June 14, 1932. F. H. OWENS 1,863,066

FILM MAGAZINE

Filed Sept. 9, 1929 2 Sheets-Sheet 1

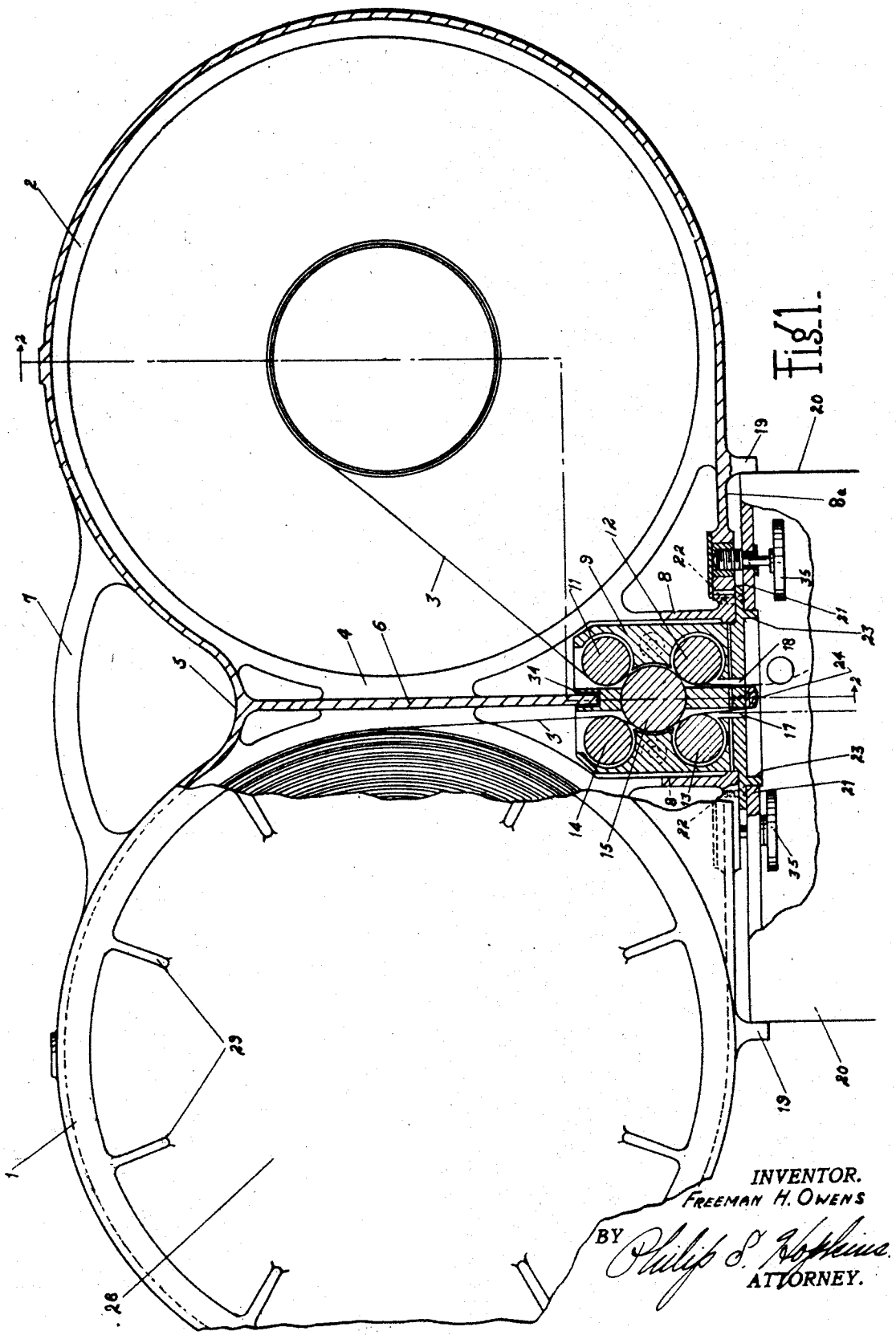


Fig 1.

