No. 692,923. Patented Feb. 11, 1902.

J. H. SHEPARD.

ADVERTISING STREET AND STATION INDICATOR.

(Application filed June 22, 1901.)

(No Model.) 2 Sheets—Sheet 1.

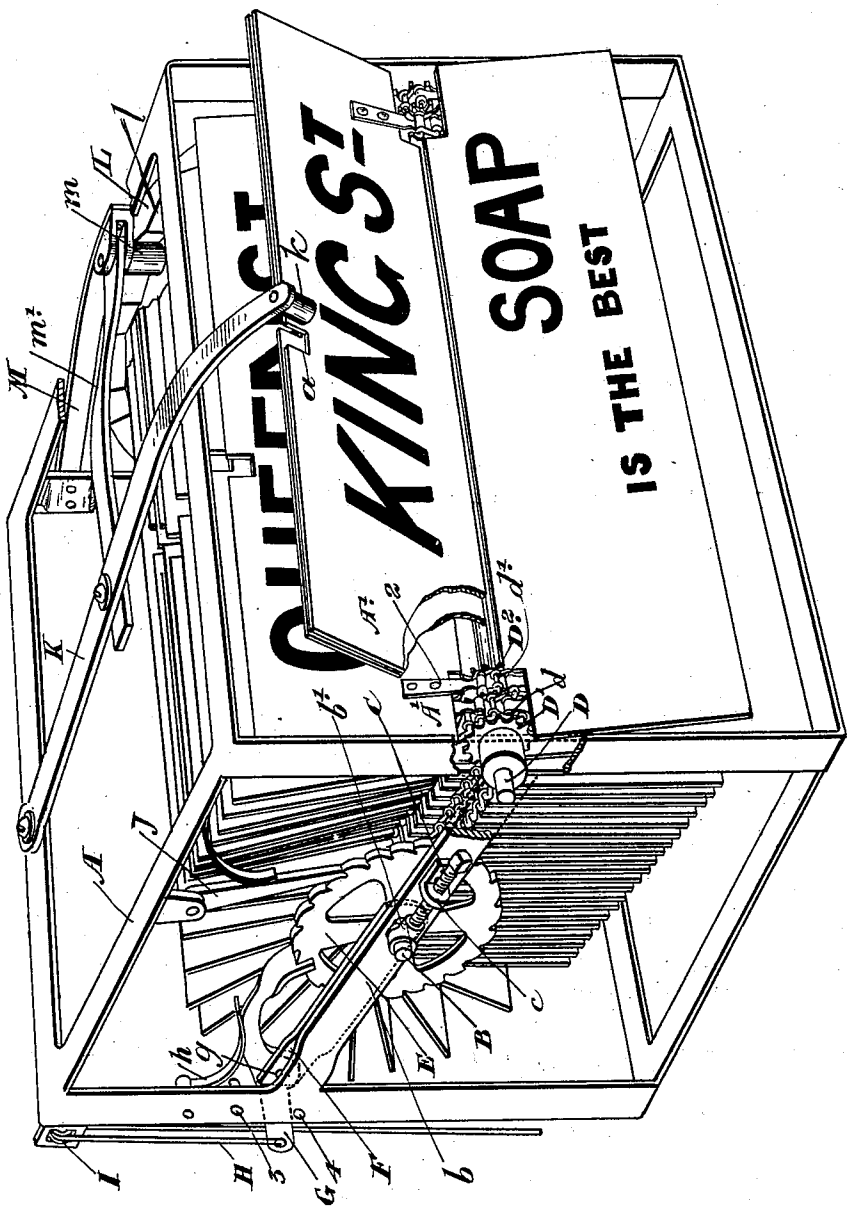


Fig. 1.

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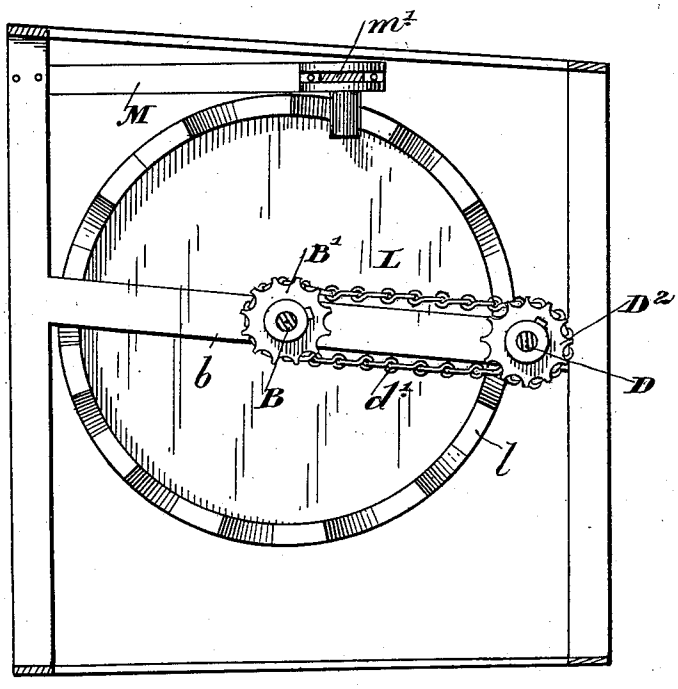


Fig. 2.

