Aug. 26, 1952 L. A. McDANIEL 2,608,219

TIE BREAKER

Filed July 13, 1951

Fig. 1

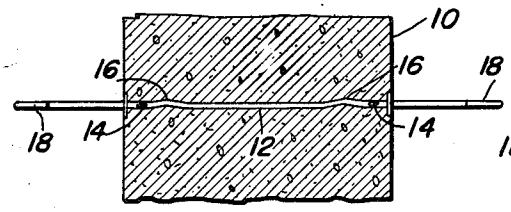


Fig. 2

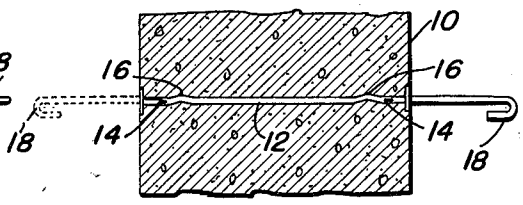


Fig. 3

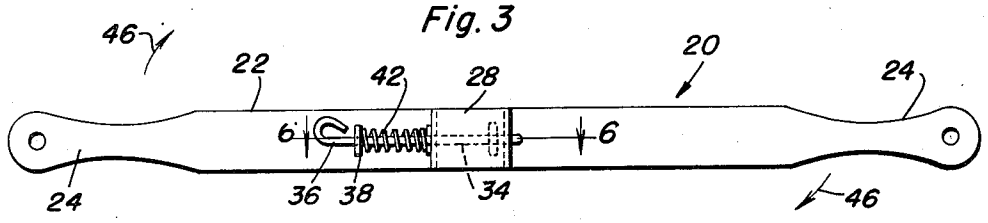


Fig. 4

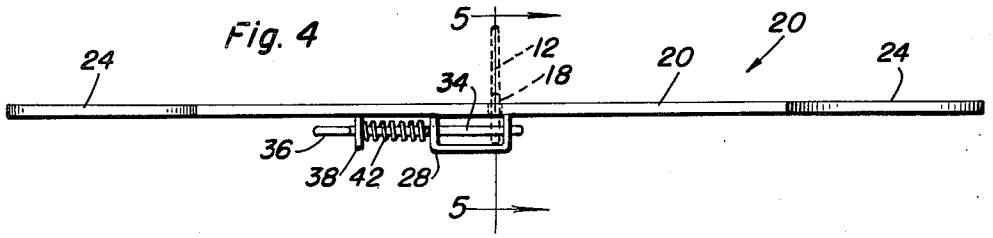
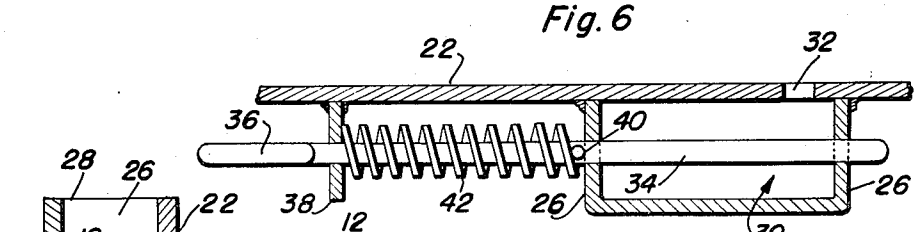


Fig. 6



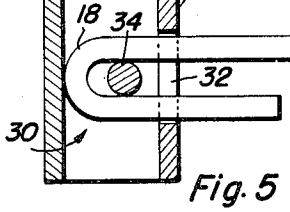


Fig. 5

Leo A. Mc Daniel

INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

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TIE BREAKER

Leo A. McDaniel, Phillipsburg, Kans.

Application July 13, 1951, Serial No. 236,657

4 Claims. (Cl. 140—149)

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This invention relates to novel improvements and structural refinements in devices or tools for breaking end portions of concrete form ties, and the principal object of the invention is to greatly expedite and facilitate the performance of the tie breaking operation.

