May 17, 1932. F. STEVENSON 1,859,223

SUPPORTING STAND

Filed Dec. 26, 1930

Fig. 1

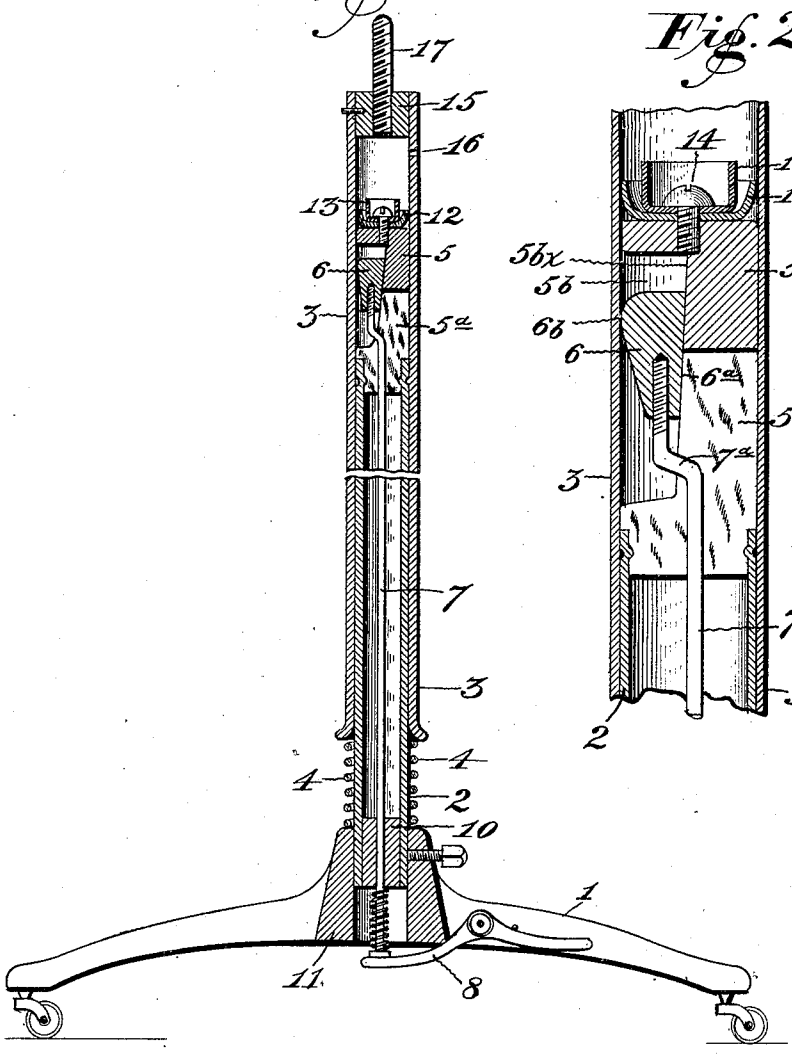
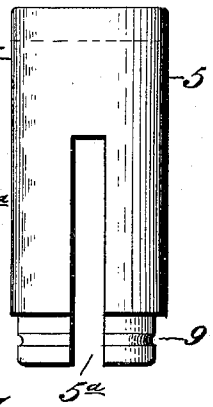


Fig. 2

Fig. 3



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UNITED STATES PATENT OFFICE

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SUPPORTING STAND

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My invention relates to adjustable supporting stands, and more particularly to an automatic stand for supporting garment forms. It belongs to that class of stands in which the supporting pedestal is formed of telescoping rods, internally provided with expanding locking members controlled by a central spring-pressed rod projecting out at the bottom of the pedestal, and operated by a foot pedal at the base of the stand. The tubular members of the device are also provided at their lower ends with shock-absorbing means as a safeguard against hurtful jar from an accidental telescoping of the supporting tubes, and at their upper end with a dash-pot arrangement for insuring the easy and gradual descent of the form when the locking members are held released by the controlling foot pedal.

