

Aug. 6, 1946.

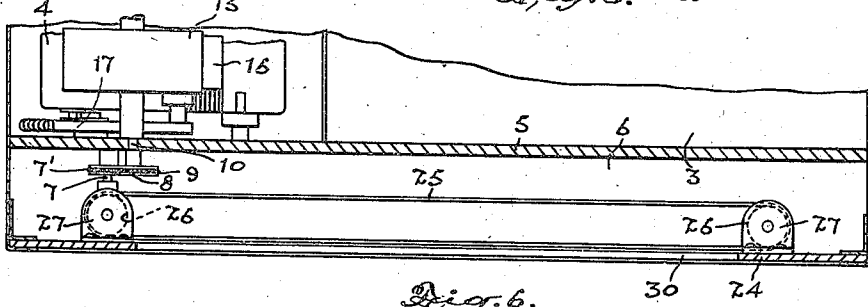
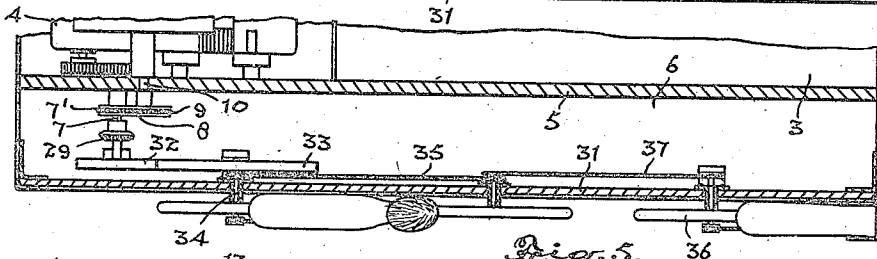
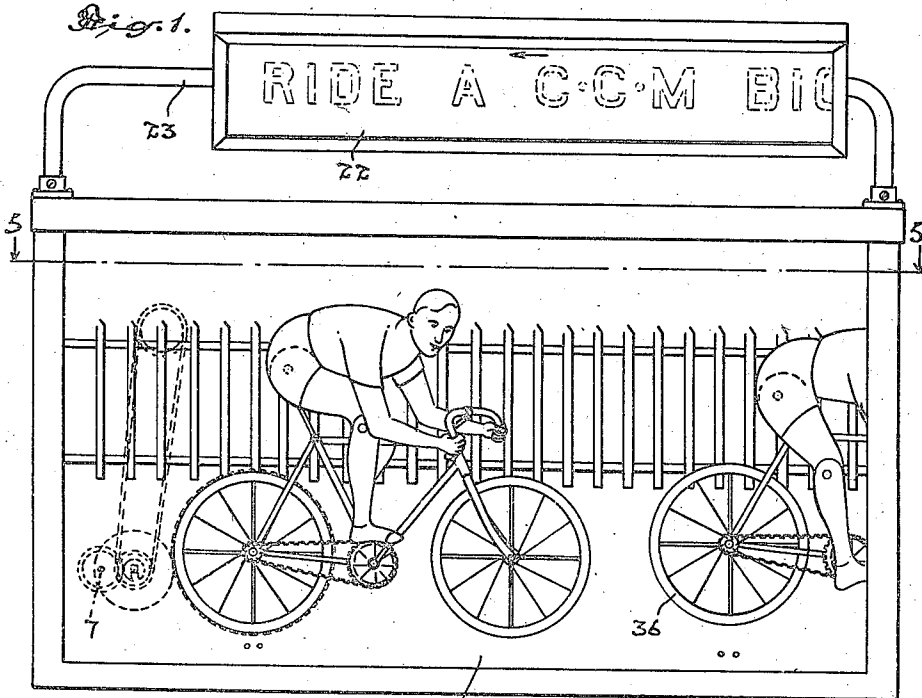
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2,405,376

