June 17, 1930. H. M. DUCHARD 1,765,215

PUBLICITY APPARATUS

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Fig. 1.

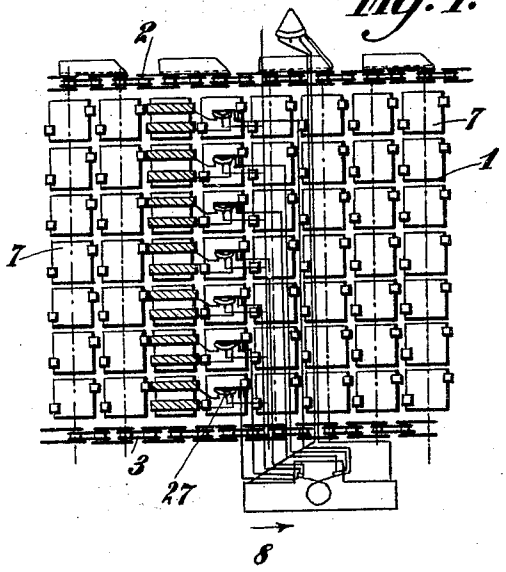


Fig. 2.

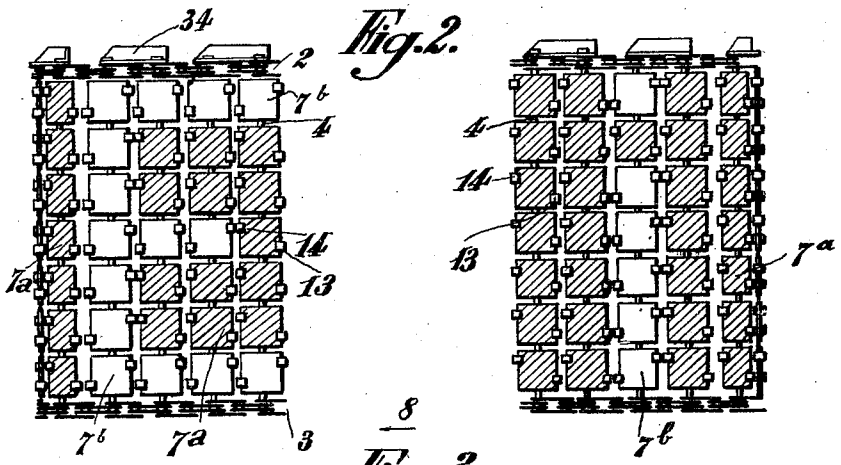
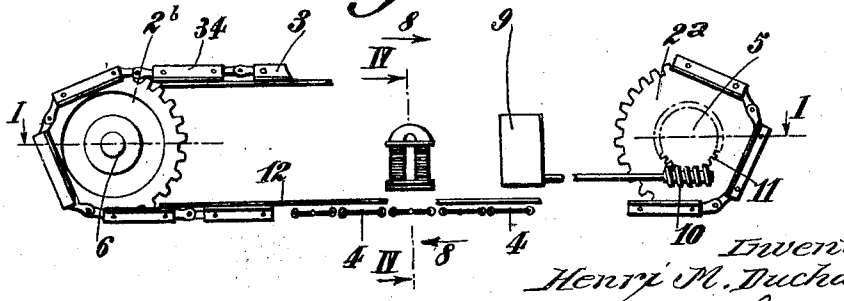


Fig. 3.



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Fig. 4.

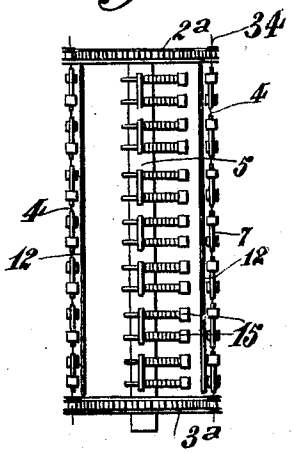


Fig. 10.

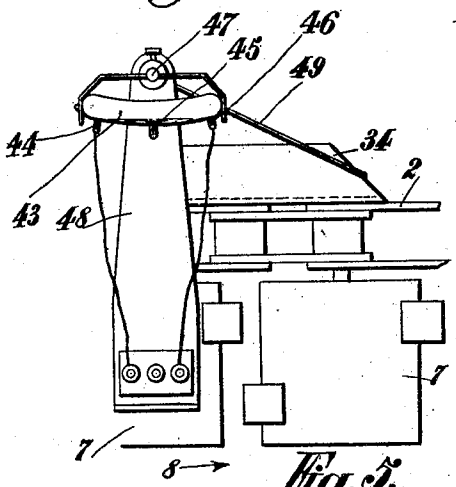
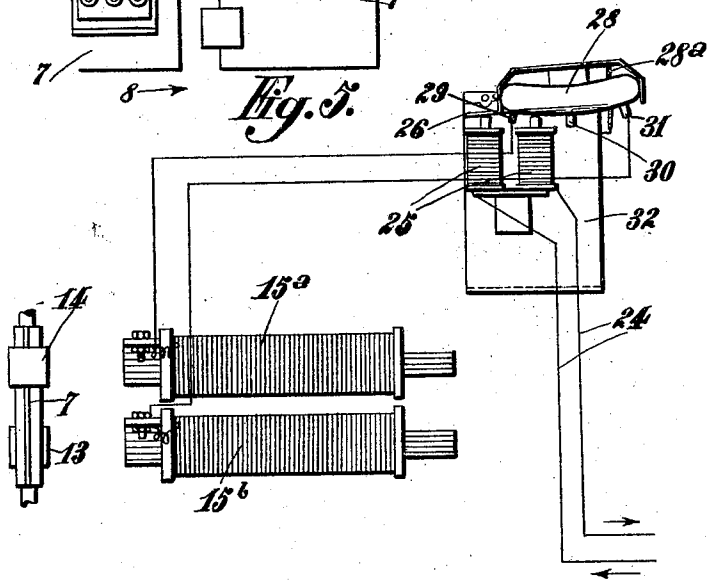


Fig. 5.

