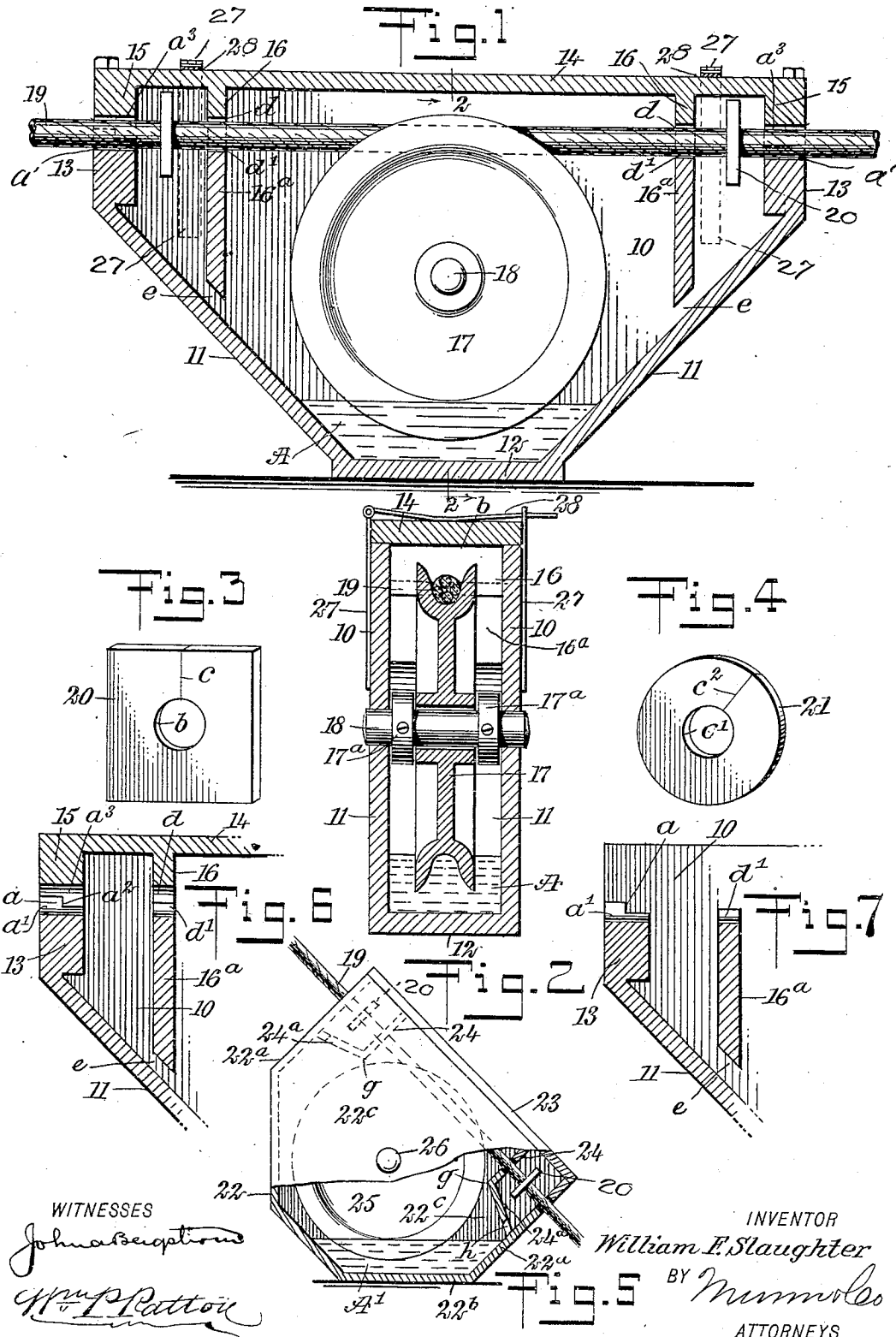


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LUBRICATOR FOR CABLES.
APPLICATION FILED JAN. 5, 1909.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM F. SLAUGHTER, a citizen of the United States, and a resident of Republic, in the county of Marquette and State of Michigan, have invented a new and Improved Lubricator for Cables, of which the following is a full, clear, and exact description.

In the traverse of cables employed for the draft of cars and general haulage purposes in mines and other places, it frequently occurs that the cables are unduly worn from frictional contact with each other if they cross, or with supporting means such as pulleys or the like.

The purpose of my invention is to provide a novel simple lubricating device, that automatically coats a running cable with a lubricant and removes any excess of the lubricant, thus preventing injurious wear and rusting of the cable if it is constructed of wire.

The invention consists in the novel construction and combination of parts, as is hereinafter described and defined in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side view of one form of the improved lubricator, engaging a cable shown disposed in a horizontal plane; Fig. 2 is a transverse sectional view, substantially on the line 2—2 in Fig. 1; Fig. 3 is a side view in perspective, showing one form of a wiper or lubricant remover employed; Fig. 4 is a side view of a modified form of the wiper or lubricant remover; Fig. 5 is a partly sectional side view of a modified form of the lubricator; Fig. 6 is an enlarged sectional side view of one end of the lubricator body, and of the cover therefor mounted thereon; and Fig. 7 is an enlarged sectional side view of the end of the lubricator body shown in Fig. 6, the cover being removed.

