

No. 745,217.

PATENTED NOV. 24, 1903.

C. F. MENSING.
AUTOMATIC SCENE DISPLAYING APPARATUS.

APPLICATION FILED APR. 25, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

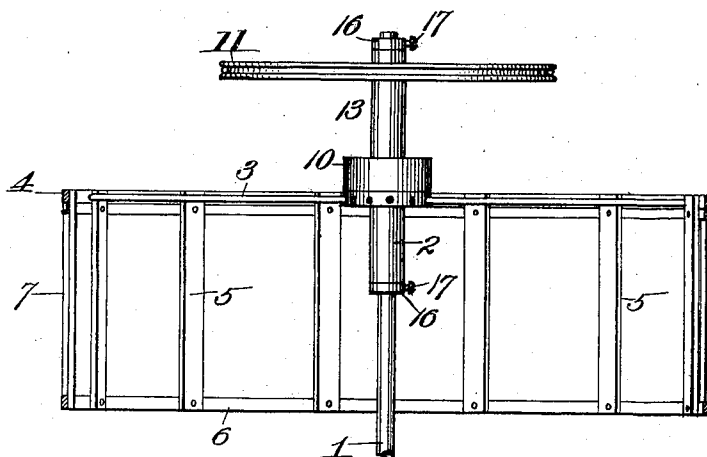
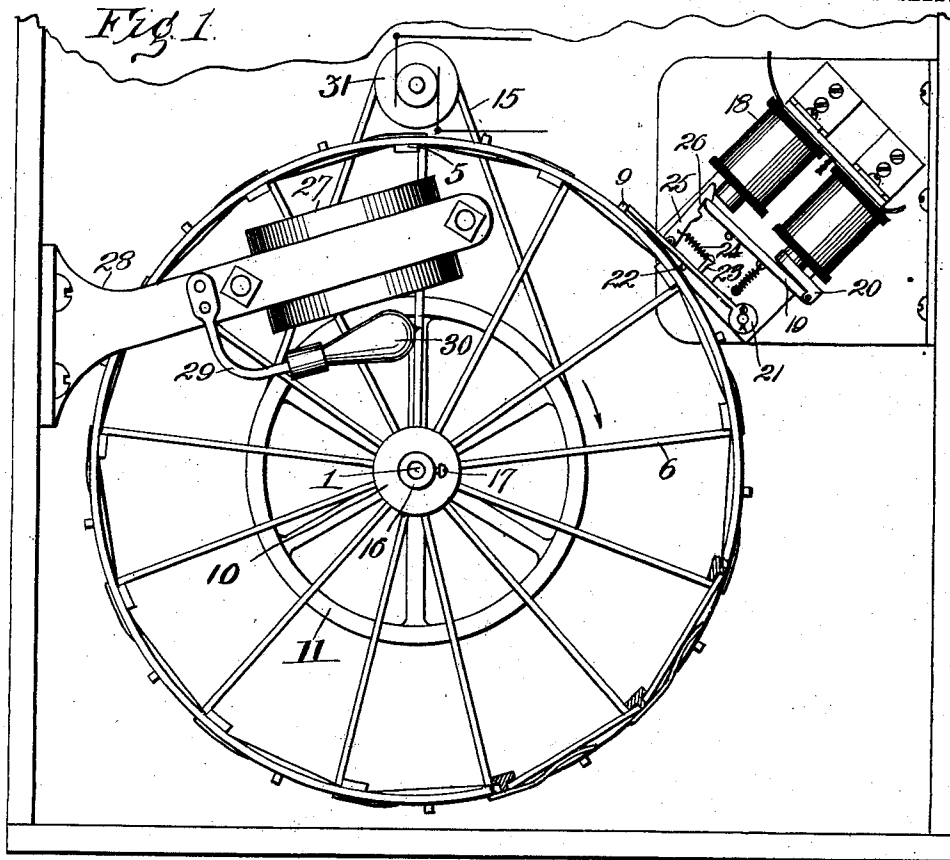


Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3.

