July 14, 1953 E. A. BEACOM ET AL 2,645,430

REEL ARM ADAPTER

Filed July 26, 1951

FIG. 1.

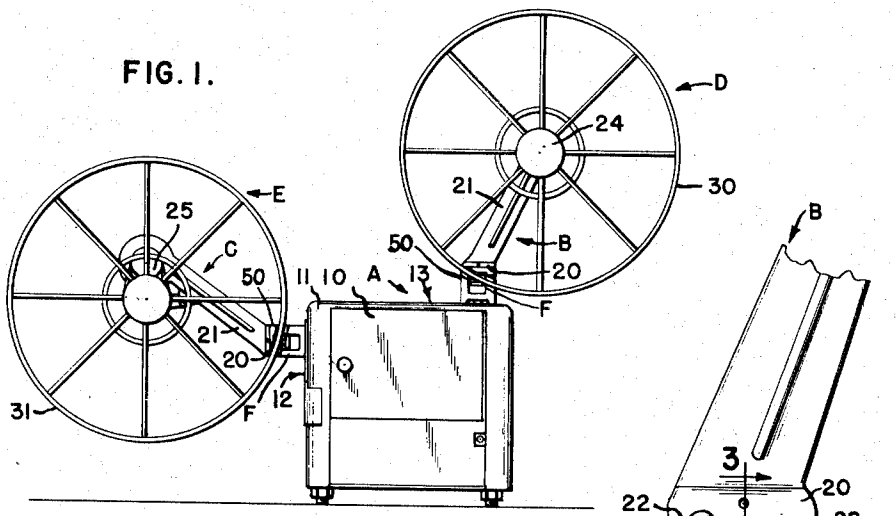


FIG. 2.

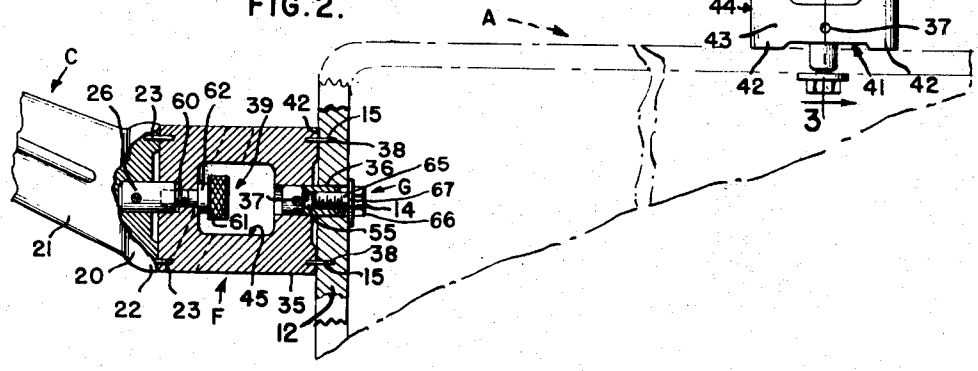


FIG. 3.

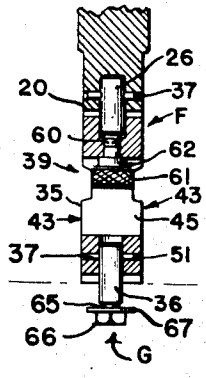


FIG. 6

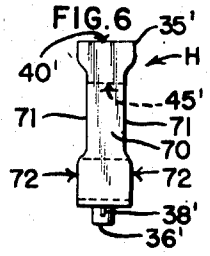


FIG. 4.

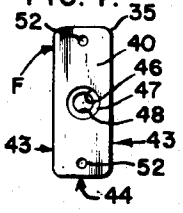
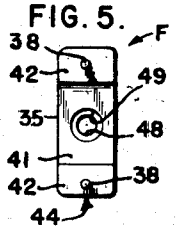


FIG. 5.



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2,645,430

REEL ARM ADAPTER

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6 Claims. (Cl. 242—55)

1

This invention relates to adaptors for use with a support and a bracket, in order to increase the distance the bracket may project from the support. An example of such an adaptor is one interposed between the reel arm of a motion picture projector and the housing of the projector, in order to permit a reel larger in diameter to be substituted for a smaller-diametered reel carried by the arm.

An important object of the invention is to provide an adaptor which may be detachably secured to a support, such as a conventional motion picture projector housing and, in turn, having a conventional bracket, as a reel arm, detachably secured to the adaptor, to provide a rigid connection and employing, in part, the conventional means for generally attaching the arm to the housing.

Another important object is to provide an adaptor which is sturdy but of small bulk, having small width and grooved so that the reel will clear the adaptor and provide a firm hand grip.

Other objects and advantages of the invention will be apparent during the course of the following detailed description of the invention, taken in connection with the accompanying drawing, forming a part of this disclosure, and in which drawing:

Fig. 1 is an elevation of a support, two brackets and two reels with two of the new adaptors employed herewith.

