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WILLARD H. PARKER, OF FAIRFIELD, IOWA, AND ALBERT P. CANNON, OF KEITHSBURG,
ILLINOIS

ADJUSTABLE GARMENT SUPPORT

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The object of this invention is to provide an adjustable support adapted to be suspended from the ceiling of a room and capable of being extended longitudinally and of being adjusted rotatably, the device being capable of supporting an object such as a garment hanger with a garment thereon, whereby the garment so supported may be placed in any desired position for the purpose of cleaning or repairing it, or for display purposes.

A further object of the invention is to provide an adjustable support including a swivelly mounted cap, an outer tube depending therefrom, an inner tube telescopically mounted in the outer tube, and means for easily and quickly causing the inner tube to be adjusted at any desired position in the outer tube and securely held in the selected position, the inner tube projecting from the lower end of the outer tube and being provided with means for supporting an article.

Still another object of the invention is to provide an extensible and adjustable support which is simple, durable and efficient for the purposes for which it is designed.

With these and other objects in view our invention consists in the construction, arrangement and combination of the various parts of our device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in our claims, and illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view showing two of the devices in position for practical use in a room, a garment being suspended from one of the supports.

Figure 2 is a longitudinal section of the extensible device in locked position.

Figure 3 is a sectional view showing the parts in released position, whereby the inner tube may be readily moved and adjusted relative to the outer tube.

Figure 4 is a detail elevation, partly in section, of the upper end portion of the inner tube and the actuating rod, together with the spring which normally prevents withdrawal of the inner tube from the outer tube.

Figure 5 is a transverse section on the line 5—5 of Figure 4.

In the accompanying drawings we have employed the reference numeral 10 to designate a cap which is formed in its closed end with an opening 12, preferably countersunk at both ends. Through the opening 12 is mounted a screw or the like 14 having its head located within the cap. The screw 14 is adapted to be seated in a suitable supporting member 16 which may be the ceiling of a room in which the device is to be used. By mounting the cap in the manner described the device is swivelly or rotatably mounted, since the cap may turn freely on the screw 14 and may also be caused to swing laterally to some extent, inasmuch as the screw 14 preferably is not driven clear home in the supporting member 16.

The cap 10 is internally threaded and an outer tubular member 18 is threaded therein and depends therefrom. The outer tube 18 preferably is expanded or flared outwardly at its lower end and terminates in an internal peripheral shoulder 20 defining a circular opening in such lower end.

Telescopically and slidably mounted in the outer tube 18 is an inner tubular member 22 which is of greater length than the outer tube and projects through the opening defined by the shoulder 20.

The inner tube 22 carries at its lower end a ring, loop or eye 24 which may be employed for receiving and supporting an object such as a garment hanger 26 on which a garment such as 28 may be mounted.

Means preferably is provided for preventing accidental removal of the inner tube from the outer tube and such means is shown particularly in Figures 4 and 5.

Near its upper end the inner tube 22 is formed on one side with a recess or flattened portion 30 of substantially rectangular outline and on its diametrically opposite face with a similar recess or flattened portion 32 which preferably is of somewhat greater length than the recess 30.

The tube 22 is formed with a diametrical opening extending from the recess 30 to the recess 32 and in which the straight body por-

tion of a retaining spring 34 is mounted. At one end the spring 34 extends downwardly within the recess 30 and terminates in a laterally directed lug 36. At the other end the spring 34 is formed with a downwardly inclined locking portion 38 which is normally received within the recess 32.

Throughout the greater range of sliding movement of the inner tube 22 within the outer tube 18, both ends of the spring 34 are confined in the respective recesses 30 and 32 and the transverse lug 36, by engagement with the inner surface of the wall of the outer tube, prevents any substantial oscillation of the spring, as will be understood particularly from the showing in Figure 5.

In the event the inner tube 22 is extended or pulled downwardly in the outer tube 18 to a point where the locking spring 34 enters the flared lower portion of the outer tube, then and in such event the locking portion 38 of the spring tends to move outwardly as shown in Figure 4. This outward movement of the portion 38 is caused by the natural resilience of the spring and the effort of the inclined portion 38 to assume its natural position and such movement is permitted by the increased diametrical capacity at the lower end of the outer tube.

When the locking portion 38 of the spring is permitted to move outwardly as just described and as shown in Figure 4, its end will engage the internal peripheral shoulder 20 of the outer tube and prevent further movement of the inner tube in an outward direction, thus tending to prevent disassembly of the parts.

An actuating rod 40 is closely fitted within the inner tube 22 and is capable of a slight longitudinal shifting movement therein.

Near the lower end of the inner tube 22 is mounted a ring or clamp 42 which is provided with a pair of spaced laterally projecting ears 44. Between the ears 44 a bell crank lever 46 is pivoted on a pin 48. One arm of the bell crank lever 46 projects through a slotted opening 50 in the tube 22 and terminates in a ball portion 52 which is seated in a socket 54 in the actuating rod 40.