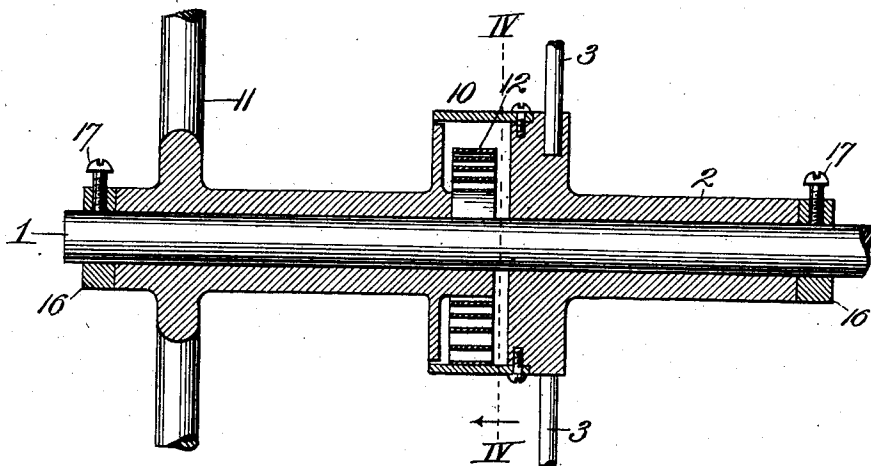


Fig. 4.

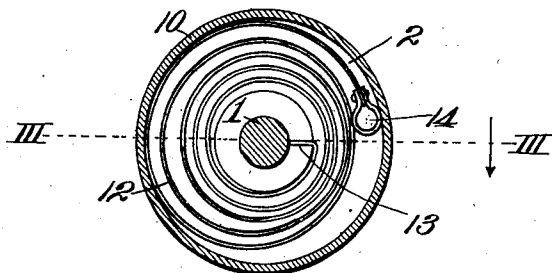
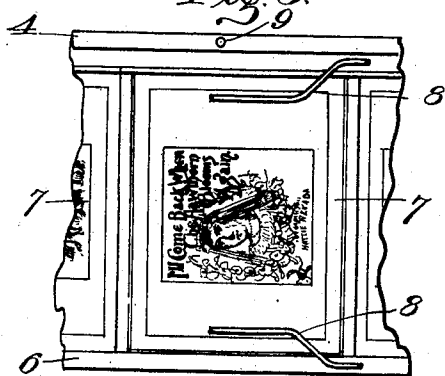


Fig. 5.



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UNITED STATES PATENT OFFICE.

CARL F. MENSING, OF KANSAS CITY, MISSOURI.

AUTOMATIC SCENE-DISPLAYING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 745,217, dated November 24, 1903.

Application filed April 25, 1903. Serial No. 154,215. (No model.)

To all whom it may concern:

Be it known that I, CARL F. MENSING, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Automatic Scene-Displaying Apparatus, of which the following is a specification.

This invention relates to automatic "scene-displaying" apparatus, and more especially to apparatus of that character in which the scenes are displayed in conjunction with the automatic reproduction of words descriptive or suggestive of the scenes; and my object is to produce a scene-displaying apparatus which operates efficiently and reliably and which is of simple, strong, durable, and inexpensive construction.

To this end the invention consists in certain novel and peculiar features of construction and combinations of parts, as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a view of a cabinet with the near wall or side omitted and showing in the cabinet a slide-carrier and operating and controlling mechanism embodying my invention, the slide-carrier being partly broken away. Fig. 2 is a horizontal section of the rotary slide-carrier. Fig. 3 is an enlarged section of a part of the carrier and means for operating the same, said section being taken on the line III III of Fig. 4. Fig. 4 is a section on the line IV IV of Fig. 3. Fig. 5 is a top view of the rotary slide-carrier, showing one of the slides therein.

Referring to the drawings in detail, a horizontal shaft 1 is secured in a cabinet of any suitable or preferred type, and journaled thereon is a skeleton-wheel slide-carrier, said wheel comprising the hub 2, spokes 3, and a skeleton rim comprising the ring 4, secured to the spokes, parallel bars 5, equidistantly spaced and projecting from said ring, and the ring 6, secured to and connecting the opposite ends of said bars, the latter being preferably formed with central ribs at their outer sides, against which the opposite edges of the slides 7 may bear, said slides being clamped against the bars by the springs 8, secured to the rings. The slides are of the ordinary

type and contain scenes for illustrating a song or address reproduced by phonographs or kindred instruments, it being understood, of course, that I do not confine myself to the use of this apparatus in conjunction with phonographs or any other sound-reproducing instrument. The wheel is provided with equidistant stop-pins 9, projecting from ring 4 by preference and located opposite the different slides, said pins performing a function hereinafter pointed out.

