March 22, 1949. C. F. SURFACE 2,465,132

CORD ADJUSTER

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Fig. 1

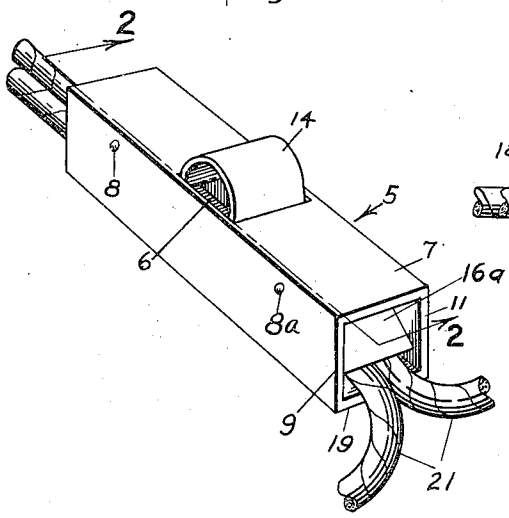


Fig. 2

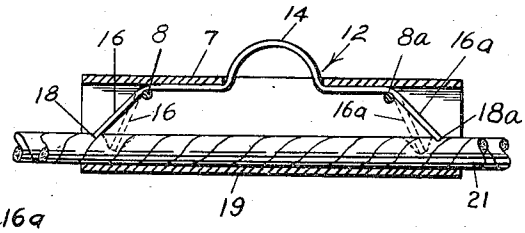


Fig. 3

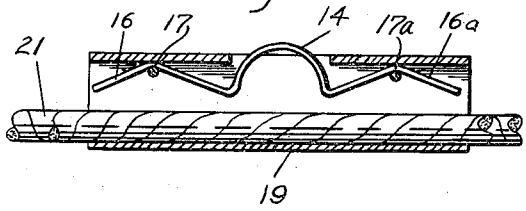
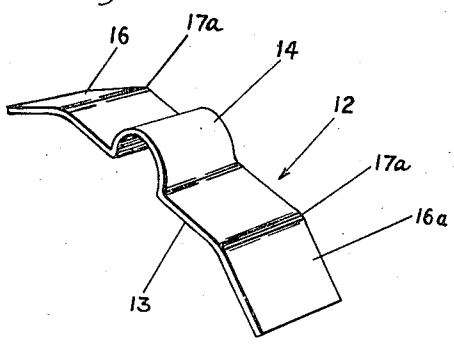


Fig. 4



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CORD ADJUSTER

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3 Claims. (Cl. 24—115)

1

This invention relates generally to cord adjusting devices and in particular to a device for adjusting the neck loop in a cord dog leash.

Dog leashes of a cord material are commonly used in dog shows to hold the dog in check without materially detracting from the dog's appearance. However, these leashes have not been entirely satisfactory due to the fact that after the initial adjustment of the neck loop on the dog, such adjustment is changed by the pulling of the dog on the leash so that the dog oftentimes is able to slip his neck from the loop and run free.

An object of this invention is to provide an improved cord adjusting device.

A further object of this invention is to provide a cord adjuster which is easily and quickly manipulated to positively hold the cord in an adjusted position.

Yet another object of this invention is to provide a cord adjuster which is compact in design, ornamental in appearance, positive in its action to hold the cord in an adjusted position, and comprised of a minimum number of parts capable of being economically manufactured and assembled.

Yet another object of this invention is to provide a cord adjuster adapted to more firmly hold the cord in an adjusted position in response to a pulling force applied on the cord and acting to move the cord from its adjusted position.

A feature of this invention is found in the provision of a cord adjuster in which a single spring, arranged in a tubular housing through which cords are longitudinally movable, is adapted in one moved position to release the cord for adjustable movement and in a second moved position to positively hold the cord against longitudinal movement in opposite directions.

