

Patented Jan. 1, 1924.

1,479,404

UNITED STATES PATENT OFFICE.

HERMANN BENDMANN, OF FRANKFORT-ON-THE-MAIN, GERMANY.

PROJECTING APPARATUS FOR ADVERTISING PURPOSES.

Application filed June 6, 1921. Serial No. 475,487.

To all whom it may concern:

Be it known that I, HERMANN BENDMANN, merchant, a citizen of Germany, and resident of Frankfort-on-the-Main, Germany, with the post-office address Kriffelerstrasse 30, have invented certain new and useful Projecting Apparatus for Advertising Purposes (for which application for patent was filed in Germany on January 10, 1919); and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The idea of projecting advertisements by means of lanterns in which wordings or illustrations are thrown upon a screen or window from a film, stencil or the like, is well known.

It is also known to make letters or devices to appear in succession by means of a cinematograph display. The first method of advertising is not very attractive for the reason that the whole advertisement appears at once, whereas the cinematograph advertisements according to the second method give rise to more public attention and interest, as here the letters, words, or devices appear one after the other, but this method is very expensive on account of the great number of photographs required.

The present invention provides a method of advertising which combines in the simplest manner the advantage of the attraction of the successive appearance of the advertising matter with the utmost cheapness of reproduction.

This is achieved by means of two slides one of which uncovers single letters, and the other single lines. Advertising apparatus with slides for uncovering single letters are known but their utilization is restricted as only one line at a time may be projected and not a complete advertisement consisting of many lines and in some cases of inserted illustrations.

By the addition of a second slide for the uncovering of the lines according to this invention the sphere of its application is considerably widened. The slide for uncovering successive lines hereinafter called the line-slide is arranged in such a manner that the adjustment may be varied accord-

ing to the height of the lines and enable also to uncover simultaneously several lines if desired, this being especially necessary when illustrations are inserted between the wordings.

By way of example the accompanying drawing illustrates a projecting apparatus for advertising according to this invention, wherein:

Fig. 1 is a sectional view,

Fig. 2 a side view,

Fig. 3 a plan view and

Fig. 4 a diagram of the installation.

The projecting lantern is of known construction and the means of projecting a "writing" advertisement according to this invention will now be described.

Upon side-supports or rails *a* is mounted a line-slide *b* which is arranged to slide on said rails and be stepped in a vertical direction and upon which is mounted to slide in a horizontal direction the letter-slide *c*. Situated under or back of these two slides is the advertising matter to be projected which latter appears upon each of several units forming an endless chain *d* composed of carriers for holding a supply of various advertisements the said unit being supported and moved by means of the pulleys *e* suitably driven.

The apparatus can be used in this form as a hand driven "writing" projector for advertisements, but if it is desired to operate the same by clockwork or electromotor the following additional devices are necessary.

Arranged to rock in a bearing-support *f* mounted on the slide *b* is a double armed lever *f'*. This lever carries on one end a pair of spur-wheels *h* and *k*, and on the other end a lug *g*. The driving-pinion *i* is rotatable with and slidable on its shaft in unison with the slide *b* said shaft being continually rotated in the direction of the arrow by a motor or clockwork (not shown). The letter-slide *c* also carries the cams *l* and *l'* and a rack *c'* which engages the wheel *h*. As soon as a letter line is uncovered by the movement of the slide *c* which is effected by the action of the wheels *i*, *k*, *h*, and the said rack *c'*, the cam *l* comes into contact with the catch *g* and depresses the right hand end of lever *f'* so that the wheel *h* will be thrown out of gear by being lifted from rack *c'*. The spring *m* which has been stressed during this forward movement of the slide *c* will now drive the slide *c*

backward to the left until the cam *l'* comes into contact with the lug *g* thereby bringing the wheel *k* again into mesh with the pinion *i* and wheel *h* into mesh with rack *c'*. At the same time the slide *c* strikes with its offset or shoulder *c²* against a detent member *o* which is adjustably arranged on the line-slide *b*, whereby the member *o* which engages the indented rod *p* fixed to the slide *b* releases the latter which will now glide downward by its own weight or by the action of the spring *u* through the space of one line or more according to the shape of the indented rod *p*. The slide *c* is now again brought into movement by the rack and pinion drive and this performance is repeated line after line until the whole of the advertising matter is uncovered.

