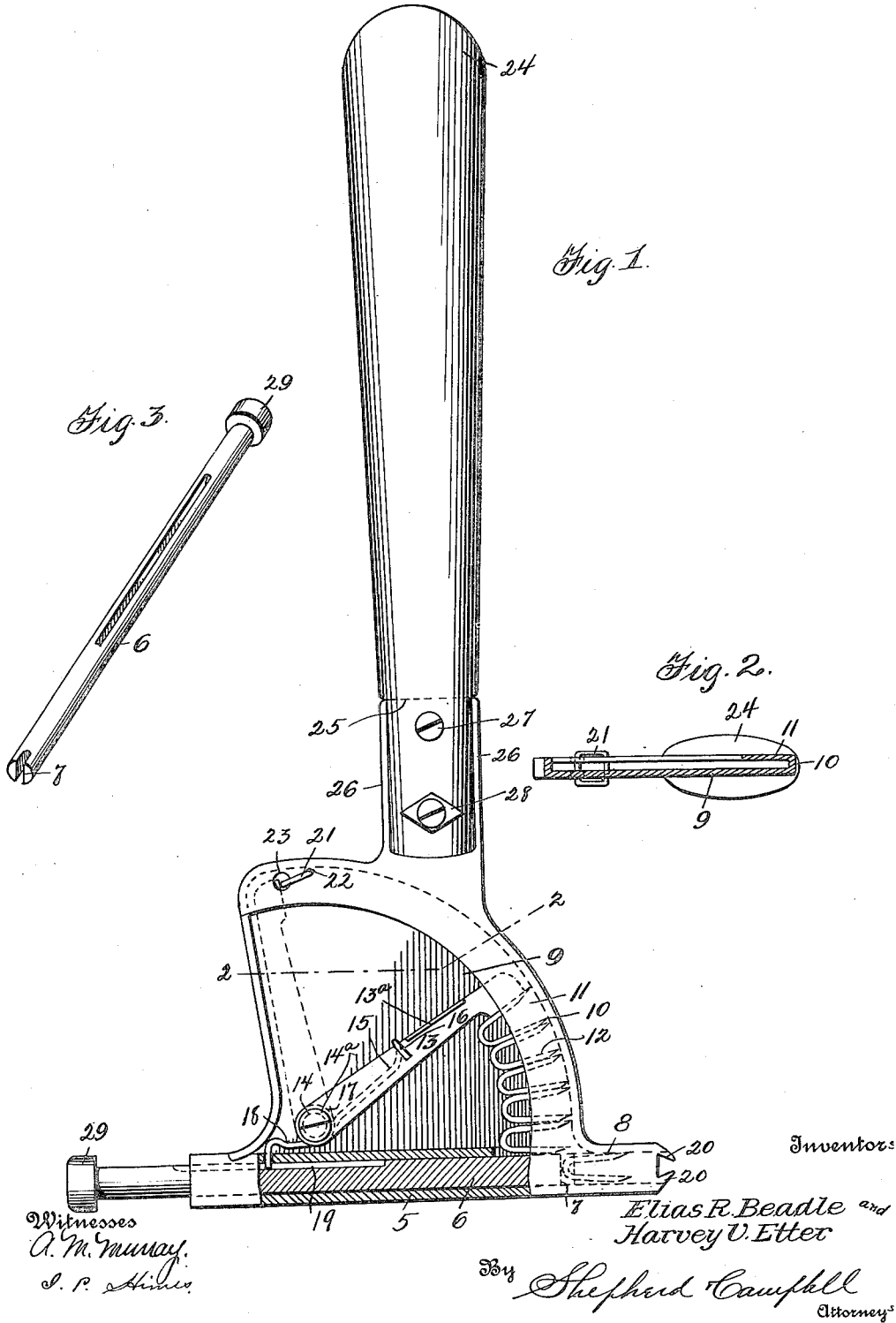


E. R. BEADLE & H. V. ETTER.
 COMBINED STAPLE SETTING AND WIRE STRETCHING TOOL.
 APPLICATION FILED MAY 19, 1913.

1,106,861.

Patented Aug. 11, 1914.



