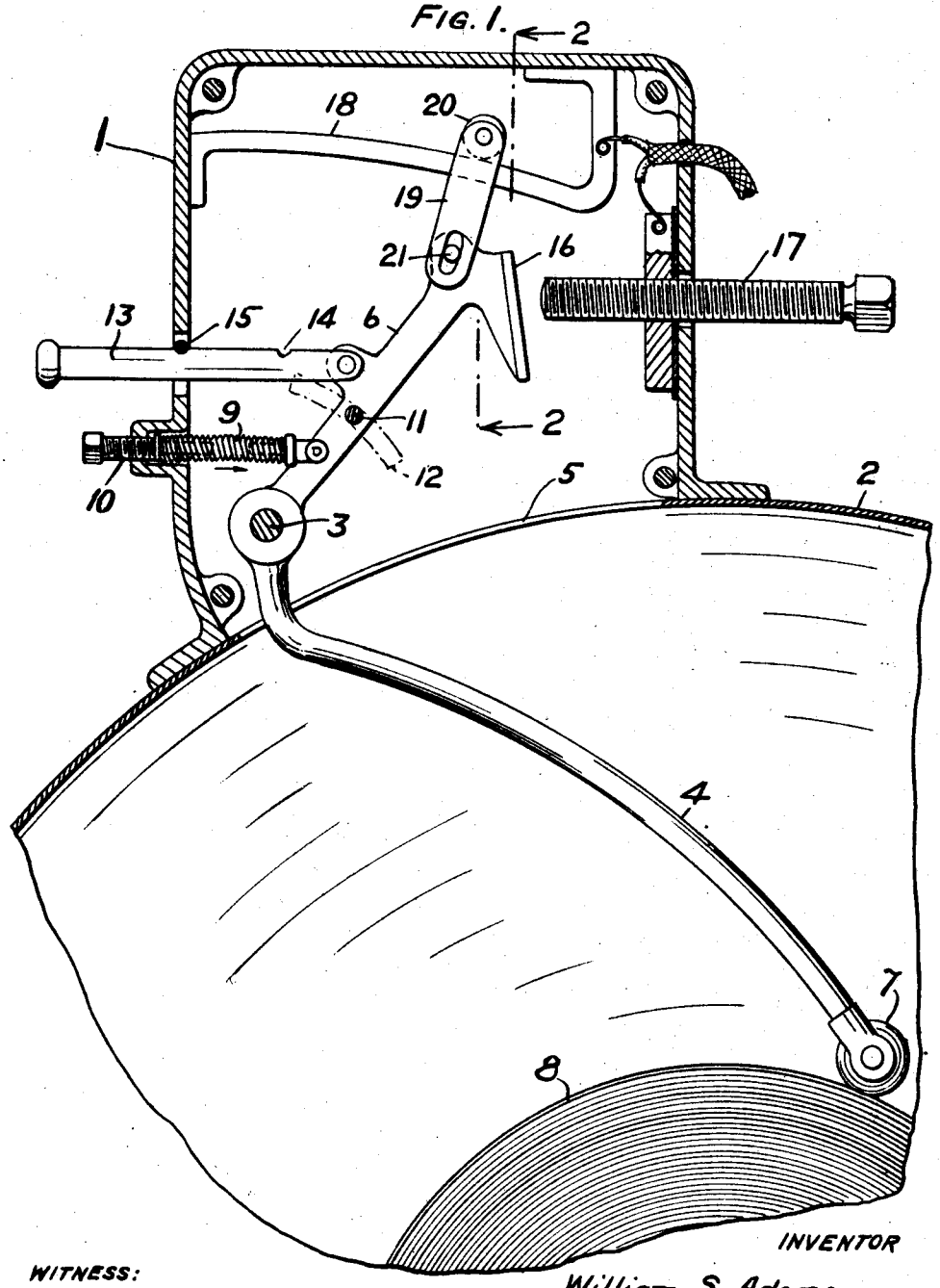
June 23, 1925. 1,542,808

W. S. ADAMS

INDICATOR FOR MOVING PICTURE MACHINES

Filed Aug. 22, 1921 2 Sheets-Sheet 1

FIG. 1.



WITNESS:
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Filed Aug. 22, 1921 2 Sheets-Sheet 2

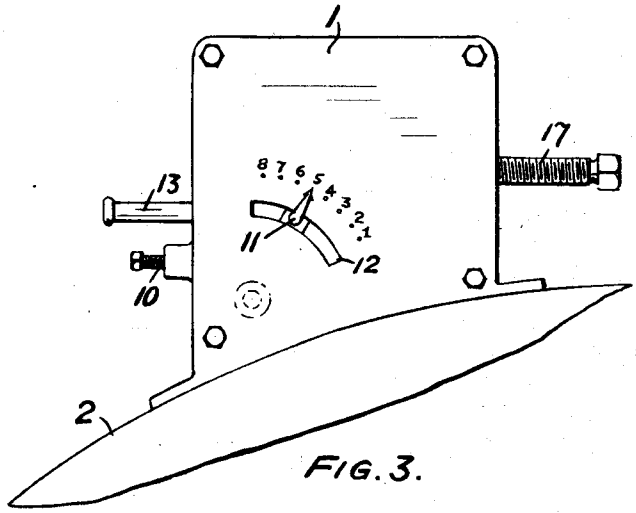


FIG. 3.

