No. 784,539. PATENTED MAR. 14, 1905.

J. F. BLYTH.

APPARATUS FOR DISPLAYING ADVERTISEMENTS, &c.

APPLICATION FILED APR. 22, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

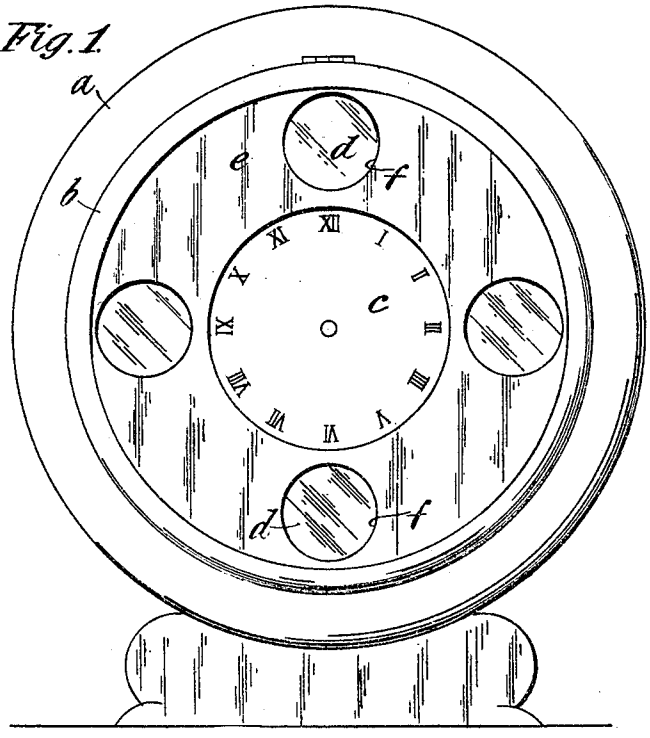


Fig. 2.

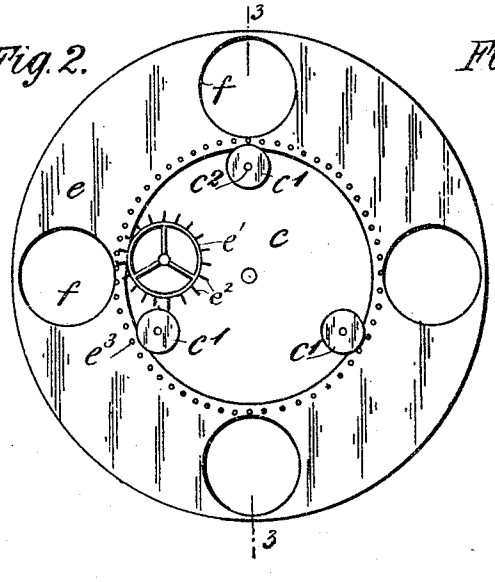
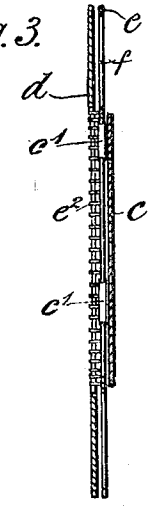


Fig. 3.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

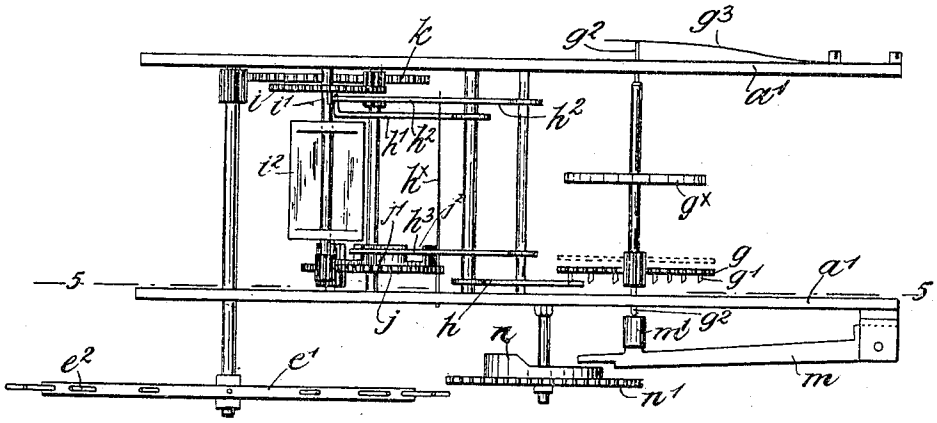
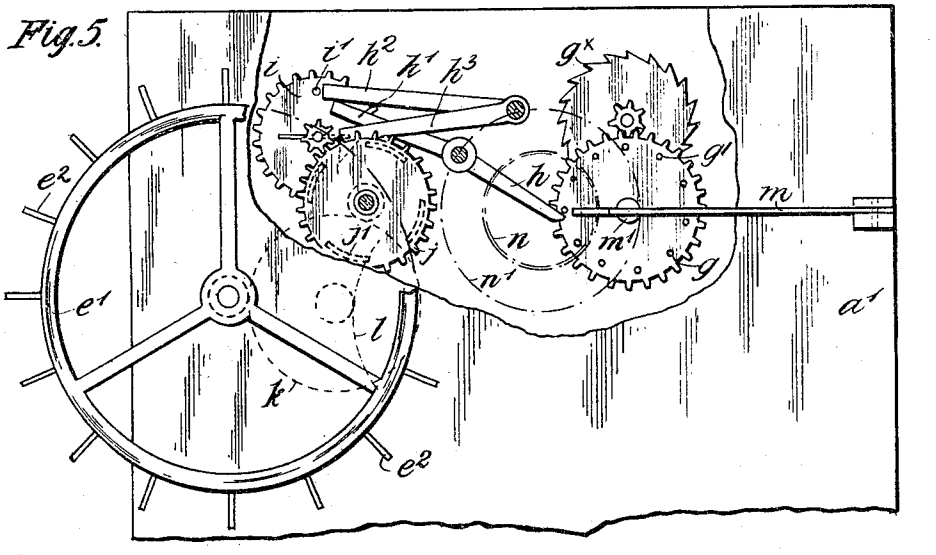


