INSULATION ROLLING SYSTEM

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Publication Classification

Int. Cl. B65H 18/10; B65H 19/28

ABSTRACT

An insulation rolling system for efficiently rolling hose insulation. The insulation rolling system includes a frame structure having a side aperture, an end receiver attached to an inner wall surface of the frame structure opposing the side aperture, a center member removably positioned within the side aperture and end receiver, a slot extending longitudinally from a first end of the center member, a handle member attached to a second end of the center member, and a guide shaft attached to an upper portion of the frame structure. An end of the hose insulation is positioned within the slot of the center member and the center member is rotated causing the hose insulation to flatten over the guide shaft prior to being wrapped about the center member.
INSULATION ROLLING SYSTEM

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] Not applicable to this application.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not applicable to this application.

BACKGROUND OF THE INVENTION

[0003] 1. Field of the Invention

[0004] The present invention relates generally to hose insulation for electrical lines and more specifically it relates to an insulation rolling system for efficiently rolling hose insulation.

[0005] 2. Description of the Related Art

[0006] Hose insulation (often times referred to as “instant insulation”) for distribution lines, substations cables and buses have been in use for years. Typically, hose insulation is comprised of an elongated tubular insulating material with a longitudinal slit for allowing the hose insulation to be opened up and positioned about an electrical line. Hose insulation may be reused numerous times by simply removing the insulation and storing.

[0007] The main problem with utilizing hose insulation is that it is extremely difficult to efficiently roll the hose insulation into a convenient storage roll. Many individuals manually roll the hose insulation into a storage roll which is time consuming and requires significant physical exertion.


[0009] While these devices may be suitable for the particular purpose to which they address, they are not as suitable for efficiently rolling hose insulation. Conventional systems of rolling hose insulation are inefficient and require significant amounts of physical exertion by the user.

[0010] In these respects, the insulation rolling system according to the present invention substantially departs from the conventional concepts and designs of the prior art, and in so doing provides an apparatus primarily developed for the purpose of efficiently rolling hose insulation.

BRIEF SUMMARY OF THE INVENTION

[0011] In view of the foregoing disadvantages inherent in the known types of hose insulation rolling systems now present in the prior art, the present invention provides a new insulation rolling system construction wherein the same can be utilized for efficiently rolling hose insulation.

[0012] The general purpose of the present invention, which will be described subsequently in greater detail, is to provide a new insulation rolling system that has many of the advantages of the hose insulation rolling systems mentioned heretofore and many novel features that result in a new insulation rolling system which is not anticipated, rendered obvious, suggested, or even implied by any of the prior art hose insulation rolling systems, either alone or in any combination thereof.

[0013] To attain this, the present invention generally comprises a frame structure having a side aperture, an end receiver attached to an inner wall surface of the frame structure opposing the side aperture, a center member removably positioned within the side aperture and end receiver, a slot extending longitudinally from a first end of the center member, a handle member attached to a second end of the center member, and a guide shaft attached to an upper portion of the frame structure. An end of the hose insulation is positioned within the slot of the center member and the center member is rotated causing the hose insulation to flatten over the guide shaft prior to being wrapped about the center member.

[0014] There has thus been outlined, rather broadly, the more important features of the invention in order that the detailed description thereof may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the invention that will be described hereinafter and that will form the subject matter of the claims appended hereto.

[0015] In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of the description and should not be regarded as limiting.

[0016] A primary object of the present invention is to provide an insulation rolling system that will overcome the shortcomings of the prior art devices.

[0017] A second object is to provide an insulation rolling system for efficiently rolling hose insulation.

[0018] Another object is to provide an insulation rolling system that may be utilized with various types of hose insulation.

[0019] An additional object is to provide an insulation rolling system that reduces the physical exertion required by workers.

[0020] A further object is to provide an insulation rolling system that automatically flattens the hose insulation.

[0021] Another object is to provide an insulation rolling system that rolls a length of hose insulation into a convenient storage roll.

[0022] Other objects and advantages of the present invention will become obvious to the reader and it is intended that these objects and advantages are within the scope of the present invention.

