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TWISTER HEAD FOR WIRE SPLICING MACHINES.

APPLICATION FILED FEB. 16, 1915.

1,174,128.

Patented Mar. 7, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

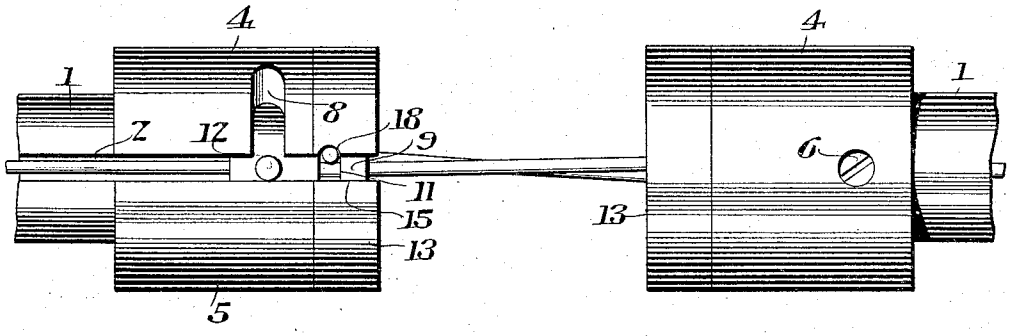
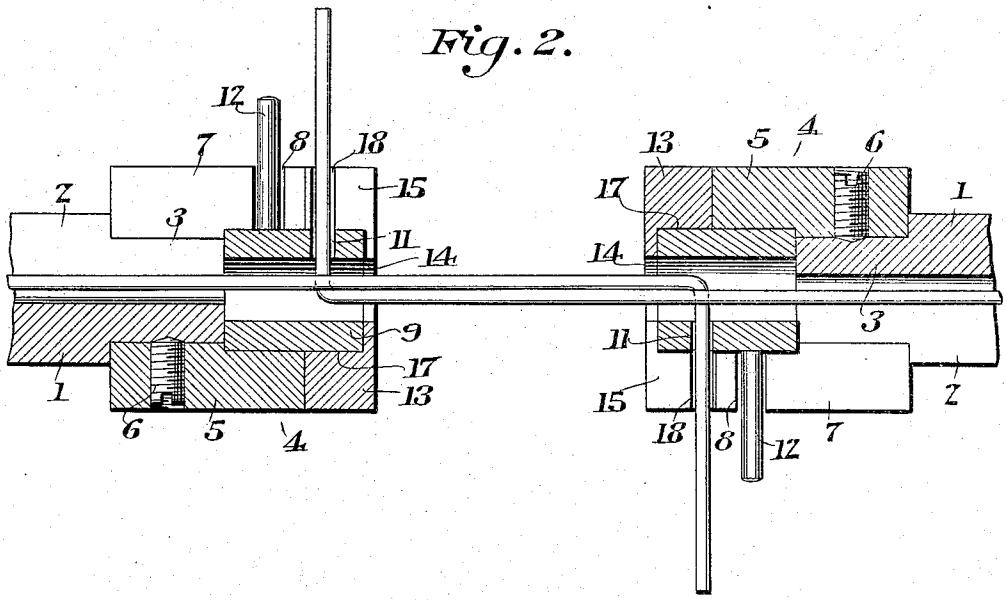


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

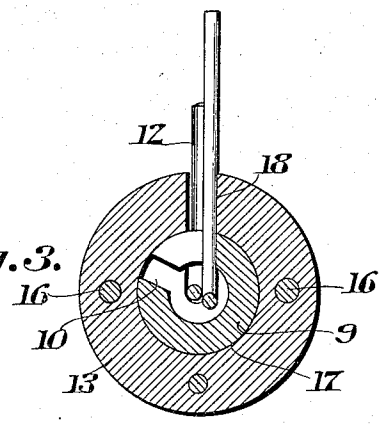
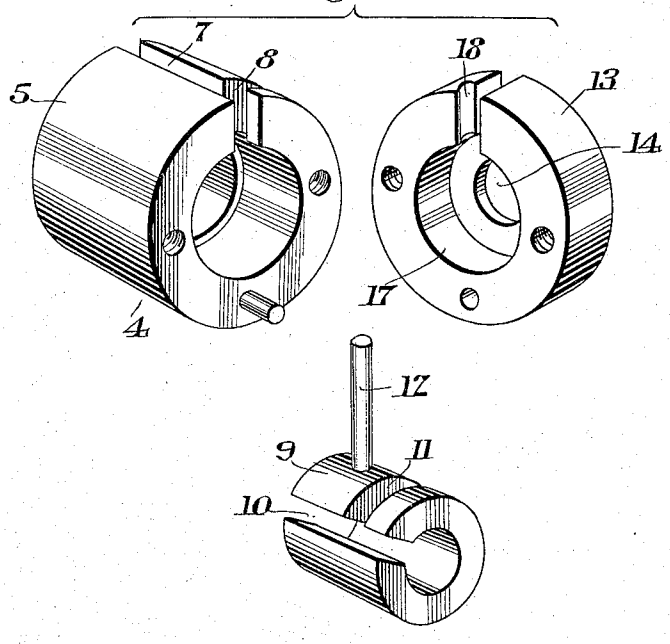