Further objects, features and advantages of this invention will become apparent from the following description when taken in connection with the accompanying drawings in which:

Fig. 1 is a perspective view of the cord adjuster of this invention showing an adjustable cord positioned therein;

Fig. 2 is a longitudinal sectional view of the cord adjuster taken on the line 2—2 in Fig. 1;

Fig. 3 is a sectional view of the cord adjuster illustrated similarly to Fig. 2 and showing the parts in a cord releasing position therefor; and

Fig. 4 is a perspective view of a spring member forming part of the cord adjuster of this invention.

With reference to the drawings the cord adjuster of this invention is illustrated in Figs. 1 and 2 as including a tubular housing 5, of a generally square shape in cross section, having a central opening 6 formed in a sidewall 7. Located within the housing 5 is a pair of transverse pins or supports 8 and 8a which are carried in the housing sidewalls 9 and 11 in a spaced parallel relation with the sidewall 7. Positioned within the housing 5 and supported on the pins 8 and 8a is a spring member, indicated generally as 12, composed of a single piece of a flat spring material.

2

The spring 12 (Figs. 2 and 4) is of a somewhat irregular shape and includes a body member 13 having a raised central portion 14, and end portions 16 and 16a bent downwardly and outwardly. The bends 17 and 17a, defining the junctions between the body member 13 and the end portions 16 and 16a are spaced a distance apart substantially equal to the distance between the pins 8 and 8a for a purpose which will appear later.

In the assembly of the cord adjuster the spring 12 is initially positioned within the housing 5 with the raised portion 14 extended through the housing opening 6. The pins 8 and 8a are then inserted through aligned openings in the sidewalls 9 and 11 to support the body portion 13 of the spring 12 against the inner surface of the sidewall 7. By virtue of the distance between the bends 17 and 17a, in the spring 12, being substantially equal to the distance between the pins 8 and 8a, it is seen that the spring 12 is supported on the pins 8 and 8a at the bends 17 and 17a. With the spring 12 thus supported its end portions 16 and 16a are inclined away from the sidewall 7 and towards the ends of the housing 5, to positions at which their free ends 18 and 18a are adjacent to the housing sidewall 19 which is arranged oppositely from the sidewall 7.

The cords 21, to be adjusted, are extended longitudinally through the housing 5 between the sidewall 19 and the free ends 18 and 18a of the spring end portions 16 and 16a. The length of the portions 16 and 16a is such that when the spring body member 13 is in a substantially parallel relation with the sidewall 7, as illustrated in Fig. 2, their free ends 18 and 18a are engageable with the cords 21.

In the operation of the cord adjuster assume the spring 12 to be in its position shown in Fig. 2 at which the cords 21 are locked in an adjusted position against movement longitudinally of the housing 5. On any attempted movement of the cords 21 toward the left, as viewed in Fig. 2, the end portion 16a is moved to its dotted line position, also shown in Fig. 2, whereby to more firmly

press or clamp the cords 21 against the sidewall 19. This increased clamping action by the end portion 16a takes place because of the fact that any upward movement of the end portion 16a is limited by the engagement of its upper end with the inner surface of the sidewall 7. In other words, the space between the pin 8a and the sidewall 7 is such that the bend 17a is in bearing engagement with the pin 8a and the sidewall 7.

It is seen, therefore, that any pulling force applied on the cords 21 in a direction toward the left is counteracted by an increased clamping action of the end portion 16a against the cords 21. Likewise, any pulling action on the cords 21 toward the right, as viewed in Fig. 2, is counteracted in a similar manner by the end portion 16. The end portions 16 and 16a thus act independently of each other to positively lock the cords 21 in an adjusted position against movement longitudinally in opposite directions through the housing 5.

To release the cords 21 for free movement to an adjusted position the raised spring portion 14 is depressed within the housing opening 6 to its position shown in Fig. 3, which illustrates a cord releasing position for the adjuster. As a result of the depression of the raised portion 14, which constitutes an actuator for the cord adjuster, the portions of the body member 13, at opposite sides of the raised portion 14, are bent downwardly and inwardly of the housing whereby the end portions 16 and 16a are lifted to positions out of engagement with the cords 21. This action takes place as a result of the pins 8 and 8a acting as fulcrums for the portions of the spring 12 located at opposite sides of the raised portion 14.

