F. J. BULASK & F. E. KOELLA.

VIEW RECORD MECHANISM.

APPLICATION FILED MAR. 29, 1915.

1,236,819. Patented Aug. 14, 1917.

FIG. 1

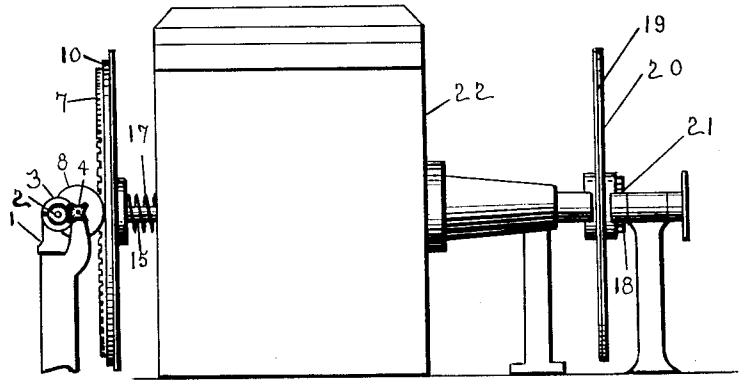


FIG. 2

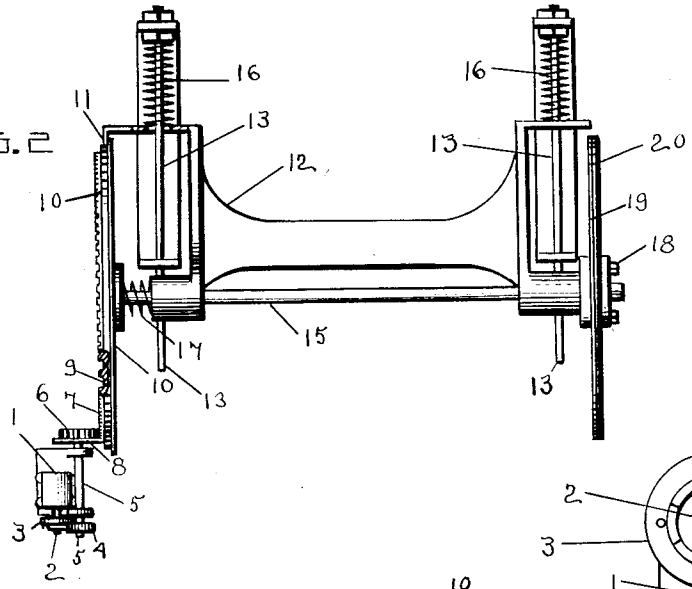


FIG. 4

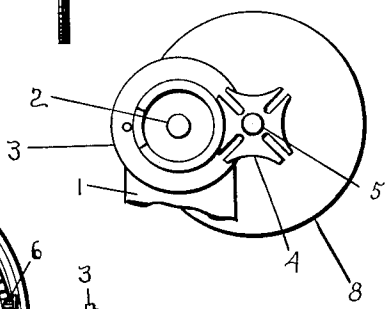
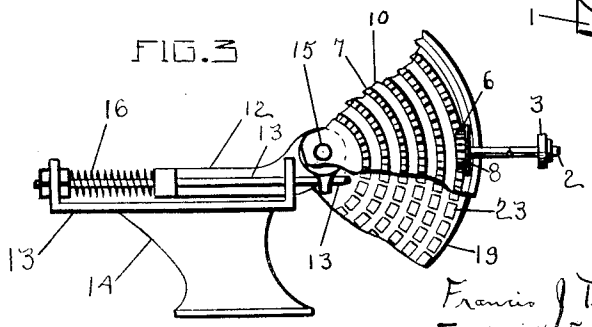


FIG. 3



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VIEW RECORD MECHANISM.

1,236,819. Specification of Letters Patent. Patented Aug. 14, 1917.

Application filed March 29, 1915. Serial No. 17,618.

To all whom it may concern:

Be it known that we, FRANCIS J. BULASK and FREDERICK E. KOELLA, citizens of the United States of America, residing at Toledo, Lucas county, Ohio, have invented new and useful View Record Mechanisms, of which the following is a specification.

This invention relates to record mechanisms, especially for view taking and reproduction.

This invention has utility when incorporated in connection with successive view receiving and displaying, as in action or motion picture projection.