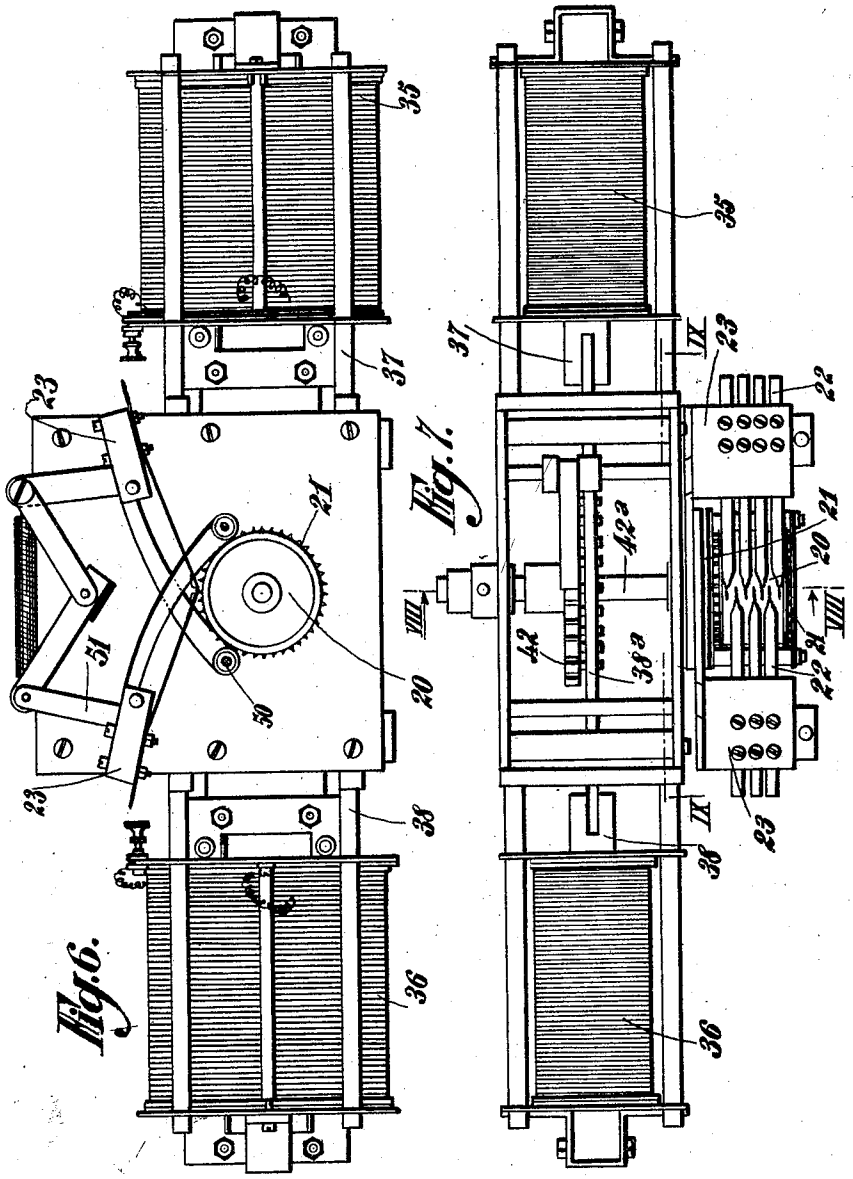


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Fig. 15.

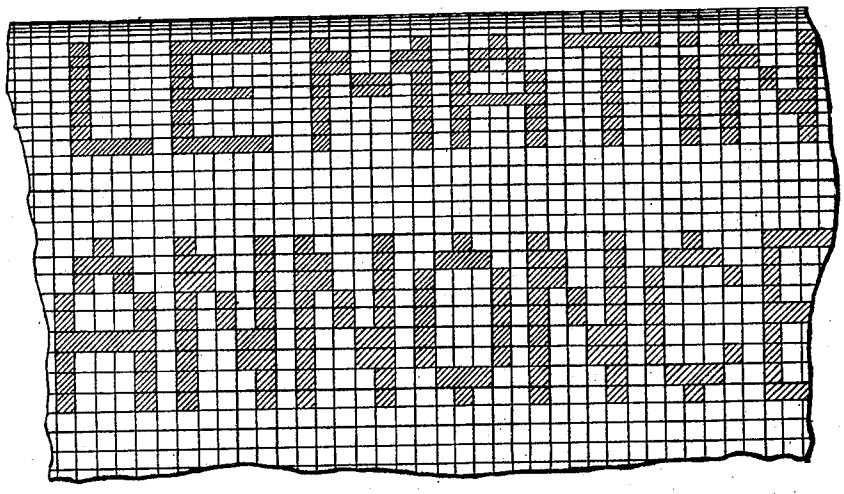


Fig. 8.

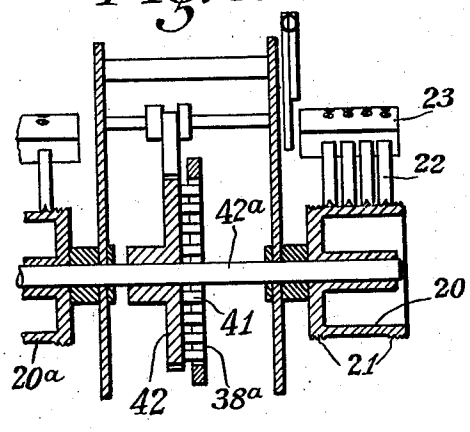
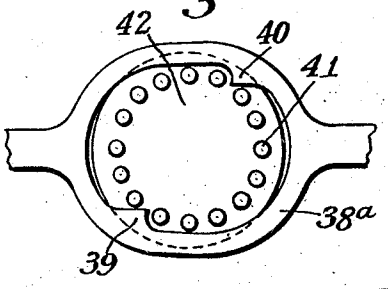


Fig. 9.



