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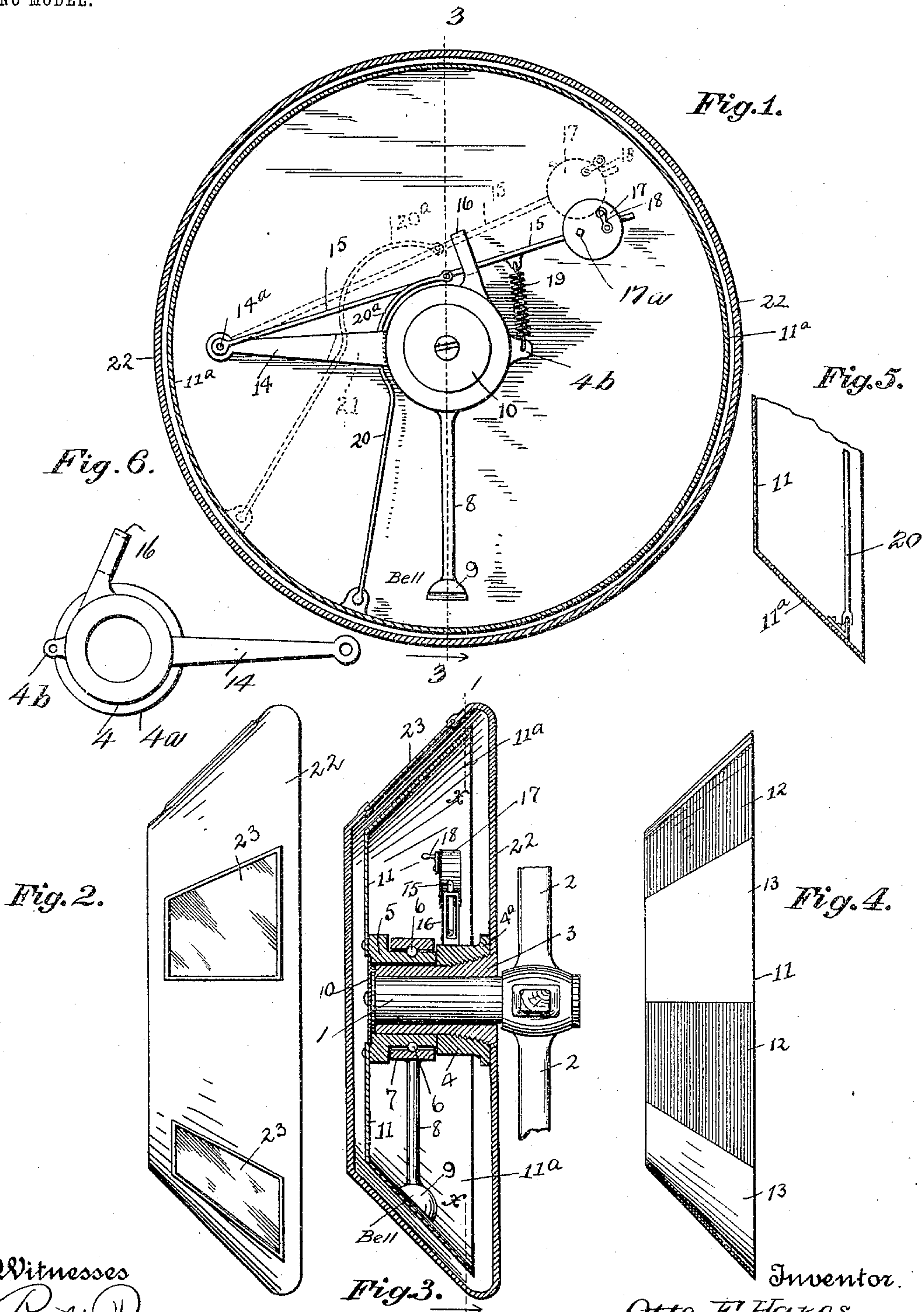
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SPEED INDICATING ATTACHMENT FOR VEHICLES.

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NO MODEL.



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SPEED-INDICATING ATTACHMENT FOR VEHICLES.

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To all whom it may concern:

Be it known that I, OTTO F. HAKES, a citizen of the United States, residing at Dunkirk, in the county of Chautauqua and State of New York, have invented a certain new and useful Improvement in Speed-Indicating Attachments for Vehicles, of which the following is a specification.

