Feb. 17, 1953 D. C. SHERMAN 2,628,653

WIRE ROPE SLEEVE TWISTING DEVICE

Filed June 23, 1950 2 SHEETS—SHEET 1

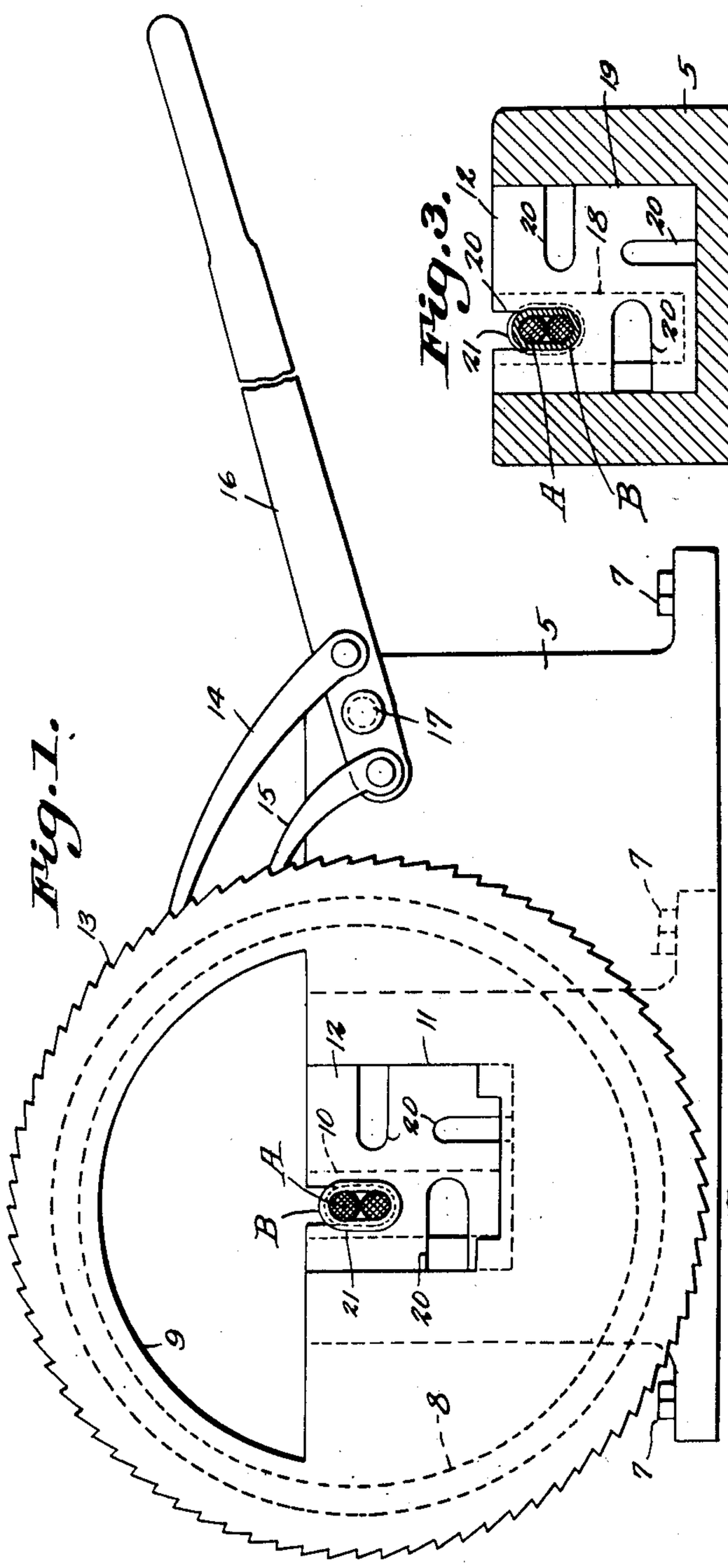

Fig. 1.

Fig. 3.