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Fig. 11.

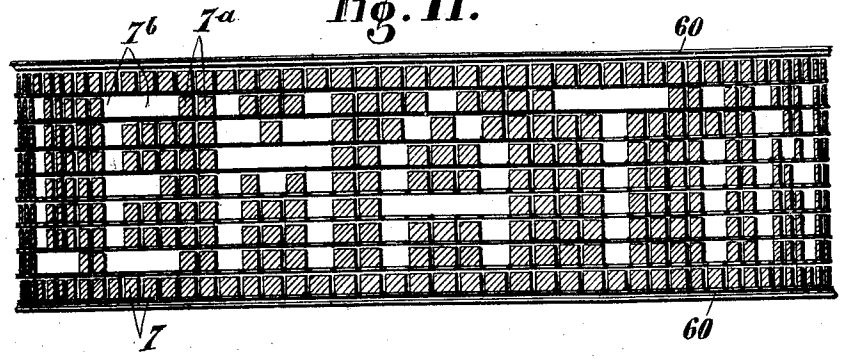
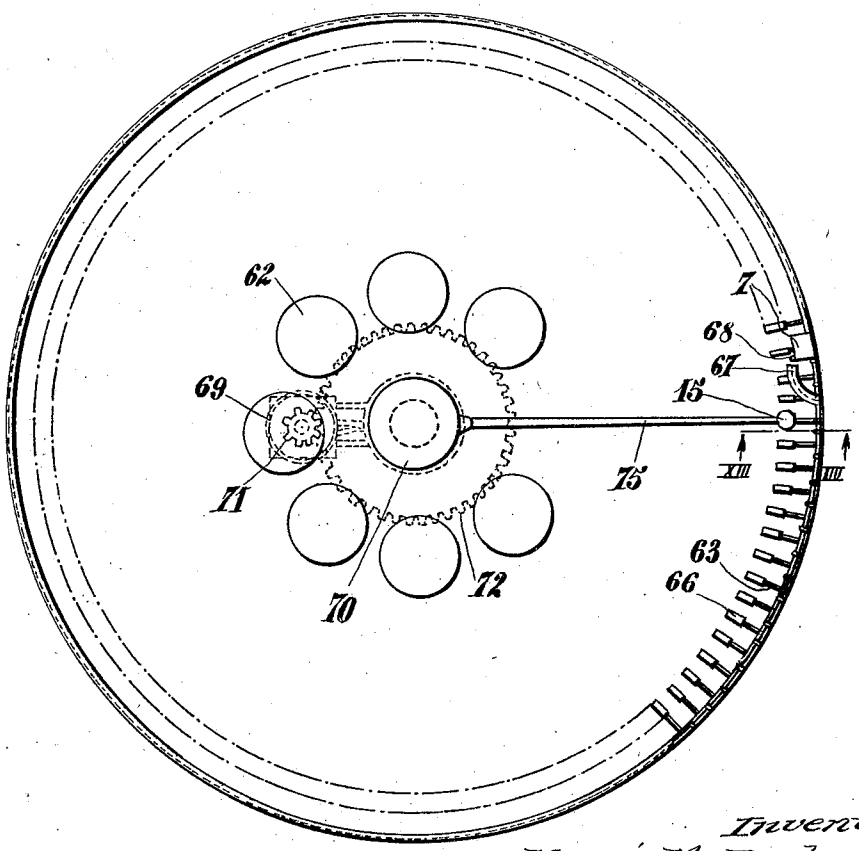


Fig. 12.



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Fig. 13.

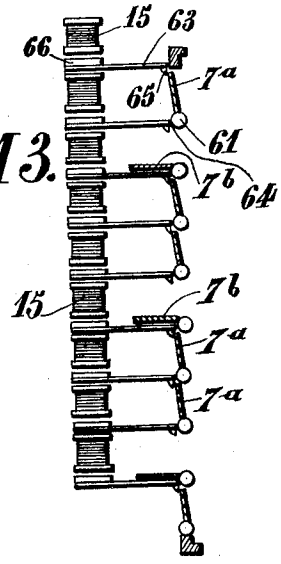


Fig. 12a.

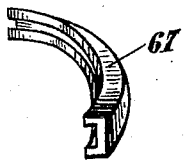
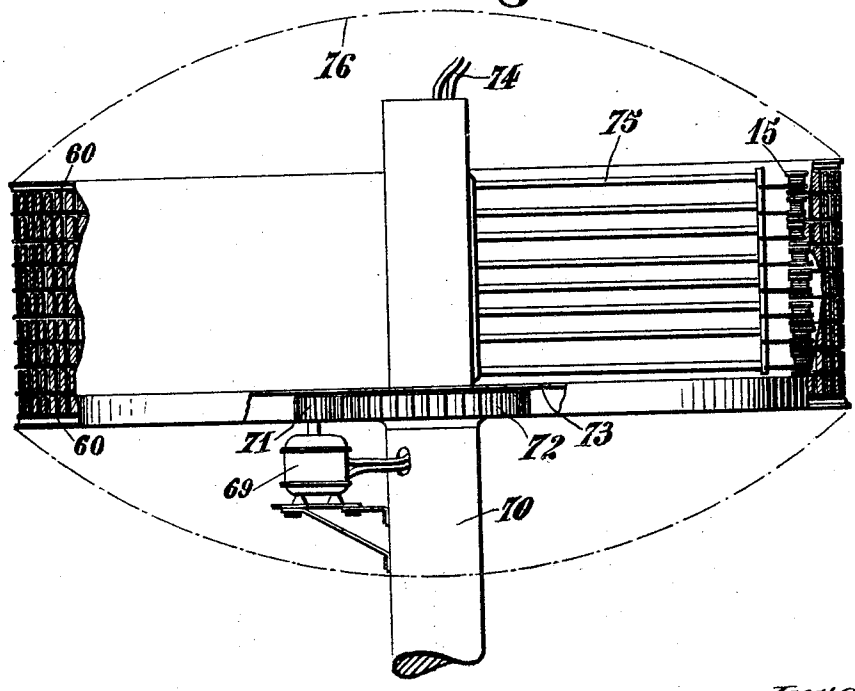


Fig. 14.



