April 26, 1960 E. W. SCHULTZ 2,934,318

STRAPPING-ACTUATED GRIPPER FOR TENSIONER

Filed Nov. 21, 1957 2 Sheets-Sheet 1

FIG. 1

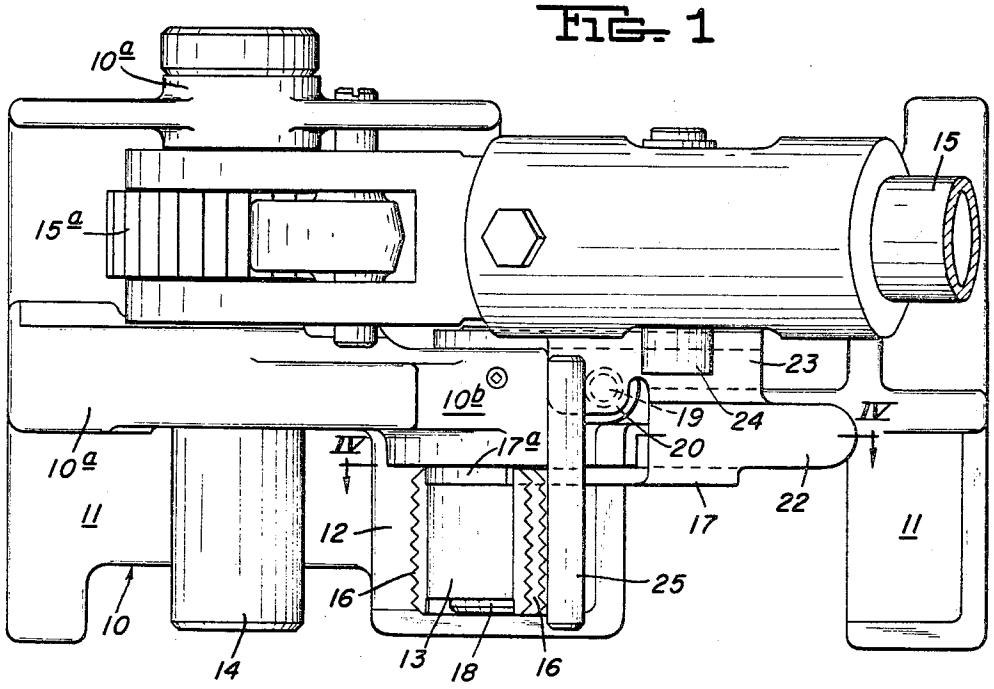
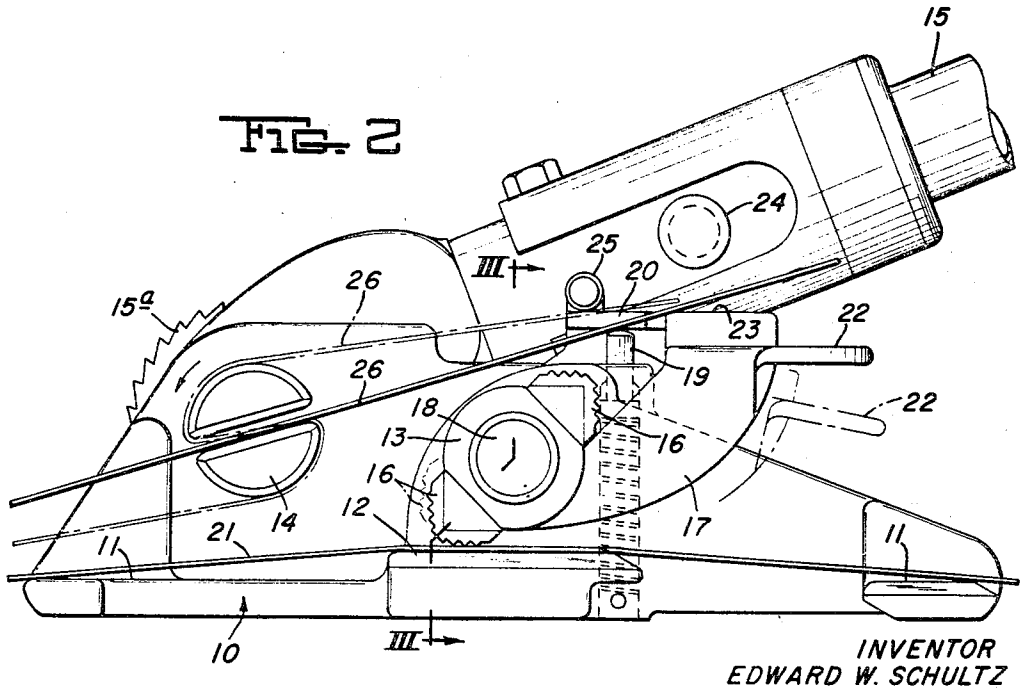


FIG. 2



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Filed Nov. 21, 1957 2 Sheets-Sheet 2

