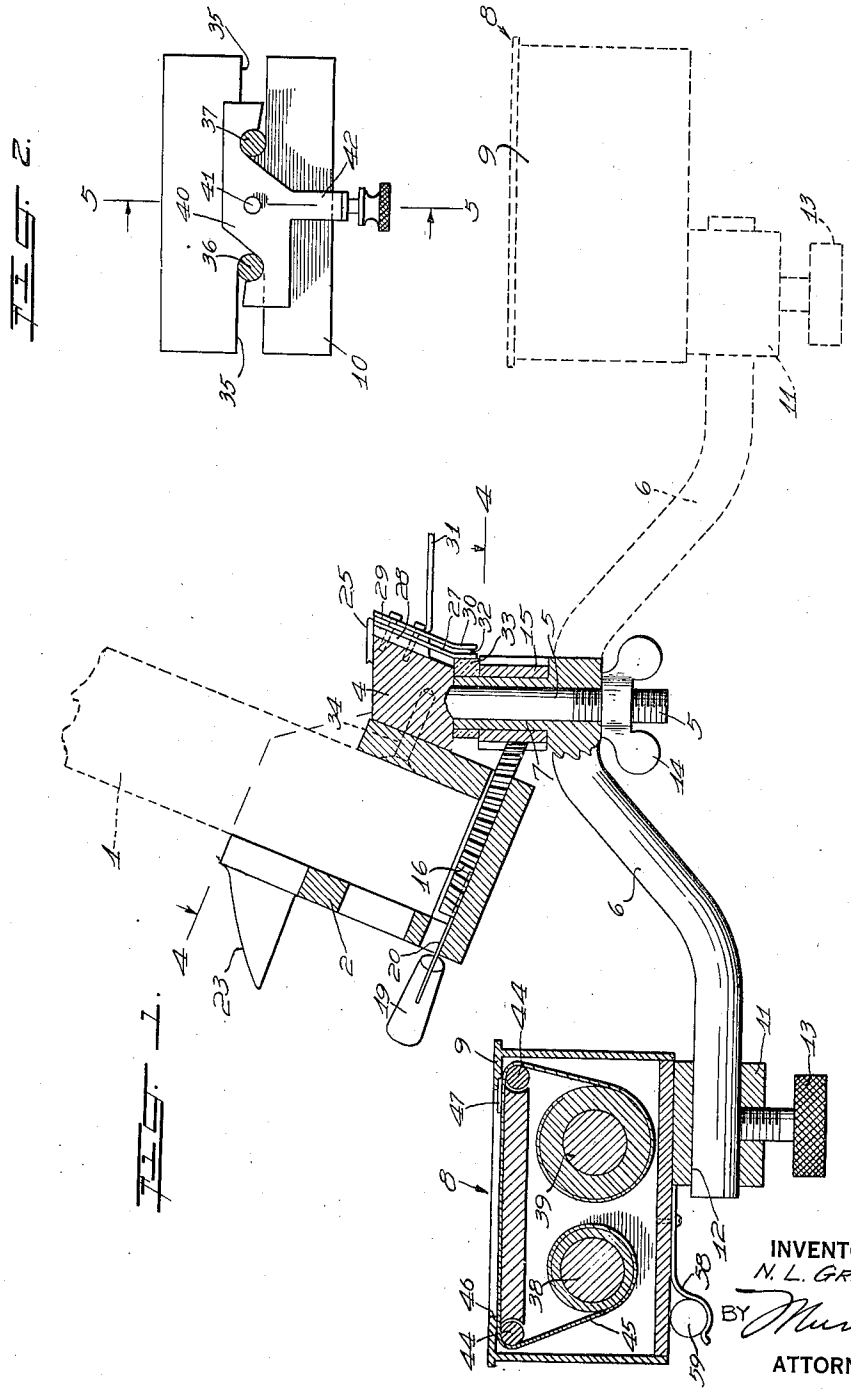
June 24, 1930. N. L. GREENE 1,767,924

RECORDING DEVICE FOR AUTOMOBILES

Filed June 22, 1928 2 Sheets-Sheet 1



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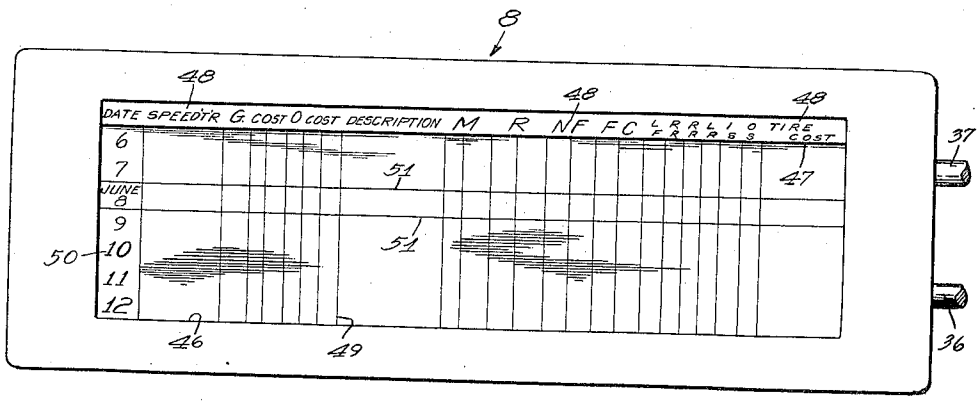

FIG. 3.

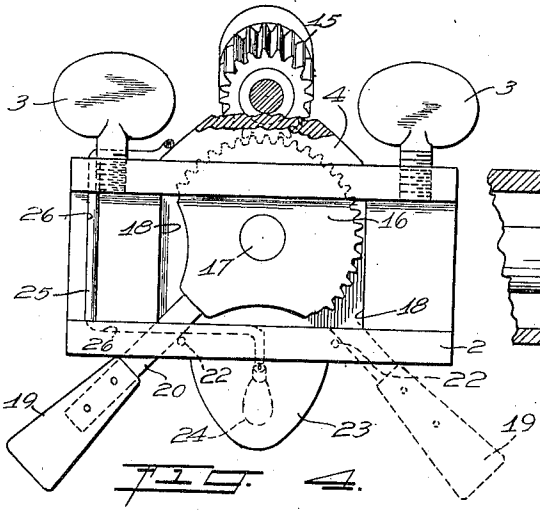

FIG. 4.

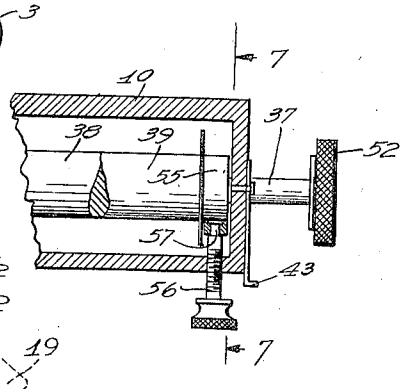

FIG. 5.

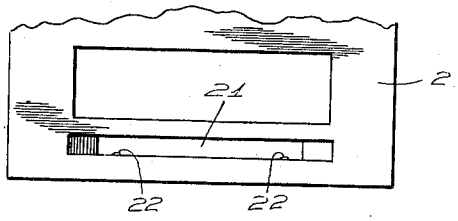

FIG. 6.

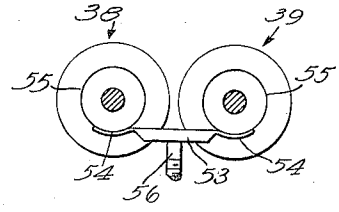

FIG. 7.

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UNITED STATES PATENT OFFICE

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RECORDING DEVICE FOR AUTOMOBILES

Application filed June 22, 1928. Serial No. 287,494.

My invention relates to improvements in recording devices for automobiles, and it consists in the combinations, constructions, and arrangements herein described and claimed.

An object of my invention is to provide a recording device for automobiles which may be secured to the instrument board of the car, and in which means is provided whereby the recording device may be swung from behind the instrument board underneath the latter into a recording position.

A further object is to provide a device of the type described which may be easily and quickly changed from one instrument board to another.

A further object is to provide a device of the type described which may be rigidly secured to various types of instrument boards.

A further object is to provide a device of the type described in which various data such as the date when the car is filled with oil and gasoline, the cost of the same, storage charges, etc., may be quickly, completely and accurately recorded.

A further object is to provide a device of the type described which is simple in construction, ornamental in appearance, and efficient in operation.

A further object is to provide a device of the type described in which means is provided for closing a circuit through an electric bulb whereby data may be recorded in darkness.