In carrying into effect the features of the invention, a box-like receptacle is provided, which may be constructed of wood or other available material. The preferred form of the receptacle, as shown in Figs. 1 and 2, consists of a hollow body having two parallel side walls 10, which are spaced apart by an angular peripheral wall, the members 11 of which converge toward the bottom

wall 12. From the members 11, vertical walls 13 extend, which complete the body of the receptacle.

A cover comprising a flat rectangular planchet 14 of wood or other suitable material, having transverse end walls 15 projected from its lower side near each end thereof, is fitted upon the level upper edge of the receptacle already described, and is rendered liquid-tight at the joint therebetween.

The perforated means for effecting a suitable joint between the cover 14 and the upper portion of the body of the lubricator at each end thereof, is best shown in Figs. 6 and 7, and consists of the following details:—The vertical end walls 13 are somewhat lower than the side walls 10 of the lubricator body, and on the upper transverse edge of each end wall, an offset shoulder *a* is formed at the center of thickness thereof. A semi-circular concavity *a'* is formed at the center of each end wall in its rabbeted upper edge, the purpose of which will presently appear. From the cover 14 at each end thereof, a transverse depending flange 15 is downwardly extended, said flanges fitting neatly against the inner surfaces of the end walls 13 when said flanges are slid downward into the body of the lubricator. The lower edge of each depending flange 15 is rabbeted so as to produce an offset shoulder *a*² thereon, and the depth of projection downward of each flange 15 is such that the offset edges of the flanges 15 will engage the like edges of the upright end walls 13 when the cover 14 is seated upon the upper edges of the side walls 10 of the lubricator body. A semi-circular scallop *a*³ is formed in the rabbeted lower transverse edge of each flange 15, these concavities, together with the concavities *a'* in the end walls 13, forming circular apertures that will receive and with their defining edges loosely embrace the body of a cable, as will be hereinafter explained. It will be apparent that the engagement of the shoulders *a* and *a*² will prevent the cover 14 from moving endwise when said cover is seated upon the lubricator body.

In Figs. 1 and 2, a clamping device is shown that is preferably employed for removably securing the cover 14 seated upon the lubricator body, said clamping means consisting of the following details: Near the end walls 13, on one side wall 10 of the

lubricator body, two similar leaf plates 27, 27 are respectively secured. The upper ends of the leaf plates 27 are hinged upon similar ends of two clamping bars 28, and as shown for one clamping bar in Fig. 2, said bars respectively extend across the cover 14 near each end thereof and a distance beyond the cover piece and afford a handle for each clamping bar. Two hook plates 29, one of which appears in Fig. 2, are secured upon the remaining side wall 10 directly opposite a respective hinge leaf 27, said hook plates each having a hook on its upper end that may be engaged by the free end of a respective clamping bar 28. It will be noted in Fig. 2 that the similar clamping bars 28 have their lower sides convexed, so that the bars when seated on the cover 14 will impinge upon said cover at its transverse center; hence when the clamping bars are folded down upon the cover that has previously been placed in position on the body of the lubricator, and then engaged with the hook plates 29, the cover 14 will be removably secured upon the lubricator body.

Two guard walls 16 are formed on the lower side of the cover 14 and extend transversely thereof, each wall being positioned a short distance from a respective end wall 13. The guard walls 16 have an equal downward projection to that of the depending flanges 15, and a semi-circular scallop d is formed in the lower edge of each guard wall at its center, of equal dimensions with the concavities in the depending flanges 15.

At points directly beneath the guard walls 16, cooperating guard walls 16^a are formed or secured in the receptacle or lubricator body, the ends of said walls 16^a being attached to the inner surfaces of the side walls 10. In the upper edges of the guard walls 16^a, scallops d' that are similar to the scallops d are formed, producing circular openings that will receive a cable as will herein-after be described.

Centrally in the lubricator body, a grooved wheel 17 is rotatably supported by a shaft 18 that engages perforations in the side walls 10, the wheel 17 being held in a central position by two collars 17^a that are mounted upon the shaft 18, one at each side of the wheel and secured in loose contact therewith.

A cable 19 is passed longitudinally through the lubricator body by its insertion through the circular openings in the end walls 13, depending flanges 15 and guard walls 16, 16^a, and as shown, the cable is seated upon the grooved periphery of the wheel 17. The diameter of the grooved wheel 17 is so proportioned that it will have its lower portion disposed near the bottom wall of the lubricator body, so that it will be adapted for immersion in lubricating liquid that is placed in said body.

