H. A. TROUP.

CONTROLLING DEVICE.

APPLICATION FILED JUNE 1, 1920.

1,426,686. Patented Aug. 22, 1922.

Fig. 1.

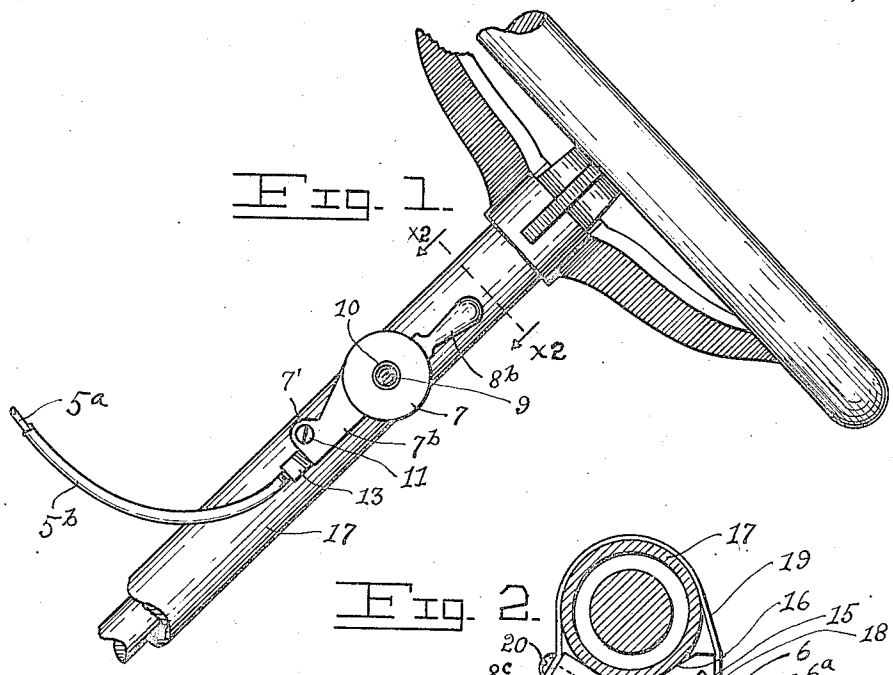


Fig. 2.

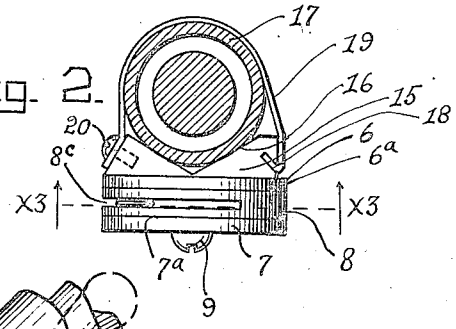


Fig. 3.

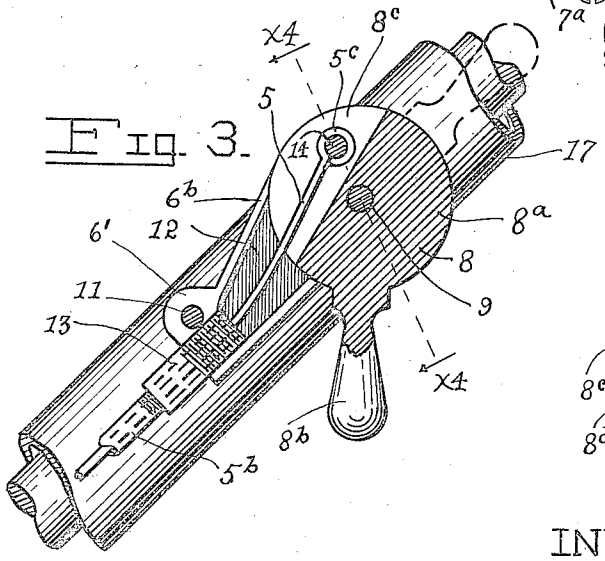
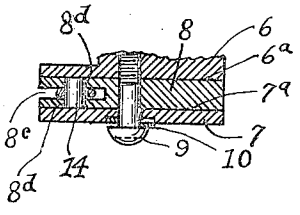


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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CONTROLLING DEVICE.

1,426,686. Specification of Letters Patent. Patented Aug. 22, 1922.

Original application filed February 21, 1918, Serial No. 218,382. Divided and this application filed June 1, 1920. Serial No. 385,853.

To all whom it may concern:

Be it known that I, HARRY A. TROUP, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Controlling Devices, of which the following is a specification.

This invention relates to controlling devices and it has for its object to provide an improved controlling device suitable for use with a wide variety of mechanisms, a particular field of usefulness of the improved controlling device being the control or adjustment of motor car accessories, carburetors, timers and like mechanisms. In ordinary practice it is in certain cases found convenient to adjust or control motor car controlling means and other features, requiring but a relatively small and light manually operable adjusting or controlling means, through the medium of a stiff wire such as piano wire, which wire is usually housed in or guided by a tube which may be curved to lead from a convenient point of control to the device to be adjusted. The wire being usually provided with an operating lever or the like, is found in practice to frequently cause trouble and become inoperative by reason of breakage near the point of connection with the lever. The lever form of wire operating means is preferable in many cases for obvious reasons, and in accordance with the present invention a lever control device which reduces the wire breakage to a minimum or in which wire breakage is entirely eliminated is produced. The breakage of wire and consequent loss of control over the mechanism to be adjusted is prevented in my improved control device largely by reason of the provision of a pair of faces forming a channel, and against which faces the controlling wire lies and is so confined against lateral movement in two directions, and the provision of a crank pin athwart the channel, the wire end being preferably formed into an eye encircling the crank pin; as the wire in all forms of lever actuated devices of this character must enter a conduit or tube close to the point of attachment to the operating lever which provides the necessary leverage, so that it may be moved longitudinally to adjust the controlled mechanism instead of bending, the failure of most forms of such devices is due to the stresses and compound strains due to improper guidance and attachment of wire at the lever, which also must in certain cases be properly frictionally retained against reverse movement or other displacement.