A further object is to provide a recording device for automobiles in which the tape upon which the various data is recorded is operatively connected with a pair of rollers, and in which novel means is provided for quickly and easily releasing the rollers.

Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, forming part of this application, in which

Figure 1 is a sectional view of my device showing the device secured to an instrument board,

Figure 2 is a detail view of a portion of my device,

Figure 3 is an enlarged detail view of a portion of my device,

Figure 4 is a fragmentary sectional view taken substantially along the line 4—4 of Figure 1,

Figure 5 is a sectional view taken along the line 5—5 of Figure 2,

Figure 6 is a fragmentary view of the structure shown in Figure 4, and

Figure 7 is a sectional view taken along the line 7—7 of Figure 5.

In carrying out my invention, I make use of an instrument board indicated in dotted lines at 1 in Figure 1. An attachable member 2 having suitable screws 3 is provided. The attachable member 2 may be disposed upon the lower edge of the instrument board 1, as shown in Figure 1, and rigidly secured thereto by means of the screws 3 shown in Figure 4. The attachable member 2 is provided with a projecting member 4 having an integral threaded shaft 5.

A bracket 6 having a sleeve portion 7 disposed upon the shaft 5 is adapted to movably support an elongated rectangular casing 8. The casing 8 comprises a removable cover portion 9 and a roller supporting device 10. The roller supporting device 10 is provided with a projecting member 11 having an opening 12 adapted to receive one end of the bracket 6. A suitable set screw 13 is provided for rigidly securing the casing 8 in a desired position. The casing 8 may be turned about the longitudinal axis of that portion of the bracket 6 upon which the projecting member 11 is disposed.

The sleeve end of the bracket 6 may be moved about the longitudinal axis of the shaft 5 and may be adjusted longitudinally with respect to the shaft by means of a thumb screw 14. A barrel gear 15 is fixed upon the sleeve 7 and is disposed in engagement with a reciprocating gear 16 pivotally mounted at 17 within a recessed portion 18 in the attachable member 2.

The reciprocating gear 16 is provided with

a handle portion 19 secured to the gear by means of a flexible portion 20. Rotation of the handle portion 19 from the full line position shown in Figure 4 to the dotted line position will cause a rotation of the gear 15 through 90°. Thus it will be seen that the casing 8 will be moved from the full line position shown in Figure 1 into the dotted line position. The flexible portion 20 of the handle 19 projects through a slot 21 in the attachable member and is locked in the full line and dotted line positions shown in Figure 4 by means of suitable lugs 22.

The attachable member 2 is provided with a shield 23 disposed above an electric bulb 24. A conductor 25 is disposed within a recess 26 in the attachable member 2 and has one end normally in electrical contact with the bulb 24. The opposite end of the conductor 25 is electrically connected with a movable contact arm 27. Suitable insulating material 28 is disposed between the movable contact arm 27 and the projecting member 4. The movable contact arm 27 is insulated at 29 from a contact arm 30. A conductor 31 is electrically connected with the contact arm 30 and a suitable source of current.

The bulb 24 is grounded in the attachable member 2 and the instrument board so that when the movable contact arm 27 and the contact arm 30 are in contact as shown at 32, the circuit through the bulb will be closed. Means for moving the contact arm 27 consists in a cam 33 disposed upon the sleeve 7. The cam is such that when the casing 8 is moved from the dotted line position into the full line position shown in Figure 1, the circuit through the bulb will be closed by reason of the movement of the arm 27 into contact with the arm 30. The attachable member 2 is secured to the projecting member 4 by means of a screw 34.

Each end of the roller supporting device 10 is provided with a pair of slots 35 for receiving shaft portions 36 and 37 carried by rollers 38 and 39. A locking member 40 is pivotally mounted at 41 upon each end of the roller supporting device 10. The locking members 40 are provided with downwardly extending portions 42 bent at 43 for forming means whereby the locking members may be pivoted about their pivots 41. By referring to Figure 2, it will be seen that the locking members 40 may be moved slightly, whereupon the shaft portions 36 and 37 will be freed so that the rollers may be easily and quickly taken out. The cover 9 is adapted to enclose the roller supporting device 10, as shown in Figure 1, and must necessarily be removed before the rollers 38 and 39 can be removed from their seats.