There are two forms of wiper or scraper

employed for the removal of surplus lubricating material from the cable 19 which may be of any suitable material possessing sufficient rigidity for the purpose; one form, shown at 20 in Figs. 2 and 3, is a flat plate having a central perforation b , the circular defining edge of which closely embraces the cable 19 when the wiper or scraper is mounted thereon, and to permit the scraper to be placed on the cable in the receptacle, the scraper is slitted from the perforation b to and through the edges thereof, as is clearly shown at c in Fig. 3. The circularly-edged scraper 21, perforated centrally at c' and shown in Fig. 4, is in a like manner slitted radially at c'' , to permit it to be placed upon the cable, and it is to be understood that either form of the scraper will be effective in service.

In arranging this device for use, the receptacle is seated upon a support which may be level, and secured thereto, or the receptacle may be inclined toward either end a moderate degree, the inclination of the cable 19 determining the relative position of the receptacle. A suitable lubricant A that may be oil or tar, is placed in the receptacle, and should have sufficient depth therein to cover the grooved rim of the wheel 17. The travel of the cable 19 in either direction, will correspondingly rotate the wheel 17, which will coat the rim of said wheel with the lubricant A, which will in turn transfer the lubricant to the cable. The wipers, either 20 or 21, that have been mounted upon the cable 19 between the walls 13 and 16^a at each end of the receptacle, will be impinged upon either of said walls, depending upon the direction of travel of the cable, and their contact with the surface of the cable will adapt them to scrape off surplus lubricant therefrom and thus prevent an excessive coating of the lubricant from remaining on the cable.

As will be seen in Fig. 1, a space is left between the lower edge of each supplementary guard wall 16^a and the inclined walls 11 of the lubricator body, these spaces e permitting surplus lubricating material removed from the cable 19, to flow down into the lower portion of the lubricator body.

In some situations, it is essential that a cable shall be steeply inclined and that it receive lubrication to avoid wear on its supports; to adapt the improvement for such a situation, the receptacle for the lubricant is preferably in the form shown in Fig. 5. In this construction, the peripheral wall 22 of the receptacle is formed with four sides of equal length, disposed angularly. A cover 23 is fitted upon the open top of the receptacle and carries two guard plates or walls 24, each bent at g so as to project their lower portions 24^a toward and into engagement with the members 22^a of the peripheral

wall 22 whereon the cover 23 is seated. The receptacle is completed by securing the parallel side walls 22^c on the peripheral wall 22. A grooved wheel 25 is mounted upon a central shaft 26, that at its ends is loosely secured in the side walls 22^c. The cable 19 that in this case inclines steeply, is passed through alined perforations in the guard walls 24 and the members 22^a of the peripheral wall 22. An opening *h* is formed in each inclined wall 24^a, where it joins the corresponding wall 22^a of the lubricator body, for the free passage of surplus lubricant downward, that has been removed from the cable.

To adapt the receptacle just described for effective service, the member 22^b of the peripheral wall 22, is utilized as a base and is secured upon a suitable support. The guard walls 24 in this construction may take the place of scrapers and remove surplus lubricating material from the cable that is closely embraced by the defining edges of the perforations in the guard walls. Other scrapers similar to those shown in Figs. 3 and 4, may also be used for the removal of an excess of the lubricant from the cable 19. In service, lubricating material that has been introduced within the receptacle, as indicated at A', will coat the rim of the wheel 25 which will carry the lubricant to the cable that will be coated therewith, the surplus of oil or the like being removed by the guard walls 24, or wipers that may be mounted upon the cable.

It is to be understood that the precise form of the receptacle and other details is not material, as these may be varied somewhat, to adapt the device for service where the cable is flat instead of round and requires openings in the guard walls and wipers to correspond therewith, these modifications all falling within the scope of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a lubricating device, the combination

with a receptacle, a cover therefor having depending flanges, the end walls of the receptacle and the flanges being perforated in alinement for the passage of a cable there-through, of a rotatably-supported wheel in the receptacle, the periphery of which engages the cable and is immersed in lubricant held in the receptacle, and means for removing surplus lubricant from the moving cable.

2. In a lubricating device, the combination with a receptacle attached to a stable support, a removable cover therefor having depending end walls that are inserted into the receptacle in contact with the corresponding end walls of said receptacle, and two guard walls that are spaced from the end walls of the cover and depend from said cover, the guard walls and the end walls all being perforated in alinement for the passage of a cable therethrough, of a grooved wheel, a shaft rotatable centrally in the receptacle and whereon the wheel is mounted, the periphery of the wheel running in lubricant placed in the receptacle and transferring the lubricant to the cable, and wipers placed on the cable adjacent to the depending guard walls and held stationary thereby, said wipers removing surplus lubricant from the cable.

3. In a lubricating device, a receptacle for a lubricant, a cover for the receptacle having depending spaced flanges at each end thereof, the end walls of the receptacle and the flanges having alined openings for the passage of a cable a wheel journaled in the receptacle and dipping into the lubricant contained in the receptacle, over which the cable passes, and scrapers between the flanges.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM FROST SLAUGHTER.

Witnesses:

THOMAS CHENHALL,
W. H. ROBERTS.