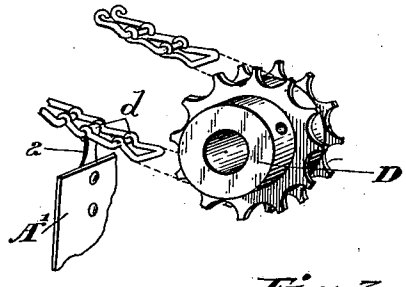


Fig. 3.

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UNITED STATES PATENT OFFICE.

JOSEPH H. SHEPARD, OF TORONTO, CANADA.

ADVERTISING STREET AND STATION INDICATOR.

SPECIFICATION forming part of Letters Patent No. 692,923, dated February 11, 1902.

Application filed June 22, 1901. Serial No. 65,683. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. SHEPARD, gentleman, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Advertising Street and Station Indicators, of which the following is a specification.

My invention relates to improvements in advertising street and station indicators, and the object of the invention is to devise a station-indicator in which an advertisement may be also indicated and which is simple, compact, and positive in its action, not liable to get out of order, and in which the streets will appear in accurate rotation; and it consists, essentially, of a street-indicator comprising a frame and operating wheel and shaft, a counter-shaft, a plurality of sprocket-wheels on the shaft and counter-shaft, and chains or cords extending therebetween and carrying flaps close together and a flap-controlling device for the flaps, so as to permit them to drop, the parts being arranged and constructed in detail, as hereinafter more particularly explained.

Figure 1 is a perspective view of my improved street or station indicator. Fig. 2 is a cross-section showing the flap-controlling device. Fig. 3 is a detail of the sprocket wheel and chain, showing the connection of the flap to the chain.

In the drawings like characters of reference indicate corresponding parts in each figure.

A is the rectangular frame of the machine, and B is the main driving-shaft, which is journaled in suitable bearings in the cross-bars *b* at the end of the machine. The ends of the shaft B are provided with collars *b'*, into which extend the ends of the adjusting-screws C, which also extend through brackets *c*, attached to the end cross-bar. The end bar *b* is provided with a slot in order to permit of the adjustment of the shaft to and from the counter-shaft D. This is the usual form of adjustment and is designed for tightening the sprocket-chains, which I shall presently describe. The counter-shaft D is provided with two or more sprocket-wheels D' and D^2 at each end, which carry the sprocket-chains *d* and *d'*, which extend to sprocket-wheels B' on the ends of the main shaft B. The links of the sprocket-chains *d* and *d'* have connected to the cross-bars the tails 2, which are riveted to the flaps A' at each end, as indicated.

I provide a double set of chains opposite each end of the flaps A', so that I can place the flaps closer together, as it will be readily seen that the flaps instead of being the distance between the two cross-bars of two adjacent links may extend half the distance between the cross-bars, as the other sprocket-chains may be so set that their cross-bars come opposite the centers of the links of the outer sprocket-chain. In fact, this may be carried out to a more or less extent, and more than two sprocket-chains may be provided at each end if necessary, this depending upon the number of stations or streets it is desired to indicate. It will thus be seen that the number of flaps may be increased without increasing the size of the frame. It will be understood that the flaps are cut away in order to bring them down close to the chains and provide a maximum amount of space for the insertion of the name of a street on one side and an advertisement on the opposite side.

I provide the following mechanism for carrying the flaps forward:

E is a ratchet-wheel secured on the end of the shaft B, inside the bar *b*.

F is an arm pivotally held at the forward end on the shaft B, and G is a lever-pawl pivoted on the pin *g* at the rear end of the arm F. The front end of the lever-pawl G meshes with the ratchet-wheel, and the rear end extends to the rear of the frame between the stop-pins 3 and 4. The rear end of the lever-pawl G has connected to it a cord or chain H, which passes upwardly over a pulley I, supported in suitable journals to the rear of the frame. The lower end of the cord H may be extended through to the floor of the car and underneath the same and pass both forwardly and rearwardly to the conductor and motorman. It will, of course, be understood that the frame of the indicator or device will be properly and preferably set into the end of the car at a convenient height. It will now be seen that as the cord H is the operating device the indicator may be operated with facility.

h is a spring pressing against the lever-pawl G and designed to hold such lever-pawl in engagement with the ratchet-wheel E.

