This invention refers to a device for carrying a plurality of reels and particularly to a type thereof from which any given reel may be removed and replaced without difficulty and of the manner of support of each thereof.

In the business of an electrician, particularly as applied to the service and maintenance work in large industrial or institutional establishments, there is frequently the need for replacing large numbers of reels of varying sizes. Such wire is normally furnished on reels and such reels will usually weigh in excess of sixty pounds. Where a considerable length of wire is to be reeled, this becomes an exceedingly difficult task for a single workman and where several sizes of wire are to be used the work of handling several reels often becomes extremely burdensome, even for several workmen.

In providing a reel carrying rack for holding a plurality of wire carrying reels, and having in mind that one reel may become emptied and require replacement before other reels have been emptied, it becomes desirable to provide means for permitting the removal and replacement of any one of such reels without disturbing the other reels. Further, such reel supporting means must, while a reel is in place therein, permit easy turning thereof.

Accordingly, a major object of the invention is to provide a reel carrying rack which will hold a plurality of reels independently of each other, and firmly, and which will permit easy rotation of any one of said reels.

A further object of the invention is to provide a reel carrying rack from which any one of said reels may be removed and a new reel inserted in its place without disturbing any of the other reels on said rack.

A further object of the invention is to provide a reel carrying rack which is readily portable in one position and which, in another position, will provide a firm base for holding said reels while long lengths of wire, or such other article as may be wound thereon, may be unreeled.

A further object of the invention is to provide a device, as aforesaid, which will be of sufficient structural simplicity as to be capable of fabrication at a low cost and to be capable of easy maintenance.

A further object of the invention is to provide a device, as aforesaid, which will be sturdy, rugged and capable of long life.

A further object of the invention is to provide a device, as aforesaid, from which any one reel may be removed and a replacement inserted, quickly and easily.

A plurality of split bearings are supported between said side frame assemblies by means mounted directly on said side frame assemblies, or on said cross members, in order that each of said bearings will be unrelated and the ability of any said bearings to support a shaft will be unrelated to the condition of any other bearings. Suitable means are provided for opening said bearings or holding same in said closed position at will. Said bearings are positioned sufficiently on one side of said side frame assemblies that reels supported therewith will not extend beyond the other side of said frame assemblies, in order that said bearings may be laid on its side for the frictional holding thereof in a predetermined position on a supporting surface, as at the floor, while wire, or other article on the reel, is withdrawn therefrom.

Detailed description

In the following description, solely for the purpose of convenience in reference and in no sense as limitations, the following terminology will be used: the terms "foreword" and "rearward", and derivatives and synonyms thereof, will refer to the direction appearing as leftwardly and rightwardly respectively in Figure 2; the terms "upwardly" and "downwardly" will refer to the device in the position of use shown in Figure 2 with the broken line "A" taken as the supporting surface.

Referring now to the drawings in detail, the side frame assembly appearing in Figure 2 comprises a forward frame member 1, a back frame member 5 and a plurality of connecting frame members 3, 4 and 6. Another side frame assembly including a forward frame member 7 corresponding to the forward frame member 1 appears on the other side of the device and is identical to the side frame assembly just detailed.

Each of the side frame assemblies are connected by rear connecting members 8, 9 and 11 which are welded to the back members 2 and 5 for forming a rigid structure. The forward members 1 and 7 curve rearwardly, as shown at 12 and are fastened, as by welding to the rear ends of the back members 2 and 5, as at 13 and 15. The lower ends of the forward members 1 and 7 are provided with floor engaging pads 14 and 16 and are connected by a lower forward frame member 17 as shown in Figure 1. Under the desired, the side frame assemblies may also be provided with lower side members, as at 18.

Wheels 19 and 21 are mounted on any convenient axle and bearing structures and axed near the lower end of the back members 2 and 5 in any convenient manner, as shown in Figure 5.

Intermediate the side members 6 and 10 (Figure 4), are forwardly projecting bearing support members 22 and 23. Support bearing support members are positioned intermediate the side members 3 and 4 and their respective counterparts on the other side of the device. At the forward end of each of said bearing support members 22 and 23, as well as at the forward end of each of the side frame members 6 and 10, are aligned, split, bearing assemblies 24, 25, 26 and 27. As shown in Figure 2, the split in said bearings is sloped upwardly and rearwardly with respect to the members 3, 4 and 6. The upper half of each of said split bearing assemblies, as that appearing at 31 in Figure 2, is mounted on a handle 33 which in turn is pivotally mounted by a bracket 34 on the side frame member 6. A handle 38 will be secured in the top half 31 of the split bearing snugly against the lower half 36 thereof. Similar split bearing assemblies are provided at the free ends of each of the other bearing support members and similar assemblies are also provided for holding the top halves of each of said other split bearing assemblies against the respective bottom halves thereof.