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UNITED STATES PATENT OFFICE

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PUBLICITY APPARATUS

Application filed August 6, 1928, Serial No. 297,819, and in Germany August 22, 1927.

The present invention relates to a publicity apparatus adapted to pass before the public gaze a continuous sequence of advertisements (drawings or script) as obtains with the luminous gazettes now installed in the main thoroughfares of large cities.

The object of the present invention is to provide a publicity apparatus differing totally from the luminous gazettes alluded to above in that no electric lamp is used in the apparatus according to the invention, for the formation of the letters to be displayed. The apparatus is constituted by elements visible in broad daylight, which affords the great advantage of enabling the publicity apparatus to be utilized every day for many hours and likewise at night by throwing an artificial light on the elements.

The publicity apparatus according to the invention broadly comprises a continuously moving endless member which is provided with shutters adapted to pivot about spindles secured to said endless member, whereby said shutters can take up two positions in each of which they exhibit a different appearance to the public gaze, so that certain shutters may be contrasted with others and, hence, letters may be formed which move with the endless member and may constitute advertisements.

According to a form of embodiment, the shutters display one or other of their faces, according to their position, the contrast being obtained by colouring the faces differently.

According to another form of embodiment, the contrast is obtained simply by the fact that in one of the positions the shutter covers the window corresponding thereto, whilst, in the other position, it uncovers the window which is then clearly distinguishable from the adjacent shutters, it being possible to emphasize such distinction by making use of a central luminous source common to all the windows.

The endless member may comprise two endless belts located in parallel relation to each other and secured together with the shutters located in between them. Moreover, the endless belts may be constituted either by chains passing over sprocket wheels or by ordinary wheels.

The pivot movement of the shutters may be advantageously controlled through electro-magnets energized at the opportune moments by providing a contact in their circuit which is opened and closed through the instrumentality of a perforate strip of the type which is familiar in this kind of apparatus and which moves in synchronism with the endless member carrying the shutters.

The invention has been illustrated diagrammatically and merely by way of example in the accompanying drawings in which:

Fig. 1 is a diagrammatic sectional elevation on I—I Fig. 3, of the apparatus unit in accordance with the invention.

Fig. 2 is an elevation of the endless member and the shutters.

Fig. 3 is a plan view corresponding to that of Fig. 2.

Fig. 4 is a section on IV—IV, Fig. 3.

Fig. 5 is an enlarged detail view illustrating the arrangements of one of the groups of electromagnets actuating the shutters.

Fig. 6 is an enlarged elevational view of the device for progressing the perforate strip.

Fig. 7 is a plan view corresponding to that of Fig. 6.

Fig. 8 is a section on VIII—VIII, Fig. 7.

Fig. 9 is a fragmentary sectional view on IX—IX, Fig. 7.

Fig. 10 is a detail view showing the circuit breaker cooperating with the endless member for controlling the device for progressing the perforate strip.

Fig. 11 shows, in elevation, a bank of shutters according to another constructional form of the apparatus.

Fig. 12 is the corresponding plan view.

Fig. 12a is a perspective detail view.

Fig. 13 is a section on XIII—XIII Fig. 12.

Fig. 14 is a sectional elevation of the apparatus unit.

Fig. 15 shows another modified form of construction.

The publicity apparatus according to the invention is broadly constituted by an endless member comprehensively designated by 1, Fig. 1, and which is constituted by two chains 2 and 3 (see Figs. 2 to 4) located parallel to each other and connected together by equidistant parallel spindles 4 which are perpendicular to the chains 2 and 3.

The chains 2 and 3 are mounted on sprocket wheels, the wheels 2^a and 2^b being associated, for example, with the chain 2, and the wheels 3^a and 3^b with the chain 3. The wheels 2^a and 3^a are mounted on the ends of a shaft 5, and the wheels 2^b and 3^b are mounted in similar fashion on the ends of a shaft 6 parallel to the shaft 5.

A plurality of shutters 7 are loosely mounted on the spindles 4 in aligned relation in order to form rows of shutters parallel to the chains 2 and 3. Suitable means are provided to prevent the shutters 7 from sliding longitudinally over the spindles 4. The shutters 7 have the form of a polygon, in the example illustrated they have been shown square, and their two faces are of different colours which clash, the face 7^a being blue for example, whilst the face 7^b is white.

The shutters 7 are intended to display one or the other of their faces, so as to form letters which taken together constitute an advertisement.

In order that the letters formed through the instrumentality of the shutters 7 shall stand out sharply, the shutters 7 entering into the composition of the letters will display their white surface 7^b, whilst at the same instant the other shutters will display their blue face 7^a in order to form a kind of background. Fig. 2 shows the letter E formed after this manner.

A continuous translational movement in the direction of the arrow 8 is imparted to the endless member 1 by a motor 9 driving, through a suitable gear ratio, a worm 10 meshing with a worm wheel 11 mounted on the shaft 5. In this case, only the wheels 2^a and 3^a are drivers and must hence be keyed to the shaft 5. The wheels 2^b and 3^b may, on the other hand, be loosely mounted on the shaft 6.

In order to prevent indiscriminate pivoting of the shutters 7 about the spindles 4 during the movement of the member 1, this latter has associated therewith a fixed guide 12 constituted for example by a metal plate. At some point along its length, the guide 12 is however broken off in order to allow an operator to pivot the shutters 7 as they pass before this open space, so as to form the letters to be displayed.

It is however practically impossible to perform this operation by hand owing to the comparatively high speed at which the endless member must necessarily move in order to produce satisfactory results. To this end, the invention provides mechanical means for automatically actuating each shutter as it passes before the open space left by the guide 12.

To this end, and in accordance with a form of embodiment of the invention, each shutter 7 is fitted with two magnetic masses 13 and 14 situated on either side of the shutter 7 substantially diagonally opposite each other.