Fig. 4.



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UNITED STATES PATENT OFFICE.

THOMAS DAVITT, OF ADRIAN, MICHIGAN.

TWISTER-HEAD FOR WIRE-SPLICING MACHINES.

1,174,128. Specification of Letters Patent. Patented Mar. 7, 1916.

Application filed February 16, 1915. Serial No. 8,570.

To all whom it may concern:

Be it known that I, THOMAS DAVITT, a citizen of the United States of America, residing at Adrian, in the county of Lenawee and State of Michigan, have invented new and useful Improvements in Twister-Heads for Wire-Splicing Machines, of which the following is a specification.

This invention relates to improvements in twister heads for wire splicing machines and has particular application to a twister head for use in conjunction with machines of that type disclosed in my prior Patent No, 1,092,028, issued March 31, 1914.

In carrying out the present invention, it is my purpose to provide a twister head for wire twisting machines whereby one end of one wire may be wrapped about the adjoining end of the other wire to effect a splice and whereby the meeting ends of the wires may be intertwisted or spliced quickly and uniformly.

It is also my purpose to improve and simplify the general construction of twister heads for machines of the class described and to provide a head which may be readily applied to the mandrel or spindle of the machine and removed therefrom and into and out of which the wires to be spliced may be quickly and conveniently inserted and withdrawn.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter set forth in and falling within the scope of the claims.

In the accompanying drawings, Figure 1 is a top plan view of a pair of twister heads constructed in accordance with the present invention, the wires being placed therein. Fig. 2 is a longitudinal sectional view therethrough. Fig. 3 is a cross-sectional view through one of the heads. Fig. 4 is a collective view showing the component parts of the head in perspective.

Referring now to the drawings in detail, 1, 1 designate the mandrels or shafts of a wire twisting machine. These mandrels aline axially with each other and are capable of rotary and sliding movement simultaneously in relatively opposite directions. Any suitable means may be employed for thus rotating and sliding the mandrels. The respective mandrels are also formed with longitudinal grooves 2 so that the driving gears may be splined or feathered thereon and these grooves radiate from the axes of the shafts and open onto the confronting ends thereof, while the confronting ends of the mandrels are circumferentially reduced as at 3. Mounted upon the circumferentially reduced end portion of each mandrel 1 is a twister head 4 comprising a sleeve 5 encircling the circumferentially reduced end portion of the mandrel and formed with a threaded opening designed to receive a set-screw 6 whereby the sleeve may be fastened upon the mandrel. Formed in the sleeve 5 is a radial slot 7 of a length equal to that of the sleeve and registering with the groove in the shaft and forming, in effect, a continuation of such groove. The outer end of the sleeve 5 projects beyond the mandrel coaxial with the latter and formed in the sleeve adjacent to the outer end thereof concentrically of the axis of the sleeve is a segmental slot 8 having one end opening into the radial slot 7. This segmental slot 8 is arranged at right angles to the radial slot 7, as clearly illustrated in Fig. 1 of the drawings. The bore of the sleeve 5 is circumferentially enlarged at the projecting end portion thereof and mounted within the circumferentially enlarged portion of the bore of the sleeve 5 is a locking sleeve 9 disposed concentrically of the sleeve 5 and having the outer end portion projecting beyond the adjacent extremity of the first-mentioned sleeve. Formed in the locking sleeve is a longitudinally extending radial slot 10 normally registering with the slot in the sleeve 5 and the groove in the mandrel and formed in the locking sleeve adjacent to the outer end thereof is a segmental slot 11 arranged at right angles to the radial slot 10 and having one end thereof opening into the slot 10, the slot 11 being arranged concentrically of the axis of the locking sleeve. Secured to the locking sleeve 9 and disposed within the segmental slot 8 in the sleeve 5 is an operating pin 12 capable of working within

the slot 8 and adapted when moved in one direction to rotate the locking sleeve to move the radial slot 10 therein out of registration with the similar slot in the sleeve 5 and when moved in the opposite direction to aline the radial slot in the locking sleeve with the slot in the outer sleeve.