One object of the invention is to provide a device of the above character in which the expanding locking members are reliably held against lateral play in the supporting pedestal, thereby greatly facilitating the easy, prompt, and reliable operation of the device.

A leading feature of the invention consists of a slotted head carried by the upper end of the lower telescoping section, and provided in one side with a recess having its inner wall inclined, in combination with a wedge member slidable within the recess and coacting with the inclined inner wall thereof; said head having its slot in its lower portion and disposed in a vertical plane at right angles to the plane of said inclined recess wall; said wedge being supported on the upper end of an operating rod which passes freely through said slot, and is provided in the slot with an offset bend which prevents the rod from rotation in the slot, and thereby causes the rod to hold, against rotation, the locking wedge which it carries; whereby the working face of said wedge is always held in parallelism with the inclined inner wall of said recess in the slotted head.

The invention consists in certain novel features of construction and arrangement of parts, as will be hereinafter described and claimed, reference being had to the accompanying drawings in which;—Fig. 1 is a vertical section of my improved stand.

Fig. 2 is a sectional view, on an enlarged scale, of the locking arrangement; and, Fig. 3 is a side elevation, also on an enlarged scale, of the slotted head, the view being taken at right angles to the sectional view of said head, as it appears in Fig. 2.

Referring further to the drawings;—The numeral 1 indicates the base of the device; 2, the lower telescoping section suitably mounted on this base; and 3, the upper telescoping section adapted to move up and down on the lower section. Surrounding the lower end of the tube 2 is a compression spring 4, which serves as a buffer for the outer tube 3 when in its lowermost position. It will be noticed that the lower end of the tube 3 is slightly flared to cause it to more firmly engage said spring.

Mounted on the upper end of the inner tube 2 is the slotted head 5 formed preferably of cast iron. The slot 5*a* of this head is at its lower end and is disposed at right angles to the recess 5*b* which is in the side of the block between its ends. The rear face 5*bx* of this recess is slightly inclined, as illustrated in Fig. 2 of the drawings.

A tapered dog or wedge 6 is held in the recess 5*b*, being mounted on the upper end of the operating rod 7 which is supported on the foot pedal 8. The inner face 6*a* of this wedge is suitably inclined to meet in flat engagement with the inclined face 5*bx* of the slot 5*b*, so that as this wedge is moved downwardly with its inner face in engagement with the inner face of the recess 5*b*, the outer or back face 6*b* of the wedge will be brought into binding engagement with the inner wall of the upper tube 3, and will thus lock said tube against further movement on the lower tube 2, since the locking head 5 is rigidly held on said lower tube, being rolled onto the same at the lower end of the head which is provided with the annular groove 9 for assisting in locking the head and tube together.

The tube 2 is provided at its lower end with a rigid plug 10 which has a central bore through which the operating rod 7 freely passes; and on the lower end of this operat-

ing rod 7 is mounted a compression spring 11 which rests on the foot pedal 8, and extends up into engagement with the plug 12, and assists gravity in imparting to the rod and the wedge 6 mounted thereon a constant tendency to move downwardly, and thereby automatically lock the slotted head 5 in engagement with the outer tube 3, whenever said parts are left free to operate normally and without outside interference.

The operating rod 7 is provided with an offset 7*a* which lies in the slot 5*a* of the head and prevents the rod from turning in said slot. It also prevents the wedge 6, mounted on the upper end of said rod, from playing laterally in the recess 5*b*, and holds the inner flat face 6*a* of said wedge in parallelism with the inner flat wall 5*bx* of the side recess 5*b*, thus causing said faces to always promptly meet in flat engagement with each other when they are brought together.

The upper end of the slotted head 5 is provided with a cupped suction washer 12, ordinarily made of leather, and held in place by a brass cup 13 and a screw 14.

The upper end of the outer tube 3 is closed by a plug 15, and underneath this plug is provided with an air vent 16.

The plug 15 carries a post 17 for receiving the model form.

