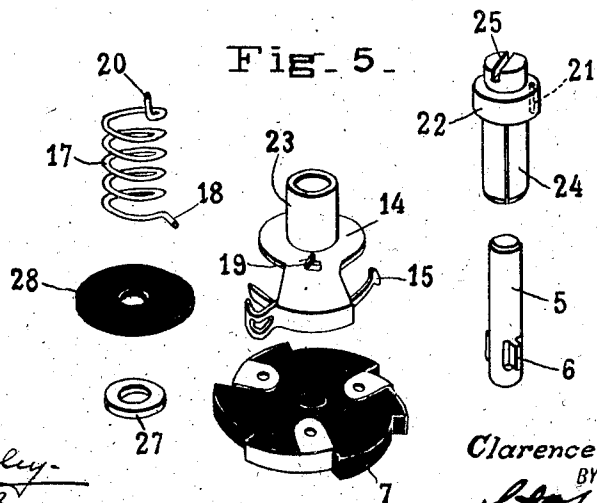
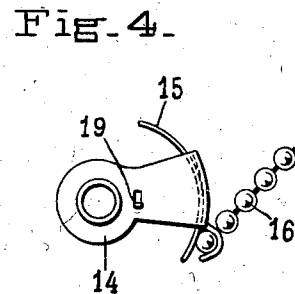
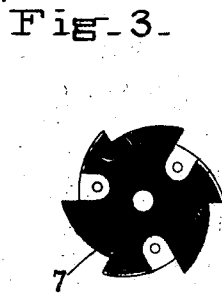
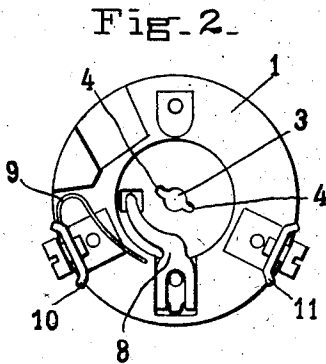
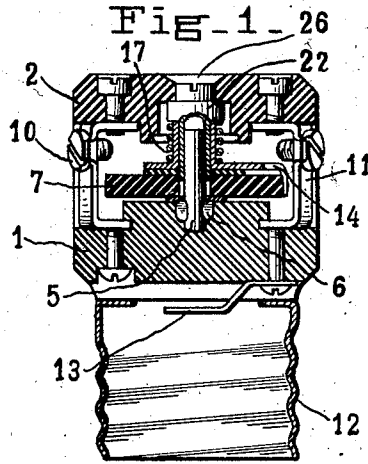


C. D. PLATT.
TENSION ADJUSTMENT FOR PULL SWITCHES.
APPLICATION FILED DEC. 21, 1910.

1,008,729.

Patented Nov. 14, 1911.



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TENSION ADJUSTMENT FOR PULL-SWITCHES.

1,008,729.

Specification of Letters Patent. Patented Nov. 14, 1911.

Application filed December 21, 1910. Serial No. 598,579.

To all whom it may concern:

Be it known that I, CLARENCE D. PLATT, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Tension Adjustments for Pull-Switches, of which the following is a full, clear, and exact description, whereby any one skilled in the art may make and use the same.

The invention relates, to pull switches and more particularly, to the adjustment, for tensioning the operating parts, in order that accuracy may be maintained in the operation of the device.

The object of the invention is to provide a simple and convenient adjustment for tensioning the manually movable part of the switch of a pull socket, to insure a proper return of the operating parts.

A further object is to provide an adjusting device, which will insure the proper positioning of the parts adaptable to varying weights upon the pull chain or cord.

A still further object is to provide a simple device for adjusting tensions upon the actuating mechanism and which is readily removable and is in the form of a constant clutch.

Referring to the drawings: Figure 1 is a partial sectional view of a socket embodying the invention. Fig. 2 is a plan view of the lower insulating base-piece and appurtenant parts. Fig. 3 is a plan view of the ratchet for effecting the make and break of the contacts. Fig. 4 is a plan view of the movable pawl for actuating the ratchet illustrated in Fig. 3. Fig. 5 is a detail view in perspective of the several parts of the adjusting device appurtenant to the ratchet.

