

No. 647,105.

Patented Apr. 10, 1900.

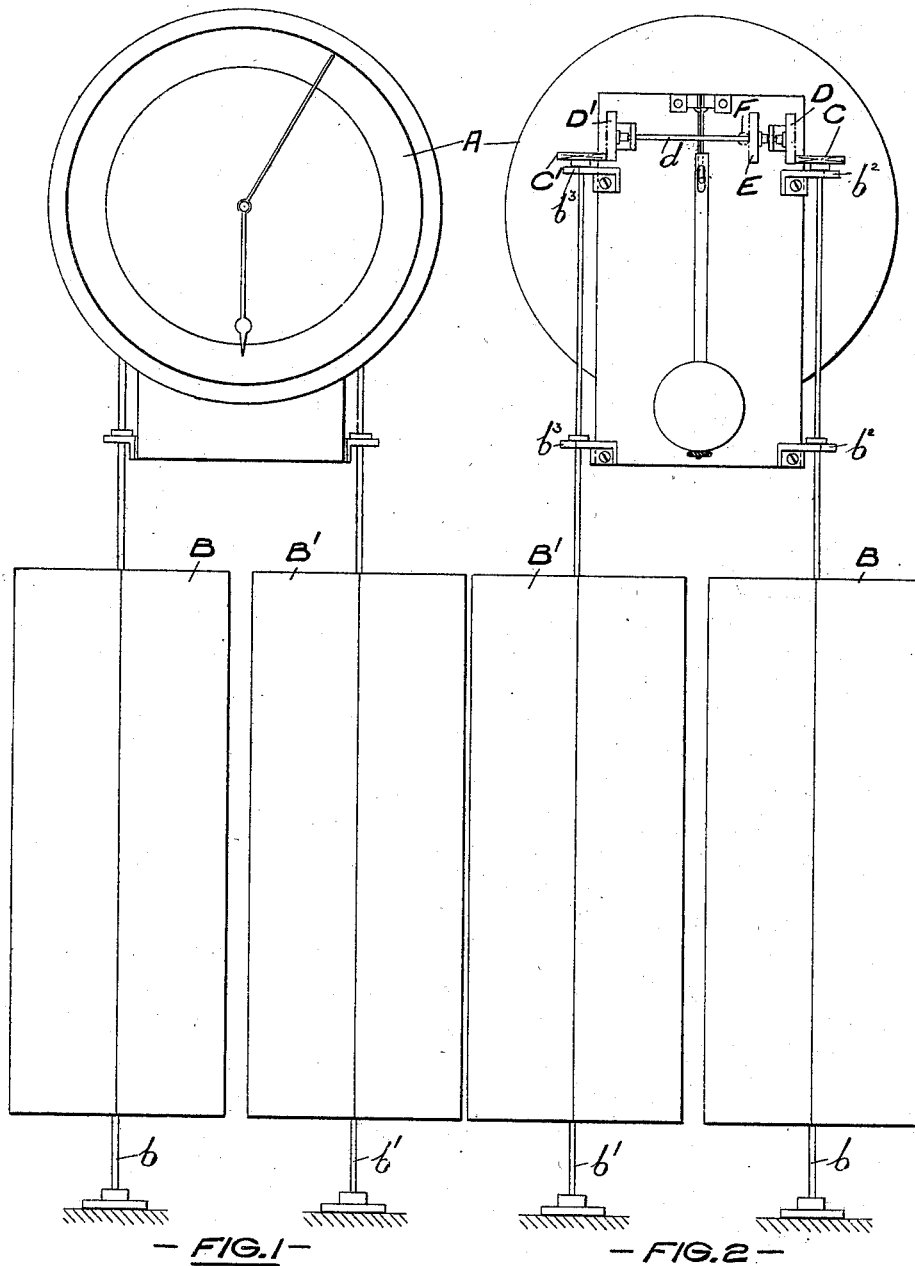
H. MOON.

ADVERTISING CLOCK.

(Application filed Dec. 12, 1899.)

(No Model.)

