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WIRE TIGHTENER AND TWISTER

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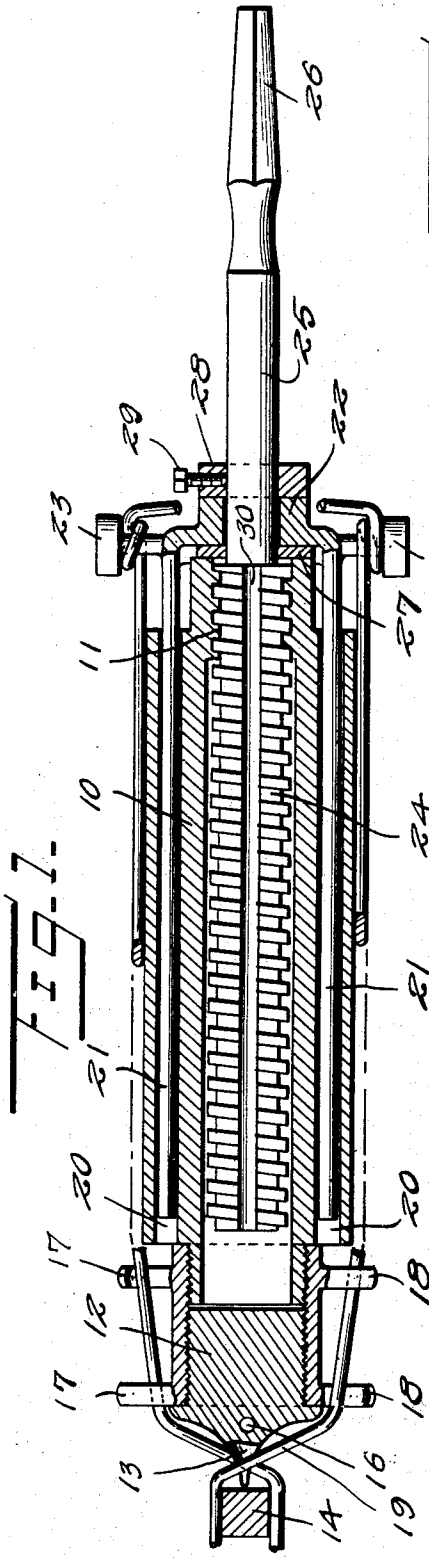


FIG. 1.

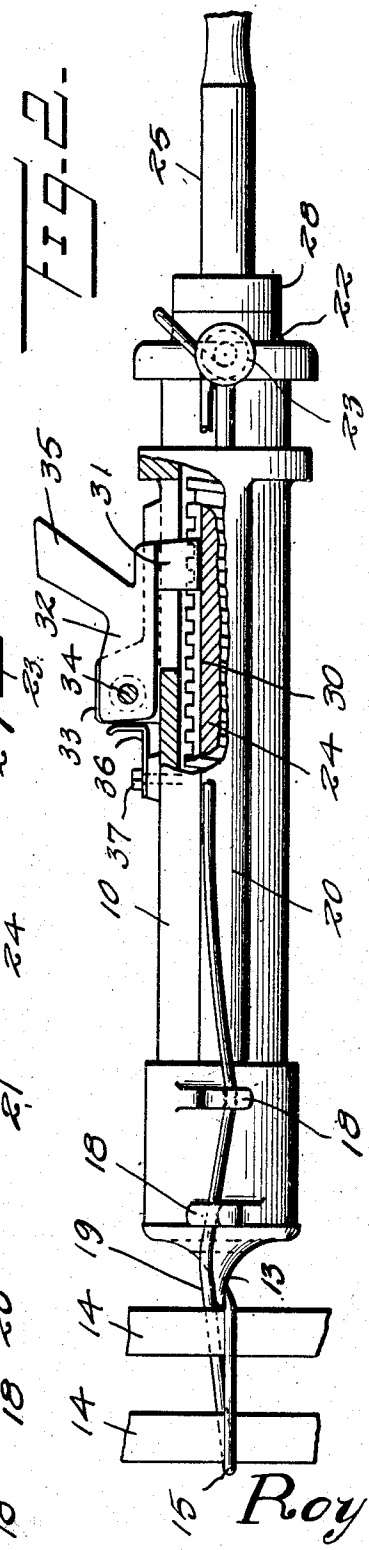


FIG. 2.

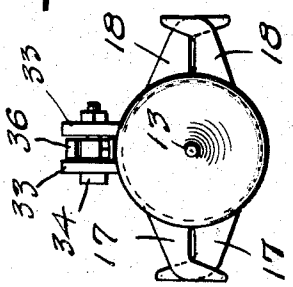


FIG. 3.

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WIRE TIGHTENER AND TWISTER

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3 Claims. (Cl. 140—120)

This invention relates to a wire tightener and twister and has for an object to provide a novel tool adapted to readily receive the ends of binding wires and produce a strong even twist, and at the same time tension the wire about the concrete form, box, bale, bundle, package, or the like.