The specific form of ratchet mechanism and contact mechanism does not form the invention claimed herein and the invention, as hereinafter defined, may well be applied to any desired type of switch mechanism. It embodies a movable member in the form of an actuator, an adjustable member cooperating therewith, and a resilient connection between said members for varying the tension.

In ordinary pull switches, of the type referred to herein, it is often necessary to vary the tension of the actuating member, to provide for differences in weight of the chain and its embellished pendant or other connections by which the switch is operated.

It is the particular object of the present invention to provide an adjustment by which the tension of the actuator may be varied and whereby the actuator will always be returned to a definite position irrespective of the weight of the pull cord or chain and its appurtenances. At the same time, it is desirable to provide a device which will permit ready removal and separation of the main parts of the mechanism without interfering with the adjustment of the actuating mechanism.

Referring to the drawings, the numeral 1, denotes the lower insulating member of a pull socket surmounted by an insulating member 2, between which members the operating mechanism for effecting the make and break of the contacts are arranged. The lower insulating member 1, is provided with an opening 3, of substantially cylindrical form having extended openings 4, within which fits a spindle 5, provided with ears 6, so that the spindle is firmly seated in the insulator 1. This spindle 5, forms the pivotal support for a ratchet member 7, which, in conjunction with a contact member 8, located on the base 1, and a contact member 9, secured to a conducting post 10, forms the necessary electrical make and break between circuit wires connected with the conducting post 10, and a conducting post 11. The conducting post 10, through the conducting portions of the ratchet 7, is electrically connected and disconnected with the threaded shell contact member 12. The conducting post 11, is electrically connected with a central contact 13, extending within the shell 12.

Surmounting the ratchet 7, there is a pawl-bearing member 14, having a pawl 15, adapted to engage the teeth of the ratchet 7. This pawl has properly secured to it a pull cord or chain 16, and is supported upon and has as a bearing the spindle 5. The pawl-bearing member 14, is moved in one direction by the pull of the cord or chain 16, and is returned to normal position after the pull by the spring 17. This spring has its lower end 18, connected with the pawl-bearing member 14, by a clip 19. The upper end 20, of the spring 17, engages an opening 21, of an adjusting device 22. The pawl-bearing member 14, has a central hub 23, projecting therefrom, being preferably formed by cupping up the metal of the pawl-bearing member. This hub 23, forms a spring barrel about which the spring 17, is passed and

which is exteriorly arranged with reference to the chucking member 24, of the adjusting device 22. Thus, there is formed a continuous spring barrel within the coil spring 17, one end of which spring is engaged with the pawl-bearing member 14, while the opposite end is engaged with the adjusting device 22. The spindle 5, is so formed with relation to the adjusting device 22, that the latter may be forced down over it and due to a spring-chuck formed by splitting the lower end 24, of the adjusting device, a secure frictional hold may be maintained between the adjusting device 22, and the spindle 5. The upper end of the adjusting device 22, is provided with a screw-slot 25, which projects through an opening 26, in the upper insulating member of the socket and may be conveniently engaged by a screw-driver or other tool.

Underlying the ratchet member 7, is a washer 27, which maintains the ratchet in a proper plane and overlying said ratchet is an insulating washer 28, which insures the various parts of the mechanism appurtenant thereto against short-circuit.

The two insulating sections 1, and 2, are secured together through suitable posts including the conducting columns 10, 11, and are, therefore, held in fixed position irrespective of the adjusting device 22.

It is to be observed that the spindle 5, is removably seated in the lower-most insulating member 1, and is non-rotatable with reference thereto. The adjusting device 22, is seated within the upper-most insulating member 2, and has its end projecting there-through, whereby it may be rotarily adjusted with reference to the spindle 5. The actuator, which consists of the pawl-carrying member 14, its pawl 15, and chain or cord connection 16, is loosely mounted upon the spindle 5, with the adjusting device 22.

