April 13, 1926. **1,580,672**

F. S. NOWLAND

DEVICE FOR INDICATING TRAIN TIMES

Filed Oct. 18, 1923

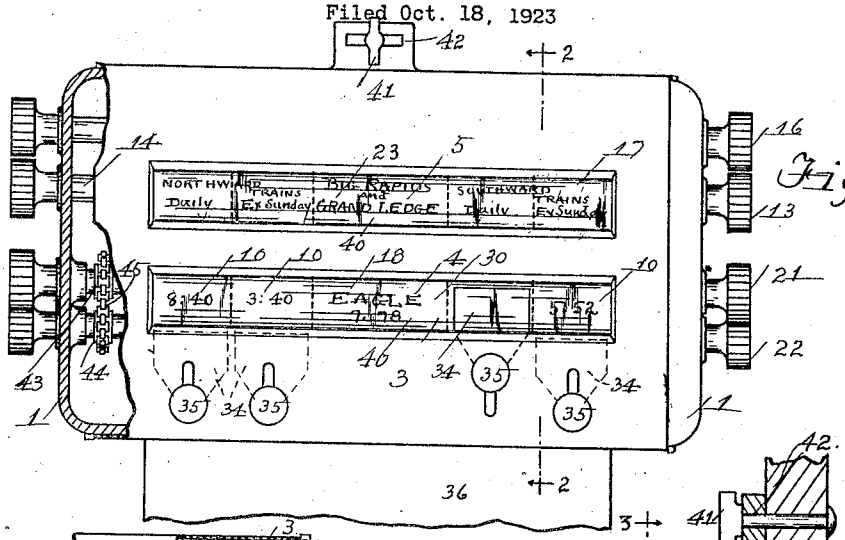


Fig. 1.

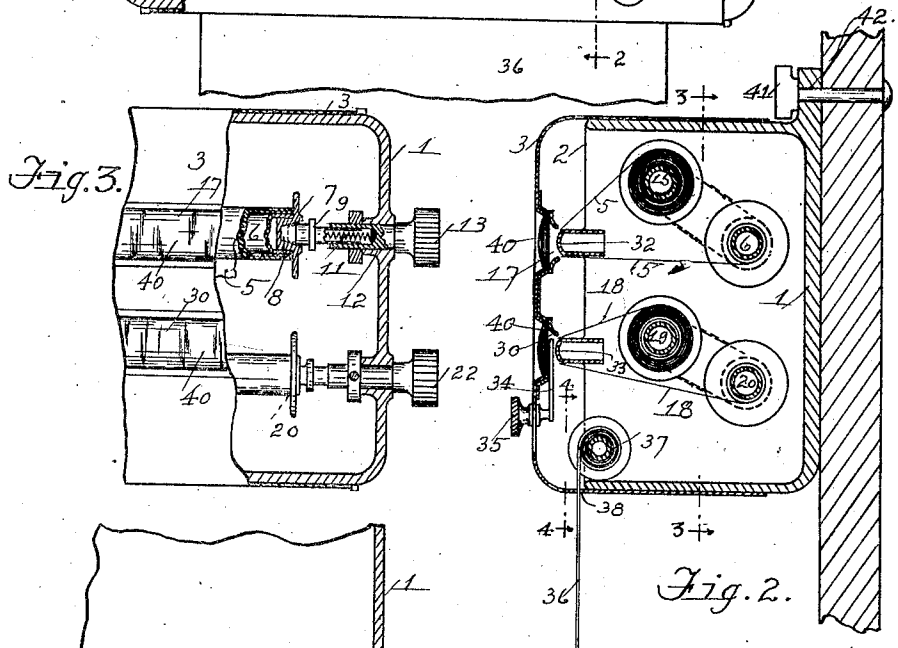


Fig. 2.

Fig. 3.