A further object is to provide a device of this character which will be formed of a few strong simple and durable parts, which will be inexpensive to manufacture, and which will not easily get out of order.

With the above and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter fully described and claimed, it being understood that various modifications may be resorted to within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawing forming part of this specification,

Figure 1 is a longitudinal sectional view of a wire tightener and twister constructed in accordance with the invention.

Figure 2 is a side elevation of the wire tightener and twister with parts broken away.

Figure 3 is a front end elevation of the tool.

Referring now to the drawing in which like characters of reference designate similar parts in the various views, 10 designates a cylindrical body provided with internal screw threads 11 at its rear end. A cylindrical nose piece 12 is screw threadedly engaged in the front end of the body and is provided with a substantially conical point 13 adapted to be placed against the concrete form 14, for example, which is to be tied by binder wire 15. The nose piece 12 is provided with a small opening 16 to permit insertion of a tool for screwing the nose piece into the body.

The body is provided at its front end portion with pairs of spaced guide lugs 17 and 18, respectively, on diametrically opposite sides of the body, the lugs of each pair being turned oppositely to each other, as best shown in Figure 2. The lugs on each side engage and hold a respective end portion of the binder wire so that when the body is rotated axially, a twist 19 will be made in the wire after the wire is tensioned by operation of the tool as will presently be described.

The body 10 is provided rearwardly of said lugs with longitudinally extending guide tubes 20. Rods 21 are slidably mounted in the guide tubes and are connected together outside of the rear end of the body by a bearing 22. The rods are provided at their rear ends by studs 23 about which are wrapped the ends of the wire to be stretched and twisted.

A jack screw 24 is mounted in the body and is provided with a cylindrical shank 25 which loosely fits in the bearing 22 and is provided terminally with wrench faces 26 which are adapted to receive a conventional brace. The jack screw engages the threads 11 at the rear end of the body, and is a left hand screw adapted to tighten the wire to proper tension around the form 14 before the twisting operation. A collar 27 is mounted on the shank at the rear end of the jack screw and contacts with the front side of the bearing 22 and a collar 28 is secured to the shank by a set screw 29 and contacts with the rear side of the bearing, to establish a swivel connection between the jack screw and the bearing. When the jack screw is rotated in a direction to be backed out of the tubular body the collar 27 carries the bearing 22 rearwardly. The studs 23 move as a unit rearwardly with the bearing and tighten the wire, the guide rods 21 sliding rearwardly in the guide tubes 20 during this operation.

The jack screw is provided with a longitudinal groove 30, best shown in Figure 2, to receive the lip 31 of a latch 32 which is pivoted between hinge ears 33 on the body 10, as shown at 34. The latch is provided with a handle 35. A spring 36 is fixed at one end to the body by a screw 37 and bears with its free end against the latch 32 to normally hold the lip 31 lodged in the groove of the jack screw.

During tensioning of the wire as above described, the latch 35 is manually held out of the groove of the jack screw. When it is desired to form a twist in the wire the latch is released and the lip 31 enters the groove 30 and locks the body to rotate as a unit with the jack screw.

Since the operation of the device has been described as the description of the parts progressed it is thought that the invention will be fully understood without further explanation.

What is claimed is:

1. A wire tightener and twister comprising a tubular body provided internally at the rear end with screw threads, a nose piece engaged in the front end of the body, guide lugs projecting laterally from the front end of the body, guide rods slidably mounted on the body to move toward and away from the guide lugs, a member connecting the rear ends of the guide rods, means for securing the ends of binding wire to said guide rods, a jack screw in the body engaging said internal threads of the body, a stem for the

jack screw swivelly mounted in said member, and means carried by the body for locking the jack screw against rotation with respect to the body.

2. A wire tightener and twister comprising a cylindrical body provided internally at its rear end with screw threads, a nose piece engaged in the front end of said body, wire engaging guide lugs projecting laterally from the front end of the body, guide tubes on the body rearwardly of said lugs, rods slidably mounted in the guide tubes, a bearing connecting the rods at their rear ends, studs on the rear ends of the rods adapted to engage the ends of the wire to be stretched and twisted, a jack screw having a shank swivelly mounted in said bearings, the jack screw engaging said threads in the rear of the body, there being a longitudinal groove formed in the jack screw, and a locking device carried by the body and releasably secured in said groove.

3. A wire tightener and twister comprising a cylindrical body provided internally at the rear end with screw threads, a nose piece threadedly engaged in the front end of the body, guide lugs extending laterally from the front end of the body, guide tubes on the body disposed rearwardly of said lugs, rods slidably mounted in the guide tubes, a bearing connecting the rods at their rear ends, studs on the rods about which may be wrapped the ends of the wire to be stretched and twisted, a jack screw in the body engaging said internal threads of the body and having a shank swivelly mounted in said bearing, a stop shoulder formed on the shank of the jack screw and contacting with the front side of said bearing, a collar secured to the shank and contacting with the rear side of said bearing, there being a longitudinal groove in the jack screw, and a pivot spring pressed latch carried by the body and normally engaged in said groove to hold the jack screw against rotation with relation to the body.

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