Dec. 6, 1927. 1,651,708

V. E. JOHANSEN

CENTRIFUGAL SWITCH

Filed Oct. 20, 1926

Fig. 1.

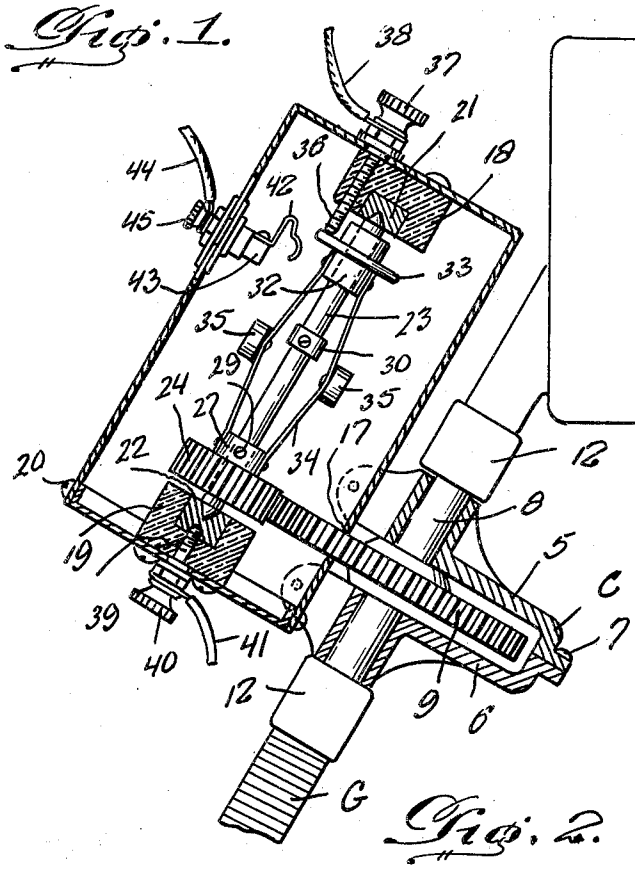


Fig. 4.

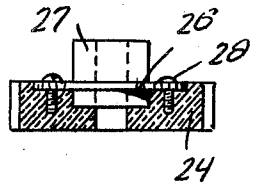


Fig. 2.

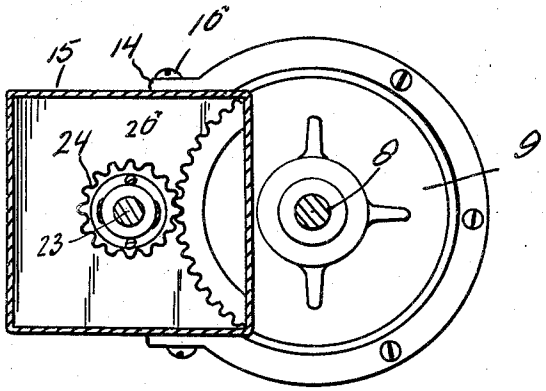
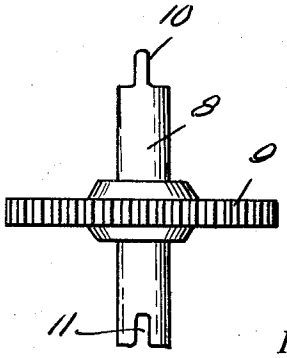


Fig. 3.



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CENTRIFUGAL SWITCH.

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The present invention relates to a centrifugal switch and has for its object to provide a mechanism which may be mounted at any suitable location in an automobile for receiving power from the wheels thereof and closing circuits to electric signals indicative of a stop, a slow-down, or the like.

A particular object of the invention lies in the provision of a centrifugal switch of this nature which may be located between the speedometer and its drive cable, although, if desired, an independent cable may be employed.

Another very important object of the invention lies in the provision of a mechanism of this nature with an exceedingly simple construction, one which is thoroughly efficient and reliable in operation, inexpensive to manufacture, easy to install, compact and convenient and otherwise well adapted to the purpose for which it is designed.

With the above and numerous other objects in view as will appear as the description proceeds, the invention resides in certain novel features of construction and in the combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawings:

Figure 1 is a vertical section through the centrifugal switch embodying the features of my invention,

Fig. 2 is a horizontal section therethrough,

Fig. 3 is a detail elevation of the drive gear,

Fig. 4 is a sectional view through the driven gear.