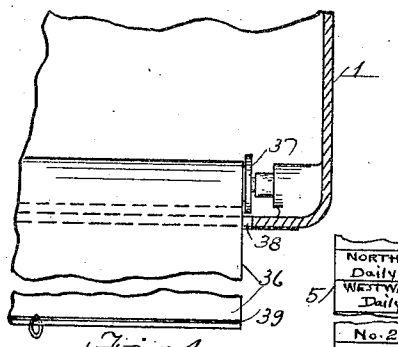


Fig. 4.

Fig. 5.

NORTHWARD Daily	TRAINS Ex Sunday	BIG RAPIDS AND GRAND LEDGE	SOUTHWARD Daily	TRAINS Ex Sunday
WESTWARD Daily	TRAINS Daily	PORT HURON AND SAGINAW	EASTWARD Daily	TRAINS Daily
No. 27	No. 25	STATIONS	No. 24	No. 26
8:40	3:40	EAGLE 7:18	12:62	5:52
8:52	4:00	PORTLAND 5:31	12:36	5:34

Fig. 6.

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Patented Apr. 13, 1926. 1,580,672

UNITED STATES PATENT OFFICE.

FRED S. NOWLAND, OF GRAND RAPIDS, MICHIGAN.

DEVICE FOR INDICATING TRAIN TIMES.

Application filed October 18, 1923. Serial No. 669,297.

To all whom it may concern:

Be it known that I, FRED S. NOWLAND, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented new and useful Improvements in Devices for Indicating Train Times, of which the following is a specification.

The present invention relates to devices for indicating train times at stations; and its object is to provide an improved device of that character whereby trains due at a particular station may be clearly differentiated from trains due at other stations.

This object is attained by, and the invention finds preferable embodiment in, the device hereinafter particularly described in the body of this specification and illustrated by the accompanying drawings, in which:

Figure 1 is a face view of a device of the character described;

Figure 2 is a transverse sectional view thereof taken on line 2—2 of Figure 1;

Figure 3 is a fragmentary face view of the same partially sectioned longitudinally on line 3—3 of Figure 2;

Figure 4 is a longitudinal sectional view of a portion of the device taken on line 4—4 of Figure 2;

Figure 5 is a view of a portion of a sheet displaying time-card identifying indicia; and

Figure 6 is a view of a portion of a time-card or sheet displaying station names and train-times.

In the embodiment of the invention chosen for illustration by the drawings and for detailed description in the body of this specification, my device comprises a rectangular box or frame 1 containing movable indicating members and having an open front 2, closed by a casing 3 slidably removable from the frame. One of these indicating members, displays station names and registering train-times successively-extending in the direction of said member's movement thus constituting a "time-card;" and, inasmuch as railway lines usually comprise several "divisions" or parts of the line each having its own stations and train-times, I provide a second movable indicating member preferably of a character similar to, and operated similarly to, and in juxtaposition with, the first indicating member, but displaying identifying indicia for a plurality of time-cards for the various divisions of the line respectively.

This second-mentioned movable indicating member is desirably positioned above said first-mentioned member and is preferably in the form of a flexible sheet 5 rolled on a hollow roller 6 removably carried at one end frictionally by the hub 7 having a conical axial socket 8 receiving in frictional contact the end of a spindle 9 spring-pressed at 11 into such frictional contact and carried by a rotatable shaft 12 having a knob 13 outside the frame whereby the sheet 5 may be moved to roll it on or off the roller 6. The opposite end of this roller may be similarly mounted on the rotatable shaft 14 or otherwise mounted for rotation. The opposite end of this movable member or sheet 5 is similarly carried by a roller 15 mounted similarly to the roller 6 and having a knob 16 so that said member may be wound from one roller 6 or 15 to the other as may be desired.

In Figure 1, the particular time-card identifying indicia 23 displayed through the opening 17 in the casing identifies the railway division known as "Big Rapids and Grand Ledge", with words and figures at either side setting forth the direction, number, etc., of the several trains of said division whose station and time card appears below as the first-mentioned movable indicating member. When the engine is run on another division, as for instance "Port Huron and Saginaw" this indicating member 5 is turned to display through the opening 17 the name or indicia of that division.