FIG. 3

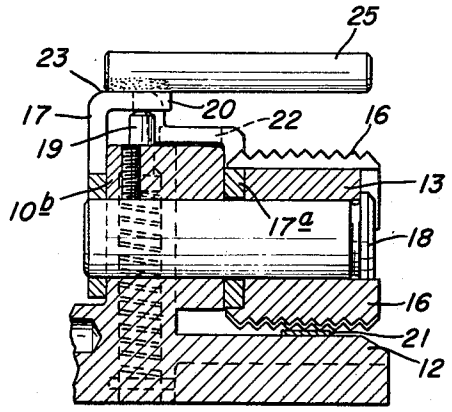
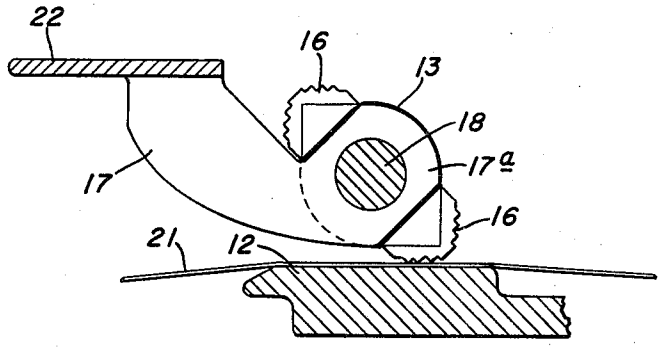


FIG. 4



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STRAPPING-ACTUATED GRIPPER FOR TENSIONER

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Application November 21, 1957, Serial No. 697,943

1 Claim. (Cl. 254—51)

This invention relates generally to a tensioner for flat-band strapping and, in particular, to the gripper for holding one end of a length of strapping fixed while the other end is drawn taut to the desired degree of tension. An example of devices of this character is shown in Barker Patent No. 2,751,939.

It is the object of my invention to provide a gripper having means adapted to be engaged by the free end of the length of strapping as it is wound up on a drum, whereby the gripper is urged toward gripping position by a force in addition to that of the spring-pressed plunger usually employed to bias the gripper toward gripping position.

In a present preferred embodiment, I locate the winding drum at the left-hand end of the tensioner, as faced by the operator, and the gripper at the right. I also provide a gripper holder pivoted on the base of the device having means projecting toward the operator which will be engaged by the free end of the strip in the manner described, when the tension drum is turned. This arrangement has the further advantage of facilitating the provision for release of the gripper by throwing the tensioning lever down in the direction opposite the tensioning direction.

A complete understanding of the invention may be obtained from the following detailed description and explanation which refer to the accompanying drawings illustrating the present preferred embodiment. In the drawings:

Figure 1 is a plan view;

Figure 2 is a front elevation;

Figure 3 is a partial section taken along the plane of line III—III of Figure 2; and

Figure 4 is a similar section taken along the plane of line IV—IV of Figure 1.

Referring now in detail to the drawings, the tensioner there shown comprises a base **10**, conveniently a casting, having bearing standards **10***a* and **10***b*, feet **11** at the ends and an intermediate foot **12** with which a tilting gripper **13** cooperates. A slotted tensioning drum **14** is journaled in the standards **10***a* and may be rotated in the counterclockwise or tensioning direction by a lever **15** acting through the conventional pawl and ratchet **15***a* as shown in the patent aforesaid. It will be noted that drum **14** is at the left-hand side and gripper **13** at the right-hand side of base **10**.

Gripper **13** comprises a toothed block **16** and a holder or housing **17** associated therewith. The sides of the

block are recessed to receive the front flange **17***a* of holder **17** so that torque applied to the latter is transmitted to the block. As shown in Figure 3, block **16** and holder **17** are pivoted on pin **18** fixed in bearing standard **10***b*. A spring-pressed plunger **19** in a hole at one side of standard **10***b* constantly exerts an upward force on a tongue **20** of holder **17**. This urges the lower end of gripper block **16** against the upper surface of the fixed end **21** of a length of strapping inserted between the block and foot **12**. Holder **17** has a finger press **22** projecting therefrom whereby the gripper may be caused to release end **21**. It also has a shoulder **23** adapted to be engaged by a pin **24** projecting from lever **15**, to the same end.

A striker member in the form of a pin **25** welded to tongue **20** of holder **17** projects toward the operator and thus is adapted to be engaged by the free end **26** of the length of strapping inserted in the slot of drum **14**, as shown in solid lines in Figure 2, when the latter is turned counterclockwise to tension the strapping length, as shown in chain lines. The free end **26** of the length thereby tends to turn the gripper holder counterclockwise and thus aids plunger **19** in setting and holding the lower end of the gripper against end **21**. This action prevents slippage and reduces the force required of plunger **19**, permitting the use of a weaker spring under it.

Block **16** is removable from holder **17**, permitting all four toothed surfaces of the block to be placed successively in operating position.

It will be apparent that the substantial upward force exerted by the band end **26** on pin **25**, when deflected by turning drum **14**, assists plunger **19** in causing the teeth of gripper block **16** to bite into band end **21**. Thus the added gripper force is applied only when needed and does not affect manual release of the gripper either directly or through lever **15**. Pin **25** also holds band end **26** in an out-of-the-way position, avoiding interference with the operator.

Although I have disclosed herein the preferred embodiment of my invention, I intend to cover as well any change or modification therein which may be made without departing from the spirit and scope of the invention.

I claim:

In a strapping tensioner including a base, a gripper journaled thereon effective on rotation in one direction to pinch against said base one end of a length of strapping and a winding drum journaled on said base adjacent said gripper with its axis parallel to that of the gripper, said drum having a slot adapted to receive the other end of said length of strapping, the combination therewith of a striker member on said gripper offset from its axis of rotation and projecting therefrom across the path of said other end of said length of strapping when placed in said slot, whereby on rotation of the drum, said other end engages said striker member tending to rotate the gripper in said one direction.

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