L. J. DOTY.

FILM REEL.

APPLICATION FILED MAY 20, 1920.

1,409,533.

Patented Mar. 14, 1922.

Fig 1

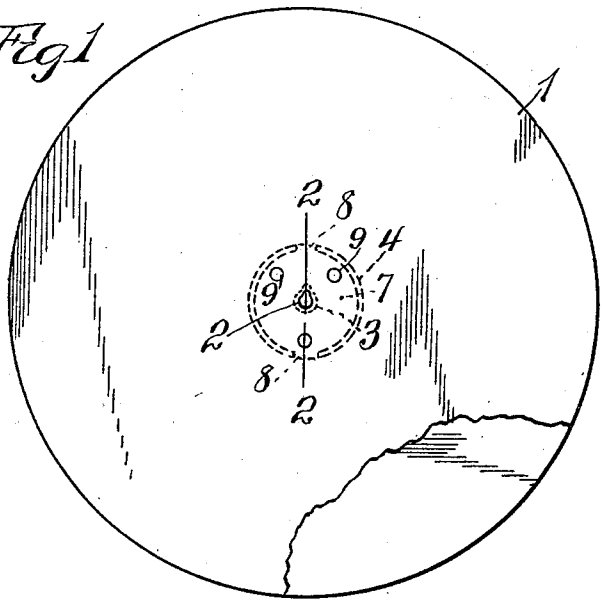
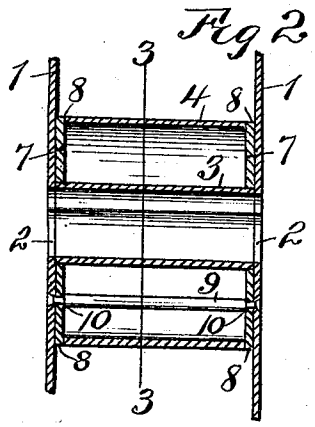


Fig 2



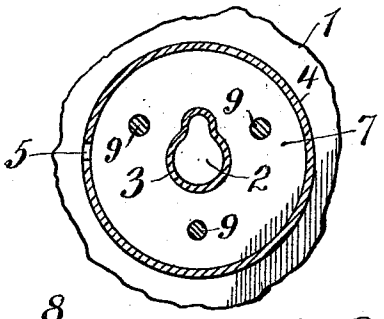
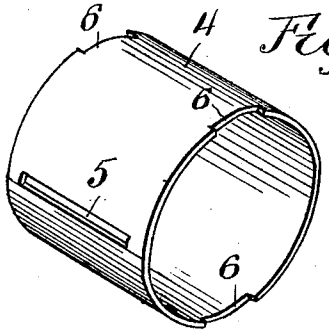


Fig 3

Fig 4



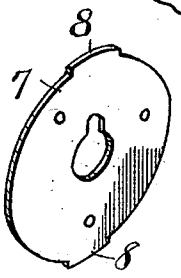
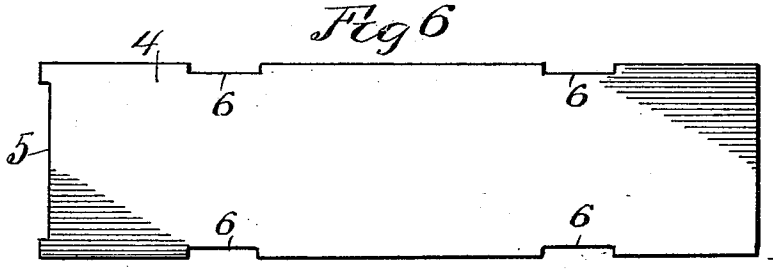


Fig 5

Fig 6



Inventor;

Witness:

R. E. Hamilton

Leo J. Doty

By Warren L. House,

His Attorney.

UNITED STATES PATENT OFFICE.

LEO J. DOTY, OF KANSAS CITY, MISSOURI.

FILM REEL.

1,409,533. Specification of Letters Patent. Patented Mar. 14, 1922.

Application filed May 20, 1920. Serial No. 382,901.

