March 11, 1930. E. GOLDBERG ET AL 1,750,401

CINEMATOGRAPH CAMERA WITH CLOCKWORK DRIVING MECHANISM

Filed Dec. 29, 1927

Fig. 1

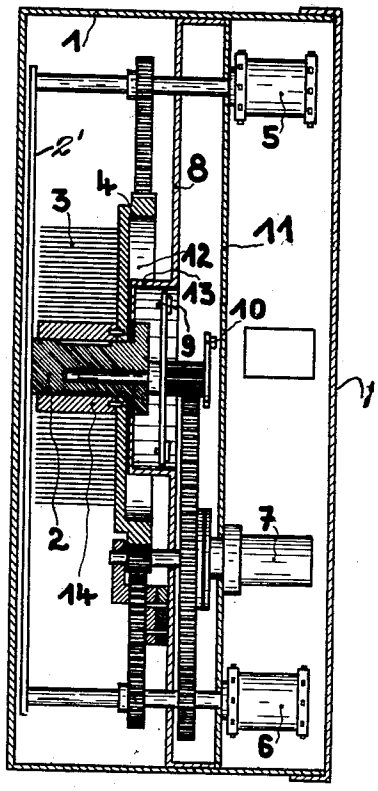
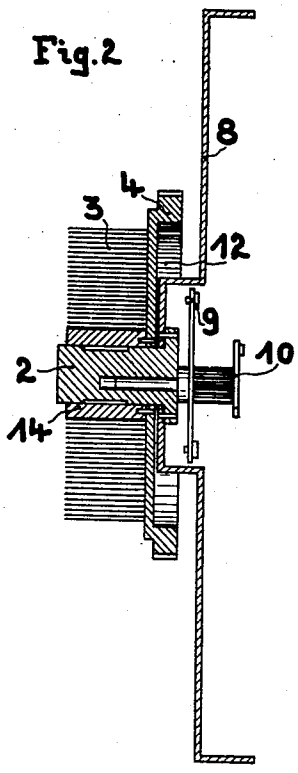


Fig. 2



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Patented Mar. 11, 1930 1,750,401

UNITED STATES PATENT OFFICE

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CINEMATOGRAPH CAMERA WITH CLOCKWORK DRIVING MECHANISM

Application filed December 29, 1927, Serial No. 243,420, and in Germany February 16, 1927.

This invention relates to cinematographic cameras, more particularly to the type adapted to be driven by spring motors or clockwork mechanisms, and principally intended to be used by amateurs.

In apparatus of the character mentioned, it is universally recognized by those skilled in the art, that lightness, compactness, ease and convenience of operation, efficiency and simplicity of construction, are of utmost importance, since in making exposures, the camera is generally held in the hands of the user and not supported upon a tripod or similar device.

The invention, therefore, has for a primary object to provide a cinematographic camera wherein, by means of the novel construction, combination and arrangement of parts, the features above enumerated are realized to the greatest possible extent, the contemplated novel construction, combination and arrangement of parts, permitting the size of the apparatus to be materially reduced and the driving works with the necessary regulating mechanism therefor greatly simplified.

Another important object of the invention resides in the provision of a cinematographic camera driven by a spring motor, wherein the motor and the necessary regulator therefor are mounted in parallel relation to each other, and have their parts so co-related that the entire device possesses a maximum degree of compactness and rigidity which greatly enhance the proper and efficient working of the device.

Other important objects and advantages of the invention will be in part obvious and in part pointed out hereinafter.

In order that the invention and its mode of operation may be readily understood by those skilled in the art, we have in the accompanying drawings set out one possible embodiment of the invention.

In these drawings:

Figure 1 is a longitudinal section through a cinematographic camera driven by a spring motor and constructed in accordance with our invention, and

Figure 2 is a sectional detail of the driving mechanism of the device with the regulator therefor.

Having more particular reference to the drawings, wherein like characters of reference will designate corresponding parts throughout, our improved device may be stated to comprise a casing 1 designed to enclose the working parts of the camera and having one side open, said side being closed by means of the removable cover 1'.

Arranged within the intermediate portion of the casing 1, is an inner wall 8 and an outer wall 11 disposed in spaced parallel relation and forming a separate compartment. The inner wall 8 has a portion struck inwardly to form the chamber 13 serving for the purpose latter specified.