The operation of my device is very simple and is as follows;—Pressure on the outer end of the foot pedal 8 will elevate the operating rod 7 against the compression of the spring 11, and will, of course, also elevate the wedge 6 carried upon the upper end of said rod. This will bring the outer face 6*b* of said wedge out of binding engagement with the upper telescoping tube 3, leaving said tube free to be moved upwardly on the inner tube and the slotted head carried on the upper end thereof. When this tube 3 is moved upwardly sufficiently to give the form supported thereon the desired elevation, the foot pedal 8 is released, and the spring 11 operating through the rod 7 coacts with gravity to promptly move the wedge 6 downwardly and thereby lock the tube 3 in the position which it occupies at that time. If it be desired to lower the form on the tube 3 farther, the wedge 6 is again elevated as before by applying proper pressure upon the outer end of the foot pedal 8, and holding the pedal depressed till the outer tube carrying the form has moved downwardly as far as may be desired; then the pedal is released, and the tube is again locked at that point as already described.

The tube 3, when unlocked by a proper depression of the foot pedal will not drop down suddenly, because the dash-pot arrangement, including the expending leather valve 12, mounted on the upper end of the slotted head 5, will confine air in the upper end of the tube 3, and will thereby only permit said tube to move downward gradually as the imprisoned air escapes through the small vent 16 at the upper end of the tube. This gradual downward movement is effected by simply depressing the foot pedal 8. The operator does not have to touch the form or the pipe 3.

If for any reason the locking arrangement and the dash-pot arrangement should fail to work, and the outer tube bearing the form should drop down suddenly, the spring 4 at the lower end of the inner tube, would serve as a buffer to prevent serious jar or breakage of any of the parts.

Having now described my invention, and shown a practical embodiment of the same, what I claim as new and desire to protect by Letters Patent is:—

1. A device of the character described comprising telescoping pipe sections with a head carried on the upper end of the lower section, said head having in its lower portion a diametrical slot dividing said lower portion into two equal parts, said head having a recess in one side thereof, the inner wall of which recess is inclined and disposed at right angles to said diametrical slot; a wedge member slidable within said recess and coacting with said inclined wall of the slotted head and the inner wall of the upper telescoping pipe section to lock said head and pipe against movement relatively to each other; and an operating rod extending through said slot into said recess for supporting said wedge member therein.

2. A device of the character described, comprising telescoping pipe sections with a slotted head carried on the upper end of the lower section, said head having a recess in one side thereof with its inner face disposed at a right angle to the plane of said slot, the inner wall of which recess is inclined; a wedge member having an inclined inner face arranged to coact with the inclined recess of said head, said wedge being slidable within said recess and coacting with said inclined wall of the slotted head and the inner wall of the upper telescoping pipe section to lock said head and pipe against movement relatively to each other; and an operating rod extending through said slot into said recess for supporting said wedge member therein, the portion of said rod lying within said slot having an offset bend therein disposed in a plane parallel with the sides of the slot and at right angles to the inner working face of the wedge member; said slot being of a width only slightly greater than the diameter of the rod, whereby the offset bend in the rod serves to hold the rod against rotation while holding the working face of said wedge member in parallelism with the inclined face of said recess with which it cooperates.

3. A device of the character described, comprising telescoping pipe sections with a slotted head carried by the upper end of the

lower telescoping section, and provided in one side with a recess havings its inner wall inclined outwardly from its upper end to its lower end; a wedge member slidable within the recess and having a flat face suitably inclined to coact with the inclined inner wall thereof, said head having its slot in its middle and lower portion and disposed in a vertical plane at right angles to the plane of said inclined recess wall and said wedge wall; an operating rod for said wedge, said wedge being supported on the upper end of said rod which passes freely through said slot, and is provided in the slot with an offset bend which prevents the rod from rotation in the slot, and thereby causes the rod to hold against rotation and against lateral movement the locking wedge which it carries; whereby the working face of said wedge is always held in parallelism with the inclined wall of said recess on the slotted head, in position for instant face-to-face contact therewith upon downward movement of the wedge.

In testimony whereof I affix my signature.

FRED STEVENSON.