[0023] To the accomplishment of the above and related objects, this invention may be embodied in the form illus-
trated in the accompanying drawings, attention being called to the fact, however, that the drawings are illustrative only, and that changes may be made in the specific construction illustrated and described within the scope of the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024] Various other objects, features and attendant advantages of the present invention will become fully appreciated as the same becomes better understood when considered in conjunction with the accompanying drawings, in which like reference characters designate the same or similar parts throughout the several views, and wherein:

[0025] FIG. 1 is an upper perspective view of the present invention.

[0026] FIG. 2 is an upper perspective view of the present invention rolling a length of hose insulation.

[0027] FIG. 3 is an upper perspective view of the present invention with the hose insulation rolled into a convenient storage roll.

[0028] FIG. 4 is an upper perspective view of the present invention with the center member removed from the frame structure and the storage roll.

[0029] FIG. 5 is an upper perspective view illustrating the removal of the storage roll from the frame structure.

[0030] FIG. 6 is a cross sectional view taken along line 6-6 of FIG. 3.

DETAILED DESCRIPTION OF THE INVENTION

[0031] Turning now descriptively to the drawings, in which similar reference characters denote similar elements throughout the several views, FIGS. 1 through 6 illustrate an insulation rolling system 10, which comprises a frame structure 20 having a side aperture 28, an end receiver 30 attached to an inner wall surface of the frame structure 20 opposing the side aperture 28, a center member 40 removably positioned within the side aperture 28 and end receiver 30, a slot 42 extending longitudinally from a first end of the center member 40, a handle member 44 attached to a second end of the center member 40, and a guide shaft 50 attached to an upper portion of the frame structure 20. An end of the hose insulation 12 is positioned within the slot 42 of the center member 40 and the center member 40 is rotated causing the hose insulation 12 to flatten over the guide shaft 50 prior to being wrapped about the center member 40.

[0032] As shown in FIGS. 1 through 5 of the drawings, the frame structure 20 has a base 22, and a first wall 24 and a second wall 26 extending upwardly from sides of the base 22. Various other structures may be utilized to construct the frame structure 20 capable of receiving the hose insulation 12 in the expanded position. The width of the frame structure 20 is preferably sufficient for receiving the width of the hose insulation 12 when expanded and flattened. The frame structure 20 may be comprised of various types of materials and structures. The frame structure 20 may include various reinforcing members such as but not limited to a cross bar 21 as shown in FIGS. 1 through 5 of the drawings.

[0033] As shown in FIGS. 4 through 5 of the drawings, a side aperture 28 extends through the first wall 24 of the frame structure 20. The side aperture 28 is sized for rotatably receiving the center member 40.

[0034] As shown in FIGS. 1 and 5 of the drawings, an end receiver 30 is attached to an inner wall surface of the frame structure 20 opposing the side aperture 28. The end receiver 30 has a circular shape that rotatably receives a distal end of the center member 40 as shown in FIG. 1 of the drawings.

[0035] As shown in FIGS. 1, 4 and 5 of the drawings, a center member 40 is removably and rotatably positioned within the side aperture 28 and the end receiver 30. The center member 40 preferably has a tubular structure, but may have various other elongate structure. The center member 40 preferably includes a slot 42 extending longitudinally from a first end of the center member 40. The slot 42 has a width greater than the thickness of the hose insulation 12 and has a length greater than the width of the hose insulation 12 when the hose insulation 12 is expanded in a flat manner.

[0036] As shown in FIGS. 1 through 5 of the drawings, a handle member 44 is attached to a second end of the center member 40 opposite of the end receiver 30. The handle member 44 may have various handle configurations and preferably has a rotating handle 46 to allow for easy rotation of the handle member 44.

[0037] As shown in FIGS. 1 through 5 of the drawings, a guide shaft 50 is attached to an upper portion of the frame structure 20. The guide shaft 50 may be stationary or rotatably positioned between the first wall 24 and the second wall 26 of the frame structure 20. A guide roller 52 is preferably rotatably positioned about the guide shaft 50. A pair of flanged members 54 are attached to or adjacent the opposing ends of the guide roller 52 for guiding the hose insulation 12 during rolling.

