A. E. ANDERSON.

TWISTER HEAD FOR WIRE ROPE MACHINES.

APPLICATION FILED FEB. 25, 1920.

1,365,442. Patented Jan. 11, 1921.

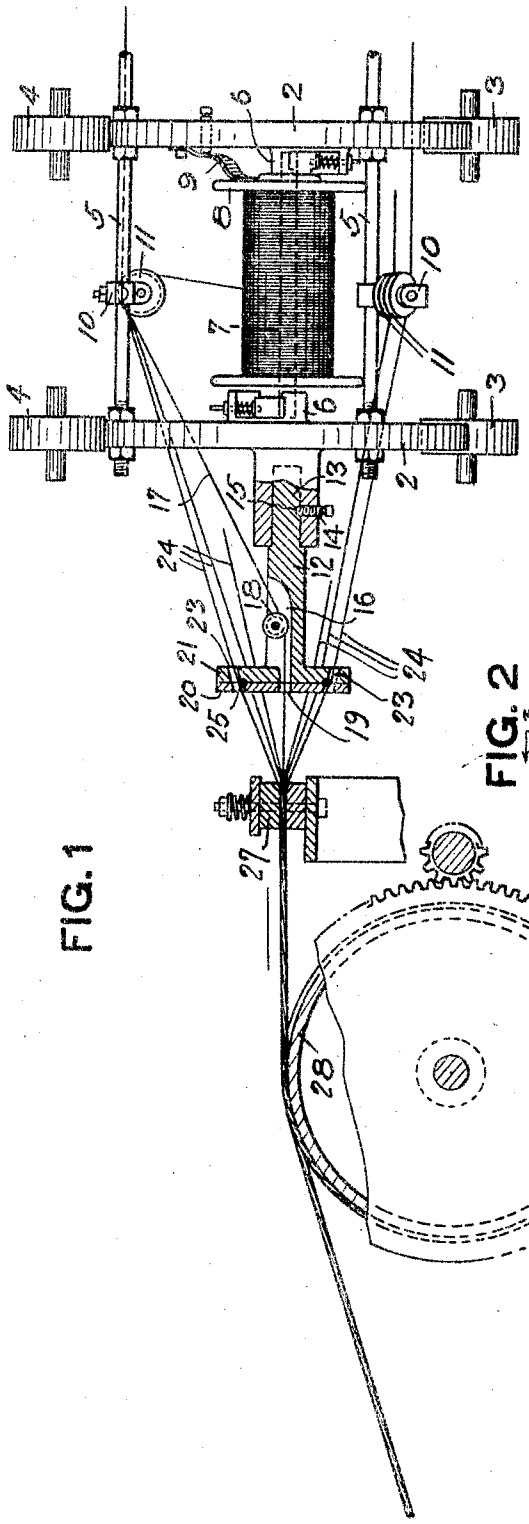


FIG. 1

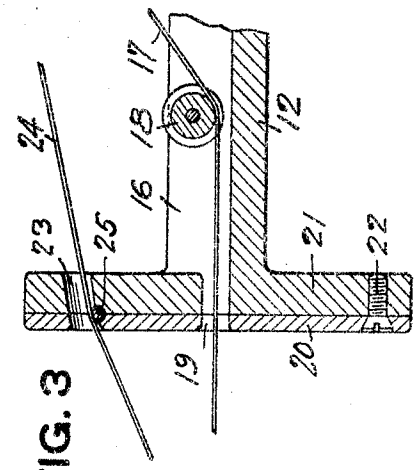


FIG. 3

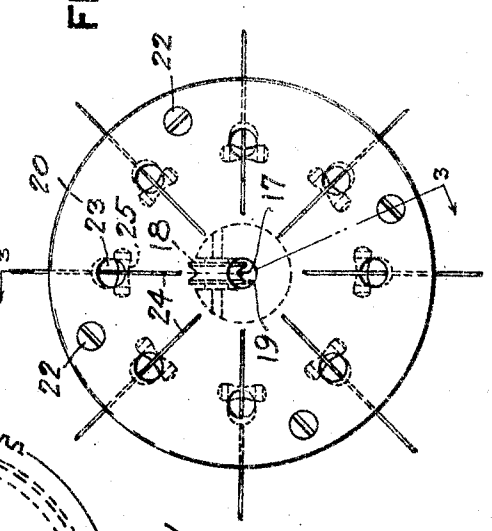


FIG. 2

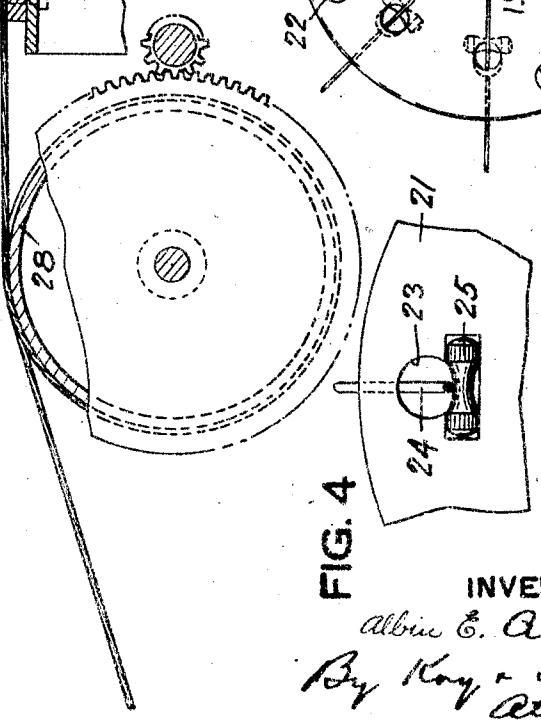


FIG. 4



FIG. 5

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TWISTER-HEAD FOR WIRE-ROPE MACHINES.

1,365,442. Specification of Letters Patent. Patented Jan. 11, 1921.

Application filed February 25, 1920. Serial No. 361,166.

To all whom it may concern:

Be it known that I, ALBIN E. ANDERSON, a citizen of the United States, and resident of Oakmont, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Twister-Heads for Wire-Rope Machines; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the manufacture of wire ropes and cables, and it has special reference to devices known as "twister heads" for receiving a plurality of strands of wire and twisting them into rope.

The object of my invention is to provide a twisting device of the character indicated which shall be simple in construction, effective in operation, and which, in particular, shall be more durable in service than the devices which have heretofore been employed for the same purpose.

In the accompanying drawing, Figure 1 is a side view, partly in elevation and partly in section, showing a portion of a machine for making wire rope, employing a twisting device constructed in accordance with my invention; Fig. 2 is a front elevational view of the twisting device; Fig. 3 is a vertical sectional view taken substantially along the line 3—3, Fig. 2; Fig. 4 is an enlarged front elevational view of a portion of one of the plates composing the twisting device, showing one form of anti-friction roller; and Fig. 5 is an elevational view of a modified form of anti-frictional roller.

In machines for making wire rope, it is customary to bring all the wires from their spools to the front end of the machine, and to pass them through openings in a rotating plate which serves to lay the wires around the core wire and thus form the completed rope. These machines operate at high speed and as the wires rapidly pass through the openings in the plate, they quickly wear away the plate unless it is made of the hardest metal, in which case the life of the plate is lengthened at the expense of the wire, which is itself damaged by being drawn through the plate. It has heretofore been the practice to make use of twister plates either composed of soft metal or having inserts of soft metal at the points where the wire is passed through, and it has been found that these plates or soft metal inserts must be renewed each day.

According to my present invention, I provide a twister-head or plate which may be kept in service for a long time without damage either to the plate or to the wire, and which, when worn, may be readily and quickly repaired.