5 Sheets—Sheet 1.



WITNESSES:
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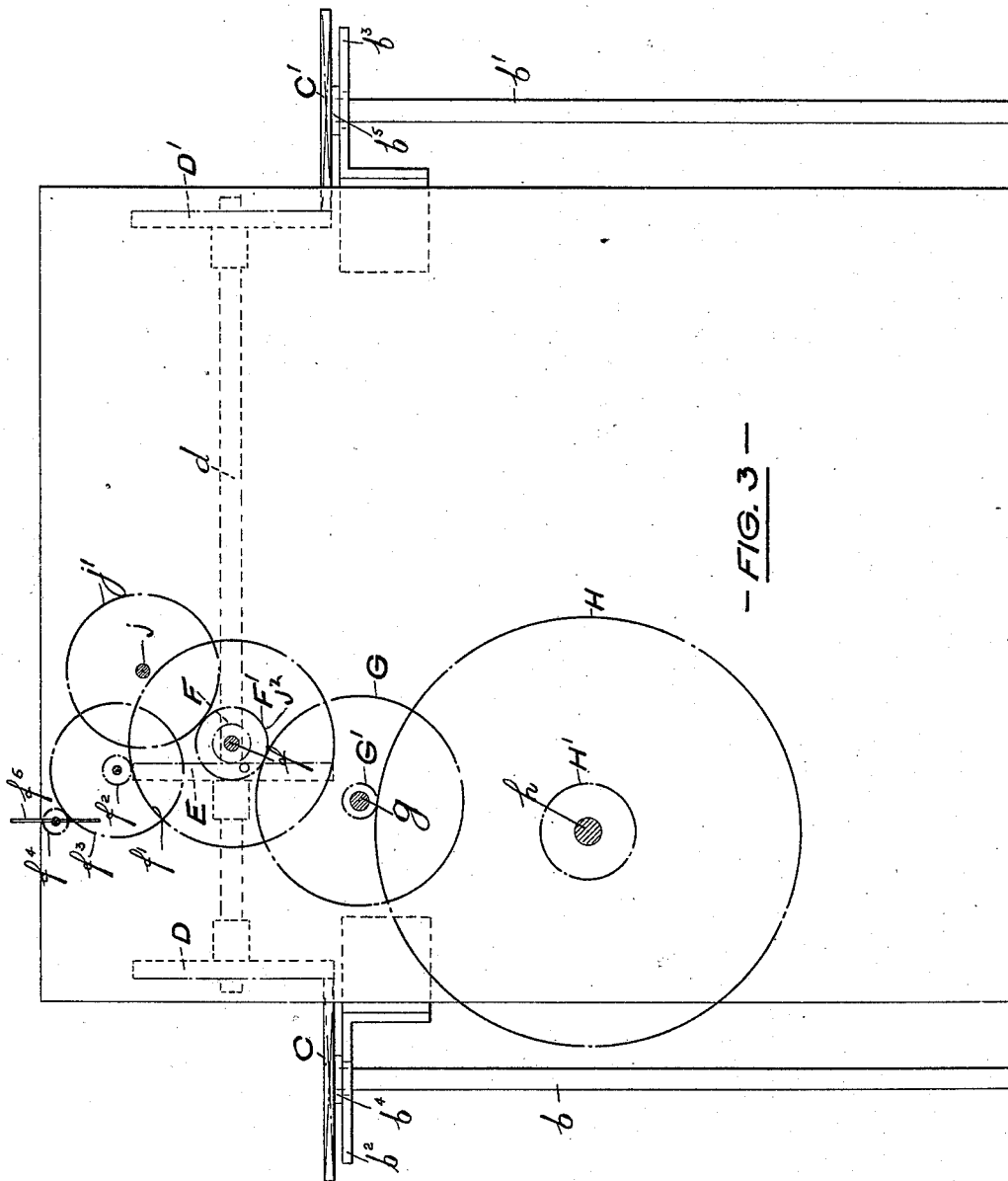


FIG. 3

WITNESSES:

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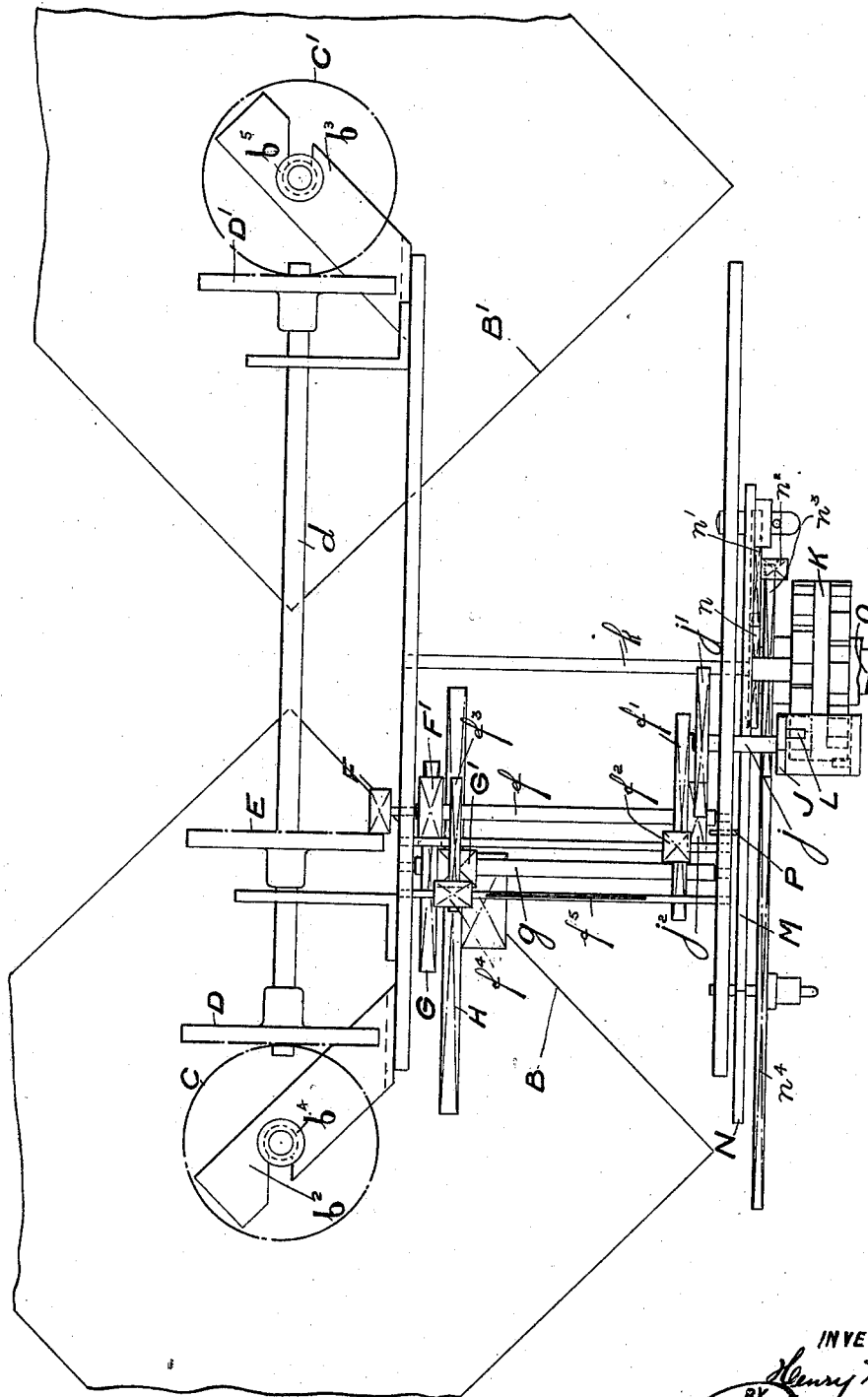
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-FIG. 4-