ADVERTISING DISPLAY DEVICE

Filed Sept. 23, 1942

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

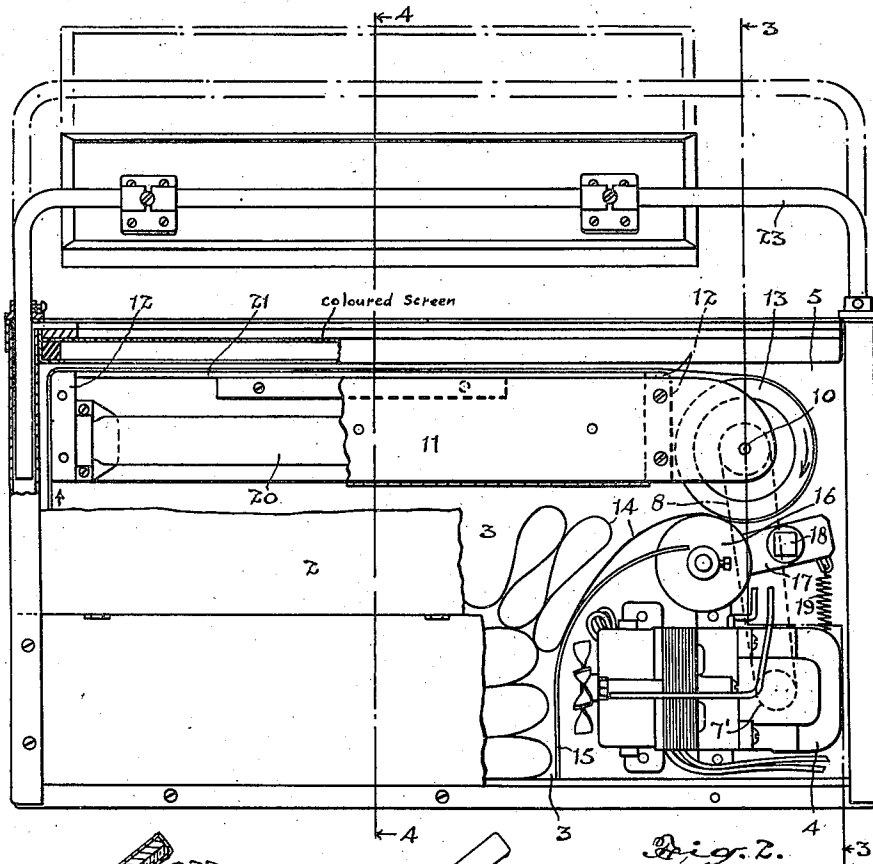


Fig. 2.

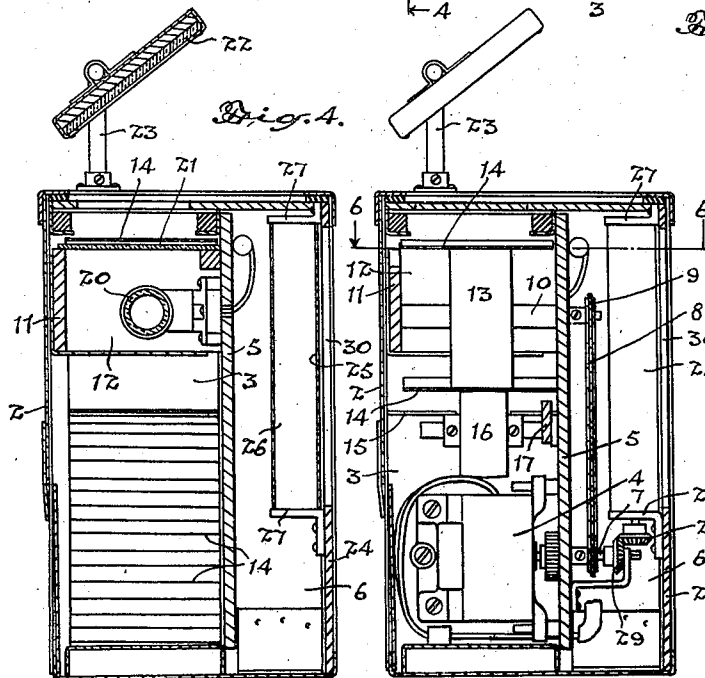


Fig. 4.

Fig. 3.