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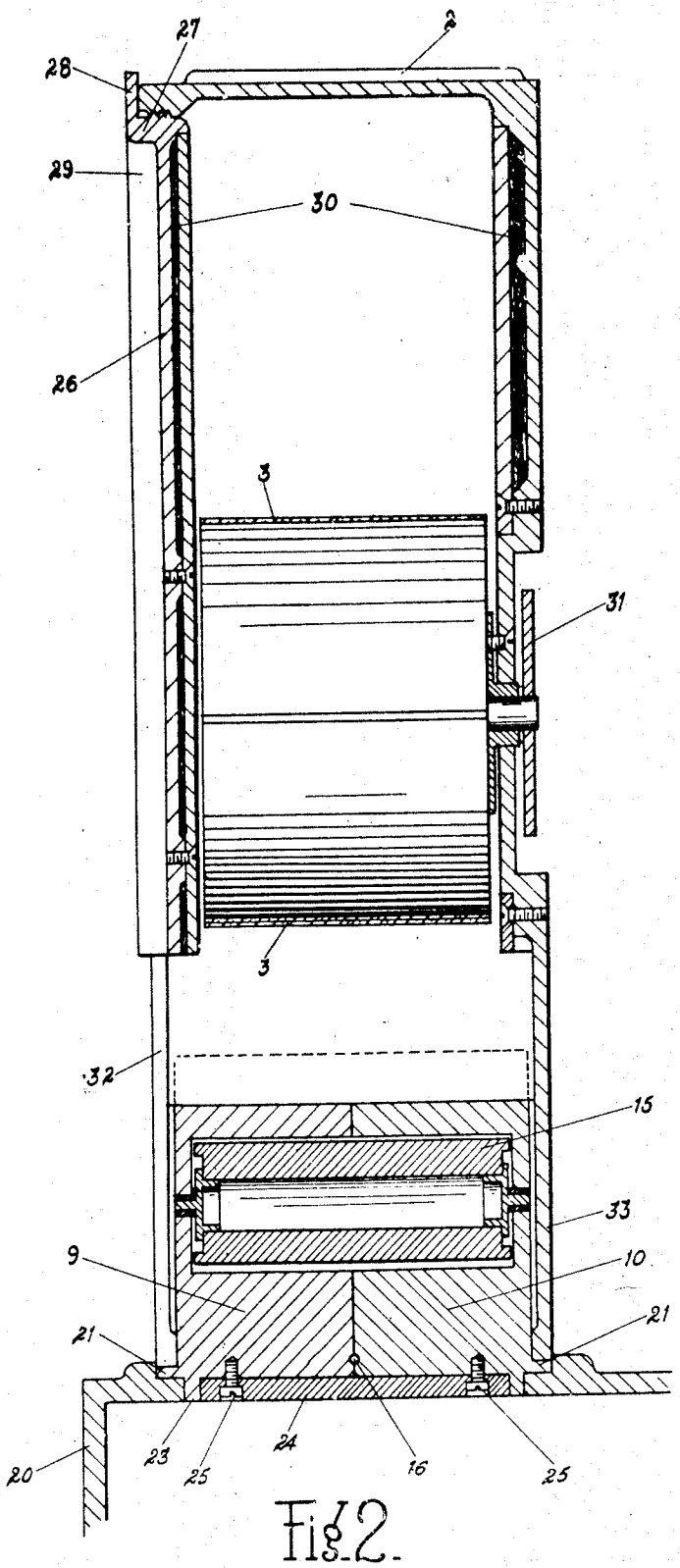


Fig. 2.

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UNITED STATES PATENT OFFICE

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FILM MAGAZINE

Application filed September 9, 1929. Serial No. 391,386.

This invention relates to improvements in film magazines for motion picture cameras, the principal object of the invention being to provide a magazine comprising twin sections having convenient carrying means and means whereby the magazine may be placed on a floor or other support in an upright position without damage to a film carried by the magazine.

Another object is to provide a magazine having means for centering the same in proper position on a camera.

A further object of the invention is generally to improve the construction of the magazine so as to increase the efficiency of the light locks at all connecting portions of the magazine.

Other objects and advantages of the invention will appear as the description proceeds.

In the drawings accompanying this specification,

Figure 1 is a partly sectional side elevation of a magazine embodying the features of the present invention; and

Figure 2 is a cross sectional view taken approximately on the line 2—2 of Figure 1.