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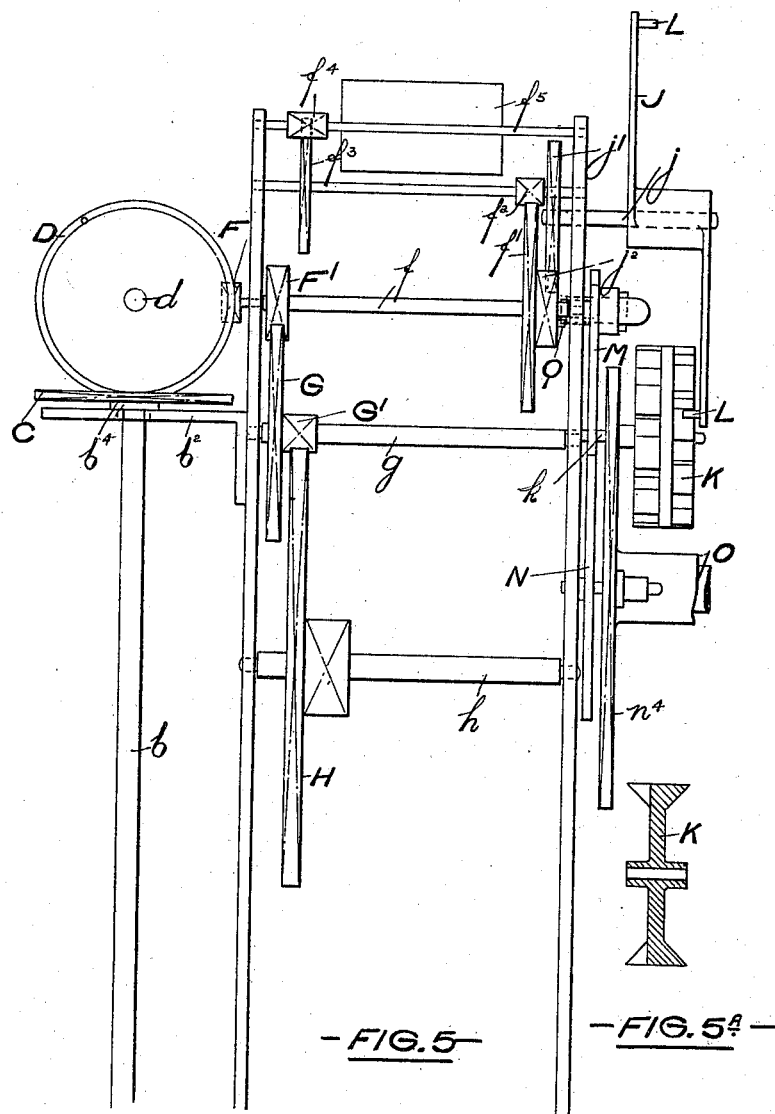
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(No Model.)

(Application filed Dec. 12, 1899.)

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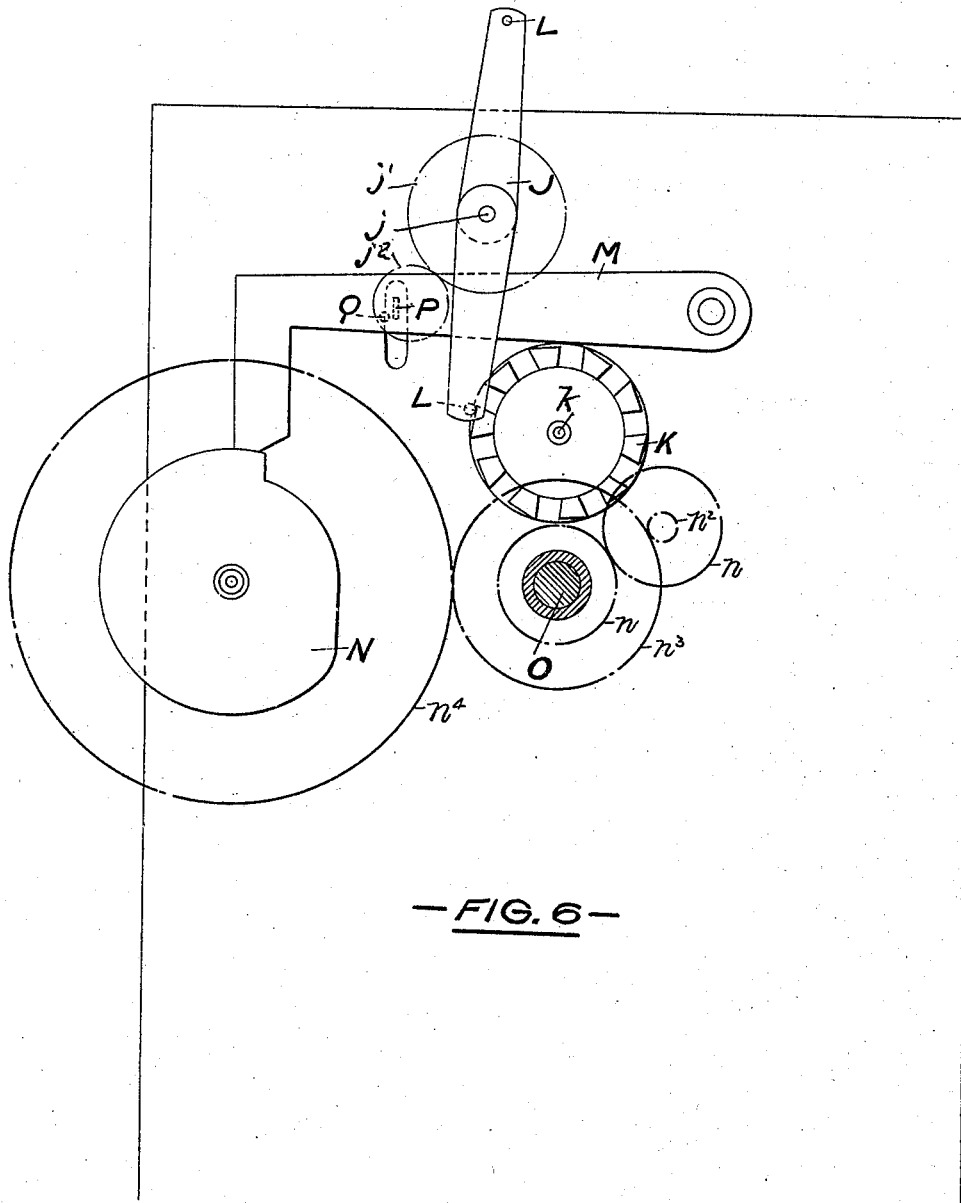
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(Application filed Dec. 12, 1899.)