A roller 44 is disposed upon each side of the roller supporting device 10, as shown in Figure 1. A suitable tape 45 passes over the rollers and is secured at its opposite ends to the rollers 38 and 39. The cover 9 is provided with an opening 46. A relatively thin strip of material 47 having data-indicating legends 48 printed thereon is disposed along one edge of the opening 46, see Figure 3. The tape may be ruled as at 49 and is provided with a column of numbers 50 indicating the days of each month. Transverse lines 51 may be provided for indicating a week The shaft portions 36 and 37 are provided with suitable wheels 52, see Figure 5, whereby the rollers 38 and 39 may be turned. The tape 45 is preferably of a sufficient length to provide a record for a period of one year. It will now be seen that by turning one of the wheels 52, the tape 45 will be moved accordingly.

In Figure 7, I have shown means for frictionally holding the rollers 38 and 39. This means consists of a piece of metal 53 having flexible portions 54 disposed in frictional engagement with a metal end 55 disposed upon one end of the rollers 38 and 39. The portions 54 may be moved against the metal ends 55 by means of a screw 56 rotatably supporting the piece 53 at 57. In Figure 1 I have shown a flexible member 58 for supporting a pencil 59 which may be used for recording various data upon the tape 45.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. Normally the casing 8 is disposed in the rear of the instrument board 1, as shown in dotted lines in Figure 1. When it is desired to record certain information, the handle 19 is moved for turning the reciprocating gear 16 about its axis 17 whereby the barrel gear 15 will be rotated. Since the gear 15 is fixed upon the sleeve portion 7 of the bracket 6, it will be seen that the casing 8 will be swung about the shaft 5 as its axis from the dotted line position to the full line position. The pencil 59 may now be removed and the desired data recorded upon the tape 45.

During the movement of the casing 8 from the dotted line position to the full line position, the cam 33 will be brought into engagement with the movable contact arm 27 for closing the circuit through the bulb 24. The circuit is closed a short time before the casing 8 is moved into its full line position and is opened when the casing 8 is moved back into its dotted line position. Reversing the handle 19 will move the casing 8 back into the dotted line position. When the handle 19 is disposed in either one of its extreme positions, the flexible portion 20 is locked against movement by reason of one of the lugs 22. A slight upward movement of the handle 19 will permit the flexible portion 20 to pass the lug with which it is in engagement.

Rotation of either one of the wheels 52

will cause a movement of the tape 45. When it is desired to remove the rollers 38 and 39, the cover 9 is lifted from the roller supporting device 10 and the locking members 40 moved for freeing the shaft portions 36 and 37, at which time the rollers are free to be removed. The threaded shaft 5 permits the bracket 6 to be moved longitudinally with respect to the shaft so that the casing 8 will be permitted to pass underneath the instrument board should the latter tend to interfere with the movement of the casing. While I have shown the barrel gear 15 disposed upon the sleeve 7, it is understood of course that the gear may be cut in the sleeve.

I claim:

1. A device of the type described comprising a bracket adapted to be secured to an instrument board, a shaft carried by said bracket, an arm movably disposed upon said shaft for supporting a recording device, means associated with the bracket and operatively connected with said arm for moving the latter about said shaft, an electric light mounted upon the bracket, and means actuated by the movement of said arm for opening and closing the circuit through said electric light.

2. A device of the type described comprising a bracket adapted to be secured to an instrument board, a shaft associated with said bracket, an arm movably secured to the shaft and arranged to support a recording device, a gear secured to a portion of said arm, and gear means operatively connected with said first named gear and movably secured to the bracket for moving said arm about said shaft whereby the recording device may be moved from one side of the instrument board to the opposite side.

3. A device of the type described comprising a bracket adapted to be secured to an instrument board, a shaft associated with said bracket, an arm movably secured to the shaft and arranged to support a recording device, a gear secured to a portion of said arm, gear means operatively connected with said first named gear and movably secured to the bracket for moving said arm about said shaft whereby the recording device may be moved from one side of the instrument board to the opposite side, and means for moving the arm longitudinally with respect to said shaft.

4. A device of the type described comprising a supporting member provided with clamp means whereby the supporting member may be detachably mounted upon an instrument board, a shaft carried by said supporting member, an arm movably disposed upon said shaft for supporting a recording device, and means associated with said supporting member and operatively connected with the arm for swinging the latter, whereby the recording device may be moved from one side of the instrument board to the opposite side.

Signed at Chicago, in the County of Cook, and State of Illinois, this 19th day of June, A. D. 1928.

NELSON L. GREENE.