My invention relates to the improvement of speed-indicators for vehicles, and has particular relation to devices for indicating a predetermined speed of an automobile or similar vehicle.

The objects of my invention are to provide indicating attachments for vehicles which will be operative when the vehicle has attained or passed a certain speed, to so construct my improved indicator or signal as to indicate the attainment of a predetermined speed by a visible or audible signal, or both, and to produce other improvements the details of which will be more fully pointed out hereinafter.

These objects may be accomplished in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a face view of the indicating device with the casing and signal-plate broken away on the lines 1 1 of Fig. 3 for the sake of clearness in illustration. Fig. 2 is a side elevation of the external casing. Fig. 3 is a central vertical section on line 3 3 of Fig. 1. Fig. 4 is a detail view in elevation of the signal or indicator body. Fig. 5 is a detail view illustrating the manner of connecting the visible signal with its operating lever or rod, and Fig. 6 is a detail view of one of the members of the device.

In the embodiment of my invention as disclosed in the present drawings similar numerals refer to similar parts throughout the several views.

Although it will be understood that various changes in the construction of my invention which may come within scope of the claims may be made without departing from the spirit or sacrificing any of the advantages of the invention, the construction illustrated may be described as follows.

1 represents a vehicle-wheel hub or hub extension, of which wheel 2 represents parts or

portions of the spokes. On the hub 1 is a sleeve 3, the inner and preferably conical end portion of which is externally threaded, as shown. Upon this inner and threaded end portion of the sleeve is adapted to be screwed a nut 4, having an inner end flange 4^a. On the sleeve 3 and on the outer side of the nut 4 is rotatably mounted a collar 5, the latter having a peripheral ball-raceway adapted to contain bearing-balls 6, the outer portions of which run in an internal raceway formed in the ring-like head 7 of a depending arm or rod 8, said ring-like head loosely embracing the collar 5. At the lower end of the arm 8 is carried a suitable bell-body 9.

10 represents an outer end disk, which is secured centrally to the hub and which is of such circumference as to engage the outer end of the sleeve 3, as shown.

To the outer end of the collar 5 is secured the central portion of an indicator-plate or signal-body 11, the latter comprising a disk-like face, from the periphery of which extends inwardly an inclined or flaring side flange 11^a. The signal-body 11 has the outer surface of its inclined or flaring side portion 11^a divided into equal-sized sections 12 and 13, these sections being alternately painted or otherwise colored red and white.

Connected with the nut 4 at a point on one side thereof is a laterally-extending arm 14, and with this arm is pivotally connected at 14^a a rod 15, which rod, being inclined from the arm 14, passes, as shown, loosely through a slotted opening in a guide and stop-lug 16, which also rises from the nut 4. The rod 15, which normally lies in the inner end of the slot of the lug 16, carries on its free end a suitable weight 17, which is slidable upon the rod 15 and may be adjustably secured thereto at any point by means of the set-screw 17^a. This weight, which is preferably in the nature of a disk, although other suitable forms may be employed, has pivotally connected therewith an angular bell-tapper 18. The rod 15 between the lug 16 and weight 17 has connected therewith one end of a suitable spring 19, the remaining end of which is connected with a projecting lug 4^b of the nut 4, said spring operating to normally hold the

rod 15 in the inner end portion of the slotted opening of the lug 16. With the rod 15 and near the center of its length is connected the inner curved or hooked end 20^a of a lever rod or bar 20. The upper portion of this lever-rod 20 curves about one side of the nut 4 and passing through a slotted opening in the inner end of the arm 14, said opening being indicated by dotted lines at 21, extends to and is connected with the signal-body 11^a.

Connected with the flange 4^a of the nut 4 is the rear and central portion of a casing 22, this casing preferably being of the truncated cone form shown and loosely embracing or inclosing the signal or indicator body 11. The inclined periphery of this casing is formed at regular intervals with glass-covered openings 23, which openings are arranged to correspond substantially in size and arrangement with the white and red sections on the signal-body. Owing to the connection heretofore described between the rod 15 and the signal-body, the position of the latter with relation to the casing will be determined by the position of said rod 15, and when the latter is in the position disclosed in full lines in the drawings it will be understood that the signal is so held by the rod 20 as to bring the white sections of the signal opposite the openings 23 of the casing.