With the magnetic masses 13 and 14 there respectively co-operate electromagnets comprehensively designated by 15 (Figs. 3 and 4) and located in aligned relation facing the open space left by the guide 12 and lying parallel to the pivot spindles 4 of the shutters 7. These electromagnets operate in pairs, each pair of electromagnets corresponding to a row of shutters 7 perpendicular to the spindles 4, and each electromagnet of one of the groups cooperates with one of the magnetic masses 13 or 14 of the corresponding row of shutters 7 defined above.

The two electromagnets of the same group never operate together but, however, one electromagnet is always in operation in one group.

The several groups of electromagnets in question are adapted to act on the shutters 7 so as to cause them to display either the face 7^a, or the face 7^b, depending on whether they do or do not enter into the composition of the letter to be displayed. As will be more clearly apparent from that part of the description concerned with the mode of operation of the apparatus, the upper electromagnet of any one of the groups of electromagnets co-operates with the masses 14 of a given row of shutters in order to rotate these latter so that they shall display the face 7^b. On the contrary, the lower electromagnet of the group under consideration cooperates with the masses 13 of the same row of shutters 7 so as to rotate the latter to display their face 7^a.

In order to energize, or in other words, in order to cause one or the other of the electromagnets of any one of the groups of electromagnets to operate, it is essential that these latter shall be directly controlled by the device carrying the letters to be reproduced on the endless member 1, through the medium of the shutters 7. In the example illustrated, it will be assumed that the device carrying the letters to be reproduced is constituted by a known type of perforate strip in which the said letters are punched.

According to the invention, the perforate strip is supported and driven by a device illustrated in detail in Figs. 6 to 9. The

supporting and driving member of the strip is constituted by a drum 20 under voltage on either side of which are provided a row of teeth 21 which engage with corresponding strip feeding perforations in the perforate strip when the latter is placed on the drum 20. The perforations may be akin to those provided on the edges of ordinary motion picture films. The drum 20 is rotated in order to progress the perforate strip in continuous manner through the medium of a special mechanism which will be described in detail presently.

Conducting contacts 22 cooperating with the drum 20 are mounted on insulating supports 23 and are adapted to contact with said drum 20 through perforations made in the perforate strip to form the letters to be reproduced. The contacts 22 are equal in number to the transverse perforations of the strip and, in consequence, to the number of shutters 7 mounted on a spindle 4 or yet again to the number of pairs of electromagnets provided for actuating the shutters 7.

Each contact 22 is electrically connected by circuit 24 to an electromagnet 25 (see Fig. 5) adapted to act on a magnetic armature 26 secured to a mercury circuit-breaker 27 constituted by a tube 28 containing mercury and fitted with three terminals 29, 30 and 31. The terminals 29 and 30 are connected to the electromagnet 15^a and the terminals 30 and 31 are connected to the electromagnet 15^b. The tube 28 is pivotally mounted at its centre on a fixed support 32.

The circuit-breaker 27 is inserted in an electric circuit feeding one of the pairs of electromagnets. Of course, each pair of electromagnets is provided with a circuit-breaker of the character described.

With this arrangement, depending on whether the contact 22 contacts with the drum 20 under voltage, through a perforation of the strip, or remains in contact with the strip which is an insulator, one or other of the electromagnets 15^a or 15^b of the group of two electromagnets corresponding to such contact 22 will be energized. For, when the contact 22 contacts with the drum 20, voltage is applied to the circuit 24 and the electromagnet 25 is energized, attracting the armature 26 of the circuit-breaker 27. The latter rocks in the direction of the arrow 33 and the mercury contained in the tube 28 makes an electrical connection between the terminals 29 and 30. Current then flows through the electromagnet 15^a which can then attract the magnetic mass 14 of the shutter 7 which is at that moment opposite the electromagnet 15^a.

On the contrary, when the contact 22 remains in contact with the perforate strip, voltage is no longer applied to the circuit 24, the electromagnet 25 no longer acts on the armature 26 and the tube 28 rocks back in the opposite direction under the action of return spring 28^a. An electric connection is established between the terminals 30 and 31 and current flows to the electromagnet 15^b which can then act on the magnetic mass 13 of the shutter 7 which at that moment happens to be opposite the electromagnet 15^b.

It has been pointed out in the foregoing that the actuation of the shutters 7 by the electromagnets 15^a and 15^b is solely conditioned by the position assumed by the perforate strip on the drum 20 under voltage. In order satisfactorily to reproduce on the endless member 1 the letters formed on the perforate strip, it is consequently essential that the movements of the perforate strip and the endless member shall be synchronized. To this end, the strip progressing device is under the direct control of the endless member 1.

In order to achieve this result, on the upper face of the chain 2 of the endless member 1 (see Figs. 1, 2, 3 and 10) are fitted a plurality of inclined members 34 constituted by angle irons having the flange perpendicular to the chain 2 cut away in the manner illustrated. The inclined members 34 connect together two consecutive spindles 4, two consecutive inclined members 34 being spaced however slightly less apart than two consecutive spindles 4.

With the same end in view, the device for progressing the perforate strip proper is constituted by two electromagnets 35 and 36 adapted to act respectively on two oppositely disposed magnetic armatures 37 and 38, both secured to a disc 38^a provided internally with two fingers 39 and 40 at opposite ends of a diameter. The fingers 39 and 40 may engage with pins 41 provided on one of the faces of a disc 42 mounted on a spindle 42^a carrying the drum 20 under voltage.

