No. 676,046. Patented June 11, 1901.

F. W. NIMS.

IDLER PULLEY FOR WOOL COMBING MACHINES.

(Application filed Sept. 8, 1900.)

(No Model.)

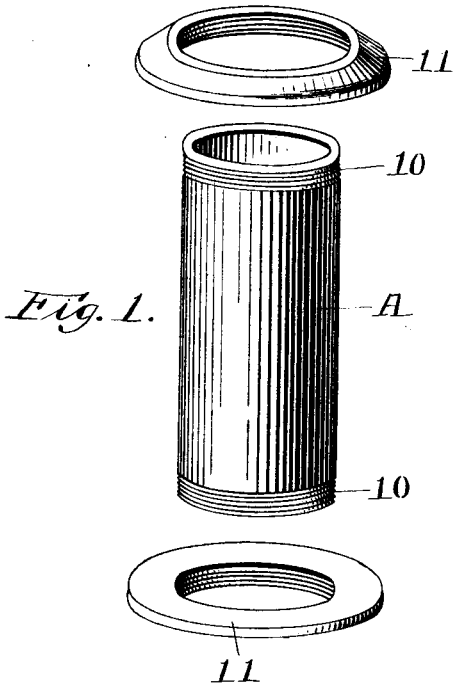

Fig. 1.

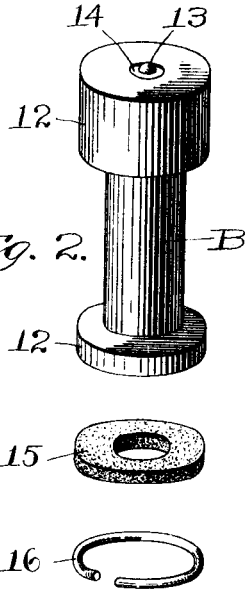

Fig. 2.

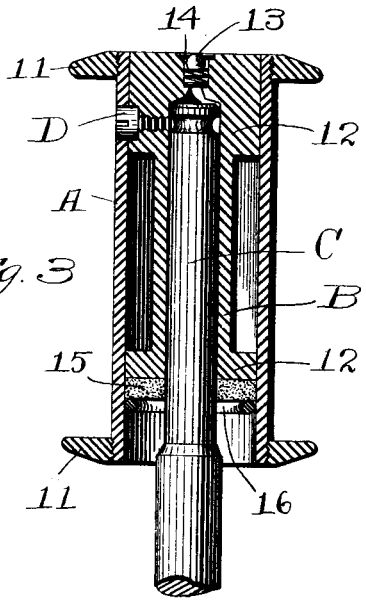

Fig. 3

Witnesses.
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UNITED STATES PATENT OFFICE.

FRANCIS W. NIMS, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO HIMSELF, ALFRED THOMAS, AND WILLIAM RICHARDSON, OF SAME PLACE.

IDLER-PULLEY FOR WOOL-COMBING MACHINES.

SPECIFICATION forming part of Letters Patent No. 676,046, dated June 11, 1901.

Application filed September 8, 1900. Serial No. 29,371. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS W. NIMS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Idler-Pulley for Wool-Combing Machines and Similar Purposes, of which the following is a specification.

This invention relates to an idler-pulley which has been especially designed as a belt-pulley or support for an apron of a wool-combing machine or for use in similar locations where fibrous or wool stock is employed; and the especial object of this invention is to provide an inexpensive, durable, light, substantially oil-tight idler-pulley, which will be less liable to become stuck or jammed on its bearings than the forms of idler-pulleys now ordinarily employed.

To these ends this invention consists of the idler-pulley and of the combinations of parts therein as hereinafter described, and more particularly pointed out in the claims at the end of the specification.

In the accompanying drawings, Figure 1 is a perspective view of the parts which constitute the shell of an idler-pulley constructed according to this invention. Fig. 2 is a perspective view of the parts which fit into the shell, and Fig. 3 is a transverse sectional view of a complete idler-pulley constructed according to this invention.

In using that form of wool-combing machines in which leather aprons or belts are employed for carrying away the stock from the circles of the combing-machine considerable difficulty has heretofore been experienced on account of the tendency of the wool stock or similar material to work into the bearings of the idler-pulleys, so as to cause the same to jam or become stuck upon their bearings. Whenever an idler-pulley of a machine of this class becomes stuck or stops turning, the belt or apron running around the same becomes quickly frayed and worn out, so that a considerable item of expense in operating wool-combing machinery is incurred in repairing or supplying new aprons for the machine. In practice I have found that whenever the bearings of an idler-pulley are loose enough to permit the escape of oil, the finer fibers of the wool stock have a tendency to work their way into the bearings. To overcome this difficulty, an idler-pulley constructed according to this invention is preferably made substantially oil-tight, and its bearings are sufficiently protected to absolutely prevent the entrance of wool stock therein, while at the same time the pulley is of a lighter construction than heretofore employed and ample provision is made for keeping the same well lubricated. To accomplish these ends, an idler-pulley constructed according to this invention preferably comprises a shell or outer section having a spool or core fitted therein. The spool or core is driven far enough into the shell of the pulley to leave a chamber or pocket at the lower end thereof, which is preferably packed with a felt washer or similar material, which forms a substantially oil-tight packing, while the upper bearing of the spool or core is preferably closed and the pulley is held on its stud or shaft by a screw engaging a groove near the upper end thereof.

Referring to the accompanying drawings and in detail, an idler-pulley constructed according to this invention, as herein illustrated, comprises an outer shell consisting of a pipe-section A, having threaded ends 10. Threaded onto and secured to the ends of the pipe A are the flange-pieces 11, which may be brazed or headed onto the pipe A, so as to be permanently secured thereto. Fitting into the shell of the pulley is a center piece or spool B, having enlarged ends 12. The upper end of the spool B is closed, except that the same is preferably provided with a dust-tight oil-hole, which may be closed by a spring-supported ball 13, held in place by a washer 14.

As shown most clearly in Fig. 3, the spool B is driven far enough into the pipe or shell to leave a pocket at the lower end thereof, and secured in the pocket is a felt washer or packing 15, which is held in place by a spring-ring 16.

The spindle or stud C of the pulley is preferably provided with an end bearing, and the

pulley is held in place on its stud by a screw D, the point of which engages a groove near the upper end of the stud C.

By means of this construction I have provided an idler-pulley which is substantially oil-tight and which has its bearings sufficiently protected to prevent the entrance of wool stock or similar material therein, while at the same time the pulley itself is considerably lighter than idler-pulleys which are now ordinarily employed.

I am aware that changes may be made in making up idler-pulleys according to my invention without departing from the scope thereof as expressed in the claims. I do not wish, therefore, to be limited to the construction which I have herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of an idler-pulley, comprising a shell, a spool fitting into said shell and having a normally closed oil-passage at its upper end, a felt washer held in place in the pocket at the lower end of the idler-pulley, with a stud or shaft having an end bearing in the spool of the pulley, and means for holding the pulley in place thereon, substantially as described.

2. The combination of an idler-pulley comprising a shell formed by a pipe-section, flanges secured on the ends of the pipe-section, a spool fitting into said pipe-section and having a spring-pressed ball held in place by a washer at the upper end thereof to form a dust-proof oil-passage, a felt washer held in place by a spring-ring in the pocket at the lower end of the idler-pulley, a shaft or stud having an end bearing in the spool of the pulley, and a screw engaging a groove in the stud to hold the pulley in place thereon, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRANCIS W. NIMS.

Witnesses:
PHILIP W. SOUTHGATE,
WM. G. LICHTENFELS.