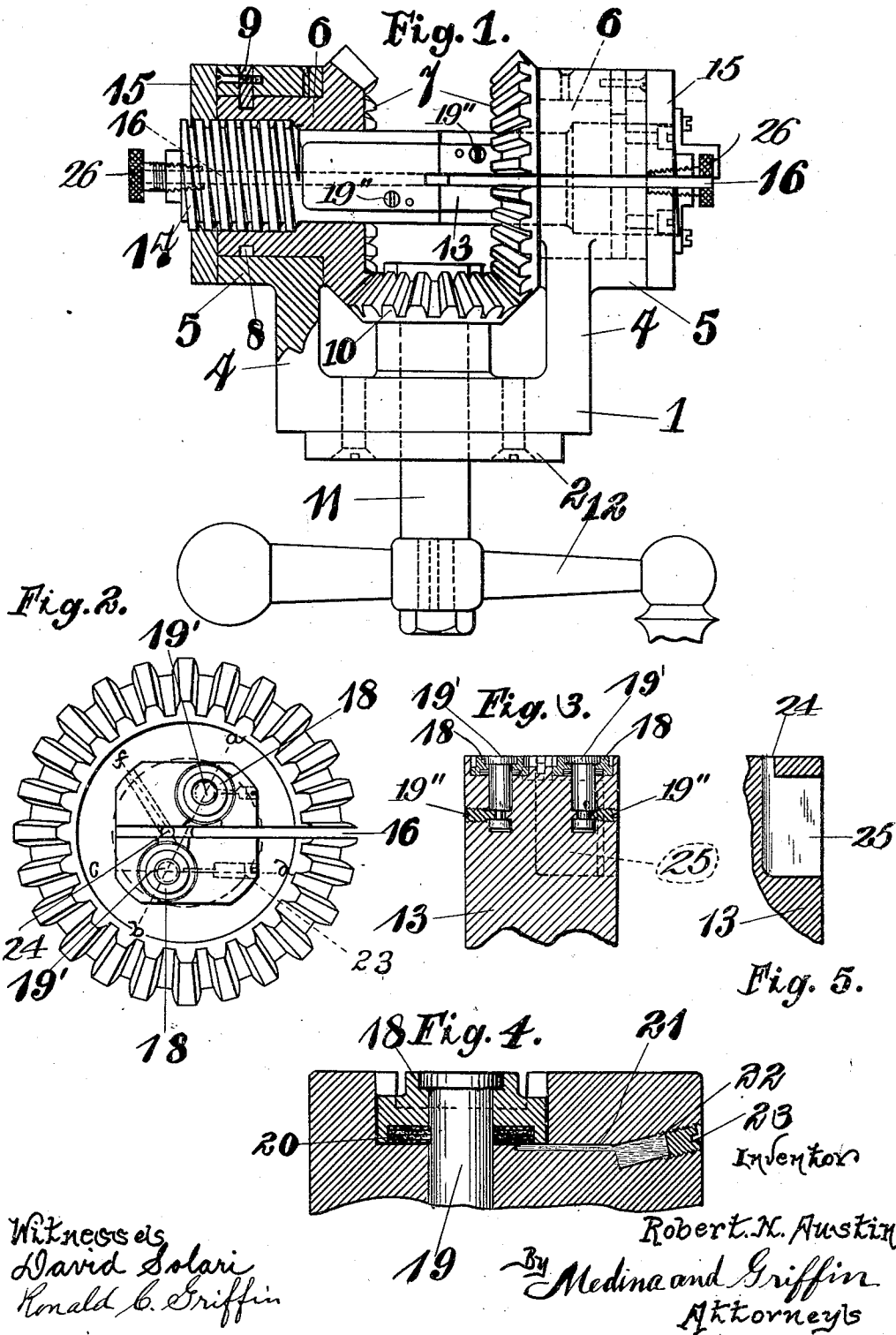


R. H. AUSTIN.
WIRE SPLICING MACHINE.
APPLICATION FILED APR. 7, 1909.

1,008,234.

Patented Nov. 7, 1911.



UNITED STATES PATENT OFFICE.

ROBERT H. AUSTIN, OF SAN FRANCISCO, CALIFORNIA.

WIRE-SPLICING MACHINE.

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Specification of Letters Patent.

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Application filed April 7, 1909. Serial No. 488,525.

To all whom it may concern:

Be it known that I, ROBERT H. AUSTIN, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and useful Improvement in Wire-Splicing Machines, of which the following is a specification in such full and clear terms as will enable those skilled in the art to construct and use the same.

This invention relates to improvements in wire splicing machines, and its object is to prevent the scalings from the wire from accumulating in the spaces about the twisting wires, and preventing the rotation thereof. It will be understood by those skilled in the art that such wire scalings are formed of oxidized iron, and are very sharp, and hard, although brittle. Such material rapidly accumulates in any openings, and in such a device as the one herein disclosed, cause the roller pins to become worn as well as prevent rotation of the rollers.

Another object of the invention is to provide an improved lubricating means for said rollers, said lubricating means also adapted to prevent the ingress of the particles of iron scalings to the bearings of the rollers.