In operation the rotation of the wheel and its hub will result in a corresponding rotation of the parts forming the indicating apparatus heretofore described, with the exception of the bell-hanger comprising the arm 8 and ring-head 7, which, owing to its loose and ball-bearing connection with the collar 5, will remain pendent. The tension of the spring 19 is such as to insure the retention of the rod 15 in the inner end portion of the slot of the lug 16 until the wheel, hub, or other part of the vehicle from which motion is contributed reaches or passes a predetermined speed sufficient to cause through centrifugal force the swinging movement of the rod 15 to the position indicated in dotted lines or to the outer end of the slotted opening of the lug 16. In this last-described movement of the rod 15 it will be understood that through the connection therewith of the signal-body the latter will be independently rotated or thrown sufficiently to bring its red sections 12 opposite the openings 23 of the casing 22. The red signal thus displayed will indicate that the speed of the vehicle has reached or passed a certain limit, and it is obvious that while this or a greater rate of speed is maintained the red portions of the signal will be continuously displayed. It will also be understood that the rotary movement imparted as above described to various parts of my device will be sufficient to cause the pivoted angular bell-tapping device 18 to swing outward, producing a ringing contact with the bell 9 at each revolution, the swinging or pivotal arrange-

ment of the bell-tapper being such as to permit of the tapper passing the bell with comparative ease. Through the bell-ringing operation imparted as above described it will be understood that in addition to the visible signal displayed as described an audible signal or alarm is provided which will be particularly useful in indicating the speed limit at night.

By having the weight 17 adjustable longitudinally upon the rod 15 the device may be adjusted to be operative at different rates of speed by moving the weight inwardly or toward the axis of the device for a comparatively low rate of speed and outwardly for a higher rate of speed. In view of the fact that the prohibitive rate of speed for motor-vehicles varies in different sections of the country this adjustable feature of the weight is very important, for the reason that it permits of the indicator being set for any predetermined rate of speed, and thereby adapts it for universal use.

While I have shown and described my present form of speed-indicating mechanism in substantially direct connection with the wheel-hub of a vehicle, it is obvious that a suitable direct or indirect connection of the same with the wheel-hub, axle, or any rotary part of the vehicle might be employed and that the indicating mechanism may be suitably located with reference to a vehicle body or frame.

A very important feature of the present invention resides in the fact that each of the rotatable members is driven from the part whose speed is to be indicated, whereby separate means for actuating one of the members is obviated and an exceedingly simple device is produced.

It will be understood that my improved speed-indicating device will be of great utility when used in connection with automobiles to indicate whether or not the speed limit prescribed by law is being complied with.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A speed-indicator embodying a rotatable casing having a sight-opening, and an internal concentric rotatable member visible through the sight-opening and capable of being rotatably shifted with respect to the casing when the rotation reaches a predetermined rate to expose a predetermined portion of the inner member at the sight-opening of the casing.

2. A speed-indicator embodying a rotatable casing having a sight-opening, a visual indicator pivotally mounted concentrically within the casing and capable of either simultaneous or independent rotation with respect thereto, and means for rotatably shifting one of the members independently of the other when the rotating movement reaches a predetermined rate to aline a predetermined portion of the indicator with the sight-opening of the casing.

3. A speed-indicator embodying a rotatable casing having a sight-opening, a visual indicator pivotally mounted concentrically within the casing and capable of either simultaneous or independent rotation with respect thereto, and means for rotatably shifting the indicator independently of the casing when the rotating movement of the latter reaches a predetermined rate to aline a predetermined portion of the indicator with the sight-opening of the casing.

4. A speed-indicator embodying a pair of rotatable members having their centers in the same straight line, and centrifugal means for rotatably shifting one of the members when the rotation reaches a predetermined rate.

5. A speed-indicator embodying a rotatable casing having a sight-opening, a rotatable concentric indicator visible through the sight-opening, and centrifugal means for rotatably shifting the indicator to expose a predetermined portion thereof through the sight-opening of the casing when the rotation reaches a predetermined rate.

6. A speed-indicator embodying a rotatable casing having a sight-opening, a concentric rotatable indicator visible through the sight-opening, and centrifugal means carried by one of the members and connected to the other for rotatably shifting the latter independently of the former to expose a predetermined portion of the indicator at the sight-opening of the casing.