The two electromagnets 35 and 36 are mounted in the same electric circuit in which is inserted a mercury circuit breaker illustrated in Fig. 10. Such circuit breaker is constituted by a tube 43 fitted with three terminals 44, 45 and 46, and secured centrally thereof to a pin 47 pivotally mounted on a fixed standard 48. The pin 47 is provided with a pointer 49 and the standard 48 is so located relative to the endless member 1, that when the pointer 49 bears against the chain 2, an electric contact is established between the terminals 45 and 46 whilst, when the pointer 49 bears against the inclined member 34, an electric contact is established between the terminals 44 and 45. In this manner, if the terminals 45 and 46 are electrically connected to the electromagnet 35 and the terminals 44 and 45 to the electromagnet 36, the electromagnet 35 will be energized when the pointer 49 rests on the chain 2 and the electromagnet 36 will be energized

when the pointer 49 rests on the inclined member 34.

Since the endless member 1 has continuous movement imparted thereto and in view of the position of the inclined members 34, the electromagnets 35 and 36 will be alternately energized the effect of which will be to impart continuous alternating movements to the disc 38ª.

The consequence is that the fingers 39 and 40 will alternately engage with the pins 41 with consequent rotation of the disc 42 and hence of the spindle 42ª of the drum 20 through a given angle. This angle is so calculated that the perforate strip will advance one row of transverse perforations each time the endless member 1 has advanced one row of axial shutters 7 relative to the group of electromagnets 15.

Instead of driving the drum 20 in the manner just described, an appropriate mechanical drive directly controlled by one or other of the chains 2 or 3 might be provided. Such form of drive will be simpler when the strip progressing device is proximate the endless member.

Two rollers 50 mounted on a system of pin-jointed levers 51 maintain the perforate strip on the drum 20. The rollers 50 serve the additional purpose of raising the contacts 22 to lift them out of contact both with the perforate strip and the drum 20.

A second drum 20ª may be mounted on the spindle 42ª as well as a system of contacts and levers similar to that described. The object of the second system is to enable the contacts to be replaced without consequent stoppage of the apparatus, a perforate strip being mounted on each drum.

The publicity apparatus described, which may be mounted on a roof for example, operates as follows:

With all the shutters 7 of the endless member 1 arranged so as to display the blue face 7ª, the perforate strip is placed on the drum 20 under voltage and the motor 9 started up. The endless member 1 is set in motion and actuates the device for progressing the perforate strip.

As the perforate strip progresses, the contacts 22 come into contact with the drum 20 or remain in contact with the perforate strip. In the first instance, the electromagnet 15ª corresponding to the masses 14 attracts the mass 14 of the shutter 7 then opposite the energized electromagnet 15ª. The mass 14 is attracted to the energized electromagnet and causes the corresponding shutter 7 to pivot about the spindle 4. With the endless member 1 continuing to move in the direction of the arrow 8, the mass 14 leaves the electromagnet 15ª which incidentally is no longer energized if the corresponding contact 22 has come into contact with the perforate strip due to this latter's progression. The shutter 7 which has been attracted and has pivoted, now displays its white face 7ᵇ.

Of course, what has been said with regard to a shutter 7 likewise applies to all the shutters 7 of a given spindle since as many pairs of electromagnets obtain as there are shutters 7 on a given spindle 4. It is likewise obvious that all the shutters 7 are not necessarily turned so as to display their face 7ᵇ, for this solely depends on the position, relative to the drum 20, of the contact 22 corresponding to the group of electromagnets under consideration. Each axial row of shutters is successively acted upon in this wise and the letters of the advertisement formed.

When an axial row of such shutters has been displayed and returns before the electromagnets, according to whether the visible face of such shutters is blue or white and according to whether the shutters form part of or do not form part of the new letter to be displayed, the shutters remain in position or are pivoted.

It has been assumed in the preceding description that the endless member is constituted by two endless chains, that is to say, by two flexible elements, which chains may naturally without inconvenience take the form of sinuous surfaces.

The endless member may be constituted by a drum as has been illustrated in Figs. 11 to 14. As may be seen from these figures, the apparatus comprises a drum formed by two wheels 60 arranged parallel to and secured to each other and between which the shutters 7 are mounted. These shutters may be constructed in the same manner as those described above, that is to say, they may be arranged so as to display either one or the other of their faces to the public gaze. However, in this case a modified form of construction of the shutters has been illustrated according to which they are pivoted about one of their edges, preferably the horizontal lower edge 61, so that they may be brought (see Fig. 13) either into the position in which they cover the corresponding window (such is the case of the shutter 7ª) or into the position in which they completely uncover the window (such is the case of the shutter 7ᵇ). The window thus uncovered forms a marked contract with the adjacent shutters.

In this manner, a kind of cylinder of shutters is obtained rotating uniformly and forming letters under the same conditions as obtained with the apparatus previously described. In order to distinguish the letters more clearly, a central luminous source common to all the windows and constituted, for example, by a series of lamps 62 (Fig. 12) may be located to advantage at the centre of the disc.

It will be noticed that by pivoting the

shutters about their lower edge, they may be readily manipulated for they may be opened by ordinary gravity effect. They are closed by means of a cam to be described presently. Under these circumstances, only one electromagnet 15 need be provided instead of the two electromagnets 15^a and 15^b previously described. The shutters are actuated in the following manner:

Each of the shutters 7 is maintained in its closure position (see Fig. 13) by a latch 63 pivotally mounted at its end 64 and having a profiled nose 65 engaging with the end of the corresponding shutter 7. The other end of the latch 63 includes the magnetic mass 66 cooperating with the corresponding electromagnet 15. The electromagnet is energized in the same manner as previously, that is to say when a hole in the perforate strip comes opposite a contact stud. When the electromagnet 15 is energized, it attracts the latch 63 which releases the shutter 7 and the latter falls under gravity into the horizontal position in which it uncovers the corresponding window. Of course, as in the previous case, there is only one vertical row of electromagnets 15, which row includes as many electromagnets as there are horizontal rows of shutters 7. The vertical rows of shutters successively pass before the row of electromagnets 15 and the shutters are actuated according to the arrangement of the holes in the perforate strip.