Some of the advantages of the invention reside in its simplicity of construction, in convenient and expeditious operation, and in its adaptability to economical manufacture.

With the above more important objects and features in view, and such other objects as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a sectional view of a concrete wall showing a tie extending therethrough;

Figure 2 is a sectional view in a horizontal plane through the subject shown in Figure 1;

Figure 3 is a side elevational view of the invention which is intended to be used for breaking off the end portions of the ties shown in Figures 1 and 2;

Figure 4 is a top plan view of the invention;

Figure 5 is a fragmentary sectional detail, taken substantially in the plane of the line 5—5 in Figure 4; and

Figure 6 is a fragmentary sectional detail, taken substantially in the plane of the line 6—6 in Figure 3.

Like characters of reference are employed to designate like parts in the specification throughout the several views.

Referring now to the accompanying drawings in detail, the reference character 10 designates a concrete wall having a tie 12 extending therethrough, the tie having served its purpose in sustaining the concrete form (not shown) in position, so that the end portions of the tie which project from the concrete wall may be broken away.

To facilitate this, a conventional tie is provided with weakened portions 14 and with laterally offset portions 16 which resist rotation of the tie in the wall, while the projecting ends of the tie are formed with hooks 18.

The invention itself resides in the provision of a tool which is designated generally by the reference character 20 and comprises an elongated handle 22, provided at the ends thereof with hand grips 24, while an intermediate portion of the handle 22 has secured thereto the end portions 26 of a substantially U-shaped member 28.

The member or bracket 28 affords, in conjunction with the handle 22, a socket 30 wherein a tie hook 18 may be inserted through a vertical slot 32 in the handle 22, as illustrated in Figure 5.

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The side portions 26 of the member or bracket 28 are disposed at the opposite sides of the slot 32 and are provided with apertures to slidably receive a pin 34 which is slidable transversely of the bracket 28 and may be passed through the inserted hook 18 in the socket 30. The pin 34 terminates at one end thereof in a finger piece 36 and is also slidably journalled in an additional bearing member 38 which is secured to the handle 22 at one side of the bracket 28. A stop pin 40 extends through the pin 34 and abuts one end of a compression spring 42 which is positioned on the pin 34, the other end of the spring abutting the bearing member 38, so that the pin 34 is urged to a position wherein it extends through the bracket 28, as shown.

It should be noted that the slot 32 in the handle 22 is substantially equal in width to the thickness of the hook 18, so that when the tool is placed in use and is applied to the work by inserting the hook 18 through the slot 32 into the socket 30, the side edges of the slot prevent the hook from turning relative to the tool. Moreover, as the hook 18 is inserted into the socket 30, the pin 34 is retracted in the direction of the arrow 44 and then is permitted to return to its initial position so that it extends through the hook 18 as shown in Figure 5.

The tool may then be actuated by rotating the same about the axis of the form tie 12 as shown at 46, so that the projecting end portion of the tie is twisted off at the weakened area 14.

It is believed that the advantages and use of the invention will be readily understood from the foregoing disclosure and accordingly, further description at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed:

Having described the invention, what is claimed as new is:

1. A tool for breaking off hook shaped end portions of concrete form ties, said tool comprising an elongated handle provided intermediate the ends thereof with a tie hook receiving recess, longitudinally spaced bearing members provided on said tool at the opposite sides of said recess, and

a tie hook engaging pin slidably positioned in said members.

2. The device as defined in claim 1 wherein the end portions of said handle are provided with a pair of hand grips.

3. A tool for breaking off hook shaped end portions of concrete form ties, said tool comprising an elongated handle provided intermediate the ends thereof with a transversely extending slot, a substantially U-shaped bracket affording a pair of apertured bearing members secured to said handle at opposite sides of said slot and coacting with the handle to provide a socket wherein a tie hook may be inserted through the slot, an additional bearing member secured to the handle at one side of said bracket, and a tie hook engaging pin slidable in said bearing members in and out of said socket.

4. The device as defined in claim 3 together with resilient means for sliding said pin into said socket.

LEO A. McDANIEL.

No references cited.