On movement of the cords 21 to their adjusted positions the raised portion 14 is released whereby the spring 12 is returned to its position illustrated in Fig. 2, at which the end portions 16 and 16a are in engagement with the cords 21. As clearly appears in Fig. 1 the spring 12 is of a width substantially equal to a transverse dimension of the housing 5 so that the free ends 18 and 18a of the cord engaging end portions 16 and 16a are extended completely across the cords to provide for a maximum contact with the cord.

From a consideration of the above description it is seen that this invention provides a cord adjuster which is of a compact and simple design and easily and quickly manipulated to a cord locking and releasing position by merely depressing and releasing the spring raised portion 14. In one embodiment of the invention the housing is one inch long and formed from a one-quarter inch square tubular stock. The cord adjuster thus not only performs a useful function but by virtue of its small size acts to ornament the object to which it is applied.

Although the invention has been described as being applicable to the adjustment of the neck loop on a dog leash, it is to be understood that it may be applied with equal efficiency to the adjustment of cords on Venetian blinds, handbags and the like. It is to be understood further that although the invention has been described and illustrated with respect to a preferred embodiment thereof that it is not to be so limited since changes and modifications can be made therein which are within the full intended scope of this invention as defined by the appended claims.

I claim:

1. A cord adjuster comprising a tubular housing adapted to have cords moved longitudinally therethrough, with one sidewall of said housing having an opening therein, a pair of transverse pin members supported in said housing at opposite sides of said opening and in a spaced parallel relation with said one sidewall, a flat spring member in said housing having a body portion positioned between and in contact engagement with said pin members and said one housing sidewall, an actuating portion on said body portion movable through said opening, and a pair of cord engaging portions at opposite ends of said body portion reversely inclined in directions toward the ends of said housing and away from said one sidewall, said pin members being arranged at the junctions of said cord engaging portions with said body portion, with the cords, when said body portion is in a substantially parallel relation with said one sidewall, being held against longitudinal movement between the free ends of said cord engaging portions and the sidewall of said housing arranged oppositely from said one sidewall, and released when said actuating portion is depressed within said sidewall opening.

2. A cord adjuster including a tubular housing adapted to have cords moved longitudinally therethrough, with one sidewall of said housing having a substantially central opening therein, a pair of transverse supporting members carried in said housing at opposite sides of said opening and in a spaced parallel relation with said one sidewall, a flat spring member including a body portion carried on said supporting members and arranged in the space between said supporting members and said one sidewall so as to be in substantial contact engagement with said sidewall, an actuating portion on said body portion located in said opening, end portions on said body portion inclined from said supporting members downwardly and outwardly toward the ends of said housing and terminating adjacent to the sidewall of said housing located oppositely from said one sidewall, with the cords to be adjusted being positioned between said end portions and said opposite sidewall and held against movement longitudinally of said housing when said body portion is in a substantially parallel relation with said one sidewall, and released for longitudinal movement when said actuating portion is depressed within said sidewall opening.

3. A cord adjuster comprising a tubular housing adapted to have cords movable longitudinally therethrough, with a sidewall of said housing having a substantially central opening therein, a pair of transverse supports in said housing arranged at opposite sides of said opening in a spaced parallel relation with said one sidewall, a one piece flat spring within said housing formed with a body portion positioned between said supports and said one sidewall, and formed with end portions inclined downwardly toward the ends of said housing, said end portions being of a length such that their free ends are adjacent to the sidewall of said housing arranged oppositely from said one sidewall, and said supports being arranged at the junction of said end portions with said body portion, with the cords to be adjusted being positioned between said free ends and said opposite sidewall, and an actuating portion on said body member movable through said opening, with said actuating portion being projected through said side wall opening and said

body portion in a substantially parallel relation with said one sidewall, when said free ends are in engagement with said cords, with said end portions, on depression of said actuating portion within said sidewall opening and movement of the body member out of said parallel relation, being moved toward said one sidewall out of engagement with said cords.

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