To all whom it may concern:

Be it known that I, LEO J. DOTY, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a certain new and useful Improvement in Film Reels, of which the following is a specification.

My invention relates to improvements in safety film reels.

The object of my invention is to provide a film reel which will be fire proof in so far as concerns its ends, which is simple in construction, cheap to make, durable and strong, not liable to get out of order, and to which a film may be readily attached or detached.

The novel features of my invention are hereinafter fully described and claimed.

In the accompanying drawing which illustrates the preferred embodiment of my invention,

Fig. 1 is an end elevation, partly broken away of my improved film reel.

Fig. 2 is an enlarged vertical sectional view on the line 2—2 of Fig. 1.

Fig. 3 is a cross section on the line 3—3 of Fig. 2.

Fig. 4 is a perspective view of the hub.

Fig. 5 is a perspective view of one of the collars.

Fig. 6 is a stretch out view of the hub prior to its being formed into a cylinder.

Similar reference characters designate similar parts in the different views.

1 designates two solid or plane heads, preferably of sheet metal, such as sheet steel, each having an axial opening 2. 3 designates a tubular axle having its ends bearing respectively against the inner sides of the heads 1, the axial hole of the axle being, preferably, of the size and shape of the openings 2.

4 designates a hub comprising preferably a sheet metal strip formed into cylindrical shape, the strip at one end having a notch 5, which, when the ends of the strip abut against each other, forms a longitudinal slot in the hub, which is adapted to receive a film securing device, not shown. The ends of the hub 4 bear respectively against the heads 1. Each end of the hub 4 is provided with one or more notches 6.

7 designates two collars mounted on the axle 3 and fitted within the hub 4. Each collar 7 is provided with one or more peripheral projections 8 respectively fitted in the adjacent notches 6 of the hub 4.

A plurality of transverse pins or rivets 9 are respectively riveted at their ends to the heads 1 and extend through and have shoulders 10 which bear against the collars 7, thereby holding the collars and the hub 4 tightly against the heads 1, and serving to hold the collars from circumferential movement relatively to the heads 1. The projections 8 engaging the hub 4 prevents circumferential movement of the latter with respect to the heads 1 and the collars 7.

The ends of the axle 3 abutting against the heads 1 prevents entrance of sparks or flames into the reel, through the heads, in that portion in which the film is located. With a suitable covering for the film on the periphery of the reel, the latter will fully protect the film carried thereby from fire.

I do not limit my invention to the structure shown and described, as many modifications, within the scope of the appended claims, may be made without departing from the spirit of my invention.

What I claim is:—

1. In a safety film reel, a drum comprising two plane heads each having an axial opening, a tubular axle having its ends abutting respectively against said heads, the hole in the axle registering with and corresponding in size and shape to the openings in said heads, a hub encircling the axle and having its ends respectively abutting against said heads, one end of the hub having a notch, the hub having a longitudinal slot for the insertion of a film, a collar fitted on the axle and provided with a peripheral projection fitted in the notch of the adjacent end, and securing means connecting the heads and holding the heads against the hub and axle, substantially as set forth.

2. In a safety film reel, a drum comprising two plane heads each having an axial opening, a tubular axle having its ends bearing respectively against said heads, a hub encircling the axle and having at one end a notch and provided with a longitudinal slot adapted to receive a film securing device, two collars fitted in said hub and encircling and mounted on said axle and having each a peripheral projection fitted in the notch of the adjacent end of the hub, and securing devices connecting the heads and extending through said collars, substantially as set forth.

3. In a safety film reel, a drum comprising two plane heads each having an axial

opening, a tubular axle having its ends bearing against said heads respectively, a hub comprising a cylindrically formed strip having its ends abutting against each other one end having a notch by which a longitudinal slot is formed in the hub for receiving a film securing device, the ends of the hub having notches respectively, two collars fitted on said axle and in said hub, each collar having a peripheral projection fitted in the notch of the adjacent end of the hub, and securing means connecting the heads and extending through said collars, substantially as set forth.

In testimony whereof I have signed my name to this specification.

LEO J. DOTY.