Referring to the drawings, the magazine housing comprises twin sections 1 and 2 of approximately circular form, said sections constituting respectively the supply section and the take-up section for a traveling film 3.

The sections are connected in tangential relation to each other, by means of webs 4 and are also united at what may be termed their upper side by the merging together of their peripheral walls as shown at 5, Figure 1, from which merged peripheral portion depends a partition or wall 6 integral with but lying in a plane at right angles to the webs 4. The sections 1 and 2 are further connected together by a handle 7 formed integral with the peripheral walls of the sections, said handle bridging or spanning the space between the sections at a point above the partition 6 and forming a convenient means for lifting and carrying the magazine.

At the side of the magazine opposite from the handle 7, an L-shaped extension is formed on the peripheral wall of each of the sections, the vertical portions 8 of which extensions form between them a chamber for the reception of the necessary film roller support, which in the present instance comprises a pair of duplicate blocks 9 and 10 (see Figure 2) disposed in abutting relation to each other and removable as a unit from said chamber. Thus the magazine housing may be constructed in a single unitary structure as by casting.

Each of the blocks 9 and 10 is bored inwardly from its abutting face for the reception of a plurality of film guiding rollers, five such rollers 11, 12, 13, 14 and 15 being shown mounted in the block 9 in Figure 1. This arrangement of rollers forms an effective light lock for the film 3 during its passage from the supply section 1 to the camera and thence to the take-up section 2. In order to insure the exclusion of light from between the abutting faces of the blocks 9 and 10, each block is provided in its face with a groove of semicircular form in cross section, so that when the blocks are assembled a tubular opening 16, Figure 2, is formed between them, said opening extending from side to side of the blocks for the reception of a cylindrical pin. Inasmuch, however, as the blocks are provided with a pair of slots 17 and 18 for the passage of the film 3 into and out of the camera, and which slots intersect the opening 16 and thus divide the lower portion of the blocks into three separate walls, as clearly indicated in Figure 1, the pin is necessarily formed in three sections, each of sufficient length to extend throughout the thickness of the wall in which it is placed. It will thus be seen that it will be impossible for light to penetrate upward between the abutting faces of the blocks 9 and 10, since it cannot get around the cylindrical pins in the opening 16.

On the undersides of the horizontal portions 8a of the L-shaped peripheral extensions above described, legs 19 are formed said legs being sufficiently far apart to embrace the upper edges of a camera 20 when the magazine is placed in operative position on the camera. The legs thus perform two distinct functions namely, they serve to sup-

port the magazine in upright position on a floor or other support when not in use, and assist in centering or guiding the magazine in its operative position on the camera thereby to properly position the throat of the magazine with respect to the camera. The throat-forming blocks 9, 10 are provided at their lower ends with lateral flanges 21 through which they may be removably secured by means of screws 22 to the horizontal walls 8*a* of the L-shaped extensions of the magazine sections, said flanges being adapted to lie between the undersides of said walls and the top of the camera. The blocks 9 and 10 are further provided on their bottom surfaces with a circular flange 23 lying in a plane perpendicular to the flanges 21, the flange 23 being adapted to extend into snug-fitting contact with the wall of a circular opening formed in the top of the camera. This arrangement serves not only further to insure the proper centering of the magazine on the camera, but by reason of the angular relation of the flanges 21 and 23 a light-tight joint is formed between the camera and the magazine housing. The removability of the blocks 9 and 10 with the film guiding rollers is particularly advantageous in that it permits ready access to the parts for cleaning, renewing, etc.

Extending centrally across the undersurface of the two throat-forming blocks 9 and 10, is a strip 24, said strip being secured by screws 25, Figure 2, to that section of the wall of said blocks lying between the slots 17 and 18 and underlying the central roller 15. The side edges of the strip are smoothly rounded off, said strip thus forming a spacer for the film 3 as it passes into the camera from the supply reel and out of the camera to the take-up reel. It will be observed that the lower surface of the strip 24 lies in a plane above that of the lower surface of the legs 19. Because of this arrangement the magazine may be placed in standing position without danger of damaging that portion of a film that may be over the strip by contact with the floor or other support. Also, when the magazine is placed in position on the camera, with the bight of the film drawn up against the strip 24, the operator may simply pull the film downwardly therefrom, within the camera for threading.