Fig. 1 of the accompanying drawing shows a portion of a wire-rope making machine which is described and claimed in my co-pending application for Letters Patent Serial No. 361,165, filed Feb. 25, 1920. So far as is material to the present case, this machine consists of a series of parallel circular spiders 2 resting upon sets of anti-friction rollers 3 and held in place by upper anti-friction rollers 4, the spiders being connected together by means of longitudinal rods 5 and being provided with bearings 6 for receiving the squared ends of round bars 7 which carry wire bobbins 8. A brake 9 is provided for regulating the rotation of each of the bobbins 8 and the rods 5 carry suitable supports 10 in which are mounted sheaves 11 for directing the movement of the wires drawn from the several bobbins.

The twister-head which is the subject of my present invention is attached to the forward spider 2 and consists of a shaft 12 which is secured in any suitable manner to rotate coaxially with the frame that carries the wire bobbins. As shown, this connection is made by means of a hollow central stud 13 carried by the forward spider 2 and having a set-screw 14 which engages a reduced portion 15 of the shaft 12. The shaft 12 is cut away at 16 to form an opening for receiving the core wire or cord 17, and a sheave 18 for the core wire is mounted in the opening 16, which opening also communicates with a circular central opening 19 of the twister plate, which is made in two parts 20 and 21. The plates 20 and 21 are secured together by means of screws 22 and are provided with registering openings 23 which slant forward and downward to receive the wires 24 from the sheaves 11.

Adjacent to each of the openings 23, the plates 20 and 21 are cut away to provide seats for an anti-friction roller 25. This roller may be provided with a curved central portion to receive the wire 24, as shown in Fig. 4, or it may be cylindrical, as shown at 26 in Fig. 5.

The anti-friction rollers 25 or 26 may be made of any suitable material such as is commonly employed in roller bearings, and it will be evident that the wires 24 passing

over these bearings will not be damaged by the frictional contact with the bearings nor will they rapidly wear the bearings away. When, after being used for a considerable period, it is found that the bearings need to be replaced, this may be easily and quickly done by removing the screws 22 and the plate 20, replacing the worn rollers with others, and again attaching the plate 20.

After leaving the twister-head the wires pass through a twisting clamp 27 and around a drawing drum 28 which form no part of my present invention.

It is to be understood that the structural details which I have herein shown and described are intended to illustrate my invention and not to impose limitations thereon, the scope of my invention being indicated in the appended claims.

What I claim is:

1. In machines for making wire rope, the combination of a rotatable member having an opening for receiving a strand of wire and an anti-friction member, carried within the said rotatable member adjacent to the said opening, for engaging the said wire.

2. In machines for making wire rope, the combination of a rotatable member provided with a plurality of openings for receiving strands of wire and an anti-friction member, carried within said rotatable member adjacent to each of said openings, for engaging the said wires.

3. In machines for making wire rope, the combination of a rotatable member provided with a plurality of openings for receiving strands of wire, and an anti-friction roller, carried within the said rotatable member adjacent to each of the said openings, for engaging the said wires.

4. In machines for making wire rope, the combination of a rotatable member composed of two plates secured together, the said plates being provided with a plurality of registering openings for receiving strands of wire and being provided, adjacent to the said openings, with seats for supporting anti-friction rollers, and an anti-friction roller disposed in each of the said seats.

5. In machines for making wire rope, the combination of a rotatable shaft, a member carried at the end of the said shaft and composed of two circular plates removably secured together, each of the said plates being provided with registering central openings and with other registering openings for receiving strands of wire, the said plates being provided adjacent to the said latter openings with seats for receiving an anti-friction roller and an anti-friction roller disposed in each of the said seats.

In testimony whereof, I the said EDWIN ANDERSON, have hereunto set my hand.

ALBIN E. ANDERSON.

Witnesses:
A. E. CLANCY,
R. D. BROUN.