Fig. 5.



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No. 784,539. Patented March 14, 1905.

UNITED STATES PATENT OFFICE.

JAMES FREDERICK BLYTH, OF BRENTFORD, ENGLAND.

APPARATUS FOR DISPLAYING ADVERTISEMENTS, &c.

SPECIFICATION forming part of Letters Patent No. 784,539, dated March 14, 1905.

Application filed April 22, 1904. Serial No. 204,481.

To all whom it may concern:

Be it known that I, JAMES FREDERICK BLYTH, advertising agent, a subject of the King of Great Britain, residing at 2 Ealing Park Gardens, Brentford, in the county of Middlesex, England, have invented certain new and useful Improvements in or Relating to Apparatus for Displaying Advertisements or the Like, of which the following is a specification.

This invention has reference to apparatus for displaying advertisements or the like, and relates more particularly to means whereby a group of advertisements, for instance, can be successively exposed to view automatically at regular intervals, the intermittent movements of the apparatus in changing the advertisements also adding to the general effectiveness.

For the purpose of carrying the invention into effect it is found convenient to combine the apparatus with a clock, preferably so that the face of the latter may form part of or be in conjunction with the advertisement. The advertisements may in such a case be exposed successively by a revolving disk or screen operated with a step-by-step motion, and means may be provided to throw the operating mechanism out of action automatically at stated times—say during the night, when the same would otherwise be working uselessly. The ordinary clockwork serves very conveniently to determine the proper time intervals for changing the advertisements.

The invention will be more readily understood by reference to the accompanying drawings, which illustrate one example of an advertising-clock constructed in accordance therewith.

In the drawings, Figure 1 is a front view of the advertising-clock. Fig. 2 is a near or inside view of the face of the clock and of the device or revolving screen for exposing the advertisements. Fig. 3 is a vertical section on the line 3 3, Fig. 2. Fig. 4 is a plan of an arrangement of clockwork whereby the ordinary clock mechanism can be made to operate the revolving screen intermittently. Fig. 5 is a front view of the clockwork shown in Fig. 4.

In the example shown, *a* is the body or casing of the clock. *b* is a ring or frame for carrying the usual glass front of the clock, and *c* is the clock face or dial. It will be seen that the clock-face is much smaller than the front of the clock, and the purpose of this is to leave a clear annular space for two flat rings or annular disks *d* and *e*, Fig. 3, situated one a little behind the other and forming the primary means for the display of the advertisements, pictures, and the like, the clock-face being concentric with such disks.

It will thus be understood that in the example in question the advertisements are arranged in a circular group on the inner flat ring or annular disk *d* surrounding the clock-face and forming the advertisement-carrier. The said ring or disk is stationary and divided into spaces or sectors on which the advertisements are printed or applied in any suitable way. Thus the advertisements themselves will never change their position, and therefore can be read distinctly at all times instead of being liable to be inverted, and therefore rendered temporarily illegible, as they would be, for instance, if the ring *d* carrying them were made to revolve. The ring *d* is preferably made of plates of opal glass, so that it can be illuminated at night. In combination with this advertisement-ring *d* and immediately in front of the same is, as stated, the other (and movable) ring or annular disk *e*, serving as a screen or cover and operated at intervals with a step-by-step motion by mechanism controlled by the clockwork. This ring has in it one or more suitable apertures *f* of, say, the same size as the advertisement-spaces.

For the purpose of operating the movable disk or screen *e* it is suitably geared with the clockwork in any convenient way. In the present instance the following arrangement is employed: On the back of the clock-face *c* are mounted at equal distances apart three grooved friction wheels or disks *e'*, pivoted on pins e^2, fixed in the said face. The inner edge of the slot-ring or screen-disk *e* is then caused to engage with a driving-wheel *e'* (operated by the clockwork)—such, for instance,

as a sprocket-wheel or capstan-wheel provided with pins e^2, engaging corresponding pins e^3, fixed around the inner edge of the disk e.