10 designates a ring secured to hub 2 and constituting, in conjunction with the same and with the flanged hub of a wheel 11, also journaled on shaft 1, a cup containing a spiral spring 12, secured at its inner end to the hub of wheel 11, as at 13, and at its outer end having a head 14, clamped frictionally between the spring and the wall of the cup. Wheel 11 is a belt-wheel and is driven by a belt 15, preferably geared to the motor 31 of what is known as an "automatic" coin-operated phonograph, (not shown,) and said wheel and the carrier-wheel are maintained in proper relative position by means of the collars 16, secured on the shaft by set-screws 17, or in any other suitable manner.

In practice the belt-wheel revolves continuously at a slow speed in the direction indicated by the arrow, Fig. 1, and, through the instrumentality of the spring, imparts movement in the same direction to the slide-carrier. As it is necessary while a scene is being scrutinized that the slide-carrier shall be stationary, I provide electrically-controlled means for arresting it, and during the period of its inaction the continuously-moving belt-wheel retensions the spring—that is to say, rewinds more or less of it than was unwound in advancing the carrier the preceding step. As these periods of inaction vary in length accordingly as the descriptive matter of the song or address consumes a greater or less time in its reproduction, it will be understood that the slide-carrier rotates at irregular intervals of time, the interval being determined by the lapse of time between magnet energizations and such energizations by the sound-reproducing apparatus, as hereinbefore explained. Because of this irregularity in the lapse of time between operations of the slide-carrier there must be opportunity given for

the spring to slip, as otherwise it would at times become wound up so tightly that the resistance would either stop the phonograph or else cause it to run more slowly than it should for the character of the reproduction, which might be, for instance, rag-time music.

My preferred means for arresting and holding the slide-carrying wheel is as follows: An electromagnet 18 is suitably supported in the cabinet and has its spring-retracted armature 19 pivoted on a bracket 20, secured to one of the magnet-poles by preference. A lever 21 is normally held by gravity in the path of the successively-presented stop-pins 9 of the slide-carrier, a pin 22 limiting the gravitative movement of the lever.

23 is a pin secured to the lever, and connected to said pin by a spring 24 is a catch 25, the catch being pivoted on the lever and having a beveled end engaging the contiguous pole of the magnet and a recess 26 normally engaged by the free end of the armature, the arrangement being such that each time the magnet is energized and attracts its armature the latter lifts the catch, and therefore the lever, until the latter is withdrawn from the path of the engaged stop-pin 9, so as to permit the spring 12 to rotate the slide-carrier, the spring being assisted in this operation by the impetus of the slowly-revolving belt-wheel. As this tripping operation of the lever takes place the engagement of the beveled end of the catch with the magnet-pole effects the tripping of the catch off the end of the armature, this tripping action being effected at the moment that the lever clears said stop-pin 9 to permit the former to immediately drop down into the path of the next stop-pin 9, and thereby arrest the slide-carrier. At practically the same moment the magnet is deenergized in any suitable manner, by preference automatically, and the spring-retracted armature moves downward and swings the catch aside until the original relation between them is reestablished, as shown in the drawings.

For the purpose of throwing the scenes of the slides on a suitable screen (not shown) I dispose within the wheel slide-carrier a condensing-lens, as at 27, said lens being mounted on a suitable supporting-bracket 28, which bracket may also carry a fixture 29, to which a suitable lamp 30 or its equivalent is attached and arranged at the opposite side of the lens from the slide in the customary manner. Other devices common in stereopticon apparatus are also employed, but as they form no part of this invention are not herein shown and described.