[0038] In use, an end of the hose insulation 12 is positioned within the slot 42 of the center member 40 in a flattened manner. The center member 40 is then rotated causing the hose insulation 12 to flatten over the guide shaft 50 prior to being wrapped about the center member 40 as best illustrated in FIG. 2 of the drawings. The process of rotating the center member 40 is continued until the hose insulation 12 is completely rolled up into a storage roll as shown in FIG. 3 of the drawings. The user then removes the center member 40 from the frame structure 20 and the storage roll as shown in FIG. 4 of the drawings. The user is then able to remove the storage roll of hose insulation 12 from the frame structure 20 and store within a convenient storage location.

[0039] As to a further discussion of the manner of usage and operation of the present invention, the same should be apparent from the above description. Accordingly, no further discussion relating to the manner of usage and operation will be provided.

[0040] With respect to the above description then, it is to be realized that the optimum dimensional relationships for the parts of the invention, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed to be within the expertise of those skilled in the art, and all equivalent structural variations and relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by the present invention.
1. An insulation rolling system, comprising:
   a frame structure having a side aperture;
   an end receiver attached within said frame structure opposite of said side aperture;
   a center member rotatably and removably positioned within said side aperture, a first end of said center member positionable within said end receiver; and
   a slot extending into said center member for receiving a distal end of hose insulation.
2. The insulation rolling system of claim 1, including a handle member attached to said center member.
3. The insulation rolling system of claim 2, wherein said handle member includes a rotating handle.
4. The insulation rolling system of claim 1, wherein said end receiver has a circular structure.
5. The insulation rolling system of claim 1, wherein said slot has a length greater than an expanded flat thickness of hose insulation.
6. The insulation rolling system of claim 1, wherein said slot has a width greater than an expanded flat thickness of hose insulation.
7. The insulation rolling system of claim 1, wherein said frame structure is comprised of a base, and a first wall and a second wall extending upwardly from said base.
8. The insulation rolling system of claim 7, wherein said frame structure includes at least one cross bar.
9. The insulation rolling system of claim 1, wherein said slot extends from a first end of said center member.
10. The insulation rolling system of claim 1, wherein said slot extends between a first end and a second end of said center member.
11. An insulation rolling system, comprising:
    a frame structure having a side aperture;
    an end receiver attached within said frame structure opposite of said side aperture;
    a center member rotatably and removably positioned within said side aperture, a first end of said center member positionable within said end receiver; and
    a slot extending into said center member for receiving a distal end of hose insulation; and
    a guide shaft extending within said frame structure for flattening hose insulation.
12. The insulation rolling system of claim 11, including a handle member attached to said center member.
13. The insulation rolling system of claim 12, wherein said handle member includes a rotating handle.
14. The insulation rolling system of claim 11, wherein said end receiver has a circular structure.
15. The insulation rolling system of claim 11, wherein said slot has a length greater than an expanded flat width of hose insulation.
16. The insulation rolling system of claim 11, wherein said slot has a width greater than an expanded flat thickness of hose insulation.
17. The insulation rolling system of claim 11, wherein said frame structure is comprised of a base, and a first wall and a second wall extending upwardly from said base.
18. The insulation rolling system of claim 11, including a guide roller rotatably positioned about said guide shaft.
19. The insulation rolling system of claim 18, including a pair of opposing flanged members on opposing ends of said guide roller.
20. An insulation rolling system, comprising:
    a frame structure having a side aperture, wherein said frame structure is comprised of a base, and a first wall and a second wall extending upwardly from said base;
    an end receiver attached within said frame structure opposite of said side aperture, wherein said end receiver has a circular structure;
    a center member rotatably and removably positioned within said side aperture, a first end of said center member positionable within said end receiver;
    a slot extending into said center member for receiving a distal end of hose insulation, wherein said slot has a length greater than an expanded flat width of hose insulation and wherein said slot has a width greater than an expanded flat thickness of hose insulation;
    a guide shaft extending within said frame structure for flattening hose insulation;
    a handle member attached to said center member, wherein said handle member includes a rotating handle;
    a guide roller rotatably positioned about said guide shaft; and
    a pair of opposing flanged members on opposing ends of said guide roller.