

F. E. BEAM.
WIRE TIE TOOL.
APPLICATION FILED FEB. 1, 1912.

1,027,097.

Patented May 21, 1912.

Fig. 1.

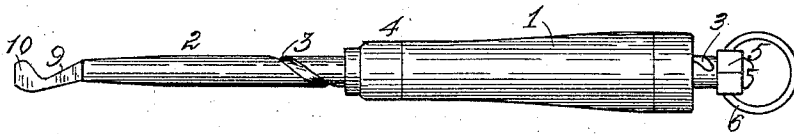


Fig. 2.

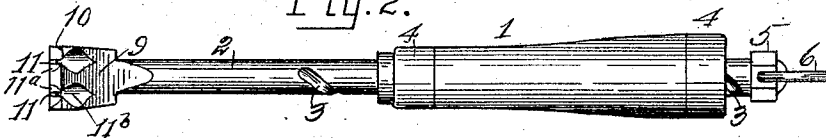


Fig. 3.

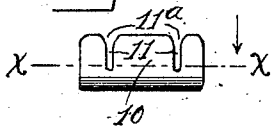


Fig. 4.

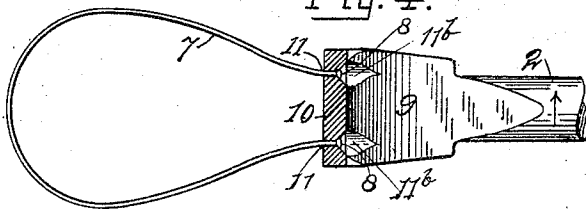


Fig. 5.

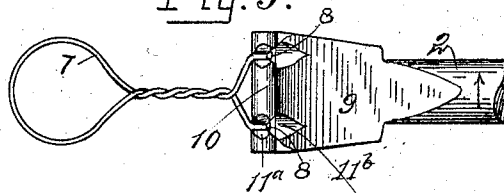
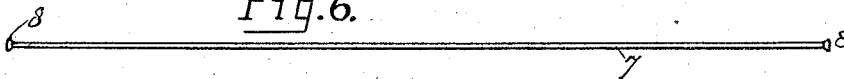


Fig. 6.



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UNITED STATES PATENT OFFICE.

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WIRE-TIE TOOL.

1,027,097.

Specification of Letters Patent.

Patented May 21, 1912.

Application filed February 1, 1912. Serial No. 674,818.

To all whom it may concern:

Be it known that I, FRANK E. BEAM, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Wire-Tie Tools; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

In those establishments in which many thousand bags are filled and tied daily,—as in Portland cement works,—the importance of means for quickly and economically tying shut the mouth of the bag is well understood. Various forms of wire bag-ties have been employed for this purpose.

My invention is of this class and has for its object the provision of simple, cheap, durable and efficient means for tightly tying the mouth of a bag or a sack by means of a short length of stout flexible wire having at each of its ends a head or an enlarged portion; and relates, more particularly, to the instrument or tool by which these heads or enlarged portions are engaged while the extremities of the wire are wound or coiled about each other to tightly secure the mouth of the bag in closed position.

A further object of my invention is to provide for the employment of a wire tie in which the amount of wire used is reduced to a minimum.

To this end my invention consists of the devices, construction and arrangement of parts hereinafter described, and shown and illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation of the tool hereinafter referred to; Fig. 2, a top-plan view of the same; Fig. 3, an end-elevation of the slotted head hereinafter referred to; Fig. 4, a top-plan view of the tool showing the wire loop hereinafter referred to engaged by said head, the head being shown in section on line $x-x$ Fig. 3; Fig. 5, a like-view

showing the wire loop engaged with the head and twisted as when the tying operation is completed, and Fig. 6, a view of the wire tie before it is bent into loop form.

Like numerals indicate like parts throughout the drawings.

In the drawings, 1 is a handle bored longitudinally and axially for the reception of an elongated shank 2, having a deep spiral groove 3. Each end of the handle is provided with a ferrule 4, one or both of which is provided with an inwardly projecting finger,—not shown,—which engages loosely the spiral groove 3. At the rear end of the shank 2 is swiveled, as at 5, a ring 6 to which may be attached a cord or chain to be connected with the belt of the operator, and by means of which the shank is held against longitudinal movement when the handle is moved to and fro to revolve the shank.

7 is a short length of wire having at each end a head, like a pin-head, 8, or being otherwise enlarged.

The shank 2, near its forward end, is flattened transversely, as at 9, and at its extremity is rounded or bent transversely, as at 10, at an angle to the direction of the shank. Into the top of the head 10, thus formed, are cut two narrow slots or notches 11, disposed lengthwise of the tool. These notches are of such width as to barely receive the wire 7. To facilitate the introduction of the wire ends into the notches 11, the tops of the notches are slightly flaring, as at 11^a, and are funnel-shaped at the bottom of their inner ends,—that is, the ends toward the handle,—as at 11^b.

The operation of my device is as follows: The handle being at the forward end of the shank 2,—that is, to the left in Figs. 1 and 2,—the wire 7, looped as in Fig. 4, is caught around the puckered mouth of the bag to be tied and with its ends engaged in the tapered sockets 11^b. Now a stout pull upon the handle causes the shank 3 to rapidly revolve carrying with it the ends of the wire loop and twisting the wire tie, as illustrated in Fig. 5, thus securely tying the bag and leaving convenient projecting ends by means of which the wire tie may, by the

use of the fingers alone, be readily untwisted.

Having described my invention, what I claim and desire to secure by Letters Patent is,—

In a device of the described character, a spirally grooved shank, one end of the shank having a broadened portion turned at its extremity at an angle to the shank, said
10 angularly turned portion having therein

flaring narrow notches adapted to engage the enlarged ends of a wire, and a handle loose on the shank and engaged with the groove.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK E. BEAM.

Witnesses:

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LEONA KIBURTZ.