A plurality of reel assemblies is supported by and between pairs of these split bearings. Inasmuch each of said reel assemblies is identical to each of the others and the manner of support of each thereof is the same as the manner of support of all others, a description of
a single one thereof will suffice to illustrate all of them. The reel 39 (Figures 1 and 2) is comprised in a conventional manner of the reel halves 41 and 42 which respectively comprise hub halves 43 and 44 and the flanges mounted on each thereof. Each of said hubs is mounted on a shaft 46 which is received in the bearing assembly 47 and, in the lower half of the bearing 48. The adjacent reel 49 is similarly mounted upon a separate shaft 51, one end of which is also supported in the bearing assembly 48. Thus, by opening the bearing assemblies 47 and 48, the reel 39 and its supporting shaft may be lifted bodily out therefrom and a replacement inserted in its place. This also applies to the reels between bearings 24, 25, 26 and 27. In view of the foregoing it will be evident that such replacement can be made without disturbing or moving any of the other reels.

Operation

Referring now specifically to the operating of the device, it has already been indicated the manner in which the reels may be removed from the position in the bearing assemblies and other similar reels put in their respective places. In the position shown in Figure 2 with the floor assumed as in the position indicated by the broken line "A," wire can be withdrawn from any of the reels on the truck without disturbing any of the other reels. If it is desired to move the truck, an operator may grasp it by the handle 12, and the counterpart thereof at 13. The. device and the frame may then be readily moved on its wheels 19 and 21. If an extremely long piece of wire is to be taken off one of the reels so that the drag on the device is of major amount, it will be desirable to disconnect the points of support of the truck on the floor and in the position indicated by the line "B" being taken as the floor, or other supporting surface. It will be observed that the reels are in both positions located between the points of support of the truck on the floor in the position indicated by the line "B" being taken as the floor, the reels are positioned sufficiently close to the floor that the likelihood of upsetting of the truck is reduced to an inconsequential minimum.

In the event that for any reason it is desired to omit a particular reel from the device, the same may readily be done merely by removing it from its shaft, as the shaft 46, and replacing said shaft without the reel 39 in its bearings. Alternatively, a suitable internal snap ring may be provided as indicated at 52 for holding the respective shafts in place regardless of whether the adjacent shaft is or is not present.

Thus, it will be seen that I provided a device of extreme stability while in use combined with extreme flexibility in manner of use and have accordingly attained the objects and purposes above set forth.

While the foregoing description has referred to one specific embodiment for illustration of the invention, it will be understood that such choice of embodiment is for illustrative purposes only and the invention is not limited thereto. Instead, it is capable of a number of variations which will be apparent to persons acquainted with apparatus of this general type and such variations will be within the scope of the hereinafter appended claims excepting as such claims may by their own terms expressly limit otherwise.

I claim:

1. In a reel supporting device, the combination comprising: frame structure including a pair of side frame assemblies in spaced and parallel relationship and a plurality of cross members holding said side frame assemblies in said position with respect to each other; wheeled means at one corner of each of said side frame assemblies and handles at the other corner of each of said side frame assemblies; a plurality of bearing support members located intermediate said side frame assemblies and mounted on one of said cross members and positioned parallel with each of said side frame assemblies; a plurality of co-axial, axially split, bearings comprising upper and lower halves, the lower halves of said bearings being supported respectively on said said side frame assemblies, a plurality of shafts, said shafts being of such length as to extend between each pair of adjacent bearings, and the end of each shaft extending into its corresponding bearing less than half the axial width thereof; manually operable means normally holding the upper halves of said bearings in closed position; whereby each of said reels may be removed from said device upon operation of said last named means without disturbing the supporting means for any of said other reels.

2. In a reel supporting structure mountable upon the frame of a two-wheeled truck having a rectangular back structure braced by parallel cross-members, the combination comprising: a plurality of parallel bearing support members secured to one of said cross-members and extending equidistantly forwardly therefrom; a lower bearing half supported upon the extended end of each said member, each pair of adjacent halves being spaced for reception of a reel therebetween; a shaft removably and rotatably supported by said frame, each and all of said adjacent pairs of halves and a reel being removably supportable upon each said shaft; an upstanding bracket on each said support member and a handle pivotally mounted intermediate its ends upon each said bracket, said handle being disposed above and substantially parallel with its respective support member; an upper bearing half mounted upon the forward end of each said handle for cooperation with the lower bearing half on said support member; resilient means urging each upper half against its corresponding lower half, for holding the adjacent ends of a pair of adjacent shafts therebetween, each end of each shaft extending into its respective bearing less than half the axial width thereof.

3. The structure of claim 2 wherein the split between said bearing halves defines a plane sloped upwardly and rearwardly with respect to a plane defined by said support members.

4. The structure of claim 2 wherein the said shafts are coaxial.

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