(No Model.)

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—FIG. 6—

WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY MOON, OF MOSELEY, ENGLAND.

ADVERTISING-CLOCK.

SPECIFICATION forming part of Letters Patent No. 647,105, dated April 10, 1900.

Application filed December 12, 1899. Serial No. 740,080. (No model.)

To all whom it may concern:

Be it known that I, HENRY MOON, a subject of the Queen of Great Britain and Ireland, and a resident of Osborne House, Alcester road, Moseley, near the city of Birmingham, England, have invented certain new and useful Improvements Relating to Advertising-Clocks, (for which I have filed an application in Great Britain, No. 9,420, bearing date May 5, 1899,) of which the following is a specification.

This invention consists of improvements relating to advertising-clocks, my object being to provide simple and effective means for automatically changing the advertisements by the action of the clock mechanism.

On the accompanying sheets of explanatory drawings (five in number) to be hereinafter referred to, Figure 1 is an elevation representing the front portion of my advertising-clock, and Fig. 2 a similar view showing the back portion of the same, the wood or other casing of the clock being omitted in each view. Fig. 3 is an elevation with the front plate removed, showing the gearing for driving the advertising display-frames. Fig. 4 is a plan and Fig. 5 an end view, showing the display-frames, driving-gear, and the intermittent stop mechanism. Fig. 5^A is a sectional end view of the timing-disk. Fig. 6 is an elevation showing the intermittent stop mechanism. Figs. 1 and 2 are drawn to a smaller scale than the other figures.

The same reference-letters in the different views indicate the same parts.

In the application of my invention I arrange in the clock-case, preferably beneath the ordinary dial-face A, a pair of prismatic frames, as B B', (built up of metal or other material,) on the sides or panels of which the required advertisements are displayed. The lower ends of the frame-spindles *b b'* are supported in step-bearings fixed on the bottom of the clock-case. The case has a glass front or is fitted with glass on both sides in addition to the front, according to the position or service for which the clock is required.

In order to provide an expeditious means for attaching or removing the prismatic display-frames B B', I slot the supporting-brackets *b² b³* in the manner shown at Fig. 4, and thus by slightly raising the spindles *b b'*, with

their supporting-bushes *b⁴ b⁵*, I am enabled to readily and rapidly withdraw the advertisement without interfering with the mechanism 55 of the clock.

The frames B B' are rapidly rotated by means of suitable gearing arranged in combination with that operating mechanism of the clock which is ordinarily employed for striking or chiming purposes. The rotation is not continuous, but is effected intermittently, each complete revolution of the frames being performed in a number of stages or periods corresponding to the number of faces 65 on the frames, each face having preferably a different advertisement thereon. Each stage of movement is accomplished with a uniform rapidity to give the necessary continuity of the advertisements; but a period of rest is provided between each stage sufficient to permit of the effective separate display of every advertisement on the frames.

