Feb. 9, 1932. C. E. ANDERSON 1,844,494

REEL

Filed May 20, 1927

Fig. 1

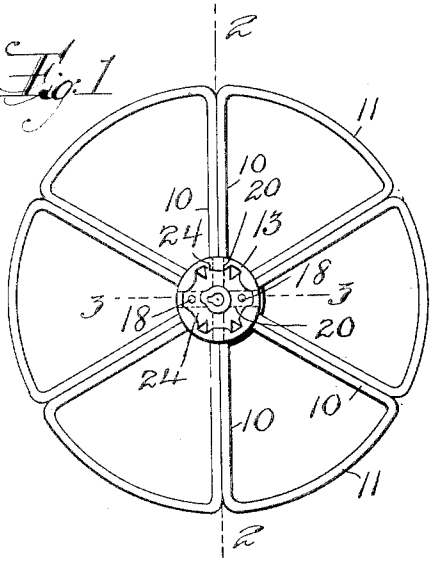
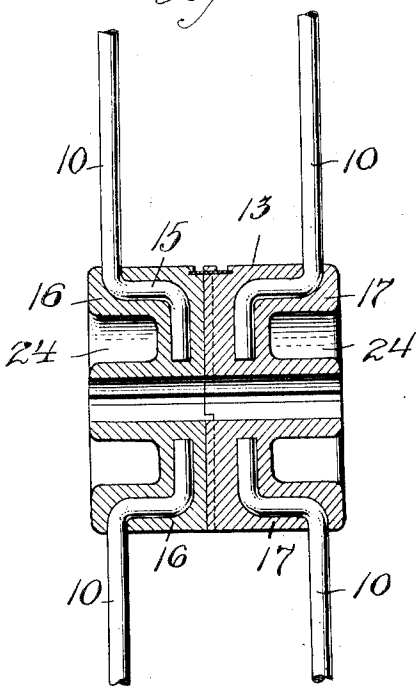



Fig. 2



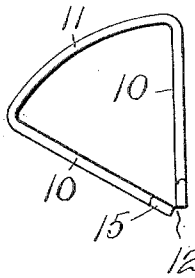




Fig. 4

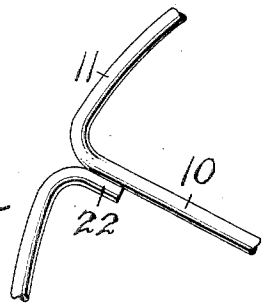



Fig. 5

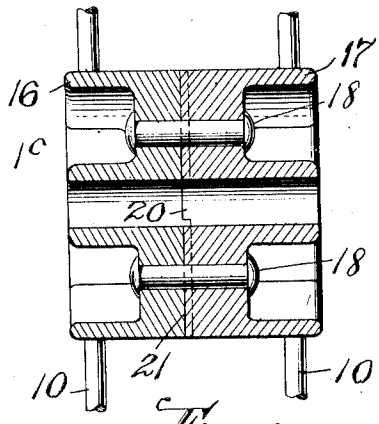



Fig. 3

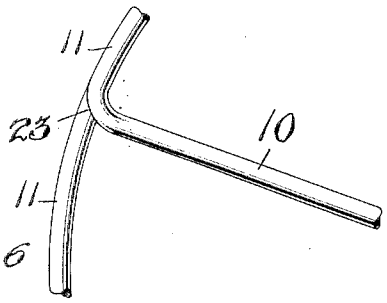



Fig. 6

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# UNITED STATES PATENT OFFICE

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## REEL

Application filed May 20, 1927. Serial No. 192,828.

This invention relates to an improved reel for moving picture films and has for its object to provide a reel that is strong and can be cheaply made and is open at the sides to such an extent as to enable access to the sides of the roll of film when it becomes necessary to do so.

Another object of the invention is to provide a reel with a smooth and even juncture of the hub and spokes of the reel so that the possibility of the edges of a film becoming caught in any part of the reel is minimized.

The invention is further designed to provide a reel with the spokes and rim made up of a set of wire sections which are embedded at their inner ends in a hub that is cast around them.