13 designates a cap plate formed centrally with an opening 14 and provided with a radial slot 15 extending from the opening 14 to the periphery of the cap plate. The cap plate is placed in face to face contact with the outer end of the outer sleeve 5 and secured thereto by means of securing screws 16 passed through openings in the cap plate and threaded into openings in the outer end of the outer sleeve. The inner surface of the cap plate is formed with a relatively large circular recess 17 that receives the projecting end portion of the locking sleeve 9 and formed in one wall of the radial slot 15 in the sleeve is a groove 18 designed to aline with the end wall of the segmental slot 11 in the locking sleeve 9 when the latter is actuated by the operating pin 12 to move the radial slot 10 out of registration with the similar slot 7 in the outer sleeve.

In practice, the twister heads 4 composed of the outer sleeves 5, the inner sleeves 9 and the cap plates 13 are secured to the confronting ends of the respective mandrels or shafts 1 and oppositely arranged. Normally, the radial slots in the locking sleeves register with the similar slots 7 in the outer sleeves and the slots 15 in the cap plates. The overlapping ends of the wires to be spliced or intertwisted are now placed in the alining slots and grooves in the twister heads and mandrels and the overlying ends secured together intermediate their lengths by a suitable clamping device, such, for instance, as shown in Fig. 4 of my prior patent hereinbefore referred to. The end portions of the wires are bent at right angles to themselves as illustrated in Figs. 1 and 2 and the right angularly extending portions lie in the plane of the segmental grooves in the locking sleeves and are disposed within the grooves 18 in the walls of the respective radial slots in the cap plates. The operating pins 12 are now swung within the respective segmental slots 8 in the outer sleeves 5, thereby revolving the locking sleeves 9 within the respective outer sleeves and cap plates to close the entrance slots to the twister heads and in this movement of the locking sleeves the segmental slots 11 therein receive the angularly extending portions of the wires. The mandrels carrying the heads are now rotated and in the rotation thereof slide longitudinally as described in my previous patent thereby intertwisting the wires.

From the foregoing description taken in connection with the accompanying drawings, the construction, mode of operation and manner of employing my improved twister head will be readily apparent.

It will be seen that I have provided a twister head for wire splicing machines whereby the ends of the wires to be spliced will be securely held within the twister heads during the splicing operation and furthermore it will be seen that the wires are readily and conveniently introduced in the heads and removed therefrom.

While I have herein shown and described the preferred form of my invention by way of illustration, I wish it to be understood that I do not limit or confine myself to the precise details of construction herein described and delineated, as modification and variation may be made within the scope of the claims without departing from the spirit of the invention.

I claim:

1. A twister head for wire splicing machines comprising a sleeve having a radial slot formed therein extending from the bore to the outer surface thereof and a segmental slot formed therein concentrically of the axis thereof and at right angles to the first-mentioned slot and opening into the latter, a locking sleeve rotatably mounted within said first sleeve and formed with a radial slot normally registering with the similar slot in the first-mentioned sleeve and having a central slot therein arranged at right angles to the radial slot and disposed in a plane beyond that of the segmental slot in the first-mentioned sleeve, and means connected to said locking sleeve and projecting through the segmental slot in the first-mentioned sleeve whereby the locking sleeve may be rotated within the first sleeve.

2. A twister head for wire splicing machines comprising a sleeve having a radial slot formed therein extending from the bore to the outer surface thereof and a segmental slot formed therein concentrically of the axis thereof and at right angles to the first-mentioned slot and opening into the latter, a locking sleeve rotatably mounted within said first sleeve and formed with a radial slot normally registering with the similar slot in the first-mentioned sleeve and having a central slot therein arranged at right angles to the radial slot and disposed in a plane beyond that of the segmental slot in the first-mentioned sleeve, means connected to said locking sleeve and projecting through the segmental slot in the first-mentioned sleeve whereby the locking sleeve may be rotated within the first sleeve, a cap plate placed in face to face contact with the outer end of the first-mentioned sleeve and secured thereto and having the inner face

thereof formed with a circular recess to receive the adjacent end of said locking sleeve, said cap plate being formed centrally with an opening and having a radial slot formed therein leading from the opening onto the periphery thereof and registering with the first-mentioned slots.

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

THOMAS DAVITT.

Witnesses:
R. A. KAISER,
ALANSON BENNETT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."