Each horizontal row of shutters has associated therewith a cam 67 for returning to closure position those shutters which had previously been brought into open position, each cam being located forward of the row of electromagnets 15 and so shaped as to be engaged by the nipples 68 of those shutters of its row which are open, so as to return the shutters to the closure position. Each cam 67 will naturally have the profile desired which will approach to a helicoidal profile as is apparent from Figs. 12 and 12^a illustrating the cam 67 in perspective.

This device is particularly advantageous in connection with small installations. It will be observed that, as has been illustrated in Fig. 14, the electric driving motor 69 may be mounted direct on a fixed central shaft 70 relative to which the wheels 60 may rotate freely, such wheels being driven for example through a pinion 71 mounted on the motor shaft and a spur wheel 72 secured to the lower wheel 60 by the web 73. The perforate strip and the mechanisms pertaining thereto for driving, contacting and synchronizing, may be located without the apparatus and the current leads 74 for the electromagnet 15 which latter are mounted on arms 75 radiating from the shaft 70 may be brought up through the hollow shaft 70. The cylinder formed by the shutters and the wheels may, in order to lend artistic effect, be completed by upper and lower spherical caps illustrated in chain dotted lines at 76. The compact ball thus formed may either be supported on a pedestal or be suspended. In this manner an apparatus of reduced bulk and pleasing appearance is obtained. The apparatus may operate by day just as well as by night, the contrast between the open windows and the closed shutters being enhanced in broad daylight by utilizing any known type of device for concentrating the solar light.

It will be noticed that the form of construction of the shutters described with reference to the apparatus of Figs. 11 and 14 may be applied under the same conditions to the apparatus previously described.

Likewise, in both these apparatus, the shutters might be shifted vertically instead of transversely, as illustrated in Fig. 15. This arrangement however calls for a greater number of rows of shutters.

The apparatus according to the invention affords numerous advantages. As has been seen, it may be utilized by day just as well as by night and it entails a far less expenditure of power than do the present luminous gazettes.

It is moreover self-evident that the invention has only been described and illustrated here in a purely explanatory but by no means limitative manner, and that it might be subjected to various modifications of detail without departing from the spirit thereof.

I claim:

1. Publicity apparatus for passing advertisements in continuous succession before the public gaze, said apparatus comprising, in combination, an endless member, means for imparting continuous movement to said endless member, a plurality of shutters disposed in rows and capable of assuming two different positions, a plurality of spindles carried by said endless member, each of said spindles carrying a row of shutters pivotally mounted thereon, and a plurality of means for pivoting said shutters whereby an advertisement sign is created by the contrasted positions of said shutters.

2. Publicity apparatus for passing advertisements in continuous succession before the public gaze, said apparatus comprising, in combination, an endless member, means for imparting continuous movement to said endless member, a plurality of shutters disposed in rows and capable of assuming two different positions, a plurality of spindles carried by said endless member, each of said spindles carrying a row of shutters pivotally mounted thereon, means cooperating with each row of shutters for pivoting the latter whereby an advertisement sign is created by the contrasted positions of said shutters, and means for selecting the shutter pivoting means to be put in operation.

3. Publicity apparatus for passing advertisements in continuous succession before the public gaze, said apparatus comprising, in combination, an endless member, means for imparting continuous movement to said endless member, a plurality of shutters disposed in rows and capable of assuming two different positions, a plurality of spindles carried by said endless member, each of said spindles carrying a row of shutters pivotally mounted thereon, means cooperating with each row of shutters for pivoting the latter whereby an advertisement sign is created by the contrasted positions of said shutters, means for selecting the shutter pivoting means to be put in operation, and means for actuating said selecting means in synchronism with said endless member.

4. Publicity apparatus for passing advertisements in continuous succession before the public gaze, said apparatus comprising, in combination, an endless member, means for imparting continuous movement to said endless member, a plurality of shutters pivotally mounted in rows on said endless member and capable of assuming two different positions whereby an advertisement sign is created by said shutters in contrasted positions, an electromagnet located on a level with each row of shutters and adapted, when energized, to pivot the shutter then opposite it, a source of current for energizing said electromagnets, and switches for closing circuits through said electromagnets.

5. Publicity apparatus for passing advertisements in continuous succession before the public gaze, said apparatus comprising, in combination, an endless member, means for imparting continuous movement to said endless member, a plurality of shutters pivotally mounted in rows on said endless member and capable of assuming two different positions whereby an advertisement sign is created by said shutters in contrasted positions, an electromagnet located on a level with each row of shutters and adapted, when energized, to pivot the shutter then opposite it, a source of current for energizing said electromagnets, switches for closing circuits through said electromagnets, and means for selectively actuating said switches.

6. Publicity apparatus for passing advertisements in continuous succession before the public gaze, said apparatus comprising, in combination, an endless member, means for imparting continuous movement to said endless member, a plurality of shutters pivotally mounted in rows on said endless member and capable of assuming two different positions whereby an advertisement sign is created by said shutters in contrasted positions, an electromagnet located on a level with each row of shutters and adapted, when energized, to pivot the shutter then opposite it, a source of current for energizing said electromagnets, switches for closing circuits through said electromagnets, means for selectively actuating said switches, and means for controlling said switch selecting means in synchronism with said endless member.

7. Publicity apparatus for passing advertisements in continuous succession before the public gaze, said apparatus comprising, in combination, an endless member, means for imparting continuous movement to said endless member, a plurality of shutters pivotally mounted in rows on said endless member and capable of assuming two different positions whereby an advertisement sign is created by said shutters in contrasted positions, an electromagnet located on a level with each row of shutters and adapted, when energized, to pivot the shutter then opposite it, a source of current for energizing said electromagnets, switches for closing circuits through said electromagnets, a rotating drum, means for applying voltage to said drum, a strip progressed by said drum and having perforations spaced according to the advertisement sign to be reproduced, and a plurality of contact fingers respectively connected to said switches and rubbing over said strip, said fingers when contacting with said drum through said strip perforations transmitting current for actuating said switches.