7. A speed-indicator embodying a rotatable casing having a sight-opening, an internal concentric rotatable indicator, and centrifugal means carried by the casing and connected to the indicator for rotatably shifting the latter independently of the former to expose a predetermined portion of the indicator at the sight-opening of the casing.

8. A speed-indicator embodying a rotatable casing having a sight-opening, a visual indicator pivotally mounted concentrically within the casing and capable of either simultaneous or independent rotation with respect thereto, means for rotatably shifting one of the members independently of the other when the rotating movement reaches a predetermined rate to aline a predetermined portion of the indicator with the sight-opening of the casing, a normally inactive audible signal, and means carried by the shifting means for actuating the audible signal when said shifting means is active.

9. A speed-indicator embodying a rotatable casing having a sight-opening, a visual indicator mounted concentrically within the casing, centrifugal means carried by one of the members and connected to the other for rotatably shifting the latter member independently of the former, a relatively fixed and normally inactive bell member mounted independently of the casing and indicator members, and bell-actuating means carried by the centrifugal

shifting means for ringing the bell when said shifting means is active.

10. A speed-indicator embodying a rotatable casing having a sight-opening in the periphery thereof, a visual indicator pivoted concentrically within the casing and provided with differently-colored peripheral portions, and means to rotatably shift the indicator to expose a predetermined colored portion of its periphery at the sight-opening of the casing when the rotation reaches a predetermined rate.

11. A speed-indicator embodying a rotatable casing having a sight-opening, a concentric rotatable indicator member visible through the sight-opening, a regulator-rod pivoted eccentrically within the casing, and a connection between the rod and the indicator to rotatably shift the latter under the centrifugal movement of the rod when the rotation reaches a predetermined rate.

12. A speed-indicator embodying a rotatable casing having a sight-opening and provided with a central bearing-sleeve, an internal indicator member mounted to rotate upon the sleeve, a regulator-rod pivoted upon the sleeve, and a connection between the rod and the indicator to rotatably shift the latter when the rotation reaches a predetermined rate.

13. A speed-indicator embodying a rotatable casing having a sight-opening and a central bearing-sleeve, an arm carried by and projected laterally from the sleeve, a regulator-rod pivoted to the arm, a spring connection between the rod and the sleeve, an indicator member rotatably mounted upon the sleeve, and a connection between the rod and the indicator to rotatably shift the latter under the centrifugal action of the rod.

14. A speed-indicator embodying a rotatable casing having a sight-opening and a central bearing-sleeve, an indicator member rotatably mounted upon the sleeve, a regulator-rod pivoted to one side of the sleeve, a weight adjustable upon the rod, and a connection between the rod and the indicator to rotatably shift the latter under centrifugal action of the rod.

15. A speed-indicator embodying a rotatable casing having a sight-opening and a central bearing-sleeve, an indicator rotatably mounted upon the sleeve, a collar loosely embracing the sleeve so as not to rotate therewith, a bell hung from the collar, a spring-pressed rod pivotally connected to one side of the sleeve, a connection between the rod and the indicator to rotatably shift the latter under centrifugal action of the rod, and a bell-tapper carried by the rod and disposed to strike the bell when the rod is active to shift the indicator member.

16. A speed-indicator embodying a pair of members having their centers in the same straight line and simultaneously rotatable when active under normal conditions, one of

which members is capable of being rotatably shifted with respect to the other when the simultaneous rotation reaches a predetermined rate, and means to shift the shiftable member
5 and capable of being set for action at different rates of speed.

17. A speed-indicator embodying a pair of concentric members, which are simultaneously rotatable when active under normal conditions, one of which members is capable of
10 being rotatably shifted independently of the other, centrifugal means for rotatably shifting the shiftable member when the simultaneous rotation reaches a predetermined rate,
15 and capable of being set for action at different rates of speed.

18. A speed-indicator embodying a rotata-

ble casing having a sight-opening, an internal concentric indicator member visible through the sight-opening, and capable of either simultaneous or independent rotation with re- 20 spect to the casing, means for rotatably shifting the indicator member independently of the casing when the simultaneous rotation reaches a predetermined rate to expose a pre- 25 determined portion of the indicator member at the sight-opening of the casing, and capable of being set for action at different rates of speed.

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In presence of—

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