 projects outwardly from the tubular member 1, preferably has a headed free end 11, and is used to perform an additional function which will be described in detail presently.

The new pendants with which the tool is designed for use are formed of stiff steel wire as were the pendants disclosed in my prior patent, but include some structural changes. One of these pendants 12 is illustrated in the drawing and comprises a relatively long piece of wire which is bent at one end to form a loop 13 adapted to be received in the hanger loops 3 disclosed in my prior patent. The loop 13 has a hooked or curved free end portion 14 adapted to engage the pendant to maintain the loop closed. Preferably, the pendant is provided with an angularly directed portion 15 adjacent to and adapted to receive the curved end portion 14 of the loop. A second, preferably but not necessarily, closed and smaller loop 16 is formed in the pendant 12 adjacent to, or, as illustrated, in the portion of the pedant defining the loop 13.

The loop 16 is adapted to be received in the recess 5 of the loop holder 3, as illustrated, and preferably, the recess 5 is made slightly smaller than the normal width of the loop 16 so that the side portions 17 thereof will be resiliently urged into frictional contact with the end walls 18 of the loop holder 3. This frictional contact releasably but adequately secures the pendant 12 to the tool.

It frequently happens that a pendant of the bridge guard or warning device, such as illustrated in Fig. 1 of my prior patent, becomes damaged and must be replaced and it is for this purpose that the tool disclosed herein is particularly designed. A single, track workman standing on the ground below the bridge guard, with this tool, can quickly remove a defective or damaged pendant 12 and replace it with a new one in the following manner:

To remove a defective pendant, the handle 6 is elevated and the bolt 9 is inserted in the closed loop 13 thereof in a direction towards the plane of

the drawing. The tool is then given approximately a quarter turn counter-clockwise, the loop 13 snaps open as shown in the drawing, and the pendant can readily be lifted out of the hanger loop by the bolt 9.

To place or replace a pendant, the loop 16 of the pendant is positioned in the recess 5 of the loop holder 3 as illustrated in the drawing, the loop 13 being open and the free end 14 thereof up or in position to be readily inserted into the hanger loop. Then the tool with the pendant projecting outwardly as shown is raised by the handle 6 to the proper height and the free end 14 of the loop 13 is inserted into the hanger loop. Preferably, the loop 13 is hooked through the hanger loop all the way, and the handle 6 is then pulled downwardly to release the tool from the pendant, leaving the pendant hanging with the loop 13 open. The bolt 9 is then inserted in the open loop in a direction outwardly from the plane of the drawing, given approximately a quarter turn counter-clockwise, and the end 14 of the loop snaps over the inclined portion 15 of the pendant to close the loop 13 securely.

In the foregoing disclosure I have illustrated and described only the preferred embodiment of my invention, but it is to be understood that this disclosure is given by way of illustration and not in limitation of the invention, and that I desire to cover any equivalent or modified forms of the invention as come within the scope of the appended claims.

I claim:

1. A wire working tool comprising a tubular member, an end wall on said tubular member, a flattened tubular wire loop holder having an open end connected to said end wall, an internally threaded hollow boss on said tubular member in registry with an opening in said tubular member, a handle having an end thereof received in said tubular member, and an elongate headed bolt projecting outwardly from said tubular member and threadedly received in said boss for securing said tubular member to said handle.

2. A wire working tool comprising a tubular member, a wire loop holder including a recess, ovalescent in cross-section, means connecting said wire loop holder to said tubular member, a handle having an end thereof received in said tubular member, and means including elongate means projecting outwardly from said tubular member, for securing said tubular member to said handle.

3. In a wire working tool, the combination comprising a tubular member, an end wall on said tubular member, a flattened tubular wire loop holder having an open end connected to said end wall, an internally threaded, hollow boss on said tubular member in registry with an opening in said tubular member and an elongate bolt threadedly received in said boss and projecting outwardly from said tubular member.

4. In a wire working tool, the combination comprising a tubular member, a wire loop holder including a recess ovalescent in cross-section, means connecting said wire loop holder to said tubular member, an internally threaded, hollow boss on said tubular member in registry with an opening in said tubular member, and a bolt adapted to be received in said boss and project outwardly from said tubular member.

5. In a wire working tool, the combination comprising a tubular member, a wire loop holder including a recess ovalescent in cross-section, means connecting said wire loop holder to said tubular member, and a hollow boss on said tubular member in registry with an opening in said tubular member.

6. In a wire working tool, the combination comprising a tubular member, a wire loop holder including a recess ovalescent in cross-section, means connecting said wire loop holder to said tubular member, and elongate means projecting outwardly from said tubular member.

7. In a wire working tool, the combination comprising a tubular member, a loop holder including a recess ovalescent in cross-section, means connecting said wire loop holder to said tubular member, and a headed bolt projecting outwardly from said tubular member.

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

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