The magazine is provided with suitable coverplates or lids for the supply and take-up sections, each of said cover plates 26 being preferably thread-connected with its section as indicated at 27, Figure 2, and provided with a flange 28 overlying said connection thus forming an effective light lock around the top edge of the section. For facilitating removal of the cover plates and enabling them to be screwed into tight engagement with the respective magazine sections, a plurality of radially extending ribs 29 may be formed on the outer surfaces of the cover plates. The cover plates and the opposite ends of the magazine sections are preferably of double-walled construction, and a sound proof padding 30 interposed between said double walls, as shown in Figure 2. The reel shaft in the take-up section of course extends to the outside of the magazine housing and is provided with a crossbar 31 or other suitable means for receiving rotary motion in the usual manner. The chamber in which the throat-forming blocks 9 and 10 are located is provided with end-closing walls 32 and 33 respectively, see Figure 2, formed integral with the magazine housing at the opposite ends of said housing. For preventing light entering between the sections, each of the blocks is provided in its top side with a centrally disposed channel adapted to engage the lower end of the depending wall 6 between the sections, as shown at 34, in Figure 2. Suitable locking means adapted to be operated by screws having knurled heads or flanges 35 are provided for locking the magazine to the camera, these devices being well known in the art.

I claim:

1. A film magazine for motion picture cameras, comprising a housing having twin sections connected in tangential relation to each other, a carrying handle formed integral with both of said sections and spanning the connecting portions thereof, and legs formed on said sections at the side opposite from said handle, said legs being adapted to embrace the top of a camera thereby to assist in centering the magazine on said camera.

2. A film magazine for motion picture cameras, comprising a housing having twin sections connected in tangential relation to each other and forming between them a chamber, and throat forming members disposed in said chamber and having means for engaging the wall of an opening in a camera thereby to center the magazine on said camera.

3. A film magazine for motion picture cameras, comprising a housing having twin sections connected in tangential relation to each other and forming between them a chamber, and throat-forming members disposed in said chamber and having means for engaging the wall of an opening in a camera thereby to center the magazine on said camera, said engaging means forming a light-tight joint with the camera opening.

4. A film magazine for motion picture cameras, comprising a housing having a pair of sections web-connected together in tangential relation and forming between them a chamber, and a pair of throat-forming blocks disposed in abutting relation in said chamber, a plurality of film guiding rollers supported in staggered relation in said blocks, the blocks having openings for the passage of a film from one of said sections

to a position outside of the magazine and back to the other of said sections.

5. A film magazine for motion picture cameras, comprising a housing having a pair of sections web-connected together in tangential relation and forming between them a chamber, and a pair of throat-forming blocks disposed in abutting relation to said chamber, each of said blocks having a groove extending across its abutting face and adapted to register with the groove in the companion block to form an opening from one side of the blocks to the opposite side thereof, a plurality of film-guiding rollers supported for rotation in said blocks, the blocks being provided with slots for the passage of a film from said chamber to a position outside of the magazine and back into the chamber.

6. A film magazine for motion picture cameras, comprising a housing having a pair of sections web-connected together in tangential relation and forming between them a chamber, a pair of throat-forming blocks disposed in abutting relation to said chamber, each of said blocks having a groove extending across its abutting face and adapted to register with the groove in the companion block to form an opening from one side of the blocks to the opposite side thereof, a plurality of film-guiding rollers supported for rotation in said blocks, the blocks being provided with slots for the passage of a film from said chamber to a position outside of the magazine and back into the chamber, and light-locking means formed on the lower ends of said blocks and adapted to center the magazine on a camera.

7. A film magazine for motion picture cameras comprising a housing having film reel sections and a throat chamber, and a pair of blocks removably secured in said chamber and having film guiding means therethrough.

8. A film magazine for motion picture cameras comprising a housing having film reel sections and a throat chamber, and a pair of blocks removably secured in said chamber and having film guiding means therethrough, said guiding means comprising rollers in staggered relation.

In testimony whereof I affix my signature.

FREEMAN H. OWENS.