

M. E. PUDNEY.  
 APPARATUS FOR DISPLAYING ADVERTISEMENTS.  
 APPLICATION FILED JULY 26, 1911.

1,036,707.

Patented Aug. 27, 1912.  
 2 SHEETS—SHEET 1.

Fig. 1.

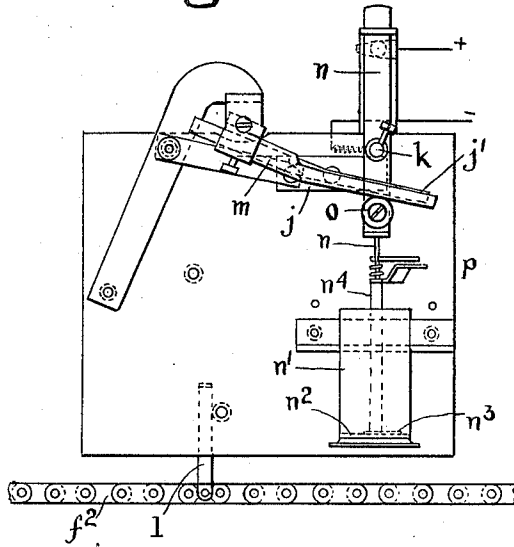


Fig. 3.

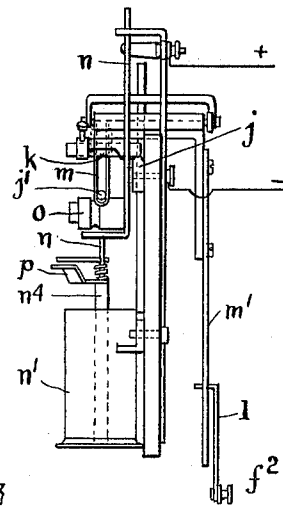
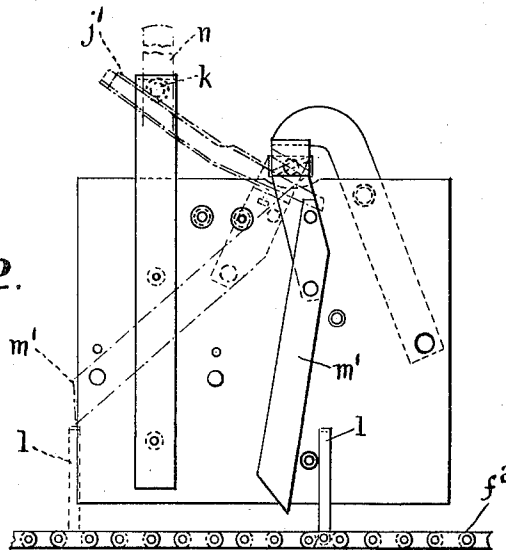


Fig. 2.



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 Leon Spring

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 BY M. H. K. White  
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2 SHEETS—SHEET 2.

Fig. 4.

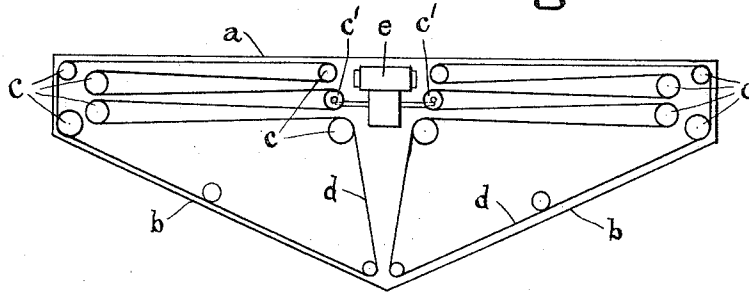


Fig. 6.

