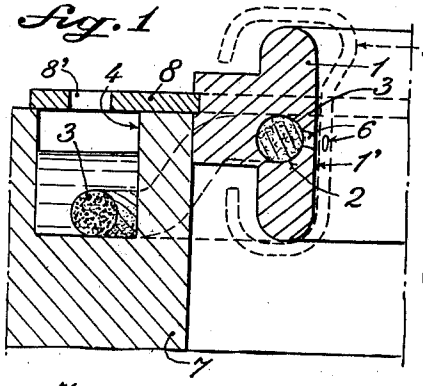
June 9, 1936. C. SCHLEIFER 2,043,520

AUTOMATIC LUBRICATING DEVICE FOR THE RING AND THE TRAVELER IN RING SPINNING OR DOUBLING FRAMES OR THE LIKE

Filed Jan. 12, 1934

Fig. 1



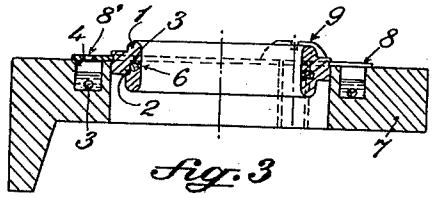


Fig. 3

Fig. 4

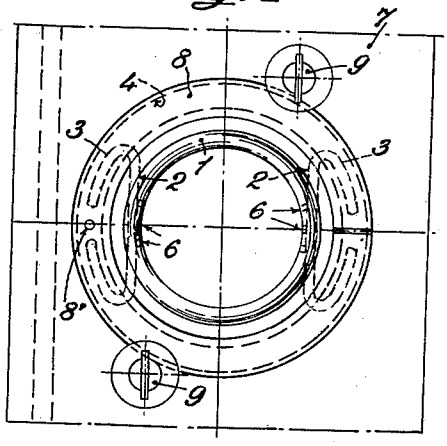
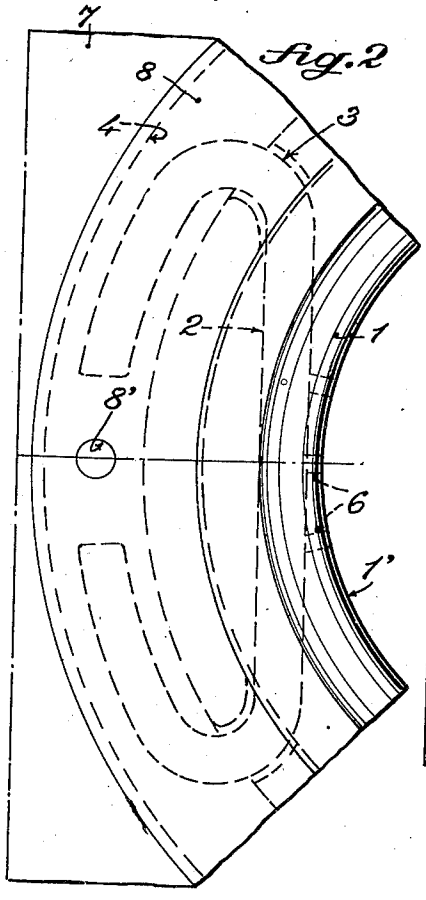


Fig. 2



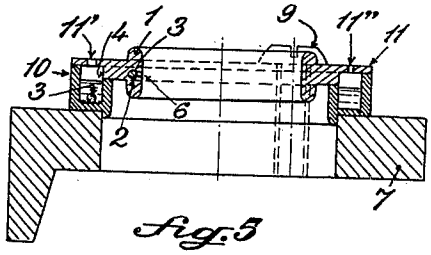


Fig. 5

C. Schleifer
INVENTOR

By: Marks & Clerk
ATTYS.

Patented June 9, 1936 2,043,520

UNITED STATES PATENT OFFICE

2,043,520

AUTOMATIC LUBRICATING DEVICE FOR THE RING AND THE TRAVELER IN RING SPINNING OR DOUBLING FRAMES OR THE LIKE

Carlo Schleifer, Novara, Italy, assignor to Società Anonima "Officina Meccanica St. Andrea-Novara", Novara, Italy, a society of Italy

Application January 12, 1934, Serial No. 706,441
In Italy January 14, 1933

4 Claims. (Cl. 118—59.5)

It has already been proposed to lubricate the rings of ring spinning or doubling frames and the like with the object of facilitating the movement of the traveller, because it is well known that the friction of the traveller on the ring not only produces considerable wear of these parts, but also occasions irregular tensions in the yarn which frequently cause it to break.

Among the numerous lubrication devices hitherto proposed, those which, while possessing serious disadvantages, are the most nearly suitable, comprise a wick fed by a reserve of lubricant and leading up to the surface of the ring to be lubricated where it frequently extends over large zones and is in direct contact with the traveller. For example, this wick is lodged in deep grooves hollowed in the internal surface of the ring in contact with the traveller. These open grooves are in general supercharged with lubricating material which spreads constantly over the surface to be lubricated, both during the traverse and during periods of rest of the traveller, and consequently it accumulates during the periods of rest of the machine.