The mechanism for driving the frames comprises the toothed wheels C C', mounted on the frame-spindles *b b'*, respectively, the said wheels gearing, respectively, with the face or contrite wheels D D', mounted on the spindle *d*. The face or contrite wheel E, fixed to the said spindle *d*, gears with the pinion F, fixed to the spindle *f*, and the pinion F', which is also fixed to the spindle *f*, gears with the wheel G, mounted on the spindle *g*. The said spindle *g* is driven from the first-motion spindle *h* by the wheel H and pinion G', which gear together. The spindle *h* receives its motion through the pinion H', which gears with a wheel rotating with the fusee, which is ordinarily employed for the operation of the chiming or striking parts of the clock. The spindle *f*, hereinbefore referred to, is also connected by the gear-wheels *f¹, f², f³*, and *f⁴* with the usual flier *f⁵*. I provide for the period of rest by the arrangement and combination of a double-armed lever, as J, (mounted on one end of the spindle *j*, connected by the gear-wheels *j¹* and *j²* with the aforescribed frame-driving mechanism,) with a timing-disk K, mounted upon one of the rotating spindles, as *k*, forming a part of or connected 100 with the ordinary time or going mechanism of the clock. The said timing-disk K has a notched rim, and the inner portions of such rim are tapered or inclined from the narrow

central web to the respective edges of the periphery, as shown at Fig. 5^A. Upon the outer end of each of the arms of the rotating lever J, I affix laterally a pin or peg, as L. On the rotation of the lever the projecting pegs abut in turn against the periphery of the timing-disk K, and thus arrest the arm and the complete advertisement-rotating mechanism hereinbefore described until one of the grooves or notches in the rim of the disk K is brought into alinement with the peg. The peg will then pass through the slot under the action of the mechanism, which is then set free to again revolve, move across the face of the disk, and pass out through a slot on the opposite side. This action is repeated on every rotation of the arms of the lever J, and as there are two arms two pauses are obtained during one complete revolution of the spindle *j*, on which the lever is mounted.

To neutralize the effect of friction between the projection L and the periphery of the timing-disk K, I incline or back off the said periphery between the slots or notches, as shown at Fig. 6, in order that the surface in contact with the projection L shall possess the properties of an inclined plane. By so doing the pressure exerted through the arm J tends to accelerate the motion of the timing-disk, and thus irregularities in the motion of the clock, due to the intermittent frictional resistance of the projection L, are avoided.

By the use of timing-disks having rim-slots of the required pitch working in combination with a lever having one or more arms rotating with the advertisement-driving mechanism I can arrange for the effective display of the whole of a desired series of advertisements.

I provide for the disconnection of the advertisement-rotating mechanism to prevent its operation during the night or at other times when not required by a lever M, pivoted on one of the clock-frame plates, the free end of such lever resting upon the periphery of the cam N, rotated through gear-wheels n, n', n^2, n^3 , and n^4 from the ordinary spindle O, carrying the minute-hand of the clock. The cam N is so shaped that at a certain predetermined time the free end of the lever M will fall a sufficient distance to bring a lateral projection P from the lever into such a position that it acts as an abutment for a peg Q, projecting from the wheel *j*², hereinbefore referred to, thus stopping the advertisement-

driving mechanism until by the continued movement of the cam N the lever M is raised at the predetermined time.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In advertising-clocks, the combination with the notched disk K mounted upon a constantly-rotating part of the time or gong mechanism of the clock and having its periphery inclined between the notches, of a double-armed lever J provided with laterally-projecting pegs L and rotating with a spindle driven through gearing operated from the fusee ordinarily employed for the operation of the striking parts of the clock, substantially as set forth.

2. In combination in advertising-clocks, the advertisement-rotating mechanism, an intermittent stop mechanism comprising a notched constantly-rotating disk K and a lever J carrying a peg L abutting in the course of its rotation against portions of the periphery of the said disk K, substantially as described.

3. In advertising-clocks, the combination consisting of the fusee ordinarily employed for the operation of the striking parts of the clock, the spindles *b b'* upon which the advertising-frames B B are respectively mounted, a train of gear-wheels connecting the said spindles with the said fusee, a secondary train of gear-wheels connecting the aforesaid train with the lever J, and a constantly-rotating disk operated by the time-train for controlling the lever J, substantially as set forth.

4. In combination in advertising-clocks, the minute-hand spindle, the cam N, gearing between the minute-hand spindle and the cam, a lever M controlled by the cam and having a projection P, driving connections for the advertising means, a stop-motion comprising a double-armed lever J and a rotary notched disk K upon which said double-armed lever bears, said disk being driven from the time-train, said projection P serving to put out of action the said driving connection and stop-motion, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

HENRY MOON.

Witnesses:

HERBERT BOWKETT,
JOHN MORGAN.