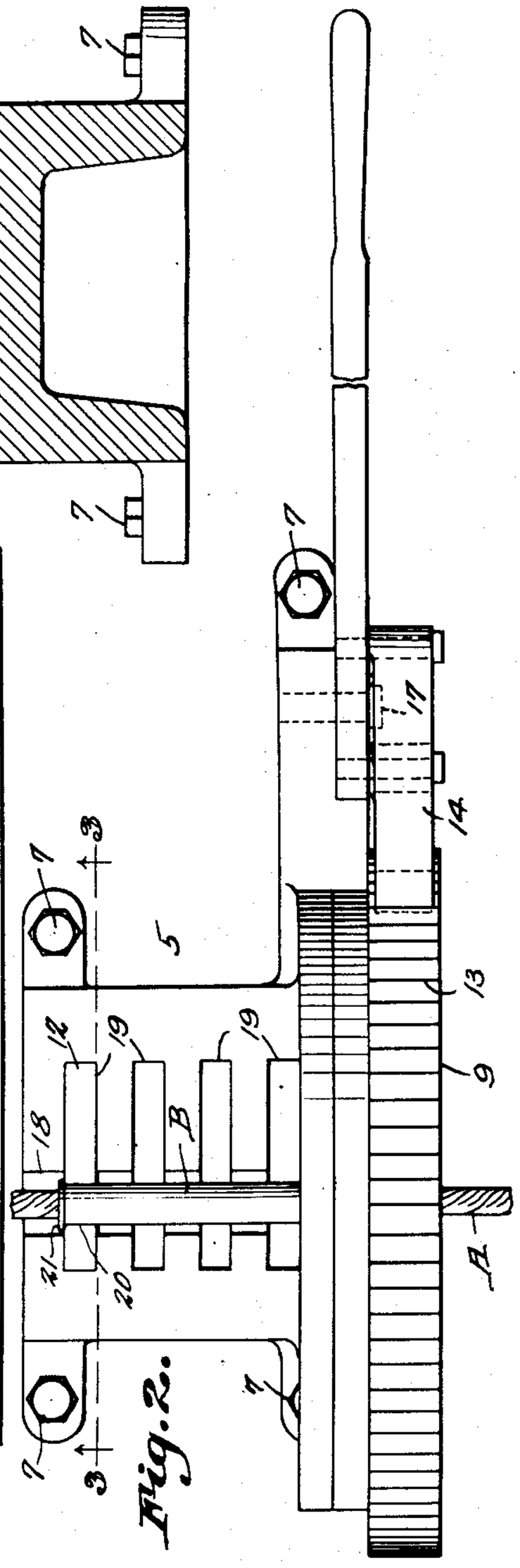

Fig. 2.

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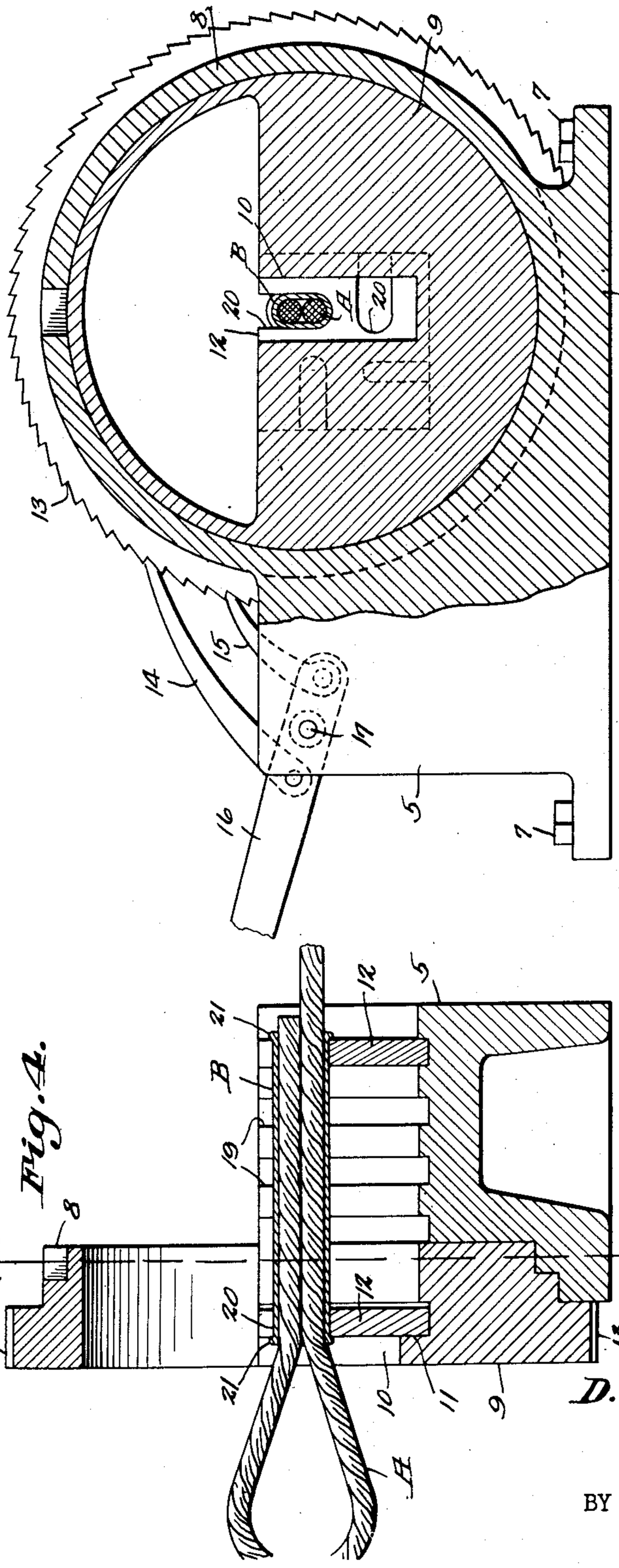