8. Publicity apparatus for passing advertisements in continuous succession before the public gaze, said apparatus comprising, in combination, an endless member, means for imparting continuous movement to said endless member, a plurality of shutters pivotally mounted in rows on said endless member and capable of assuming two different positions whereby an advertisement sign is created by said shutters in contrasted positions, an electromagnet located on a level with each row of shutters and adapted, when energized, to pivot the shutter then opposite it, a source of current for energizing said electromagnets, switches for closing circuits through said eletromagnets, a drum, means for rotating said drum in synchronism with said endless member, means for applying voltage to said drum, a strip progressed by said drum and having perforations spaced according to the advertisement sign to be reproduced, and a plurality of contact fingers respectively connected to said switches and rubbing over said strip, said fingers when contacting with said drum through said strip perforations transmitting current for actuating said switches.

9. Publicity apparatus for passing advertisements in continuous succession before the public gaze, said apparatus comprising in combination, an endless member, means for imparting continuous movement to said endless member, a plurailty of shutters pivotally mounted in rows on said endless

member and capable of assuming two different positions whereby an advertisement sign is created by said shutters in contrasted positions, an electromagnet located on a level with each row of shutters and adapted, when energized, to pivot the shutter then opposite it, a source of current for energizing said electromagnets, switches for closing circuits through said electromagnets, a drum, a pair of electromagnets, a switch, means actuated by said endless member for rocking said switch to complete a circuit through each of said electromagnets alternately, means for applying voltage to said drum, armatures to said electromagnets, a member coupling said armatures together whereby the latter are reciprocated, coupling means between said drum and said member for converting said reciprocating movement into rotary movement whereby said drum is rotated continuously in synchronized with said endless member, a strip mounted on said drum and fed forward thereby, said strip having perforations spaced according to the advertisement sign to be reproduced, and a plurality of contact fingers respectively wired to said switches and rubbing over said strip, said fingers when contacting with said drum through said strip perforations transmitting current for actuating said switches.

10. Publicity apparatus for passing advertisements in continuous succession before the public gaze, said apparatus comprising, in combination, an endless member, means for imparting continuous movement to said endless member, a plurality of shutters pivotally mounted in rows on said endless member and capable of assuming two different positions whereby an advertisement sign is created by said shutters in contrasted positions, an electromagnet located on a level with each row of shutters and adapted, when energized, to pivot the shutter then opposite it, a source of current for energizing said electromagnets, switches for closing circuits through said electromagnets, a drum, a switch adapted to rock about a given axis, a pointer mounted on said switch on said axis, a plurality of inclined members mounted in spaced relation on said endless member and over which one end of said pointer rides and thereby rocks said switch, a pair of electromagnets through which a circuit is closed alternately by said rocking switch, armatures to said electromagnets coupled together and alternately attracted to them, coupling means between said armatures and said drum for converting the reciprocating movement of said armatures into unidirectional rotation of said drum, a strip mounted on said drum and fed forward thereby, said strip having perforations spaced according to the advertisement sign to be reproduced, and a plurality of contact fingers respectively wired to said switches and rubbing over said strip, said fingers when contacting with said drum through said strip performations transmitting current for actuating said switches.

11. Publicity apparatus for passing advertisements in continuous succession before the public gaze, said apparatus comprising, in combination, an endless member, means for imparting continuous movement to said endless member, a plurality of spindles mounted on said endless member in parallel rows, a plurality of shutters pivotally mounted on said spindles in rows, each of said shutters having two differently coloured faces, a pair of electromagnets located opposite each row of shutters, a source of electric current for energizing said electromagnets, two magnetic masses mounted on each of said shutters and adapted to be respectively attracted by the two electromagnets of the corresponding pair, a switch for each pair of electromagnets adapted to occupy two positions in each of which it closes a circuit through the corresponding electromagnet of the pair, and a plurality of independent means for selecting the positions to be occupied by said switches.

12. Publicity apparatus for passing advertisements in continuous succession before the public gaze, said apparatus comprising, in combination, an endless member, means for imparting continuous movement to said endless member, a plurality of spindles mounted on said endless member in parallel rows, a plurality of shutters pivotally mounted on said spindles in rows, each of said shutters having two differently coloured faces, a pair of electromagnets located opposite each row of shutters, the two electromagnets of a pair being located vertically one below the other, a source of current for energizing said electromagnets, two magnetic masses mounted diagonally opposite each other on each of said shutters and adapted to be attracted respectively by the two electromagnets of the corresponding pair when opposite the same, a switch for each pair of electromagnets adapted to occupy two positions in each of which it closes a circuit through the corresponding electromagnet of the pair, a drum, a source of current for placing said drum under voltage, means for rotating said drum in synchronism with said endless member, a perforate strip progressed by said drum and whose perforations form the signs to be reproduced, a plurality of contact fingers rubbing over said strip and adapted to contact with said drum through the perforations of said strip, a plurality of electromagnets respectively connected to said fingers and adapted when energized by said drum to rock said switches into one of their two positions, and means tending to return said switches into the other of their two positions.

13. Publicity apparatus for passing advertisements in continuous succession before the public gaze, said apparatus comprising, in combination, an endless member, means for imparting continuous movement to said endless member, a plurality of spindles mounted on said endless member in parallel rows, a plurality of shutters pivotally mounted on said spindles in rows, each of said shutters having two differently coloured faces, a pair of electromagnets located opposite each row of shutters, a source of electric current for energizing said electromagnets whereby said shutter is made to display the face corresponding to the electromagnet energized, a strip with perforations so arranged as to form the advertisement signs to be reproduced, a drum on which said strip is mounted for progressing the same, means for rotating said drum in synchronism with said endless member, said means including a pair of electromagnets and a switch rocked alternately from one position to another for sending current through said second electromagnets alternately, a plurality of contact fingers rubbing over said strip and adapted to contact with said drum through the perforations of said strip, a plurality of electromagnets respectively connected to said fingers and adapted when energized by said drum to rock said first mentioned switches into one of their two positions, and means tending to return said switches into the other of their two positions.

HENRI MAURICE DUCHARD.