UNITED STATES PATENT OFFICE.

ELIAS R. BEADLE AND HARVEY V. ETTER, OF NORFOLK, VIRGINIA.

COMBINED STAPLE-SETTING AND WIRE-STRETCHING TOOL.

1,106,861.

Specification of Letters Patent.

Patented Aug. 11, 1914.

Application filed May 19, 1913. Serial No. 768,571.

To all whom it may concern:

Be it known that we, ELIAS R. BEADLE and HARVEY V. ETTER, citizens of the United States of America, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Combined Staple-Setting and Wire-Stretching Tools, of which the following is a specification.

10 This invention relates to a combined staple setting and wire stretching tool and its object is to provide an improved device of this character comprising a magazine for the reception of a plurality of staples, together
15 with means for feeding the staples one at a time in front of a plunger, said plunger being disposed in such relation to the wire engaging portion of the tool as to cause the staples to engage about the wire and be
20 driven into the object to which the wire is to be secured when a smart blow is given the head of the plunger with a hammer or like tool.

Further objects and advantages of the invention will be set forth in the detailed description which now follows.

In the accompanying drawing, Figure 1 is a view partly in side elevation and partly in section of a tool constructed in accordance
30 with the invention. Fig. 2 is a sectional view upon line 2—2 of Fig. 1, and Fig. 3 is a detail perspective view of the bolt hereinafter described.

Like numerals designate corresponding
35 parts in all of the figures of the drawing.

Referring to the drawing, it will be seen that the tool comprises a tubular sleeve 5 in the bore of which a bolt or plunger 6 is slidably disposed. The front end of the plunger
40 is slotted at 7 to adapt it to engage the staple 8 which lies in the magazine and is ready to be driven into the post or other object to which the wire fabric is to be secured. Integral with the sleeve 5 and extending from
45 one side thereof, is a web 9 which, together with the upturned wall 10 and the inturred flange 11, constitutes the magazine for the reception of the staples 12.

A follower 13 is pivoted upon a stud 14
50 and is retained in position by a screw 14^a and

is normally forced toward the staples by a spring 15, one end of which is engaged over the follower 16. The convolutions of the spring indicated at 17 are engaged about the stud 14 and the tail end 18 of the spring extends into the sleeve 5 and is disposed within a groove 19 formed in the bolt 6. The forward end of the sleeve is provided with wire engaging claws 20 and it is apparent that the wire may be either pushed or pulled upon by engaging the selvage strand thereof between said claws. For holding the follower in its retracted position while the magazine is being filled, a link 21 passes through flange 11 and through web 9 at 22 and has swinging movement in openings 23 formed in said flange and web. When in the position illustrated in Fig. 1, this link will hold the follower in the dotted line position shown in said figure, but the size of the openings 23 is such as to permit this link to be swung out of the path of said follower in a manner readily understood.

A handle 24 engages over a web plate 25 and lies between the side flanges or ribs 26. Screws 27 and washers 28 secure this handle firmly in position.

The bolt 6 is provided with a head 29 which is slightly larger in diameter than the end of the sleeve 5 so that this head may be readily grasped to withdraw the bolt, or for the same purpose it may be readily engaged by the hammer.

In operation, the selvage strand of wire to be secured is engaged between the claws 20 and the operator grasping the handle 24, pushes or pulls upon the wire fabric until said fabric has been stretched to the desired degree. Thereupon, a smart blow is given the head 29 of the bolt with a hammer or like tool, and the bolt is driven toward the claws 20. This forces the staple into the post or other object to which the wire is to be secured. The engagement of this staple in slot 7 prevents the staple from bending sidewise while the claws prevent bending of the legs of the staple outwardly. The tension of the spring 15 is such that the follower is forced against the staples with such force that the lowermost of the staples 12 exerts such ten-
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sion upon the bolt 16 that the bolt will not rebound when using the device to drive staples in an overhead position. The web 9 forms a floor for the staples when the magazine is being filled, it being only necessary to drop a number of staples in upon this web and then slide them into position in the magazine. This is done with the follower retracted and when the link 21 is removed to release the follower, the follower immediately engages the staples and holds them in contact with one another with such force that no ordinary jar will dislodge them. The web 9 also forms a brace between the handle and the sleeve to resist the thrust of the handle in stretching the wire.