Fig. 2 is an elevation of one adaptor and a vertical longitudinal section of another adaptor on a scale larger than in Fig. 1 and showing their relative positions, as in that figure.

Fig. 3 is a vertical transverse section of one of the adaptors, substantially on the line 3—3 of Fig. 2 and showing fragments of a support and bracket in section, to which the adaptor is secured.

Fig. 4 is one end elevation of the adaptor.

Fig. 5 is the other end elevation of the adaptor.

Fig. 6 is an elevation of a modification of the adapter, showing one of the two substantially like narrow sides of the modified adaptor.

In the drawing, wherein for the purpose of illustration are shown preferred and modified embodiments of the invention and wherein similar reference characters designate corresponding parts throughout the several views, the letter A designates a support; B and C, brackets; D and E, devices carried by the brackets; F, one form of the new adaptor; H, another form thereof, and G, means to detachably secure the adaptors F and H to the support A.

2

The support A is shown, by way of example, as a conventional motion picture machine housing, having a closure 10 for an opening in a side outer wall 11 of the housing, with an end outer wall 12 and an upper outer wall 13 joining the wall 11. Each wall 12 and 13 has a like opening, such as the circular opening 14 shown in Fig. 2, to receive a stud, and a pair, for example, of small openings or sockets 15 to ordinarily receive the conventional pins 23 of the brackets B and C but, in the use of the adapters F, the pins of the adapters are received in the openings 15.

In the examples shown, the brackets B and C are conventional reel-carrying arms of a motion picture machine. Each has a base portion 20 with an elongated arm portion 21 extending angularly therefrom, such as in Fig. 1. Each base portion is shown to have a pair of feet 22 and a conventional pin or projection 23 extends from each foot as in Fig. 2. At their free outer ends, the bracket B is shown to carry the conventional supply reel mounting means 24 and the bracket C to carry the conventional take-up reel mounting means 24 and the bracket C to carry the conventional take-up reel mounting means 25. Each base portion 20 is provided with a stud 26 rigidly secured thereto, projecting in substantial parallelism with the pins 23 and extending outwardly of the base portion. The studs 26 have screw-threaded bores to receive either the screw-threaded shank of the screw of the means G or 39.

Devices D and E carried by the brackets B and C are shown as reels, the device D being a conventional supply reel with rim 30 and the device E being a conventional take-up reel with a rim 31. The planes of the edge of the reels are generally quite close to the brackets.

The new adapter F comprises a body portion 35, stud 36, means 37 for connecting the body portion 35 and stud 36, pins 38, and means 39 for detachably securing a bracket B or C to the adapter F.

It is preferred that the body portion 35 be an integral casting having the shape shown in Figs. 2 to 5 inclusive, including an outer substantially flat end face 40, inner end face 41 with feet 42 projecting therefrom, these feet being preferably like the feet 22, larger side faces 43 and smaller side faces 44, with a central opening or passageway extending from one larger side face 43 to the other larger side face 43. Preferably, the junctures of the faces 43 and 44 are rounded, and the surfaces of the adaptors are generally smooth so as to eliminate projections as much as possible.

Furthermore, as may be seen in Figs. 2, 3 and 4,

there is a preferably circular bore or stud-accommodating opening 46 extending inwardly from the face 40 toward a central opening 45, and at the inner end of the bore 46 there is preferably a circular shoulder 47 with a second bore or screw shank-accommodating opening 48 extending to the central opening 45. From the face 41 extends a bore or stud-accommodating opening 49 of substantially the same diameter as that of the bore 46, the axes of the bores 46 and 49 being coincident. The feet 42 are provided with suitable sockets to snugly receive the inner end portions of pins 38 substantially like the pins 23 of the brackets B and C, so that the outer end portions of these pins 38 may be inserted into the sockets 15 of the support A, with the feet 42 in face contact with the outer face of either the wall 12 or the wall 13.

We prefer to provide, in each face 43, two segments of a fairly wide arcuate groove 50, such as in Fig. 2, for the purpose of accommodating a part of the rim 30 or 31 of the devices or reels D and E. These grooves 50 are wide enough to accommodate portions of the fingers of an operator who is engaged in attaching a bracket B or C to the adaptor F, since the operator may cup his hand partly about the adaptor and partly about the base portion 20 of the bracket and insert a portion of a finger in one groove segment in order to steady his hand, while he is manipulating the means 39 to be subsequently described. Thus the grooves 50 have dual functions, for it is seen that it is very helpful to have them for steadying the hand against slipping, particularly since the brackets B and C are angularly disposed and not easily held in place by the hand. For example, with the height of the body portion being two inches, the widest part of the groove 50 may be three-eighths to one-half inch.