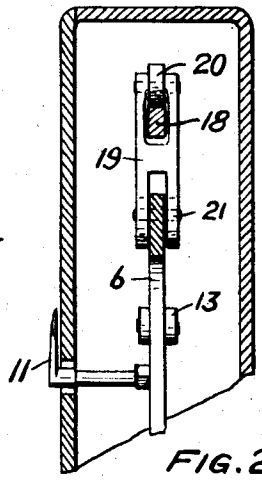


FIG. 2.

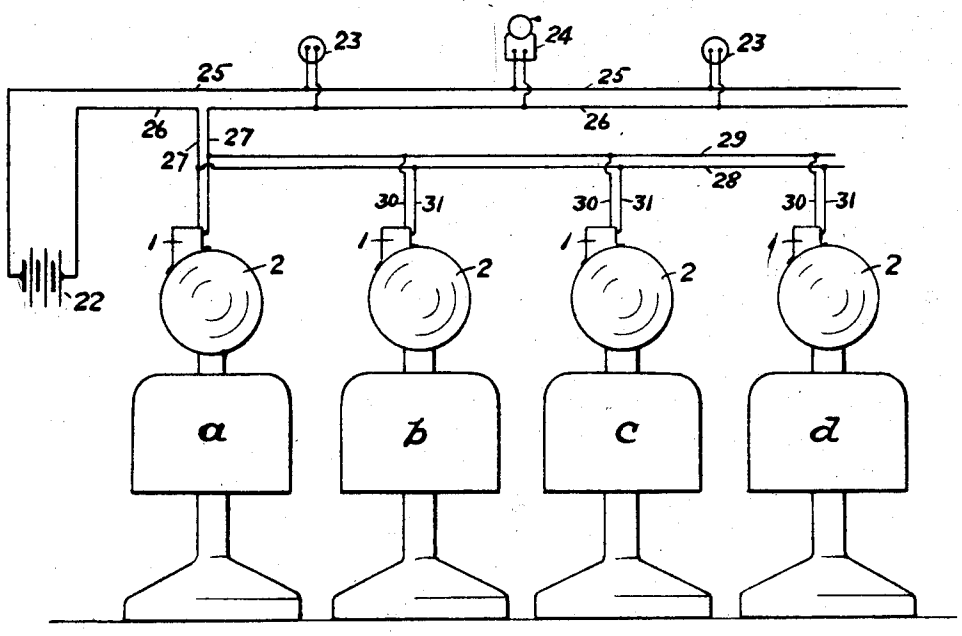


FIG. 4.

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Patented June 23, 1925. 1,542,808

UNITED STATES PATENT OFFICE.

WILLIAM S. ADAMS, OF PHILADELPHIA, PENNSYLVANIA.

INDICATOR FOR MOVING-PICTURE MACHINES.

Application filed August 22, 1921. Serial No. 494,058.

To all whom it may concern:

Be it known that I, WILLIAM S. ADAMS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Indicator for Moving-Picture Machines, of which the following is a specification.

The principal objects of the present invention are, first, to provide a compact, reliable and comparatively inexpensive indicator for motion picture machines or exhibitors which is capable of use for electrically signalling in connection with any one of several machines and which indicates in feet, if desired, the length of film in each machine yet to be displayed; and second, to provide for adjusting the indicator in order that it may operate at any pre-determined time in respect to the exhibition of a film, or, otherwise expressed, at any point in a film.

Other objects of the invention will appear from the following description and the invention will be claimed at the end hereof but will be first explained in connection with the embodiment of it chosen from among other embodiments for the sake of illustration in the accompanying drawings forming part hereof and in which—

Figure 1 is a view, principally in central section.

Fig. 2 is a sectional view taken on the line 2—2 of Figure 1.

Fig. 3 is an elevational view, and

Fig. 4 is a diagrammatic or schematic view.

