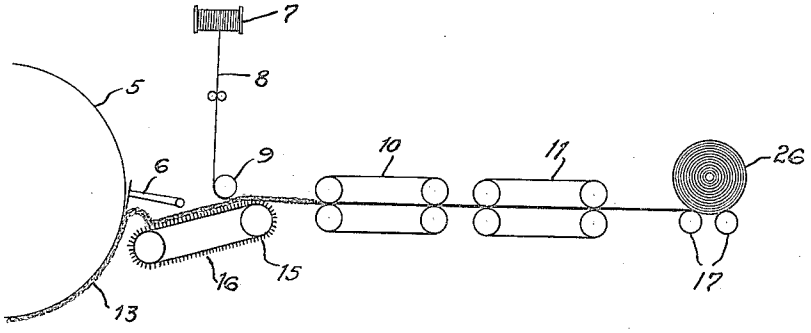
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J. A. HEANY

APPARATUS FOR MAKING ASBESTOS YARN

Filed Dec. 17, 1921



Inventor

John Albert Heany

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR MAKING ASBESTOS YARN.

Application filed December 17, 1921. Serial No. 523,124.

To all whom it may concern:

Be it known that I, JOHN ALLEN HEANY, a citizen of the United States, and a resident of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Apparatus for Making Asbestos Yarn, of which the following is a specification.

This invention relates to an apparatus for making asbestos yarn.

In the manufacture of wire-reinforced asbestos yarn by the "rub motion" process as described in my pending application for patent Serial No. 523,123, filed Dec. 17, 1921, it is the practice to feed the reinforcing wires to the moving slivers from a position beneath the carrier belts on which the slivers are received from the doffer rolls of the carding machine. This mode of operation has given good results and has gone into successful use and practice.

In the course of further experimenting I have found that the reinforcing wires can be fed in from a more accessible location overhead if suitable provision be made for preventing the entangling of the fibers about a guide roller around which the overhead wires must of necessity be guided. It is an object of this invention to provide for a leading in of the reinforcing wires from overhead and to avoid the objectionable entangling of the fibers with the guide roll.

The invention includes the use of a guide roller for the overhead wires or threads by means of which the reinforcing filaments can be directed into operating position between the rub motion belts, and a receiver for the slivers as they are stripped from the doffer rolls. The receiver takes the form of a conveyor belt having a sloping carrier surface arranged to bring the slivers in contact with the wires at points beyond the position of the guiding roller, the slope of the belt being sufficient to prevent contact of the asbestos with the roller as it is carried by the position of the roller.

In the drawing in which a preferred form of the invention is illustrated, the single figure illustrates the invention in diagrammatic form.

Referring to the drawing a doffer roll 5 of a carding machine is shown from which a doffer comb 6 strips slivers of carded asbestos fibers and deposits the slivers on the sloping conveyor belt or apron 6.

At 7 is shown a reel or spool of wire or thread from which the wire or thread 8 that is to form a reinforcement for the yarn is led around the guiding roller 9. The lower or delivery surface of the guiding roller 9 is in alinement with the confronting surfaces of the two sets of rub motion belts 10 and 11 so that the filaments which are to form reinforcing cores for the yarn are led directly between the rub surfaces of the rub motion belts without vertical deflection.

In order to supply the carded slivers of fibers to the filaments and the rub motion belts, the conveyor or carrier belt or apron 16 is provided which receives the sliver 13 as it is removed from the surface of the roll 5. The mass of carded fibers is carried in an upwardly slanting direction to a point between the position of the guide roller 9 and the entrance end of the first set 10 of rub motion belts.

By this arrangement I succeed in avoiding the bringing of the carded fibers into engagement with guiding roller 9 and the consequent entangling of the fibers about the roller. I am thus enabled to lead the reinforcing filaments 8 into the apparatus from overhead thereby giving ready access to the spools 7 and the filaments as distinguished from the alternative practice of leading the filaments into the apparatus from beneath.

Preferably the carrier belt 16 is provided with transverse bars or strips of metal 15 to provide resistence to the wear of the filaments 8 at their points of engagement with the upper end of the belt.

It will be seen that by bringing the filament and sliver into engagement just before their entrance into the rub motion belts 10 the filament is effectively covered by the fibers to form an asbestos yarn having a reinforcing filamentary core. When the yarn issues from the second set of rub belts 11 it is wound into a roll as at 26 on the surface winding roller 17. The reinforcement of the wire may be in the form of

thread or wire as has been stated, depending on the use to which the product is to be put.

What is claimed is:

1. In an apparatus for making reinforced yarn, a rub motion device for applying fibrous material to a reinforcing filament, a guide roller for directing the filament between the rubbing surfaces of the rub motion device, and means for receiving the fibrous material and bringing it into engagement with the reinforcing filament between the guide roller and the inlet portion of the rub motion device.

2. In an apparatus for making reinforced yarn, a rub motion device for applying fibrous material to a reinforcing filament, a guide roller in alinement with the rubbing surfaces of the rub motion device for directing the reinforcing filament into the rub motion device, and a carrier belt for receiving the fibrous material and bringing it into engagement with the reinforcing filament between the guide roller and the inlet portion of the rub motion device.

3. In an apparatus for making reinforced yarn, a rub motion device for applying fibrous material to a reinforcing filament, a guide roller in alinement with the rubbing surfaces of the rub motion device for directing a reinforcing filament from overhead into the rub motion device, and a carrier belt mounted at an inclination to receive fibrous material and convey it into engagement with the reinforcing filament between the guide roller and the inlet portion of the rub motion device without engagement with the guide roller.

4. In an apparatus for making asbestos yarn, a doffer roll for supplying slivers of carded asbestos, a rub motion device for applying fibrous material to a reinforcing filament, a guide roller for directing the filament from overhead between the rubbing surfaces of the rub motion device, and a carrier belt for receiving the slivers of carded asbestos from the doffer roll and bringing them into engagement with the reinforcing filaments between the guide roller and the inlet portion of the rub motion device.

5. In combination with the doffer roll of a carding machine, a doffer device for removing slivers of carded asbestos from the doffer roll, a carrier belt having an upwardly sloping position with its lower end in position to receive the slivers, a rub motion device in position to receive the slivers from the upper end of the carrier belt, and a guide roller for a reinforcing filament for directing the filaments from overhead into the rub motion device without substantial vertical deflection, said guiding roller being located to the rear of the upper end of the carrier belt so as to remain out of engagement with the asbestos thereon but to bring the filaments into contact with the asbestos on upper end of the belt.

JOHN ALLEN HEANY.