When the machine is restarted after a relatively long idle period, the lubrication is considerably in excess of requirements and may cause the yarn to be soiled. Further, metallic particles due to the wear of the traveller, and also dust, will accumulate in the said grooves and upon the wick contained therein. Consequently, these open grooves form receptacles for dirt and are the main cause of the yarn becoming soiled.

Further, in many of these known lubricating devices, the lubricant reservoir is closed by a felt member in contact with the surrounding air and which collects dust and any dirt, so that it is impossible to keep the ring rail clean.

Now the object of the present invention is to provide a lubricating device of the above mentioned type which comprises none of the above mentioned disadvantages and effectively ensures that the lubrication will be obtained automatically and exclusively during the traverse of the traveller.

According to the present invention, one or more internal ducts are formed in a tangential direction in the body of the ring, in each of which holes is lodged a wick, the ends of which dip into a reservoir of lubricant while each tangential hole communicates with the surface to be lubricated and which is touched by the traveller through one or more small and substantially radial holes through which the lubricant supplied by the wick cannot issue spontaneously, but is removed by the traveller when it passes over these holes.

Some embodiments of the subject of the invention are illustrated simply by way of example in the accompanying drawing in which:—

Figures 1 and 2 show in detail to an enlarged scale and in cross-section and plan view respectively a portion of the ring with the lubricating device.

Figures 3 and 4 show in vertical section and in plan view respectively the assembly of the ring and of the ring rail.

Figure 5 is a vertical section of a modification.

According to the present invention (Figures 1 and 2) a hole 2 is formed in a tangential direction in the body of the ring 1 substantially at half its height; in this hole is lodged a wick 3 the ends of which dip into a reservoir 4 containing lubricant. The tangential hole 2 leads towards the inner surface of the ring 1', touched by the traveller 5, which has to be lubricated, through one or more small and substantially radial holes 6, which are absolutely devoid of any filling material. The lubricant supplied by the wick reaches the small holes 6 but does not flow from these holes successively. Only when the traveller 5 moves along the ring and rubs against the terminal orifices of the small ducts 6 will it remove by mechanical means the particles of lubricant which are sufficient for lubricating the traveller and the traveller then itself distributes this lubricant over the entire surface with which it comes into contact.

When the movement of the traveller ceases, the lubrication also ceases automatically. When work is restarted, even after a long idle period, there is no danger that the ring will have been excessively lubricated or soiled in any way in the interval, and any soiling of the yarn is thus avoided. Similarly, all other causes of soiling the yarn mentioned above and which are produced by the known devices are avoided, because in the present case the wick is completely protected and is never touched by the traveller.

The ring 1 instead of comprising one single tangential hole 2 with the corresponding wick 3, may comprise a number of holes. In the example illustrated in Figures 3 and 4 this lubricating arrangement is duplicated.

The reservoir 4 containing lubricant may be provided in the ring rail 7 and may have the shape of an annular receptacle and be protected by the split ring 8 in which is inserted the ring 1

with the object of locking it in place on the ring rail by means of the usual screws 9.

In the ring 8 is provided at least one holde 8' for the introduction of the lubricant.

The reservoir 4' for the lubricating material, instead of being in the ring rail, may be provided in a mounting ring 10 for the ring 1 as shown in the modification illustrated in Figure 5. In this case the ring 1 is provided with a yoke 11 serving to cover the reservoir and in which is provided at least one hole 11' for the introduction of the lubricant and an air vent 11''. The ring may be locked in place on the rail in this case by means of screws 9 in the usual manner.

It is moreover obvious that the invention is in no way limited to the precise arrangements described and illustrated but that without going outside its scope, it may undergo any modifications that circumstances or the requirements of practice may cause to be considered necessary or advantageous.

What I claim is:—

1. An automatic lubricating device for the ring and the traveller in ring spinning and doubling frames comprising a lubricant reservoir, a passage in the ring having open ends, a wick completely filling the passage and having its free ends extending from the open ends of the passage into said lubricant reservoir for absorbing the lubricant therein by capillary attraction and wholly unobstructed and radial ducts in said ring extending from the passage and terminating at the surface of the ring in contact with the traveller whereby lubricant is supplied to said surface, said reservoir being located below and said ducts substantially in the plane of said passage.

2. An automatic lubricating device for the ring and the traveller in ring spinning and doubling frames, as claimed in claim 1, wherein the lubricant reservoir is provided in a hoop carrying the ring, a separate reservoir being provided for each ring.

3. An automatic lubricating device for the ring and the traveller in ring spinning and doubling frames, as claimed in claim 1 wherein the lubricant reservoir is composed of a chamber formed in the ring rail, the said chamber having a cover whereby the ring is secured to the ring rail.

4. An automatic lubricating device for the ring and the traveller in ring spinning and doubling frames, as claimed in claim 1, wherein the lubricant reservoir is composed of a chamber formed in the ring rail, the said chamber having a cover integral with the ring whereby the ring is secured to the ring rail.

CARLO SCHLEIFER.