

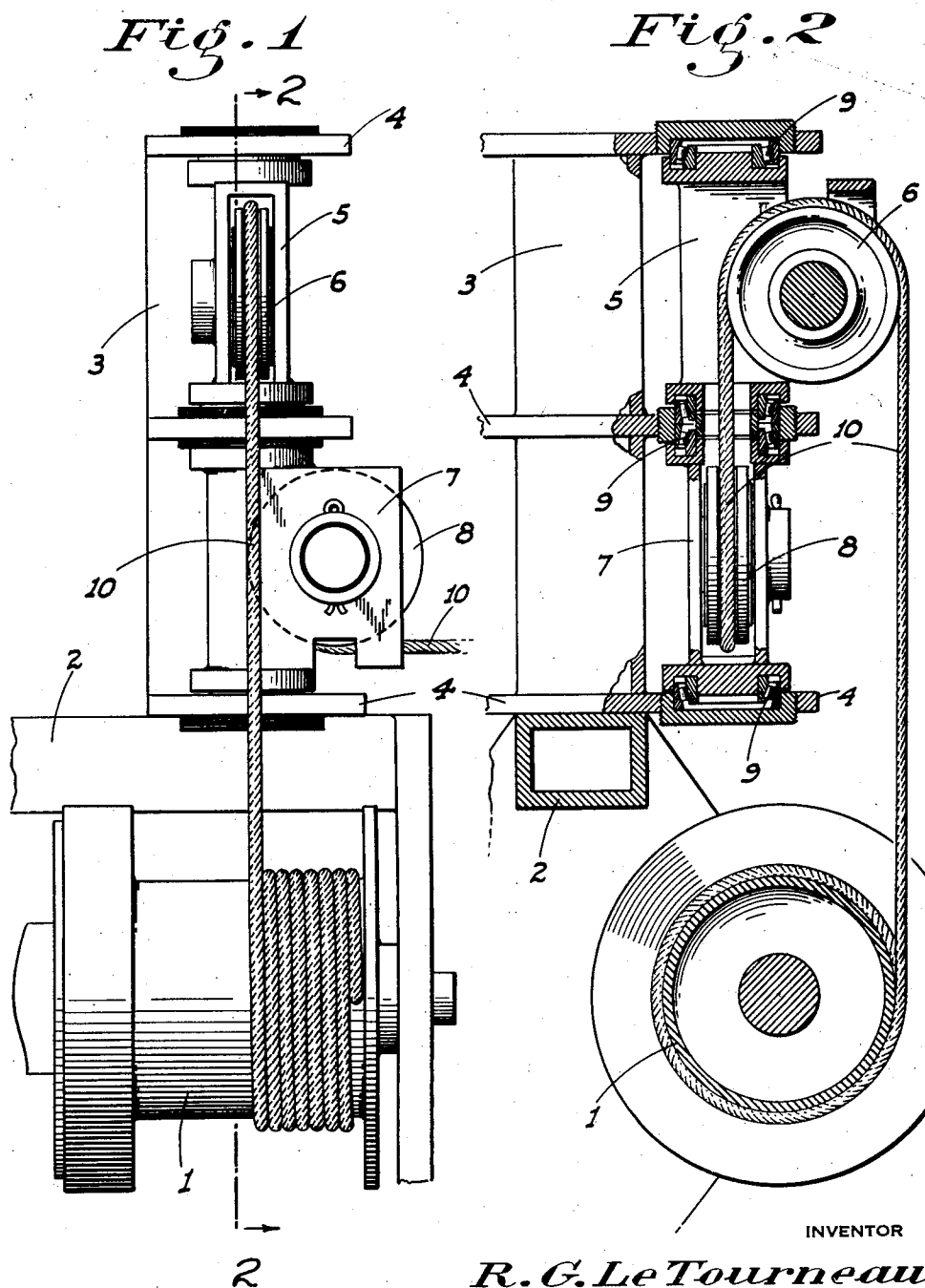
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SPOOLING DEVICE FOR DRUM CABLES

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SPOOLING DEVICE FOR DRUM CABLES

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This invention relates to devices for spooling or winding cables onto drums, and particularly to a device for use with a fairlead when the drum is mounted on a tractor, as is now frequently done in various operations. Without a fairlead the cable will not wind properly on its drum, but tends to pile up or to be unevenly spaced along the drum, as is well known. The usual practice is to place the fairlead twelve inches from the drum for every half inch in width of the drum, and very great friction and wear frequently occurs between the adjacent windings of the cable, especially with a heavy load.

Such an arrangement can be used however with reasonable satisfaction when the drum is stationary, but it is not practicable when the drum is mounted on a tractor which is constantly moving about. With such an installation the fairlead to be located in the necessary relative fixed position and at the proper distance from the drum would have to be hung from a derrick mounted on the tractor itself. This is seldom if ever feasible, and the fairlead must therefore be quite close to the drum. Such an arrangement with the ordinary fairlead mounting would of course not give the necessary efficient results.