The invention also relates to the method of making up a series of wire sections which are placed side by side to complete the side pieces or flanges and then die-casting the hub around the inner ends of such wire sections to hold them in their relative positions and to form the complete reel.

The invention is illustrated in the accompanying drawings in which Figure 1 is a side view of a film reel embodying my invention. Figure 2 is a section of the central portion thereof but on an enlarged scale, this section being taken on a plane indicated by line 2—2 in Figure 1 and Figure 3 is a similar section taken on line 3—3 in Figure 1. Figure 4 is a side view of one of the wire flange or side-piece sections employed in making the reel illustrated in Figure 1 and Figures 5 and 6 are modifications showing how the wire sections can be made to abut to form a relatively continuous flange or side-piece.

Films are wound on reels and require a reel that will not provide any projections or which the film can catch to interfere with its smooth travel in a camera or projector and I have devised a reel which is light in weight and which is provided with side pieces between which the film is coiled, these side pieces being made up of wire sections. For the purpose of illustrating I show one form of section in Figure 4 consisting of an arm 10 which forms a spoke and a curved arm 11 which forms a part of the rim when such sections are arranged side by side as shown in Figure 1 and these sections are then secured to a suitable hub which acts to hold these sections in place and in addition provides means for mounting the reel on a shaft so that the reel can be rotated.

In the form shown in Figures 1 and 4, the wire sections are made triangular, the ends of the wire forming one of the angles as at 12 which is opposite the curved or rim portion 11 and these ends 12 are secured to the hub usually by placing these ends in a die-cast machine and then casting the hub so as to embed these ends in the casting. Such cast hub is shown at 13 in Figure 1 and to make the securing of the wire more pronounced I usually off-set the inner ends of the radial arms 10 of the wire sections as at 15, the illustration showing a crank-like end, although various other forms of corrugated ends may be used.

I also find that the making of the reel is easier by making the hub in half sections which are placed face to face and in the drawings I show such half sections 16 and 17, each provided with its side-piece made of wire sections, the half sections being secured together by suitable means such as the rivets 18, these being usually placed in the recesses 24 of the hub sections, these recesses being made primarily for the purpose of reducing the weight of the reel. Light rivets may be used as I prefer to arrange key-ways or tongue-and-groove faces on the hub sections, one section having projecting parts 20 which fit into corresponding recesses 21 on the other sections, four of these being sufficient to show that when the sections are put together these projections and recesses interlock and prevent rotated movement of one section relative to the other and the rivets 18 hold these half sections together. It will be evident that other means of securing these half sections together may be employed.

In the construction illustrated in Figure 5 I show sections with one spoke arm 10 and the radial arm 11, one end of the radial arm 11 being bent over as at 22 to rest against the spoke arm of the next succeeding section in order to make a substantially continuous

rim. In Figure 6 I show a modification in which the free end of the rim arm 11 of the prior section is cut as at 23 to fit against the curve of the next section, so as to form a continuous rim.

It will be evident that in manufacturing this reel the wire sections which are cheap to make are assembled and while held in assembled position have their ends surrounded by a casting and the reel is then complete.

It will be evident that various changes can be made in the form of the parts without departing from the scope of the invention.

I claim:

1. A film reel comprising wire sections, each section having two arms, one arm to form a spoke and the other arm to form a segment of the rim these sections being arranged side by side to form an annular side piece and a hub to which the inner ends of the spokes are secured.

2. A film reel comprising parallel side pieces each formed of wire sections arranged side by side, each wire section consisting of a single wire with two arms, one forming a spoke and the other a segment of a rim, and a hub to which the inner ends of the sections are secured.

3. A film reel comprising parallel side pieces each formed of wire sections arranged side by side, each wire section consisting of a single wire with two arms, one forming a spoke and the other a segment of a rim, and a cast hub in which the ends of the spokes are embedded.

4. A film reel comprising side pieces each composed of wire sections arranged side by side, the inner ends of said sections being offset, and a cast hub in which said off-set ends are embedded.

5. A film reel comprising a series of sections each formed of a single wire bent to form a spoke and to form a part of the rim, these sections being assembled to form parallel side-pieces, and a cast hub in which the inner ends of the spokes are embedded.

In testimony whereof I affix my signature.

CARL E. ANDERSON.