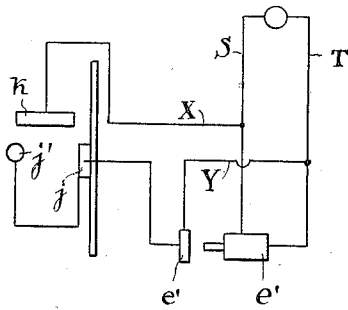
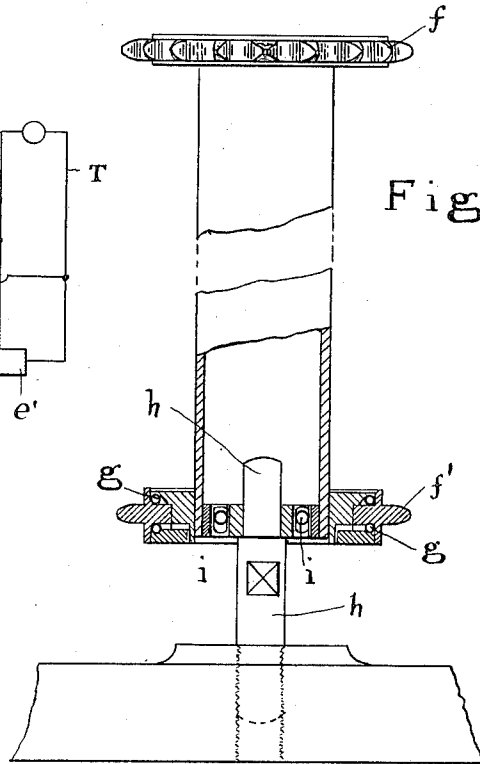


Fig. 5.



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# UNITED STATES PATENT OFFICE.

MAUD ELIZABETH PUDNEY, OF FINSBURY PARK, ENGLAND.

## APPARATUS FOR DISPLAYING ADVERTISEMENTS.

1,036,707.

Specification of Letters Patent.

Patented Aug. 27, 1912.

Application filed July 26, 1911. Serial No. 640,620.

*To all whom it may concern:*

Be it known that I, MAUD ELIZABETH PUDNEY, a subject of the King of Great Britain, residing at Finsbury Park, in the county of Middlesex, England, have invented new and useful Improvements in Apparatus for Displaying Advertisements, of which the following is a specification.

My invention relates to machinery or apparatus for displaying advertisements and more particularly to that type of such apparatus in which a number of vertical rollers are arranged around which passes an endless roll of linen or fabric which carries the advertisements, the rollers being caused to rotate and bring the advertisements in turn to the front of a case or cabinet in which the apparatus is contained so that they are visible to the public.

My invention has for its object improvements in apparatus for the purpose described by which while the endless bands carrying the advertisements are moved in the same direction by means of an electric motor they are caused to stop for a predetermined time at intervals while the pictures or advertisements are being displayed, by an automatic device for making and breaking the electric circuit, thereby throwing the clutch into and out of gear with the driving mechanism.

A further object of my invention consists in arranging the vertical rollers so that they can be adjusted in height thereby assuring the accurate position of the endless bands to display the advertisements carried thereby.

I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the improved make and break switch for automatically stopping and starting the driving mechanism. Fig. 2 is a back view thereof. Fig. 3 is an end view thereof. Fig. 4 is a plan illustrating the arrangement within the case of the rollers and the endless bands carrying the advertisements. Fig. 5 is a sectional elevation of one of the rollers, showing the chain wheels and method by which the height can be adjusted. Fig. 6 is a diagrammatic view illustrating the respective electrical circuits of the motor and the magnetic clutch and the switch in the

Similar letters refer to similar parts throughout the several views.

In carrying out my invention I construct a case *a* (Fig. 4) of suitable dimensions and preferably formed with a front of glass so that advertisements can be displayed at *b b*. The rollers *c, c* are arranged approximately as shown, and have the endless bands *d* passed around them, the rollers *c', c'* being driven by any suitable connections from the motor *e*. Each roller is provided, as shown in Fig. 5, with a chain wheel *f* fixed upon the upper end and a similar chain wheel *f'* running free upon the lower end in ball bearings *g*, the roller itself being carried upon the adjustable spindle *h* with the intervening ball bearings *i*. The upper end of the roller is retained in position by a similar adjustable spindle and ball bearing, not shown in the drawing. By unscrewing one spindle and screwing up the other, the roller can be adjusted in height. The rollers are driven by the chain passing around the chain wheels *f*.

The endless bands of fabric to which the advertisements are attached, are fastened to the two chains, which pass around the chain wheels *f* and *f'*, respectively, and by this arrangement a perfectly even and regular movement of the endless bands is obtained.