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UNITED STATES PATENT OFFICE

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ADVERTISING DISPLAY DEVICE

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2 Claims. (Cl. 40—32)

1

The present invention relates to improvements in advertising display devices particularly adaptable for use in store windows or restricted areas and the principal objects of the invention are to provide a display device which will present an extremely attractive appearance and will display information or messages of considerable length in letters or characters which will be easily read, such characters being associated with moving scenic displays or figures which will attract attention and maintain interest to augment the progressive changing display of the character representation.

A further object is to devise a display apparatus which may be readily altered both in respect to its progressive message display and its co-operative moving visual attraction in order that the display value may maintain its maximum interest and novelty.

The principal feature of the invention consists in the novel construction of a cabinet and the arrangement of a mechanism within the cabinet whereby an endless band upon which letters or other characters are arranged, is caused to move continuously through an illuminated space so that the characters on the band are projected upon a reflecting surface which is adjustably arranged to be readily seen from an advantageous observation point, the endless band being operated to pass continuously through the illuminated area.

A further important feature consists in the novel arrangement within the cabinet and visible from an area adjacent to the message-reflecting area of a secondary endless band and other movable objects attractive to the eye operatively connected with the means for operating the first-mentioned or message-conveying matter.

In the accompanying drawings

Figure 1 is a front elevational view of a display device constructed in accordance with this invention.

Figure 2 is a rear elevational view partly broken away and in part vertical section.

Figure 3 is a vertical sectional view through the display apparatus taken on the line 3—3 of Figure 2.

Figure 4 is a vertical sectional view through the display apparatus taken on the line 4—4 of Figure 2.

Figure 5 is a part horizontal sectional view taken on the line 5—5 of Figure 1.

Figure 6 is a part horizontal sectional view taken through the line 6—6 of Figure 3.

Referring to the accompanying drawings, the

2

invention as shown comprises a rectangular casing 1, which is preferably formed of sheet metal, and the back thereof is provided with a movable panel 2 forming the upper half which when removed gives access to a chamber 3 which extends from end-to-end. Within the chamber 3 at one end thereof is mounted an electric motor 4 which is preferably supported upon a vertical panel 5 which extends vertically and longitudinally of the casing and separates the chamber 3 from a parallel chamber 6.

The shaft 7 of the motor extends through the panel 5 into the chamber 6 and has mounted thereon a sprocket 7' which is connected by means of a sprocket chain 8 to a sprocket 9 mounted on a shaft 10 extending transversely of the upper portion of the chamber 3. The shaft 10 is supported at the end opposite to the sprocket 9 by a longitudinally arranged plate 11 which is supported by cross members 12 from the panel 5. The panel 5, the plate 11 and cross members 12 are preferably formed of insulating material.

Mounted upon the shaft 10 intermediate of its length is a roller 13, which is driven by the motor, and an endless band 14, which is perforated with letters or characters in progressive arrangement, extends upwardly from the chamber 3, and passing over one of the cross members 12 it extends horizontally and passes over and around under the roller 13. The band is looped in multiplicity of loops within the chamber 3 so that a very considerable length of a character-bearing member is housed therein.

A guard plate 15 secured to the bottom of the casing extends upwardly from a point adjacent the end of the motor 4 and curves toward the end of the casing underneath the roller 13. The end of this guard is notched and a roller 16, mounted on a pivotal arm 17, extends into the notch and bears against the endless band passing under the roller 13. The pivot arm 17 is mounted on a pivot 18 and is actuated by a spring 19 to press against the band and roller 13 with the desired tension to cause the travel of the band through the operation of the motor-driven roller.

A tubular lamp 20 is mounted between the members 12 and extends longitudinally of the casing parallel with the perforated band 14 so that the light therefrom is projected through the perforations in the band. A transparent panel 21 is arranged in the casing top over the lamp 20 so that the rays of light projected through the band 14 are projected outwardly beyond the casing.