The driving-wheel e' may conveniently form the last of a separate clockwork-train somewhat analogous to the warning mechanism of an ordinary striking clock, as shown, for example, in Figs. 4 and 5. In this case the periods or intervals between the movements of the screen are controlled from a wheel g, which is one of the ordinary wheels of the time-train—say, for example, what is known as the "third wheel," viz., that in gear with the arbor of the escapement-wheel $g^\times$. On the wheel g are a series of laterally-projecting pins g', adapted to depress a tail-lever h, fast on the axle of the lifting-lever h', which latter is adapted to raise the locking-lever h^2, having a pin-wire spring $h^\times$, as usual. i' is a stop-pin on a gear-wheel i, which is set free by the levers h' h^2. This latter wheel i, which is analogous to a warning-wheel, forms one end of a separate driving-train terminating at the driving-wheel e'. The arbor of the wheel i carries a fan or fly i^2 to moderate its speed. It is furthermore in gear with a pinion j, carrying a gap wheel or ring j', controlling a lever h^3, fast on the locking-lever shaft, so as to keep the locking-lever raised and allow the warning-wheel i to continue to revolve until the end of the lever h^3 drops (see Fig. 5) into one of the gaps j^2. Thus the locking-lever can be kept raised and out of action long enough to enable the warning-wheel i to make, say, two or more revolutions.

The special driving-train for actuating the screen e comprises the aforesaid wheels i j and a third wheel k, geared with the arbor of j and also with that of the driving-wheel e'. The whole train is driven by a fusee l, (indicated diagrammatically,) gearing with the arbor of this third wheel k or by other suitable means. The foregoing parts are mounted in a pair of side plates a', between which the time-train (not shown) is also mounted just as in an ordinary clock.

The arrangement for throwing the apparatus in and out of action automatically comprises, as shown, a lever m, acted on by a cam-ring n. This cam-ring is carried by a toothed wheel n', driven round once in twenty-four hours, say, by a pinion half its size on the hour-hand barrel. The lever carries a stud or abutment m', adapted to press centrally on the end of the arbor g^2 of the wheel g. This arbor g^2 is fitted to slide endwise in its bearings and is pressed toward the stud m' by a spring g^3 at its opposite end.

The operation of the foregoing parts is as follows: When the clock is going, the wheel g revolves and brings the pins g' one by one against the end of the lever h at intervals of, say, half a minute, so depressing said lever and raising the lifting-lever h' and with it the locking-lever h^2. The stop-pin i' is momentarily caught by the end of the lifting-lever while the latter is raised; but instantly the pin g' clears the lever h the lever h' drops, so setting the wheel i, and therefore the advertisement driving-train free and allowing it to revolve. The lifting of the lever h^2 also raises the lever h^3 on the same shaft out of its gap j^2 and immediately the train operates the next solid piece j'' of the wheel j comes under the lever and stops it descending again until the train has run long enough to allow the driving-wheel e' to move the screen e and so change the advertisements. At this moment the wheel j will bring the next gap j^2 under the lever h^3 and the locking-lever h^2 will again fall and catch the pin i' as it revolves, so locking the driving-train again and bringing aperture f in the disk or screen e to rest opposite the next advertisement. These actions in reality only take a fraction of a second, so that the new advertisement remains exposed for half a minute until the next pin g' strikes the tail-lever h, and thereby again releases the train. Obviously the number of teeth in the train-wheels is so adjusted that each operation will advance the screen e by the desired amount.

The running down of the fusee l and the useless working of the apparatus are prevented by arranging the aforesaid cam n so that its wider part comes against the tip of the lever m at the time it is desired to put the device out of action—say midnight, for instance. When acted on thus by the cam, the lever presses the arbor g^2 backward a little, so that the wheel g is in the position shown in dotted lines, Fig. 4, and its pins g' therefore no longer operate the lever h and release the driving-train. When the narrow part of the cam again comes opposite the lever, the parts resume the position shown in the drawings and the apparatus comes into action again.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In an advertising apparatus the combination of an annular advertisement-carrier, an annular screen in front of same, a clock-face concentric with said parts, friction-wheels on said clock-face supporting said screen, and means for driving said screen, substantially as described.

2. In an advertising apparatus, the combination of a clock, a stationary advertisement-carrier concentric with the face of said clock, an annular screen provided with apertures and with gearing round its inner edge, a clock-work train acting on said gearing for driving said screen, and means for enabling the time mechanism to control said train and screen, substantially as described.

3. In an advertising apparatus the combination of a clock, an annular advertisement-

carrier surrounding said clock-face, an annular screen provided with apertures for showing the advertisements and also surrounding the clock-face, a driving-train for said screen distinct from the clock-train, mechanism for enabling the clock-train to release said driving-train periodically, and means for automatically putting such releasing mechanism out of action for such periods as those during which advertisements are not required, substantially as described.

In testimony whereof I have hereunto set my hand, in presence of two subscribing witnesses, this 8th day of April, 1904.

JAMES FREDERICK BLYTH.

Witnesses:

R. WESTACOTT,

H. D. JAMESON.