In order that the advertisements shall stop for a short time when in position to be viewed, I employ the make and break switch shown in Figs. 1, 2 and 3, for operating any suitable magnetic clutch mounted upon the motor driving the rollers and chains, thereby stopping the endless bands in a given position and restarting them after a determined interval of time. The make and break switch comprises a base board upon which is mounted a bell-crank lever, one arm *m* of which is provided with a contact *j'* while the other arm *m'* extends down in position to be actuated by suitably spaced projections *l* upon the lower chain *f'*. Parallel with the contact *j'* is another contact *j* which is mounted upon the base board and serves to establish normally a circuit with the clutch, while a third contact *k* is mounted upon a plunger *n* of a dash-pot *n'*; there being also mounted upon this plunger an insulated stop *o*. These contacts are electrically connected to the magnetic clutch upon the motor. During the travel of the

chain  $f^2$  the projections  $l$  successively actuate the arm  $m'$  to raise the contact  $j'$  into engagement with the contact  $k$  thereby maintaining the circuit through these contacts while the contacts  $j$  and  $k$  are broken during the raising of the plunger  $n$  of the dash-pot and until the projection  $l$  has passed the arm  $m'$ . When the projection  $l$  has passed and the bell crank lever is released; the contact  $j'$  falls, thereby breaking the circuit, whereupon the magnetic clutch is disengaged and the movement of the screens arrested. The screens remain stationary during the descent of the plunger  $n$  in the dash-pot  $n'$  and until the electric circuit is again established by the contact  $k$  engaging with the contact  $j'$ . By reference to Fig. 6 it will be seen that a constant current is maintained to the motor through the wires  $S$  and  $T$  and the motor is continuously driven. The magnetic clutch, which may be of any well known or desired construction, is in a branch circuit formed by the wires  $X$  and  $Y$ ; the wire  $X$  terminating in the contact  $k$  and the wire  $Y$  terminating in the contacts  $j'$  and  $j$ , which are "in parallel". When the contact  $k$  is separated from both the contacts  $j$  and  $j'$  as shown, the circuit to the clutch is broken, and the clutch  $e'$  does not operate; but when the contact  $k$  is in contact with either or both of the contacts  $j$  and  $j'$  a circuit is established to the clutch  $e'$  to cause it to operate. In order to regulate the period of time during which the screens remain stationary the piston  $n^2$  of the plunger is formed with an aperture covered by a plate  $n^3$  which is attached to a sleeve  $n^4$  upon the plunger rod. This sleeve is provided with a lever  $p$  whereby the area of the opening in the piston  $n^2$  is regulated to throttle the passage of liquid there-through.

The details of my improved apparatus may be modified to suit varying circumstances; for instance, when a direct current is used to drive the motor the magnetic clutch may be dispensed with and the switch arranged in the circuit to the motor to start and stop the same, but when an al-

ternating current is used it is preferable to employ the magnetic clutch to insure the accurate stopping of the endless bands.

It is to be understood that I do not claim generally apparatus in which endless bands carrying advertisements are caused to stop for an interval of time and then proceed; but

What I do claim as my invention, and desire to secure by Letters Patent is:—

In an apparatus for displaying advertisements, vertical rollers arranged in series, endless bands carried by the rollers and provided with advertisements, an electric motor, driving connections between said motor and said rollers comprising an electromagnetic clutch, a make and break device in circuit with said clutch, said device comprising, a dash-pot, a piston in the dash-pot, a plunger carried by the piston, an electric contact carried by the plunger, a fixed electric contact with which the contact on said plunger normally engages, a lever, an electric contact carried thereby and adapted to be moved into and out of engagement with the contact on said plunger, an electric circuit including said electro-magnetic clutch having one lead connected to the contact on said plunger and having its other lead connected to said fixed contact and to the contact on said lever, projections operatively associated with one of said endless bands for actuating said lever to move the contact carried by the lever into engagement with the contact on said plunger and to raise said plunger, said lever automatically moving its contact out of engagement with the plunger contact when said lever is free from said projections, and means for regulating the descent of the plunger to its normal position, whereby the endless bands are caused intermittently to travel and stop for predetermined intervals of time.

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

MAUD ELIZABETH PUDNEY.

Witnesses:

R. WESTACOTT,  
C. P. LIDDON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."