Referring to the drawings:

Figure 1 is a side elevation of an embodiment of the invention in connection with a projecting lantern;

Fig. 2 is a plan view of the device of Fig. 1, a portion being broken away;

Fig. 3 is a fragmentary end elevation, from the left in Fig. 2; and

Fig. 4 is an enlarged detail view of an intermittent driving device for the mechanism.

The motor 1 is provided with the shaft 2 carrying the driving wheel 3 to intermittently actuate and hold the star wheel 4 to give the shaft 5 quick shiftings for a determined angle of rotation during a period of time and then hold the shaft 5 quiet three times such time interval, thus imparting a regular intermittent driving rate to the shaft 5 carrying the pinion 6 in mesh with the spiral rack 7. This pinion 6 has the flange 8 engaging in the groove 9 between the parallel or successively merging circuits of the rack 7, on the master disk 10.

The disk 10 has an annular projection engaged by the finger 11 of the yoke 12 carried by the pins 13 upon the standards 14. The yoke 12 carries the rotatable shaft 15 upon which the disk 10 is fast. The springs 16 on the pins 13 urge the shaft 15 to hold the flange 8 in a groove 9 against the rack 7 engaged by the pinion 6, so that in rotation of the pinion 6 there is gradually increasing angular travel for the disk 10 as the radius of rack action decreases.

When the inward limit of travel is reached along the rack 7, the device is readily reset for a repetition of rotation from the outside in by forcing the disk 10 away from the pinion 6 against the resistance of the spring 17 on the shaft 15 between the yoke 12 and the disk 10, and then moving the yoke 12 to compress the springs 16.

On the opposite end of the shaft 15 may be rigidly mounted by the bolts 18 the disk 19. This disk 19 may be transparent and may have fast thereon or fixed thereto a film or view receiving and recording surface or element 20, so that in the step or intermittent driving of the disk 19 there may be successive positions placed in focus with the lens 21 in line with the lantern 22, in this instance for projecting a view recorded on the rotatable disk record 20, on which in spiral series, stepped with the stops of the disks 10, 20, may be the views 23.

In taking, the sensitized plate, or film mounted upon a disk plate may be driven as in the projecting apparatus, and development for the desired views occur. Through the bolts 18 there may be the identical mounting for projection as occurred in taking to nicely place each view position as to the lens with accurate timing as to the driving device. Starting of the motor 1 causes rotation of the disk 19 with the parallel progressive series of action views on a continuous rigidly held surface, with a stop for each view in focus with the lens 21. The stops and travel distances are constant even though with a disk record the radius is gradually diminishing.

The provision of a surface having in a common series adjacent or parallel circuits of action views permits of a compact grouping of the views, which with minute views and wide angle lenses may provide a low cost motion picture record of a few inches extent for flicker minimized display of say three minutes or more duration, according to disk diameter, acceptable for amateur and salesmen use.

What is claimed and it is desired to secure by Letters Patent is:

1. The combination of a view region carrying disk, a lens eccentric to the disk, spaced from the disk a coaxial uinformly increasing arc actuator for the disk, and driving control means for the actuator out of the plane of the actuator and projecting toward the actuator for actuator coacting portions of said means to move toward and away from the plane of the actuator.

2. The combination with a multiple view disk of a uniformly increasing arc actuator for the disk, and driving control means for

the actuator, there being radial travel means for the actuator independent of the coaction of the driving control means with the actuator.

3. A multiple view disk and a spirally crown-toothed master disk coaxial with the view disk, provided with driving control means coacting with the teeth including separate coacting means for radial travel control.

4. A disk for a spiral series of views, a master disk coaxial therewith provided with a spiral series of crown teeth, and speed control means coacting with the teeth including separate coacting means for radial travel control.

5. A view disk, a spirally crown-toothed master disk for the view disk and axially spaced therefrom, and speed control means coacting with the toothed master disk including separate coacting means for radial travel control.

6. A multiple view disk, an intermittent drive therefor comprising a coaxial master disk provided with a spiral series of teeth, and speed control means coacting with the teeth of the master disk, there being additional coacting means for controlling the radial travel of the master disk.

In witness whereof we affix our signatures.

FRANCIS J. BULASK.
FREDERICK E. KOELLA.