This invention is disclosed in an application for United States Letters Patent, filed by me February 21, 1918, Serial Number 218,382, for vehicle signals, in which the improved controlling device is shown as used in the operation of a signalling device, and of which application this application is a divisional.

With the above and other objects in view the invention consists in the novel and useful provision, formation, combination and relative arrangement of parts, members and features, all as hereinafter described, shown in the drawing, and finally pointed out in claim.

In the drawing:

Figure 1 is a fragmentary elevation of my improved controlling device, the same being shown as applied to the steering column of a motor car, the lever of the device being in the position assumed when the wire is in extended position;

Figure 2 is a view, partly in section, taken on the line x^2—x^2, Figure 1, and looking in the direction of the appended arrows, the lever in this Figure, however, being shown in the position in which it is shown in Figure 3, and with the wire in retracted position, the view being upon an enlarged scale;

Figure 3 is a sectional view taken upon the line x^3—x^3, Figure 2 and looking in the direction of the appended arrows;

Figure 4 is a sectional view taken upon the lines x^4—x^4, Figure 3, and looking in the direction of the appended arrows.

Corresponding parts in all the figures are designated by the same reference characters.

Referring with particularity to the drawing, in the embodiment of the invention therein shown, 5 designates a slightly flexible member or preferably metallic wire which may have one end 5^a secured to a device to be adjusted (not shown), and which is shown as passing through a flexible metallic conduit 5^b, the other end of the wire 5 being coiled or bent into a loop 5^c. At the end 5^c of the wire 5 the controlling

means is shown as comprising a member 6 adapted for attachment to vehicle features located conveniently to the operator, and being formed with a circular friction cheek 6^a and a channelled extension 6^b extending laterally from the cheek portion, a further member 7 having a friction cheek portion 7^a and a channelled extension 7^b and matching the member 6, and a rotatable member 8 shown as comprising a disk 8^a and a laterally extending finger piece 8^b. The disk 8^a is clamped between the cheeks 6^a and 7^a and in flat facial contact therewith by a screw 9 passed through a central aperture provided in registration in the cheeks and the disk, being threaded into the cheek 6^a of the member 6. A helical spring washer 10 is provided between the head of the screw 9 and the member 7 the same being disposed in a recess formed in the member 7. By adjusting the screw 9 the parts may be drawn together to provide the proper degree of resistance to movement, the helical washer 10 retaining the parts in spring pressed engagement. The channelled portions of the members 6 and 7 are united by a screw 11 passing through lugs 6′ and 7′ provided on the channel members 6 and 7, respectively. The channel walls meet at their edges and so form a conduit or chamber 12 through which the wire 5 extends, the chamber 12 terminating at the end of the extensions in a cylindrical cavity half of which is formed in each of the matched extensions 6^b and 7^b and into which cavity a cylindrical externally and internally threaded nipple 13 is threaded. The walls of the chamber 12 diverge from the cylindrical portion and accommodate movement of the wire 5 which with its conduit 5^b passes through the nipple 13, the entering end of the conduit being threaded into the nipple. The disk 8^a is slotted as on the chord of an arc as at 8^c to receive the wire 5 which has its end 5^a secured to the disk as by a crank pin 14 which is passed through suitable apertures 8^d in the disk 8^a at the slotted portion thereof and preferably near one end of the slot and through the eye 5^c. The crank pin 14 may be retained in position by the cheeks of the members 6 and 7.

The member 6 may be formed with an extending flange 15 which has a steering-column-receiving notch 16 the divergent walls of which engage the steering volumn 17. At one edge the flange 15 may have an inwardly and obliquely extending notch 18 adapted to receive the bent end of a metallic strap 19 passed about the steering column 17 and secured at its other end to the flange 15 as by a screw 20 passed through a suitable aperture in the strap and into the flange 15. The controlling means just described has the advantage of being susceptible of delicate adjustment as to degree of resistance to movement as well as being adapted to actuate the wire without breakage thereof, as the wire is confined against lateral bending by the walls of the slot in the disk and is free to bend in a wide curve as it is moved to and fro in the actuation of the signalling member.

Upon movement of the finger piece or lever 8^b by the operator to the position shown in full lines in Figure 1 the wire member is advanced through the conduit and the operable mechanism connected thereto actuated or moved to one position of adjustment, while upon movement of the finger piece 8^b to the position shown in full lines in Figure 3, the operable mechanism may be reversely adjusted, or infinite gradations of adjustment or control of the operable mechanism may be had between the limits of finger piece or lever movement, the wire member being guided into and out of the conduit in a single plane.

Having thus disclosed my invention, I claim and desire to secure by Letters Patent:

In a controlling device of the character disclosed, a rotatable disk having a peripheral channel forming a guideway for an actuator wire, said actuator wire, a crank pin extending across said channel and to which said wire is secured, a lever extending from the periphery of said disk, a pair of friction cheeks between which said disk is rotatably mounted, a projection having a chamber with converging walls formed by extensions formed on said cheeks and secured together at their ends, a tubular member leading from the terminus of the projection into the chamber, an adjustable screw uniting said cheeks and forming a shaft upon which said disk is rotatably mounted, spring means urging said cheeks into contact with said disk, and securing means on one of said cheeks whereby the device may be secured to vehicle features.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY A. TROUP.

Witnesses:

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D. ELY.