A mirror 22 is adjustably mounted on a U-

3

shaped bar 23, the ends of which are supported in the ends of the casing, and the mirror is adjustable so as to be tilted at the desired angle to reflect the beams of light projected through the perforated band 14 so that they will be at normal eye level at the point where the observer will pass. Thus the characters perforated in the band will be caused to travel progressively across the illuminated space above the lamp and such characters are successively reflected by the mirror so that a long message or a succession of messages may be reproduced in clearly legible characters in an attractive manner to assure their observance.

In addition to the attractive feature of the reflected message to which colour may be applied, by the use of coloured screens if desired, I provide within the chamber 6 and supported from the outer panel 24 a longitudinally movable endless band 25 which is arranged in a vertical position mounted on a pair of rollers 26 supported in suitable brackets 27 secured to the inner side of the panel 24.

A bevel pinion 28 is mounted on the shaft of one of the rollers and is arranged to mesh with a pinion 29 mounted on the motor shaft 7 which drives the chain 8 for operating the endless band 14.

The band 25 is provided with any suitable form of pictorial or other attractive material arranged upon the outer surface to be shown through the opening 30 in the front panel 24 of the casing. Such pictorial representation will of course be chosen to harmonize with the message. The panel 25 is made to be readily removable being supported in suitable guides in the ends of the casing so that it may be lifted upwardly and the pinion 28 will disengage from the pinion 29 without disturbing any of the other mechanism, and another panel 31, as shown in Figure 5, may be inserted into the guides of the casing to replace the same. Such other panel may have mounted thereon any suitable form of moving object which may be mechanically operated through engagement with the pinion 29, or through an additional driving pinion or friction wheel, as illustrated in Figure 5 by the numeral 32.

In the illustration shown the friction drive wheel 32 engages a wheel 33 mounted on a spindle 34 suitably journaled in the panel. In the instance shown the spindle extends through the panel and is connected to the wheel of a miniature bicycle. A jointed figure representing a rider is mounted on the bicycle and the bicycle wheels are operated by the mechanism described. The front wheel may be rotated by carrying a chain 35 from the rear wheel spindle to the front wheel spindle.

If desired a second rider or part of one on a bicycle may be shown so as to complete the realistic appearance and the wheel 36 of the second bicycle is connected by a belt 37 to operate in unison with the other bicycle.

It will of course be understood that the panel

4

31 may be placed in the display casing in place of the panel 24 carrying the movable scenic or pictorial band, or, if desired both panels may be used superposed one over the other.

A device such as described allows for considerable variety of attractive display. The message-bearing band 14 may readily be changed by simply removing the back panel 2 and inserting a different band. The colour of the display as reflected from the adjustable mirror may be changed from time to time and the moving presentation in the front panel of the casing may also be altered.

The entire device may be made large enough to occupy the full width of a display window or it may be made small enough to be placed upon a shelf or other support arranged in a very small area but the display presented by the operation of the device will be interesting and will attract the attention of passers-by so that the message to be conveyed will receive definite attention. The apparatus is self-contained and can be operated at very small cost.

It will also be understood that the vertically arranged endless band may be made translucent and it may be lighted from within if desired by the introduction of a light between the vertical rollers.

What I claim as my invention is:

1. A display device, comprising a casing having a rigid vertical panel dividing the interior thereof, an insulated light chamber mounted on one side of said vertical panel adjacent to the top of the casing, a lamp socket mounted on said panel supporting a lamp within said insulated chamber, an endless perforated message-bearing band extending horizontally over the open top of said insulated chamber, a roller mounted at one end of said insulated chamber and supporting said band, a motor mounted on said panel and operatively connected with said roller and having its shaft extending through said panel, and mechanically operated display means arranged on the opposite side of said panel and operatively connected with the extending end of said band-operating motor shaft.

2. A display device comprising a casing having a vertical longitudinally arranged dividing panel, an insulated light casing arranged on one side of said panel at its upper end, a message bearing band extending over said light casing, a roller supporting said message-bearing band supported from said vertical panel and having its shaft extending horizontally therethrough, a motor mounted on said panel below said roller having its shaft extending through said panel, a flexible belt connecting the motor shaft with said roller shaft, and mechanically operated display means operatively connected to said motor shaft and arranged in the chamber separated from the chamber housing said light chamber and endless band.

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