The principal object of my invention therefore is to provide a fairlead arrangement which has the above requirements as to close association with the drum, and yet is arranged so that the cable will be evenly wound on the drum in a better manner and with less friction and wear than is the case with the ordinary form of fairlead.

A further object is to arrange the fairlead structure so that the direction in which the cable extends from the drum is immaterial, and it is therefore unnecessary to swing the tractor around in order to line up the cable with the drum, as must now be done.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawing similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a side view of the structure.

Fig. 2 is a vertical section on the line 2-2 of Fig. 1.

Referring now more particularly to the characters of reference on the drawing, the numeral 1 denotes a cable drum which is preferably mounted in connection with a rigid beam 2 on the tractor, and its rotation controlled in the same manner as shown in my copending application for patent Serial No. 512,979, filed February 2, 1931; so that the axis of the drum extends lengthwise of the tractor. As in said application the structure as herein shown contemplates a duplicate arrangement of drums and fairleads, but only one such arrangement is actually shown and described, since each functions independently of the other.

Projecting rearwardly from a rigid vertical post 3 mounted on the beam 2 in vertical alinement with the drum are vertically spaced horizontal plates 4. Disposed between the two upper plates is the housing 5 of a vertical sheave 6, while disposed between the two lower plates is the similar housing 7 of a sheave 8. These housings are mounted in connection with the plates 4 for independent turning movement about a common vertical axis, on roller or other antifricition bearings 9 supported by the plates and housings at the top and bottom of the latter, and disposed in a plane centrally between the ends of the drum. The sheaves are disposed in the housings so that a cable 10 extending between the adjacent sides of the sheaves is disposed in axial alinement with the axis of the bearings, so that the housing may turn relative to each other without altering the alinement of the cable relative to the sheaves, or causing any binding.

The cable passes from the object being hauled under the sheave 8 to and about the sheave 6 through the intermediate plate and roller bearing, and then to the adjacent side of the drum and about the same, as plainly shown. The axis of the sheave 6 is of course offset relative to the axial line of swinging

of its housing and is so disposed relative to said axial line as to bring the outer side of the sheave substantially in vertical alinement with the corresponding side of the drum; while the axial line of the bearings is preferably some distance ahead of the axis of the drum or on the opposite side of the same from the cable engaging side. By means of this arrangement said sheave may swing through a relatively large arc, or one corresponding to the width of the drum without excessively great deviation from a straight path.

In operation therefore the cable is directed to the sheave 6 from the object being pulled by means of the sheave 8, which also is free to swing through a large arc, and the location of the object relative to the drum is therefore immaterial. The sheave 6 being also free to swing independent of the sheave 8, the side of the same from which the cable passes to the drum moves from end to end of the drum with the spiral winding of the cable thereon and allows and causes said cable to wind evenly and without any binding or excessive friction being developed.

I am aware that mechanical cable winding or follow up devices, operated by rotation of the drum, are already known and used under certain conditions. Such devices however are not practicable for my use or when there is a heavy pull between the fairlead and drum, as is usually here the case. With my improved arrangement the particular arrangement of the fairlead sheaves relative to the drum, and the frictionless mounting of the same, permit them to efficiently operate even with extreme pulls or loads, without jerking movement of the sheaves or piling up of the cable being had.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

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

1. A spooling device for drum cables comprising with a drum, a sheave whose axis is

parallel to that of the drum and from one side of which the cable directly passes to the adjacent side of the drum, a housing in which said sheave is mounted and a pivot mounting means for said housing disposed at right angles to the drum axis centrally between the ends of the drum, and tangent to the periphery of the sheave on the side opposite to that from which the cable leads to the drum.

2. A spooling device for drum cables comprising with a drum, a sheave whose axis is parallel to that of the drum and from one side of which the cable directly passes to the adjacent side of the drum, and means pivotally mounting said sheave in a fixed position relative to the drum and on the side of the sheave opposite that initially engaged by the cable and so that the sheave may swing in a plane parallel to the axis of the drum and lengthwise thereof.

3. A spooling device for drum cables comprising with a drum mounted on a horizontal axis, a pair of vertically spaced sheaves vertically alined with the drum, separate housings in which said sheaves are mounted, and separate vertical pivot mountings for the housings disposed in common axial alinement tangent to the sheaves on one side of the same.

4. A spooling device for drum cables comprising with a drum mounted on a horizontal axis, a pair of vertically spaced sheaves vertically alined with the drum, separate housings in which said sheaves are mounted, and separate vertical pivot mountings for the housings disposed in common axial alinement tangent to the sheaves on one side of the same, and in such a position relative to the drum as to dispose the opposite side of one of the sheaves in substantially the vertical plane of one side of the drum.

5. A spooling device for a drum cable comprising with a drum, a pair of separate sheaves whose axes are in planes parallel to the drum axis, said sheaves being different distances from the drum, separate housings in which the sheaves are mounted, and separate pivot mountings for the housings disposed in common axial alinement tangent to one side of the sheaves in a plane at right angles to the axis of the drum.

In testimony whereof I affix my signature.

ROBERT G. LE TOURNEAU.