Fig. 5.

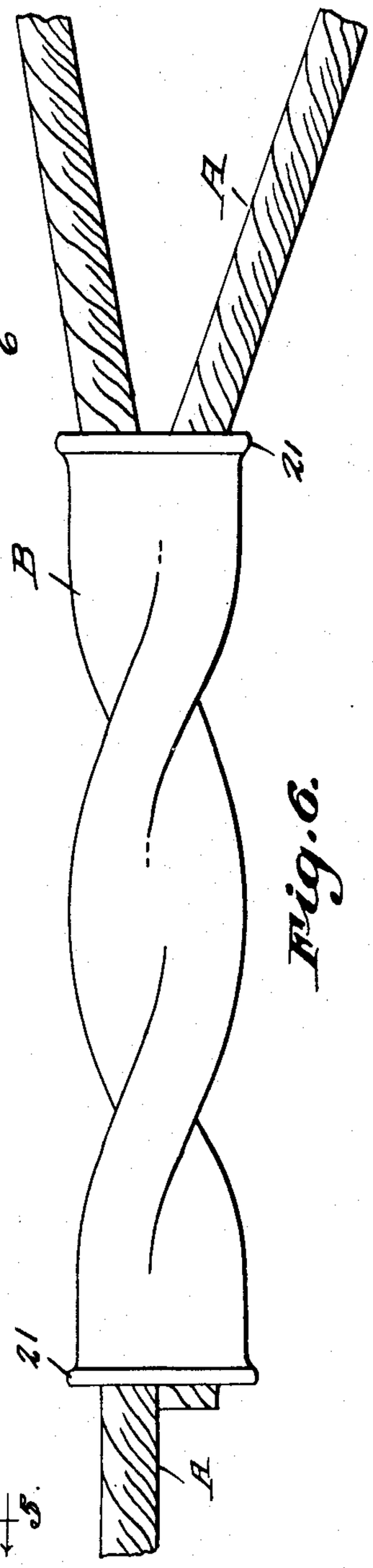

Fig. 6.

Fig. 4.

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WIRE ROPE SLEEVE TWISTING DEVICE

Delmar Charles Sherman, Chattanooga, Tenn.

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2 Claims. (Cl. 153—78)

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This invention relates to a wire rope sleeve twisting device, the primary object of the invention being to provide a twisting device which will accurately twist a sleeve around the end of a rope in the formation of a dependable and quickly applied rope fastener loop.

Another object of the invention is to provide a sleeve twisting device having means whereby sleeves of various sizes may be twisted to secure the end of a rope, in the formation of a fastening loop in ropes of various diameters.

Still another object of the invention is to provide a device of this character wherein a continuous rotation of the power ratchet wheel is provided during the backward and forward movement of the operating lever to provide an exceptionally tight and securing fastener.

Referring to the drawings:

Figure 1 is an end elevational view of a sleeve twisting device constructed in accordance with the invention.

Fig. 2 is a plan view thereof.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 2.

Fig. 4 is a vertical sectional view through the device illustrating the end of a rope with a sleeve positioned thereon, mounted in the device.

Fig. 5 is a sectional view taken on line 5—5 of Fig. 4.

Fig. 6 is an enlarged elevational view of the twisted sleeve positioned on a rope in securing the rope in the formation of a fastening loop.

Referring to the drawings in detail, the device comprises a body portion 5 having the base 6 formed with openings through which the bolts 7 extend in securing the base to a supporting surface. The body portion includes a circular supporting member 8 in which the rotary twisting member 9 is mounted, the rotary twisting member being provided with a substantially rectangular opening 10 formed with slots 11 in the bottom and side walls thereof, in which an insert, such as indicated by the reference character 12 and clearly shown in Fig. 3 of the drawings, is positioned and held to move therewith.