Referring to the drawing in detail it will be seen that H denotes a speedometer head which is usually coupled with the drive flexible cable G. The letter C denotes a casing formed in sections 5 and 6 bolted or otherwise secured together as at 7. A shaft 8 is journaled in the casing C and has fixed thereon a drive gear 9. The shaft 8 is provided with a tongue 10 at one end for engagement with the driving shaft of the speedometer head A while the other end of the shaft is provided with a notch 11 for receiving the usual tongue of the drive cable G so that the device may be interposed between the speedometer A and the cable G using the couplings 12 or other equivalent or suitable means. Ears 14 project from the casing C and have mounted therebetween a housing 15 which is detachably held in place by screws 16 or in any other suitable manner. This housing 15 has an opening 17 through which a portion of the drive gear 9 projects. Insulating blocks 18 and 19 are mounted in the top and bottom of the housing 15 and the bottom is detachable being held in place by screws 20. Bearings 21 and 22 are mounted in the blocks 18 and 19 in opposed relation and have journaled therein the pointed ends of a governor shaft 23. A gear or pinion 24 of insulating material is fixed to a disk 26 of a collar 27. Screws 28 may be used for attaching the gear 24 to the disk or flange 26. The collar 27 is fixed to the shaft by a set screw 29 or in any other suitable manner. A stop collar 30 is mounted on the shaft intermediate its ends. A slide collar 32 is mounted on the other end of the shaft and has an annular flange 33. The collars 27 and 32 are connected by spring strips 34 having weights 35 mounted on their intermediate portions. A contact post 36 is threaded through the insulating block 18 and has a thrust 37 on its outer end to receive a lead 38 which extends to a signal which will indicate a stop it being noted that the flange 33 will engage the contact bolt 36 when the shaft 23 is at rest. A contact post 39 leads through the block 19 to engage the bearing 22 and has a nut 40 on its outer end to hold in place a lead 41 extending from the switch of the automobile and the source of electrical energy which will flow through this post 39, through the bearing 22, through the shaft 23, through the flange 33 to either the contact post 36 or to a spring contact 42 which is in the path of the movement of the flange 33 as the collar 32 is moved towards the collar 27 when the weights 35 move away from each other due to centrifugal force while the shaft 23 is in motion. When the contact is made between the flange 33 and the contact spring 42 a current passes through the post 43 which is insulated from the side of the casing and has engaged therewith a lead 44 by means of a nut 45, said means extending to a slow indicating signal.

It is thought that the construction of this invention will now be understood without any more detailed description thereof as it will be seen that two or more signals may readily be operated for indicating the speed of the vehicle or when the same is at rest. This is accomplished without requiring any attention on the part of the driver of the

machine and it will be seen that by connecting the wire 41 to the ignition switch the normally closed circuit through the contact post 36 and flange 33 will be broken.

The present embodiment of the invention has been disclosed in detail merely by way of example since in actual practice it attains the features of advantage enumerated as desirable in the statement of the invention and the above description. It is apparent, however, that numerous changes in the details of construction, and in the combination and arrangement of parts may be resorted to without departing from the spirit or scope of the invention as hereinafter claimed or sacrificing any of its advantages.

Having thus described my invention, what I claim as new is:—

1. A centrifugal switch of the class described, including a housing, a pair of insulating blocks mounted in the housing one at each end thereof, a bearing mounted in each block, said bearings being opposed to each other, a shaft having its ends journaled in said bearings, a fixed collar on said shaft, a loose collar on said shaft, weighted spring members between the collars, the loose collar having a flange thereon, a contact post extending through one block and engageable by the flange, and a contact post leading through the other insulating block to the bearing therein.

2. A centrifugal switch of the class described, including a housing, a pair of insulating blocks mounted in the housing one at each end thereof, a bearing mounted in each block, said bearings being opposed to each other, a shaft having its ends journaled in said bearings, a fixed collar on said shaft, a loose collar on said shaft, weighted spring members between the collars, the loose collar having a flange thereon, a contact post extending through one block and engageable by the flange, a contact post leading through the other insulating block to the bearing therein and a spring contact mounted in the housing in the path of the movement of the movable collar.

3. A centrifugal switch of the class described including a housing, a pair of insulating bearing blocks mounted in the housing one at each end thereof, a shaft having its ends journalled in said bearing blocks, a fixed collar on said shaft, a loose collar on said shaft, centrifugally actuated means connecting said collars, the loose collar having a flange thereon, a contact post extending through one block and engageable by the flange, a contact post leading through the other block, and means in said other block electrically connecting the last mentioned contact post with the shaft.

In testimony whereof I affix my signature.

VICTOR E. JOHANSEN.