The first-mentioned movable indicating member or time-card of the railway division identified by the indicia of member 5 is a flexible sheet 18 mounted on the rollers 19, 20 similarly to the manner in which the sheet 5 is mounted, and may be wound from one of said rollers to the others by the knobs 21, 22; said sheet 18 displays station names 4 and registering train-times 10 successively-extending in the direction of said sheet's movement.

Means for visibly indicating a particular station name and the train-times of a plurality of trains registering therewith are provided, such means being preferably the opening 30 through the casing, so disposed relatively to the time-card member 18 that

only a portion thereof (a single station name and registering train-times of the various trains due thereat) may be visible through said opening. The device being suspended in the cab of a locomotive, the engineer by turning the knob of the roller 19 or 20 may see at a glance the times of all trains due at any particular station and no others, thus making it impossible for him to confuse the times of trains due at one station with those due at other stations.

To bring the sheets 5 and 18 directly in registration with the openings 17 and 30 respectively, they slidably pass over the supports 32, 33 as shown in Figure 2. It will be understood that sheets 5 corresponding to sheets 18 are to be inserted into the device in juxtaposition with each other.

When the locomotive carrying the device has met or passed any one of a plurality of trains shown on the time-card member 18, it is desirable that the same may be removed from the engineer's attention, thus to avoid confusing the same with other trains which his engine has not passed or met. To effect this purpose, I provide means for differentially indicating such trains on the time-card member 18. In the device illustrated such means comprise the shutters 34 slidably mounted in the casing and having knobs 35 whereby they may be slid upwardly to cover the column in which the train to be no longer directed to the engineer's attention is indicated.

It will be seen that by operating this device the engineer is enabled to fix his attention on the times the trains are due at any particular station and thus avoid the likelihood of confusing them with others.

A curtain or flexible sheet 36 displaying various items of instructions to engineers, and the like, may be mounted on the rotatable roller 37 in the casing, its lower end descending through the casing's bottom slit 38 so that it may be drawn down into view or automatically wound on the roller when not in use. This sheet carries adjacent its lower or free end a flexible strip 39 extending transversely thereof and adapted to close the slit when the sheet is wound on the roller and not in use, thus preventing dust and dirt from passing into the interior of the frame and casing through this slit.

The openings 17, 30 through the casing may be provided with the magnifying lenses 40, and the frame of the device may be removably mounted in the cab of the locomotive or the like, as by the turnable button 41 adapted to be inserted into the frame's slot 42 as shown. The cooperating rollers 6, 15 and 19, 20 may be furnished with sprocket wheels 43, 44 carrying a sprocket chain 45.

It is evident that my device may be employed in connection with various kinds of conveyances as well as with railway trains.

The invention being intended to be pointed out in the claims, is not to be limited to or by details of construction of the particular embodiment thereof illustrated by the drawings or hereinbefore shown or described.

I claim:

1. In a device of the character described: a turnably-movable member displaying station names and a plurality of schedules of train times registering with said names respectively, said names and schedules successively-extending in the direction of said member's movement and said names and times of trains thereat being arranged transversely of said movement; a casing for said member having an opening through which only one train time of each of said schedules is visible; shutters each independently movable into and out of position to conceal one train time.

2. In a device of the character described: a casing having a slit; a roller rotatably mounted in the casing and carrying a flexible sheet extending through the slit and adapted to display markings; a flexible strip carried adjacent the free end of the sheet outside the casing and adapted to close the slit in the wound position of the sheet on the roller.

3. In a device of the character described: a pair of hollow rotatably mounted shafts having plungers longitudinally-slidable therein provided with conical outer ends; springs in the shafts pressing the plungers outwardly; rollers having conically-recessed ends adapted to removably receive the conical ends of the plungers; a flexible sheet adapted to display markings, mounted at its ends on the rollers respectively and adapted to be wound from one roller onto the other by the rotation of the shaft of one of the rollers.

In testimony whereof I have hereunto set my hand at Grand Rapids, Michigan, this 13th day of October, 1923.

FRED S. NOWLAND.