The outer surface of the rotary twisting member 9 is formed with ratchet teeth 13, which teeth cooperate with the substantially long pawl 14, and the short pawl 15, the pawl 14 being mounted on the lever 16 at one side of the pivot 17 of the lever, while the short pawl 15 is mounted adjacent to the end of the lever 16 and at the opposite side of the pivot 17. As shown, the body portion 5 extends rearwardly an appreciable distance, and the body portion is provided with a slot 18 extending throughout the length of the

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body portion. Also formed in the body portion at right angles to slot 18, are slots 19, which intersect the slot 18, as clearly shown by the drawings. The slots 19 are designed to accommodate the rectangular inserts 12, which inserts are constructed to closely fit within the slots 19, the inserts 12 being formed with slots 20 extending inwardly from the side edges thereof, the slots 20 being of various widths to receive sleeves of various sizes, thereby adapting the device for use in treating sleeves and ropes of various diameters. The sleeves, which are used in connection with twisting devices of this character, are oval in cross section, and are adapted to fit within the slots of the inserts in such a way that rotation of the sleeve within the slots will be prevented, when the machine is in operation to position a sleeve on a rope.

In the type of sleeve used beads 21 are provided on the ends of the sleeve, which beads engage the inserts with which the device is used to prevent longitudinal movement of the sleeves with respect to the body portion 5.

In using the device an insert is positioned in one of the slots of the body portion 5, the insert being so positioned that the desired slot 20 will be disposed upwardly. A similar insert is positioned within the rotary twisting member 9 with the desired slot 20 disposed upwardly. The rope which in the present showing is indicated by the reference character A is formed into a loop at one end thereof, and the sleeve which is indicated by the reference character B is positioned over a portion of the rope and the dead end of the rope at the loop.

One end of the sleeve is now positioned in the uppermost slot of the insert held within the body portion 5, the bead 21 engaging the insert. The opposite end of the sleeve is now positioned in the uppermost slot of the insert held within the rotary twisting member 9, with the bead 21 engaging the insert in the rotary twisting member.

The operating lever 16 is now moved vertically with the result that as the lever swings upwardly the pawl 14 will rotate the rotary twisting member and when the lever 16 is swung downwardly the pawl 14 will move over the ratchet teeth 13 while the pawl 15 engages the ratchet teeth to continue the rotary movement of the rotary twisting member. This movement will cause the sleeve to be twisted into close engagement with the wire rope in which the fastening loop is being formed, to provide an exceptionally tight and secure fastener loop.

Because of the beads at the ends of the sleeve,

the rotary twisting member 9 will be removably held in position on the base for operation within the circular supporting member 8. Twisting member 9 cannot be removed until it has rotated 360°, providing a dependable fastener avoiding human errors.

By removing the inserts 12 and reversing the inserts, the device may be used in twisting sleeves of various sizes in forming fastening loops in ropes of various sizes.

Having thus described the invention, what is claimed is:

1. A sleeve twisting device for applying sleeves to ropes in forming fastener loops, comprising a body portion, said body portion having a main slot extending throughout the length thereof with its upper side open, the walls of the main slot having spaced vertical slots extending inwardly from the upper surface thereof, a rotary twisting member operating in a vertical plane, mounted at one end of the body portion, said twisting member having a slot extending inwardly from one edge thereof, formed with a guide slot in the wall thereof, rectangular inserts having slots of various widths, extending inwardly from the edges thereof, adapted to be positioned in the guide slots of the body portion and rotary twisting member with predetermined slots thereof in co-axial alignment with the main slot of the body portion, the aligning slots of said inserts adapted to receive a rope and a sleeve mounted on the rope, and means for rotating the rotary twisting member twisting the sleeve and rope together while one end of the sleeve is held stationary in the body portion.

2. A sleeve twisting device for applying sleeves

to ropes in forming fastener loops, comprising a stationary body portion having a main slot extending inwardly from one edge thereof throughout the length of the body portion, the walls of said main slot having guide slots disposed in horizontal spaced relation with each other longitudinally of the body portion, a rotary twisting member mounted at one end of the body portion having a rectangular guide slot extending inwardly from one edge thereof, and rectangular inserts having slots extending forwardly from each side thereof removably held in said guide slots, the slots in the inserts being of different widths, one of said inserts being positioned in one of the slots of the body portion with one of its respective slots aligning with the main slot, one of said inserts being positioned in the slot of said twisting member with a slot thereof aligning with the slot of the insert held within the body portion, the slots of the inserts accommodating a rope and sleeve mounted on the rope, whereby said sleeve is twisted around the rope upon rotation of said twisting member.

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