From the foregoing it will be apparent that I have produced an automatic scene-displaying apparatus in which the slide-carrier is in the form of an intermittently-operating wheel and successively presents the various slides to the condensing-lens and appurtenances, which wheel is driven reliably, at a practi-

cally uniform speed, by the use of a spring kept sufficiently tensioned by the continuously-operating belt-wheel or its equivalent, and while I have illustrated and described the preferred embodiment of the invention it is to be understood that I reserve the right to make such changes in the form, proportion, detail construction, and arrangement of the parts as properly fall within its spirit and scope.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An automatic "scene-displaying" apparatus, comprising a slide-carrier, a spring arranged to operate the same, means to overcome the action of the spring and arrest the slide-carrier at intervals, and means for retensioning the spring while the carrier is held inactive.

2. An automatic "scene-displaying" apparatus, comprising a slide-carrier, a spring arranged to operate the same, means to overcome the action of the spring and arrest the slide-carrier at intervals, means for retensioning the spring while the carrier is held inactive, and means to trip the carrier-arresting means as the spring is being retensioned.

3. An automatic "scene-displaying" apparatus, comprising a slide-carrier, a coil-spring arranged to operate the same, means to overcome the action of the spring and arrest the slide-carrier at intervals, and means to rewind the spring while the carrier is held inactive.

4. An automatic "scene-displaying" apparatus, comprising a slide-carrier, a coil-spring arranged to operate the same, means to overcome the action of the spring and arrest the slide-carrier at intervals, means to rewind the spring while the carrier is held inactive, and means to trip the carrier-arresting means as the spring is being retensioned.

5. An automatic "scene-displaying" apparatus, comprising a slide-carrier, a spring arranged to operate the same, means to overcome the action of the spring and arrest the carrier at intervals, and a motor to retension the spring during the period of inaction of the carrier.

6. An automatic "scene-displaying" apparatus, comprising a slide-carrier, a spring to operate the same, means to arrest the carrier at intervals, and a continuously-driven motor connected to retension the spring during the periods of inaction of the carrier.

7. An automatic "scene-displaying" apparatus, comprising a wheel slide-carrier, a spring to operate the same, means to arrest the carrier at intervals, and means to retension the spring during the periods of inaction of the wheel slide-carrier.

8. An automatic "scene-displaying" apparatus, comprising a wheel slide-carrier, a coil-spring frictionally attached at one end thereof, means to arrest the wheel-carrier at inter-

vals, and means to rewind the spring during the periods of inaction of the carrier.

9. An automatic "scene-displaying" apparatus, comprising a shaft, a wheel slide-carrier journaled thereon, a coil-spring attached to operate the wheel slide-carrier, means to arrest the movement of the said slide-carrier at intervals, and a continuously-driven motor connected to rewind the spring during the periods of inaction of the carrier.

10. In an apparatus of the character described, the combination of a motor, a wheel geared thereto, a coil-spring attached to said wheel, and a wheel slide-carrier having a frictional engagement with and driven at times by said spring.

11. In an apparatus of the character described, the combination of a motor, a wheel geared thereto, a coil-spring attached at its inner end to said wheel, and having an enlargement at its outer end, and a wheel slide-carrier suitably journaled and provided with a cup inclosing the spring and in frictional contact with the enlargement thereof.

12. In an apparatus of the character described, a motor, a wheel geared thereto, a coil-spring attached at its inner end to said wheel, and having an enlargement at its outer end, a wheel slide-carrier suitably journaled and provided with a cup inclosing said spring and frictionally engaging the enlargement

thereof, and means for arresting the movement of the wheel-carrier.

13. In an apparatus of the character described, a motor, a wheel geared thereto, a coil-spring attached at its inner end to said wheel, and having an enlargement at its outer end, a wheel slide-carrier suitably journaled and provided with a cup inclosing said spring and frictionally engaging the enlargement thereof, means for arresting the movement of the wheel-carrier, and means for tripping said carrier-arresting means at the required intervals.

14. In an apparatus of the character described, the combination of a motor, a shaft, a pulley journaled thereon and belted to the motor, a wheel slide-carrier also journaled on said shaft and provided with a cup, a coil-spring within said cup and secured at its inner end to the pulley and having its outer end enlarged and fitting frictionally between the cup and the contiguous convolution of the spring, means for arresting the movement of the carrier at intervals, and means for tripping said carrier-arresting means.

In testimony whereof I affix my signature in the presence of two witnesses.

CARL F. MENSING.

Witnesses:

H. C. RODGERS,
G. Y. THORPE.