June 30, 1931. W. NOWACK ET AL 1,812,547

ADVERTISING DEVICE

Filed March 14, 1929

Fig. 1

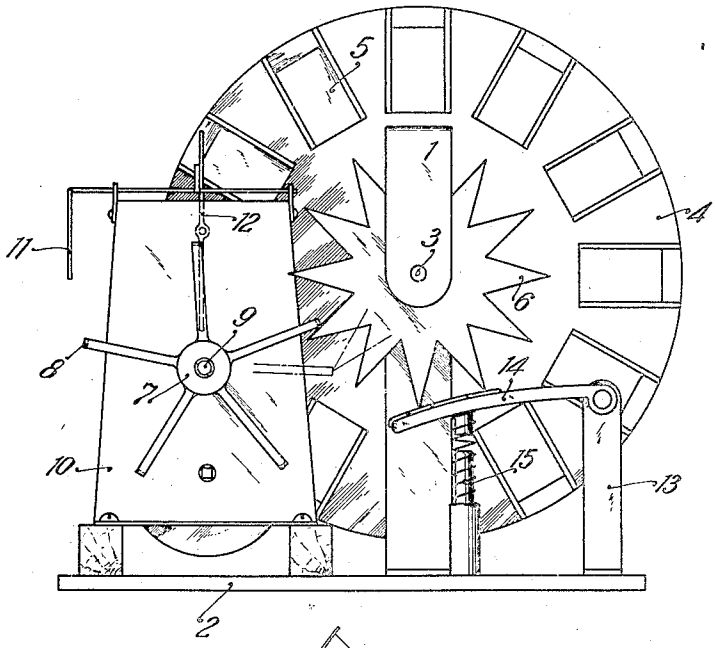
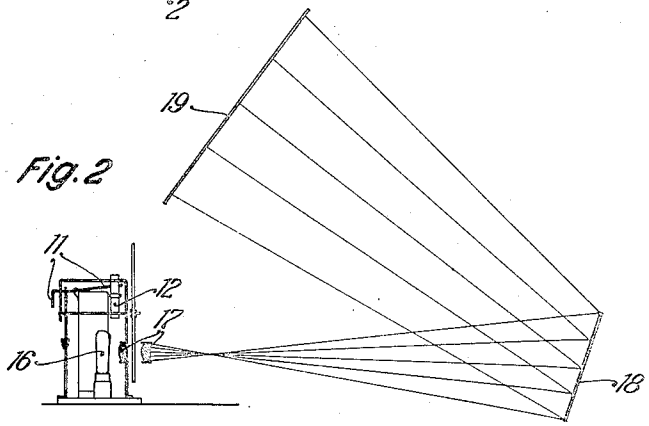


Fig. 2



W. Nowack &
H. Buwert
INVENTORS

By: Marks & Clark
ATTYS.

Patented June 30, 1931

1,812,547

UNITED STATES PATENT OFFICE

WILHELM NOWACK, OF BERLIN, AND HANS BUWERT, OF BERLIN-WILMERSDORF, GERMANY

ADVERTISING DEVICE

Application filed March 14, 1929, Serial No. 347,119, and in Germany September 4, 1928.

This invention relates to apparatus for the projecting of changing pictures for advertising and other purposes.

In the projecting of advertising and like pictures the changing has a rule hitherto been effected by hand, which, having regard to the great heating of the projecting apparatus, is associated with a certain amount of danger, and furthermore also results in the disadvantage that the intervals of time between successive individual projections prove more or less irregular.

The object of the present invention is to remove this objection and to provide a device which will effect the changing of the pictures projected in a completely automatic manner and at exactly equal intervals of time.

This object is attained according to the invention owing to the fact that the pictures to be projected rest in a carrier provided with suitable window apertures, which is fed forward by means of a ratchet mechanism at regular intervals by an amount corresponding to the distance between two successive pictures.

One constructional example of the invention is illustrated in the accompanying drawings, in which

Figure 1 is an elevation view of the apparatus, and

Figure 2 is a diagrammatic view of the projection plant as a whole, on a smaller scale.

The ratchet feeding device consists of a preferably U-shaped frame 1, which is secured in any convenient manner to a base plate 2, and serves to support a shaft 3, upon which, outside the frame 1, a disc 4 of glass or other transparent material is non-rotatably mounted. The disc 4 serves for the reception of the pictures 5 to be projected, which are slid into pocket-like compartments each provided with a window-like notch, in a further disc consisting of two sheets of paper stuck together. This paper disc is stuck on to the glass disc 4 on one side in such a manner that its window notches also form as it were windows in the disc 4.

Between the two limbs of the frame 1 is secured upon the shaft 3 a ratchet star 6 having a number of pointed arms corresponding to the number of picture windows. With this ratchet star 6 there co-operates a second ratchet star 7, which has ratchet arms 8 bent at right angles at the ends. This second ratchet star 7 is mounted fast upon the shaft 9 of a clockwork mechanism 10, which exhibits the usual construction of such spring mechanisms, and, by means of a locking lever 11, which can co-operate with a member 12 of the clock work mechanism, is set into and out of operation as required. As soon as the clockwork mechanism 10, by the raising of the locking lever 11, is set going, and the ratchet star 7, 8 thereby set in rotation, the arm 8 of the ratchet star 7, which is at the time directed towards the ratchet star 6 comes into touch, in the position shown in full lines in Figure 1, with one of the arms of the ratchet star 6, and takes with it, in its angular rotation, the said arm of the ratchet star 6, and thereby takes the ratchet star itself into the position shown in dot and dash lines, and then releases it again. The ratchet star 6 now remains in this position of rest until, after a more or less considerable further angular rotation of the ratchet star 7, 8, the next arm 8, directed upwards in Figure 1, comes into touch with the next arm of the ratchet star 6, and thereby brings about a further partial rotation of the ratchet star 6, and therefore of the disc 4.

The disc 4 is accordingly rotated and stopped intermittently, together with the pictures 5 carried by it, the duration of each period of rest corresponding to the desired duration of projection of an individual picture.

In order to keep the picture which is being projected at any particular time accurately in the projection position, there co-operates with the ratchet star 6 a pressure arm 14 rotatably secured to a support 13 on the base plate 2, the said pressure arm being constantly subject to the action of a pressure spring 15, and imparting an impulse to the ratchet arm 6 until the points of two of its arms bear upon the pressure surface of the arm 14. Obviously the force of the spring

15 should then not be so great as to overcome the pressure of the ratchet star 7, 8.

In order to facilitate altering the pictures to be projected, the disc 4 is preferably secured to the shaft 6 in a readily releasable manner.

The projecting of the pictures 5 is effected by means of a suitable projector, which according to Fig. 2 preferably consists of a source of light 16, a set of lenses 17, a mirror 18, and a roughened disc or other receiving surface 19. It would obviously also be possible for the projecting of the pictures to be effected directly upon a suitable screen surface.

What we claim is:—

Apparatus for projecting changing advertisement and other pictures, comprising a carrier in the form of a composite rotatable disc consisting of a transparent disc and two sheets of paper formed with window-like notch-shaped openings registering with one another, the paper sheets being stuck together except round the margins of the notch-shaped openings and being stuck on to one side of the transparent disc, slides bearing the pictures to be projected, adapted to rest in the compartments formed by the free margins of the notch-shaped openings in the paper discs, and a ratchet mechanism adapted to feed the carrier forward intermittently at regular intervals of time through a distance equal to the distance between two adjacent pictures.

In testimony whereof we have signed our names to this specification.

WILHELM NOWACK.
HANS BUWERT.