The endless carrier chains *d* for the advertisements consist of any number of units and are driven by the bevel wheels *q* in combination with a friction coupling between the casing *r* and pulley *s* and a spring which is wound according to the required movement of the slide *b*. After the whole of one advertisement has been exposed by the slide *b* the rear end of the slide *b* strikes against the tripping rod *x* connected to the bell crank lever *v*. The nose *w* on one arm of the lever *v* which so far has been holding the carrier in position is released at the moment when *b* and *x* come into contact. The above mentioned driving spring in *r* and *s* is now released and raises the next advertisement and also the slides *b* and *c* up until stopped again by the nose *w* and the cycle of operations is repeated in the same manner as before.

The height of the serrated divisions of the indented rod *p* corresponds with the nature of the items of the advertisement or with the height of the letters or pictures to be produced, for example, the height may first correspond to a word of two lines, then be followed by some lines of single height followed in turn by a picture of a height equal to several lines and finally by another single line space or the like.

Fig. 4 indicates diagrammatically a lantern mirror projecting apparatus or installation of any known construction wherein *R* is the mechanism of the above described apparatus, *L* are the lamps and the lenses, and *S* the mirror for reflecting the beams from the lantern to the screen, but any other suitable means for reflecting may be used.

Now what I claim and desire to secure by Letters Patent is the following:—

1. In a projecting apparatus for advertising purposes, the combination with a sign having superposed lines of letters of a slide normally covering said lines, and means for moving said slide in two directions at right angles to each other.

2. In projecting apparatus for advertis-

ing purposes the combination of two slides, one serving for uncovering the single letters and the other for uncovering the lines or groups of lines or spaces for illustrations, with means for moving the slides at approximately right angles one with respect to the other, substantially as and for the purpose described.

3. In projecting apparatus for advertising purposes the combination of two slides, one serving for uncovering the single letters and the other for uncovering the lines or groups of lines or spaces for illustrations, with means for moving the one slide horizontally on the other vertically movable slide, substantially as and for the purpose described.

4. In projecting apparatus for advertising purposes the combination of two slides, one serving for uncovering the single letters and the other for uncovering the lines or groups of lines or spaces for illustrations, with means for moving the one slide horizontally on the other vertically movable slide, and a chain carrier for the advertising matter below the said slides, substantially as and for the purpose described.

5. In projecting apparatus for advertising purposes the combination of two slides, one serving for uncovering the single letters and the other for uncovering the lines or groups of lines or spaces for illustrations, with a rack on the horizontally movable slide a pinion engaging the slide and driven by motive power and disengaged from the rack at the end of each line, substantially as and for the purpose described.

6. In projecting apparatus for advertising purposes the combination of two slides, one serving for uncovering the single letters and the other for uncovering the lines or groups of lines or spaces for illustrations, with an unmovable rack and a detent member co-operating therewith and secured to the vertically movable slide, substantially as and for the purpose described.

7. In projecting apparatus for advertising purposes the combination of two slides, one serving for uncovering the single letters and the other for uncovering the lines or groups of lines or spaces for illustrations, with a rack on the horizontally movable slide a pinion engaging said rack and driven by a motive power and disengaged from the rack at the end of each line, and a stationary indented rod and a detent member co-operating therewith and secured to the vertically movable slide, substantially as and for the purpose described.

8. In projecting apparatus for advertising purposes the combination of two slides, one serving for uncovering the single letters and the other for uncovering the lines or groups of lines or spaces for illustrations, with a rack on the horizontally movable

slide a pinion engaging said rack and driven by a motive power and disengaged from the rack at the end of each line, and a stationary indented rod and a detent member co-operating therewith and secured to the vertically movable slide, and a chain carrier for the advertising matter below the said slides, substantially as and for the purpose described.

10 9. In advertising apparatus a chain, display plaques carried thereby, a frame through which said chain is stepped, means to arrest each display plaque in displaying position, a line slide movable on said frame,

a letter slide movable transversely of the line slide, mechanism on said line slide to move said letter slide across the line slide, an indented rod on said frame to determine the extent of movement of said line slide, detent means operated by the letter slide and engaging said rod, and motor mechanism set in operation when said main slide strikes said arresting means to return the main slide to initial position.

In testimony that I claim the foregoing as my invention, I have signed my name.

HERMANN BENDMANN.