In the drawings, in which the same numeral of reference is applied to the same portion throughout the several views, Figure 1 is a front elevation of this wire splicing machine, a portion thereof being shown in section; Fig. 2 is a front view of one of the twisting heads, and the bevel gear which drives it; Fig. 3 is a sectional view of one of the wire twisting heads on the dotted line *a-b* in Fig. 2; Fig. 4 is a sectional view of one portion of the twisting heads on the dotted line *c-d*, in Fig. 2; and Fig. 5 is a section of a portion of one of the twisting heads on the dotted line *f* in Fig. 2.

The numeral 1 represents the base of the machine, which may be secured to a suitable support 2. Extending upwardly from the base 1 are two standards 4, which terminate in horizontally disposed barrels 5 in which the hubs 6 of the bevel gear 7 are mounted. The gears 7 are oppositely placed, and face each other, and each is in mesh with a bevel gear 10 on a shaft 11, which passes through the base 1, said shaft 11 being rotated by means of a handle 12. The hubs 6 are each provided with a groove 8, into which groove a pin 9 projects, said pin adapted to permit the rotation of the gears

7 without the latter moving normally to the face of said gear. Each bevel gear 7 carries a twisting head 13 having one end squared and the corners thereof rounded (note Figs. 1 and 2), while the other end thereof is screw-threaded as shown at 14. This screw-threaded end of the twisting head 13 is threaded in a plate 15, which is secured to the head 5, there being one plate for each head, as shown in Fig. 1. The twisting head is thus free to move longitudinally in the hub of the gear 7 while it is rotated therewith by means of its squared portion on the end opposite the screw-threads 14.

All of the above is well-known in the art, and it does not form a portion of the invention herein.

Each head 5 and each twisting head 13 has a groove therein, as illustrated at 16, the twisting head and head 5 having the opening in the same place in the upper right hand portion of Fig. 1 as appears in the drawing.

At the outer end of the twisting heads there are open-slotted screws 26, which are adapted to secure a wire placed in the groove 16 in place therein, a quarter of a turn or more being given said screw when the wire is placed in the groove 16. At the inner end of each twisting head there are two rollers 18, each roller snugly fitting a pin 19. This pin has a head 19' and a groove at its opposite end, each pin rotating in a hole in the twisting head 13, and being held in place therein by means of a pin 19'', which projects into the groove in the pin 19, while the head 19' assists in excluding scale from the roller. The rollers are each provided with a recess at their back in which a packing 20 is placed, said packing being adapted to hold a small quantity of lubricant and to prevent the intrusion into the pin bearing of particles of scale from the iron wire. This packing is lubricated through a small channel 21 from a reservoir 22, a screw 23 providing the means whereby the lubricant is forced into the packing 20.

Each twisting head is provided with a pocket 25, and has a channel 24 leading thereto, the object of said channel and pocket being to determine the length of wire to be twisted about the adjacent wire, and to forcibly draw the end of the wire around the adjacent wire. The result of this construction of roller is to exclude particles of iron from the bearing pin of the

roller 18, and thus it always rotates smoothly and draws the end of the wire projecting into the pocket smoothly around the opposite length.

5 In operation the two twisting heads are drawn together as shown in Fig. 1, a wire is then inserted in the slot 16 and pushed into the pocket 25 in each twisting head, and the handle 12 is then rotated. The
10 twisting heads are then turned in opposite directions by means of the bevel gears 7, and as they rotate the heads recede from each other by the proper amount, and twist the ends of the wire about the adjacent portions thereof. When the end of the wire
15 placed in the pocket 25 has receded from that head the splice is completed, and the two heads may be rotated to such position as will permit the wire to be removed from the machine, the screw 26 being turned to the position shown in Fig. 1 for that purpose.

It will be observed that each roller is seated in a pocket, the lowest side of which
25 (note dotted lines in Fig. 4) extends almost to the top of the shoulder on said roll. This affords additional means for preventing the ingress into the bearing, of the scale particles.

30 Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is as follows:

35 1. In a wire splicing machine, the combination of twisting heads, means for ro-

tating the heads, means for moving them longitudinally, rollers carried by the heads, each roller being in a protected pocket whereby the scale from the wire is prevented from passing in to the axle bearing
40 of the roller.

2. In a wire splicing machine, the combination of twisting heads, means for rotating the heads, means for moving the heads longitudinally, a roller carried by
45 each head, an axle for each roller, and a projection on the head for preventing the scale from the wire from passing in to the said axle bearing, substantially as described.

3. In a wire splicing machine, the combination of twisting heads, a roller carried
50 by each head, an axle for each roller and adapted to turn therewith, and a projecting rim on the head whereby the scale from the wire worked on is prevented from passing
55 into the axle bearing.

4. In a wire splicing machine, the combination of twisting heads each having a pocket, a roller carried by each head and having a recess in which an absorbent material is adapted to be placed, and an axle
60 for the roller and adapted to turn therewith.

In testimony whereof I have set my hand this 6th day of March A. D. 1909, in the presence of two subscribed witnesses.

ROBERT H. AUSTIN.

Witnesses:

FRANK P. MEDINA,
W. T. HESS.