Mounted within the casing 1, and adjacent to the side wall thereof is a rigid plate 2' carrying at its intermediate portion a transversely arranged shaft 2 extending within the chamber 13 formed by the inwardly struck portion of the wall 8, and supporting a main gear 4 provided with a collar 14 fixedly secured thereto and received on said shaft 2. This main gear 4 has its outer face recessed to freely receive the inwardly struck portion of the wall 8 thereby permitting said main gear to be closely mounted adjacent the inner wall 8 within the casing 1. The main gear is actuated by means of the coiled power spring 3 wound about and secured to the collar 14 thereof.

Transversely and rotatably mounted upon the end portions of the plate 2', are a pair of opposed spaced constant feed film sprockets 5 and 6 respectively, operatively connected to the main gear 4 by means of a suitable gearing as shown in the drawings.

Likewise connected to the main gear 4 is a film spool spindle 7 carried by the spaced parallel inner and outer walls 8 and 11 through which it extends.

Supported by and in engagement with the free end of the shaft 2 extending within the chamber 13 formed by the outwardly struck portion of the inner wall 8, and paralleling the driving mechanism of the camera, is a centrifugal speed regulator or governor 9 for the driving mechanism of the camera,

said regulator or governor being connected to the film feed spindle 6 and the film spool spindle 7 by means of suitable gearing arranged within the compartment formed by the inner and outer walls 8 and 11 as illustrated in the drawings.

From the foregoing, it will be understood that, because of the novel construction, combination and arrangement of parts as embodied in our improved device, it becomes possible to materially reduce the size of cinematographic cameras of the type mentioned. This is principally realized because of the particular construction of the main gear 4 with its inwardly recessed face 12 freely receiving the inwardly struck portion of the inner wall 8 and permitting said gear to lie closer to the inner wall 8, thus taking less space, and also because of the inwardly struck portion of said wall 8 forming the chamber 13 wherein is mounted the centrifugal speed regulator or governor supported by the extended end of the rigid shaft 2.

Likewise, the particular position of the centrifugal speed regulator or governor 9, that is, in parallel relation with the driving motor of the camera, permits to simplify the driving mechanism and lends to the entire device a maximum degree of compactness and rigidity thereby greatly enhancing the proper and efficient working of the camera.

Manifestly, the construction shown and described is capable of many modifications, and those modifications that are within the scope of the claims, we consider within the spirit of invention.

We claim:

1. In a cinematographic camera, a casing, an inner and outer wall arranged in spaced parallel relation within the casing and subdividing the latter into three compartments, the inner wall having a portion thereof struck inwardly to provide a chamber, a spring motor arranged in the innermost compartment of the casing, a rigid support for said motor mounted transversely of said innermost compartment and extending within the chamber formed in the inner wall, a centrifugal speed regulator arranged in the intermediate compartment of the casing and carried by the extended end of said motor supporting shaft and paralleling said spring motor, and film driving means arranged in the outermost compartment of the casing and being operatively connected to said spring motor and centrifugal speed regulator.

2. In a cinematographic camera, a casing, an inner and outer wall arranged in spaced parallel relation within the casing and subdividing the latter into three compartments, the inner wall having a portion thereof struck inwardly to provide a chamber, a spring motor arranged in the innermost compartment of the casing, a main driving gear operated by said motor and having its outer face recessed to freely receive the inwardly struck portion of said inner wall, a rigid support for said motor and gear mounted transversely of the innermost compartment and extending within the chamber formed by the inner wall, a centrifugal speed regulator arranged in the intermediate compartment of the casing and carried by the extended end of said motor supporting shaft, and paralleling said spring motor, and film driving means arranged in the outermost compartment of the casing and being operatively connected to said spring motor and centrifugal speed regulator.

3. In a cinematographic camera, a casing, an inner and outer wall arranged in spaced parallel relation within the casing and subdividing the latter into three compartments, the inner wall having a portion thereof struck inwardly to provide a chamber, a fixed shaft mounted transversely of the innermost compartment and extending within the chamber formed in the inner wall, a collar freely received on said shaft, coiled power spring wound about said collar and adapted to actuate the same, a main driving gear fixedly secured to said collar and movable therewith, a centrifugal speed regulator arranged in the intermediate compartment of the casing and carried by the extended end of said shaft and paralleling the coiled power spring, and film driving means arranged in the outermost compartment of the casing and being operatively connected to said main gear and centrifugal speed regulator.

In witness whereof we have hereunto set our hands.

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OTTO FISCHER.