The other arm of the bell crank lever 46 projects downwardly from the pivot 48 and is adapted for manual operation for shifting the rod 40. An expansive coil spring 56 is mounted between the tube 22 and the downwardly projecting arm of the lever 46.

It is the purpose of the spring to hold the lower arm of the lever 46 outwardly to the limit of its movement, or in other words to keep a downward pull on the actuating rod 40 through the other arm of the lever and its ball portion 52 engaging in the socket 54. The spring 56 may be held in place by a lug 58 at one end engaging in an aperture in the wall of the tube 22.

Near its upper end the actuating rod 40 is formed with an outwardly opening notch 60 having its rear wall inclined inwardly and downwardly from its upper end toward the diametrical center of the rod, thus forming a cam face 62.

Within the notch 60 is mounted a locking ball 64 and a portion of the periphery of said ball projects at all times within and is capable of being projected through an opening 66 in the wall of the inner tube 22 at times.

The normal or locked position of the parts is shown in Figure 2. In this position the weight of the rod 40, tube 22 and elements carried thereby, together with the yielding pressure of the spring 56 on the lever, causes the cam face 62 to move downwardly to press the locking ball 64 outwardly in a radial direction so that a peripheral portion projects through the opening 66 into frictional engagement with the inner surface of the wall of the outer tube 18. This frictional engagement of the ball between the inclined or cam face 62 and the wall of the outer tube prevents downward movement of the actuating rod 40 and inner tube 22. It will be understood that the more force or weight is applied to the inner tube, the greater will be the locking effect of the ball 64, owing to the wedging action of the cam face 62.

When it is desired to adjust the inner tube 22 either upwardly or downwardly, the lower portion of the tube is grasped in the hand and thumb pressure is applied to the lower arm of the bell crank lever 46, thus compressing the spring 56 and shifting the rod 40 upwardly a distance corresponding to the throw of the ball portion 52 of said lever.

This upward shifting movement of the rod 40 causes the ball 64 to move into the lower or wider portion of the notch 60 and the locking action between the cam face 62 and the wall of the outer tube is thus released as shown in Figure 3.

Thereupon the inner tube 22 may be moved to the desired extent in the outer tube either by upward thrust or downward pull, or it may be rotatably adjusted in the outer tube by turning movement.

As soon as pressure on the bell crank lever 46 is released, the spring 56 acts to move the parts back to the locking position shown in Figure 2, as previously described, and the parts are thus automatically held and locked in the selected position.

This supporting device affords a convenient and easy adjusted supporting means which is particularly desirable for supporting objects such as garments from the ceiling of a room. It may be utilized for display purposes and permits the garment to be supported at the desired elevation above the floor or other portion of the room. The device is also useful in cleaning establishments and the like, where it is desirable for the workman

to get access to various parts of a garment for the purpose of brushing, cleaning spots, or making slight repairs.

The device is also durable and comparatively inexpensive and has no parts that are apt to get out of operative condition when properly used.

We claim as our invention:—

1. A supporting device, comprising a pair of telescoping tubes, means for supporting one of said tubes, means on the other tube for supporting an object, an actuating rod slidably mounted in the inner tube, said rod having a part snugly fitting within said tube and provided with a laterally opening notch having an inclined face and of greater width at its lower end, said inner tube being formed with an opening in its wall opposite said notch, a rolling locking member confined in said notch and having a part projecting through the opening of the inner tube into engagement with the wall of the outer tube, said inner tube projecting beyond one end of the outer tube and formed with a second lateral opening in such projecting portion, said actuating rod being formed with a laterally opening socket disposed opposite to said second mentioned lateral opening in the inner tube, a bracket on the projecting portion of said tube, a bell-crank lever fulcrumed on said bracket and having one end extended through the second mentioned opening of the inner tube into the socket of said actuating rod, and a spring mounted between the inner tube and the handle portion of said bell crank lever for normally drawing said actuating rod downwardly and causing said inclined face to press said locking member into engagement with the wall of the outer tube.

2. In a supporting device, a pair of telescoping tubes, means for supporting one of said tubes, means on the other tube for supporting an object, an actuating rod shiftably mounted in the inner tube and formed with an inclined face, the inner tube being formed with an opening, a rolling locking member carried by the actuating rod and adapted to be pressed by its inclined face into frictional contact with the wall of the outer tube through the opening in said inner tube, manually operable means for shifting said actuating rod for releasing said locking member from operative position, the outer tube being expanded somewhat at its end and formed with an internal shoulder, said inner tube being formed with diametrically opposed recesses in its wall and with a transverse bore connecting said recesses, and a retaining spring having a central body portion traversing said bore and having at one end a lug arranged in one recess of said tube for preventing oscillation of said spring, said spring having at its opposite end a laterally inclined locking portion normally

confined under compression between the other recess and the wall of the outer tube and capable of moving into the flared portion of the outer tube and into engagement with its shoulder to prevent separation of the two tubes by relative longitudinal movement.

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WILLARD H. PARKER.
ALBERT P. CANNON.

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