The radius of the magazine is such that despite the fact that the legs of the staples are not parallel with each other, the abutting legs of the various staples lie in full contact with each other throughout their length, whereby the pressure of the follower against the staples, still further insures their secure retention. The inside of the sleeve 5 is slightly smaller in diameter than the width of a staple, so that the legs of the staple are slightly compressed and the staple cannot change its position after it enters the sleeve. The engagement of the tail end of the spring in the groove 19 prevents the bolt from turning while permitting the necessary longitudinal movement of the bolt. This is not only an economical structure but it affords a very easy method of removing the bolt when desired. A finger piece 13^a provides means for retracting the follower 13 when it is desired to engage the same with link 21.

From the foregoing description, it will be seen that simple and efficient means are herein provided for accomplishing the objects of the invention, but while the elements shown and described are well adapted to serve the purposes for which they are intended, it is to be understood that the invention is not limited to the precise construction set forth, but includes within its purview such changes as may be made within the scope of the appended claims.

Having described our invention, what we claim is:

1. In a device of the character described, the combination with a sleeve, of a magazine disposed at one side thereof, a follower in said magazine for forcing the contents of the magazine into said sleeve, a headed plunger disposed in said sleeve, said plunger having its forward end bifurcated to engage a staple, and a spring for actuating said follower, one end of said spring passing through said sleeve, said plunger being formed with a longitudinal groove in which said end of the spring engages.

2. In a device of the character described,

the combination with a sleeve, of a plunger slidably disposed therein, a magazine comprising a web constituting a floor for said magazine, a flange parallel with said web and a connecting wall between said web and flange, a follower pivoted to said web, the free end of which has swinging movement between said web and said flange, and a spring wound about the pivot point of said follower, one end of said spring engaging said follower and the other end of said spring being fixed, the fixed end of said spring entering said sleeve, said plunger having a longitudinal groove formed therein in which said fixed end of the spring engages.

3. A device of the character described, comprising a tubular sleeve, a plunger disposed in said sleeve, a magazine lying to one side of said sleeve and comprising an arcuate side wall and a web-like bottom which extends along practically the entire length of said sleeve and side wall, and without interruption from said side wall to said sleeve, and a follower swingingly mounted upon said bottom concentrically with said side wall and movable thereover.

4. A device of the character described, comprising a tubular sleeve, a plunger disposed in said sleeve, a magazine lying to one side of said sleeve and comprising an arcuate side wall and a web-like bottom which extends along practically the entire length of said sleeve and side wall and without interruption, from one to the other, a follower swingingly mounted upon said bottom concentrically with said side wall and movable thereover, and a relatively narrow flange partially covering said magazine, the free end of said follower traveling between said flange and said web-like bottom, the remainder of the top of the magazine being open from said flange to said sleeve.

5. A device of the character described, comprising a tubular sleeve, a plunger disposed in said sleeve, a magazine lying to one side of said sleeve and comprising an arcuate side wall and a web-like bottom which extends along practically the entire length of said sleeve and side wall and without interruption, from one to the other, a follower swingingly mounted upon said bottom concentrically with said side wall and movable thereover, and a pivoted stop member which passes through said bottom and through said flange and is movable into and out of the path of said follower to hold said follower in its retracted position.

6. A device of the character described, comprising a tubular sleeve, a plunger disposed therein, a magazine comprising a flat web projecting from one side of said sleeve, said sleeve forming one of the side walls of said magazine, another of the side walls of said magazine being arc shape, said flat web

extending along practically the entire length
of said sleeve and side wall and without in-
terruption from one to the other, a follower
pivoted upon said flat web concentrically to
5 said wall of arc formation, a flange carried
by said wall of arc formation and overlying
said flat web in spaced relation thereto and
means for actuating said follower.

In testimony whereof we affix our signa-
tures in presence of two witnesses.

ELIAS R. BEADLE.
HARVEY V. ETTER.

Witnesses:

CALVERT J. GUNTHER,
FRANK J. SMULLEN.