From each face 43 of the body portion 35 may extend a small opening 51 shown on Fig. 3, for the means 37 to be subsequently described to attach the stud 36 to the body portion 35. Small sockets 52 are provided in the body portion 35 opening into the face 40 to accommodate the pins 23.

The inner end portion of the stud 36 is snugly accommodated in the bore 49 and projects from the face 41. It is securely attached to the body portion 35 as by the means 37 which may be a pin extending through the opening 51 and a suitable opening through the inner end portion of the stud 36. This stud 36 has a screw-threaded bore 55, preferably like the bore 27.

In the example shown, the means 39 for detachably securing the bracket B or C to the adaptor F, is a screw having a screw-threaded shank 60 and knurled head 61 with shoulder 62 between the head and shank. The shank 60 is inserted into the opening 49 and threaded into the bore 55 until the shoulder 62 abuts the face of the wall of the opening 45 as in Figs. 2 and 3.

The means G to detachably secure the adaptors to the support A may be the conventional screws employed to detachably secure the conventional brackets (arms) B and C to the support (housing) A. In this case, the shank 65 of the screw extends into the screw-threaded bore 55 of the stud 36 and also through the openings 14 of either wall 12 or 13, as the case may be. Of course, the head 66 of the screw is within the support A and there is a shoulder 67 bearing against the inner face of the wall 12 or 13, as the case may be.

The adaptor H of the two adaptors is exactly like that of the adaptor F except that the body portion 70 of the form H has wide grooves 71, instead of the narrower grooves 50 of the adaptor F, and these extend inwardly of the body portion 70 from the wider side faces 72, and they are preferably not curved. Otherwise, both adaptors are preferably alike, including a body portion 35', stud 36', pin 38', flat end face 40' to the body portion 35' and an opening 45' in the body portion 35'.

With the adaptors F and H employed as in Figs. 1 and 2, it will be seen that devices D and E oversize reels (as reels of 2000 to 4500 feet) having rims of greater circumferences than those of standard reels may be mounted upon the brackets B and C, thus eliminating the necessity of making the usual change to three standard-size reels, and permitting one complete showing without any change or interruption.

Various changes may be made to the forms of the invention herein shown and described without departing from the spirit of the invention or scope of the claims.

What is claimed is:

1. An adaptor for lengthening the distance between the rim of a rotating body, carried by a bracket, and a support for said bracket, said adaptor including a body portion having an outer rim edge-accommodating face, and rim-accommodating means in said face and providing a finger hold, said means comprising the walls of a groove in said body portions opening along a portion of said face; means to detachably secure said body portion to a support; and means to detachably secure said body portion to a bracket.

2. An adaptor according to claim 1 characterized in that said body portion is provided with an opening extending into said body portion with the mouth of said opening being in said face and with a portion of said last-named means disposed within said opening, and said groove is disposed to either side of the mouth of said opening.

3. An adaptor according to claim 1 characterized in that said body portion is provided with a second outer face substantially paralleling the first-named outer face, and an opening extending from one outer face to the other outer face and having a mouth at each end, portions of said groove are disposed to either side of the mouth of said opening which opens to said first-named outer face, and a portion of said last-named means is disposed within said opening.

4. An adaptor according to claim 1 characterized in that said body portion is provided with a second outer face substantially paralleling the first-named outer face, and an opening extending from one outer face to the other outer face and having a mouth at each end, portions of said groove are disposed to either side of the mouth of said opening which opens to said first-named outer face, and a portion of said last-named means is disposed within said opening, and said last-named means includes a screw, with its head within said opening and its shank extending through said body portion and into screw threaded engagement with said bracket.

5. In combination with a bracket having an interiorly screw-threaded stud secured rigidly to and projecting from the inner end portion of said bracket, and a support for said bracket having an opening normally accommodating the projecting portion of said stud, adaptor means for lengthening the distance between said support and a device carried by said bracket, including a body portion having a socket at its outer end portion accommodating the projecting portion of said stud, and a stud, rigid with said body portion, accommodated in said opening, said body portion having screw-threaded means extending through

said body portion and into said first-named stud to detachably secure said bracket rigid with said adaptor, and means to detachably secure said body portion, at said second-named stud, rigid with said support.

6. In combination with a bracket having an interiorly screw-threaded stud secured rigidly to and projecting from the inner end portion of said bracket, and a support for said bracket having an opening normally accommodating the projecting portion of said stud, adaptor means for lengthening the distance between said support and a device carried by said bracket, including a body portion having a socket at its outer end portion accommodating the projecting portion of said stud, and a stud rigid with said body portion, accommodated in said opening, said body portion having a central passageway therethrough, and said body portion further having screw-threaded means extending through said body portion and into said first-named stud to detachably secure

said bracket rigid with said adaptor, including a screw having its head within said central passageway and a shank extending from said passageway through said body portion and into said first-named stud, and means to detachably secure said body portion, at said second-named stud, rigid with said support.

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