In the drawings 1 is a housing shown as generally rectangular and closed on five sides leaving the other side open for application to the wall of the film magazine 2 which is shown as cylindrical but which may be rectangular. Pivoted to a shaft 3 ranging crosswise of the housing is a lever of which one arm 4, extends through an elongated slot 5 in the wall of the magazine, and of which the other arm 6 is confined within the housing 1. The arm 4 is provided with a roller 7 that rides on the film 8 and the arm 4 may be curved to conform to the curvature of the cylindrical wall of the magazine. The arm 6 is connected with a compression spring 9 of which the force can be adjusted by an adjusting screw 10 accessible from the exterior of the housing. The arm 6 is also provided with an indicator 11 which extends through a curved slot 12 in the wall of the housing so as to co-operate with a scale on the outside of the wall which may be made to read in feet of film remaining in the magazine 2. The arm 6 is also provided with a hand piece 13 that extends through a slot in the wall of the housing, and this hand piece may be provided with a notch 14 for engagement with the wall of the slot or with some provision thereof as indicated at 15. The arm 6 is a current carrying contact arm and it co-operates as shown through a shoe 16 on its end with a current carrying adjustable contact 17 shown as an insulated screw adjustable from the outside of the housing. One means for supplying current to the arm 6 comprises a curved contact fixture 18 and the trolley link 19 having a roller 20 that runs on the fixture and having slot-and-pin connection 21 with the arm 6. The contact screw and the arm 6 constitute means for making and breaking a path for a signal circuit. This path is normally broken and is closed by the reduction in the diameter of the reel of film, due to its exhibition, acting through the roller 7 and arm 4. However, the adjustment of the contact screw 17 affords a means for predetermining and fixing the time of closing of the circuit path. It is possible to adjust the screw 17 when in contact with the shoe 16 and in the absence of the film 8 and by observing the position of the indicator 11 in respect to its scale in such a way that the circuit path will be closed when there remains in the magazine any predetermined number of feet of film. To insert a new film or to break the circuit path, if desired, use can be made of the hand piece 13 which when pulled out and latched not only breaks the circuit path but also puts the entire mechanism out of action with the arm 4 and roller 7 in close proximity with the cylindrical wall of the magazine. The current path, which is controlled by the described make and break device, constitutes one side of the circuit, or, in other words, the circuit making and breaking mechanism is interposed in one lead, either the positive or the negative lead, of the source which may be a battery 22. It is customary to employ a series of motion picture machines as *a*, *b*, *c*, *d*, and, according to my invention, each is equipped with a make and break device interposed in one lead or side of a circuit. These machines

are used one at a time and one after another and it is desirable that any one of them which may happen to be in use shall operate the signal that indicates approaching exhaustion of its film. In Fig. 4 I have shown several kinds of translating signal devices, lights or lamps 23, and a bell 24, but the specific character of translating signal device is not important. There is a circuit from the source 22, and across the leads 25 and 26 of this circuit the translating device is arranged. A loop 27 from one of said leads 26 is connected to the contacts of the make and break device of the machine *a*. A branch circuit 28 and 29 from points in the loop 27 on opposite sides of the contacts of the machine *a* is provided. There are connections 30 and 31 across the leads 28 and 29 of the branch circuit to the contacts of each of the make and break devices of the machines *b*, *c*, *d*.

The mode of operation of apparatus embodying features of the invention may be described as follows:

By means of the screw contact 17 and arm contact 6 having reference to the index 11 and its scale, each machine is so adjusted that its make and break device 6 and 17 will make circuit when there remains on its film reel only that length of film which is desired. Referring to Fig. 4 if machine *a* reaches the condition in which its circuit maker closes, it is evident that the circuit is established by the following path: from 22, by 26, through the loop 27, back to 26, thence through the signalling device, by 25, back to 22. If one of the other machines *b*, *c* or *d* and not *a* is in operation the path for the circuit is broken at *a*, but the path for the circuit can be established at any of the other machines by way of from 22, 26, 28, 31, 30, 29, back to 26, and thence through the translating device by 25, back to 22. Evidently the signalling device can be arranged in any convenient location and more than one signalling device can be used at the same time, all of which is a matter of convenience and promotes efficiency in the operation of the machines. Again by reason of the described construction the fire hazard is in no way increased.

It will be obvious to those skilled in the art to which the invention relates that modifications may be made in details of construction and arrangement without departing from the spirit of the invention which is not limited as to such matters or otherwise than as the prior art and the appended claims may require:

I claim:

1. In an indicator for motion picture machines the combination of a housing for application to the magazine of the machine, a pivotal lever provided with a film actuated portion and with a radially arranged arm confined within the housing, a compression spring for said arm, means extending from the exterior of the housing for adjusting said spring, an indicator index rigidly carried by said arm and extending through an arcuate slot provided in the housing and adapted to co-operate with a scale provided on the exterior of the housing, a hand piece movably connected with said arm and accessible from the exterior of the housing for positioning the arm, a contact adjustable from the exterior of the housing for co-operation with the arm, a contact rail fixture carried by the housing, and a current carrying link co-operating with the fixture and arm, substantially as described.

2. In an indicator for motion picture machines the combination of a housing for application to the magazine of the machine, a pivotal lever provided with a film actuated portion and with a radially arranged arm confined within the housing, an indicator index rigidly carried by said arm and extending through an arcuate slot provided in the housing and adapted to co-operate with a scale provided on the exterior of the housing, a hand piece movably connected with said arm and accessible from the exterior of the housing for positioning the arm, a contact adjustable from the exterior of the housing for co-operation with the arm, a contact rail fixture carried by the housing, and a trolley link co-operating with the fixture and arm, substantially as described.

3. In a motion picture machine a circuit closing indicator comprising the combination of an adjustable spring pressed lever adapted to ride on a film, an indicator index rigid with the lever, a hand piece for locking the lever against the action of the spring, an adjustable contact for the lever, a rail fixture, and a movable link connecting the fixture and lever.

WILLIAM S. ADAMS.