June 14, 1932. C. ARNOLD 1,862,996

ILLUMINATED BALL

Filed Feb. 16, 1931

Fig. 1

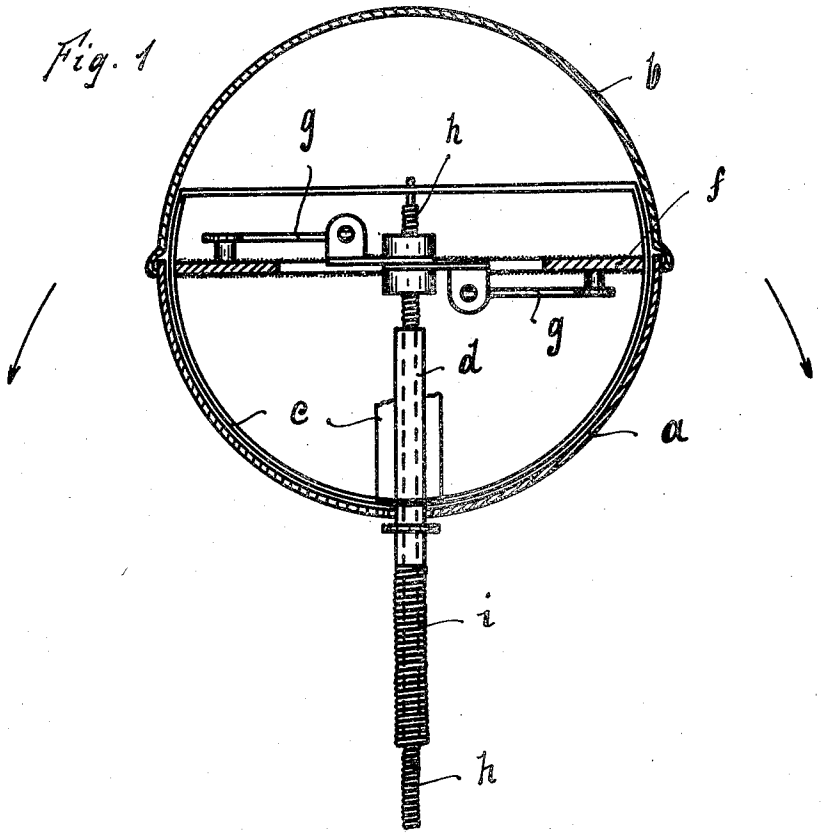
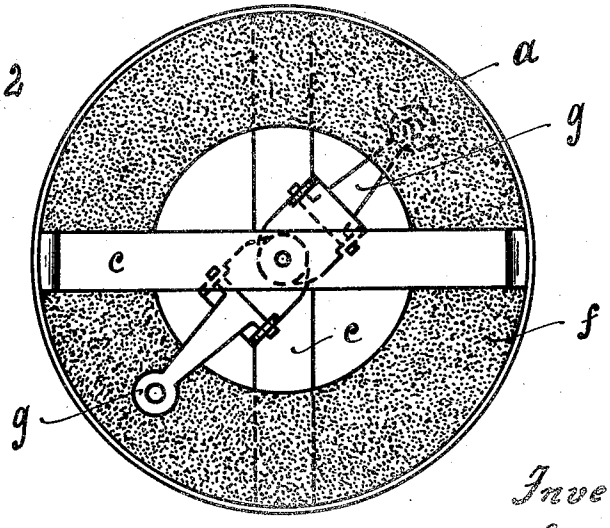


Fig. 2



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UNITED STATES PATENT OFFICE

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ILLUMINATED BALL

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It is known to fit a spark producing device in the interior of a sheet metal ball provided with colored windows, which are lighted by the sparking device, when a driving mechanism is actuated.

This invention relates to an illuminated ball, which is made entirely of colored material, such as gelatine or the like, and in the interior of which a spark producing device is mounted in such a manner that the ball is completely illuminated. For this purpose the cerium stones provided for producing the bundles of sparks are arranged mutually displaced and act on two friction surfaces. By this arrangement, both the upper and also the lower half of the ball is illuminated. A further advantage consists in that the ball thus constructed is connected to a flexible shaft by means of which a swinging or similar movement is produced at the same time as the bundles of sparks.

An embodiment of the invention is illustrated by way of example in the accompanying drawing in which:

Fig. 1 shows a section through the ball and Fig. 2 a top plan view with the upper half removed and the cerium stones displaced.

The illuminated ball consists of two halves *a* and *b*, which are made of transparent material, such as gelatine. For the purpose of reinforcing the ball a four-part cage *c* made of sheet metal is arranged in the interior thereof and fixed to a sleeve *d* projecting into the interior of the ball. The friction disc *f*, provided with emery on both sides, is also arranged in this cage. The other parts of the sparking device, namely the oscillatably mounted cerium stone holders *g*, are carried and rotated by a rotatable spiral spring *h* or the like for the purpose of producing bundles of sparks. The spiral spring may be operated by any suitable driving mechanism or the like. In order to enable both halves of the ball to be illuminated, the rotatable cerium stones act on the upper and lower sides of the friction disc *f*. By this arrangement a perfect illumination of the entire ball is obtained. On the sleeve *d* a flexible shaft *i* is fixed outside the ball, by means of which a swinging movement can be given to the ball, so that the toy is much more attractive.

I claim:—

1. An illuminated ball, comprising in combination a two-part spherical wall of transparent material, a four part cage in and reinforcing the lower part of said wall, a friction disc carried by said cage, a layer of emery on each side of said disc, mutually displaced cerium stones adapted to cooperate with said two layers of emery to produce bundles of sparks, a sleeve carrying said cage, and a wire spiral carrying said cerium stones extending through said sleeve through the lower part of said wall, adapted to be rotated and in turn to rotate said stones relative to said disc.

2. An illuminated ball as specified in claim 1, in which a flexible shaft extends from the sleeve on the outside of the lower part of the wall to enable a swinging movement to be imparted to the ball.

In testimony whereof I affix my signature.

CARL ARNOLD.