J is a holdfast-pawl, which also engages with the ratchet-wheel and is suitably spring-held.

Each of the flaps A′ is provided with a notch *a*, which in each succeeding flap is arranged zigzag as to the preceding one—that is to say, so as to leave no line of notches opposite each other, but always have the notch of each succeeding flap extend across the space of the preceding one, as clearly indicated. The flaps necessarily follow each other very closely, and the reason of this arrangement of the notches will be understood when it is seen that I have to provide means whereby when one flap falls of its own gravity the other will be held up. For this purpose, therefore, I provide the following simple mechanism:

K is a lever provided with a roller *k*, which comes substantially opposite the center of each flap A′, such roller and the lever extending forwardly of the inclined position of the flap as it passes around the end of the sprocket-wheels D′ and D².

L is a wheel secured on the end of the shaft and provided with broad V-shaped face-teeth *l*.

M is a spring secured to a suitable portion of the frame and having secured at the end thereof a roller *m*, which is held in engagement with the face-teeth of the wheel.

m′ is a link connecting the end of the spring M with the lever K.

The operation of my invention is as follows: Upon it being desired to turn up a street the cord H is pulled down by a motorman or conductor, as the case may be, and the lever-pawl G is given a forward throw, limited, of course, by the stop-pin 3, and thereby turns the wheel E forward the space of one tooth, the spring forcing the lever-pawl back against the stop-pin 4, so that it comes opposite the base of the next succeeding tooth. As there are as many teeth and bases of teeth in the wheel L as there are in the wheel E, it will be seen that upon the flap A′ being caused to move forward one space the lever K will be given a sidewise movement opposite one notch *a* and allow the corresponding flap to drop through the corresponding notch, and instead of showing the street showing the reverse side and the advertisement. When the wheel E is given the next forward movement, so as to throw the next flap forward, it will be seen that the roller *m* will have fallen into a depression, and consequently the next flap will fall. It will therefore be understood that before such action has taken place the roller K will have come opposite the space on the flap next the notch, and thereby hold back such flap prior to the next succeeding movement. It will now be understood that upon each movement the roller M will rise and fall on the face-teeth *l*, and consequently give a lateral side movement alternately to the roller K, thus precipitating in accurate rotation the different flaps.

It will be seen from this description that my invention is very simple and not liable to get out of order. It will also of course be understood that such mechanism will be inclosed in a suitable casing with an open front, so that both the name of the street and the advertisement below will appear, thus providing a very effectual, simple, and cheap advertising device.

What I claim as my invention is—

1. In a street and station indicator, the combination with the frame, main shaft and counter-shaft suitably journaled therein, of the sprocket-wheels on the ends of the main shaft and the sprocket-wheels on the ends of the counter-shaft and the sprocket-chains connecting the same, and the flaps having the edge notches arranged in zigzag fashion as to each adjacent flap but opposite each other as to each alternate flap, the connecting-tails secured to the flaps and to the cross-bars of the links, means for imparting movement to the main shaft, a lever for controlling said flaps, said lever provided with an end roller designed to project in front of the notches in the flaps and means connected to the main shaft for imparting a lateral movement to the lever and consequently the roller as and for the purpose specified.

2. In a street and station indicator, the combination with the frame, main shaft and counter-shaft suitably journaled therein, of the sprocket-wheels on the ends of the main shaft and the sprocket-wheels on the ends of the counter-shaft, and the sprocket-chains connecting the same, and the flaps having the edge notches arranged in zigzag fashion as to each adjacent flap but opposite each other as to each alternate flap, the connecting-tails secured to the flaps and to the cross-bars of the links, means for imparting movement to the main shaft, a lever for controlling said flaps, said lever provided with an end roller designed to project in front of the notches in the flaps, the wheel secured on the end of the shaft provided with face-teeth, the spring provided with a roller engaging with such teeth and the link connecting such spring to the lever as and for the purpose specified.

3. The combination with the main shaft and a pair of sprocket-wheels secured at each end of the main shaft, and the counter-shaft, and the sprocket-chains connecting the same and the flaps connected to the cross-bars of the outer sprocket-chain and an intermediate set of flaps connected to the cross-bars of the inner sprocket-chains, which latter cross-bars are situated intermediately of the length of the cross-bars of the outer sprocket-chains as and for the purpose specified.

4. The combination with the main shaft and counter-shaft and sprocket and sprocket-

chains and flaps secured to the sprocket-chains, of a ratchet-wheel secured in the end of the main shaft, the arm pivoted at one end on the main shaft, the lever-pawl pivoted on the end of the arm, the stop-pins for limiting the pawl movement and means for raising the pawl so as to give a step-like movement to the ratchet-wheel as and for the purpose specified.

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Witnesses:
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R. SHIELDS.