The control of the mechanism is effected in the following manner: The spring 17, encircling the spring barrel 23, being in connection with the pawl-carrying member 14, and the adjusting device 22, may be tensioned to a greater or lesser extent by merely turning the adjusting device 22, with reference to the spindle 5. The gripping-chuck 24, has sufficient holding power with reference to the spindle 5, to maintain said adjusting device in any position to which it may be set. It holds upon the spindle 5, by a frictional gripping action and therefore the total length of the spindle 5, and the adjusting device is never varied, as would be the case if a screw-thread were used between the spindle and the adjusting device. Furthermore, the expense and disadvantages of a screw-spindle and nut are avoided and the adjusting device may be incased below the upper insulating member 2, without liability of being raised to such an extent as

to interfere with the inclosing casing and connections, which are ordinarily used in such devices.

With this arrangement, the spindle 5, ratchet and pawl, together with the adjusting device, may be quickly and readily assembled on the insulating member 1, and may be readily removed to re-new any of the parts. It will be observed that the ratchet member 7, is, in fact, a ratchet and contact member for effecting the make and break of the circuit and the adjusting device is in direct connection, through the pawl-arm 14, with said ratchet. Thus, there is a direct adjustment through the adjusting device, in connection with the movable make and break contact member or ratchet 7, whereby the positioning of the actuating pawl 15, may always be definitely adjusted.

Obviously, the exact details of the mechanism might be varied to a considerable extent, without departing from the spirit or intent of the invention, which contemplates a tension adjustment for pull switches, the several elements of which are readily assembled or separated with reference to the parts of the mechanism and are not varied in axial position during adjustment.

I do not in this case claim the mechanism herein illustrated for making and breaking the electrical connections within the socket, as such subject-matter is claimed by me in my application No. 598,423, filed December 20, 1910.

What I claim as my invention and desire to secure by Letters Patent is:

1. A tension adjustment for pull switches embodying a spindle, a frictional adjusting device frictionally clamped to said spindle, a switch actuator operatively arranged upon the spindle, and a tension device intermediate the switch actuator and adjusting device.

2. A tension adjustment for pull switches embodying a removable spindle, a frictional adjusting device frictionally clamped to said spindle; a switch actuator operatively arranged upon the spindle, and a tension device intermediate the switch actuator and adjusting device.

3. A tension adjustment for pull switches embodying a spindle, a make and break device mounted thereon, an actuator therefor provided with an extended bearing, an adjusting device projecting within said bearing and engaging the spindle and a tension device between the adjusting device and the actuator.

4. A tension adjustment for pull switches embodying a spindle, a switch actuator operatively arranged upon the spindle and provided with a hub forming a spring barrel, an adjusting member having frictional contact with the spindle and with a head extending about the end of the spring barrel,

and a tension device intermediate said head and the switch actuator.

5 5. A tension adjustment for pull switches embodying a spindle provided with transverse ears in combination with an insulating member having a socket to receive the spindle and ears, a switch actuator operatively
0 arranged upon the spindle, an adjusting device having a clutch mounted upon the spindle, and a tension device intermediate the switch actuator and adjusting device.

6. In combination with a pair of insulating members bearing an intermediate switch mechanism, a spindle removably secured in
5 one of said members and forming a bearing for the movable switch parts, a switch actuator mounted thereon, an adjusting device frictionally clamped upon the spindle and underlying one of the insulating members,
20 and a tension device intermediate the adjusting device and actuator.

7. In combination with a pair of insulating members bearing an intermediate switch mechanism, a spindle removably secured in
5 one of said members and forming a bearing for the movable switch parts, a switch actuator

ator mounted thereon, an adjusting device frictionally clamped upon the spindle and underlying one of the insulating members, a tension device intermediate the adjusting
30 device and actuator, and a recess through the insulating member whereby the adjusting device may be moved.

8. A tension adjustment for pull switches embodying a spindle, a split nut frictionally
35 clamping the upper end of said spindle, a switch actuator operatively arranged upon the spindle, and a tension device intermediate the switch actuator and split nut.

9. A tension adjustment for pull switches
40 embodying a spindle, a tool-engaging head operatively arranged upon said spindle, a friction clutch intermediate said head and spindle, a switch actuator operatively arranged upon the spindle, and a tension de-
45 vice intermediate the switch actuator and adjusting device.

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Witnesses:

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