(No Model.)

D. A. DICKSON.

CLOTHES DRIER.

No. 387,345. Patented Aug. 7, 1888.

Fig. 1.

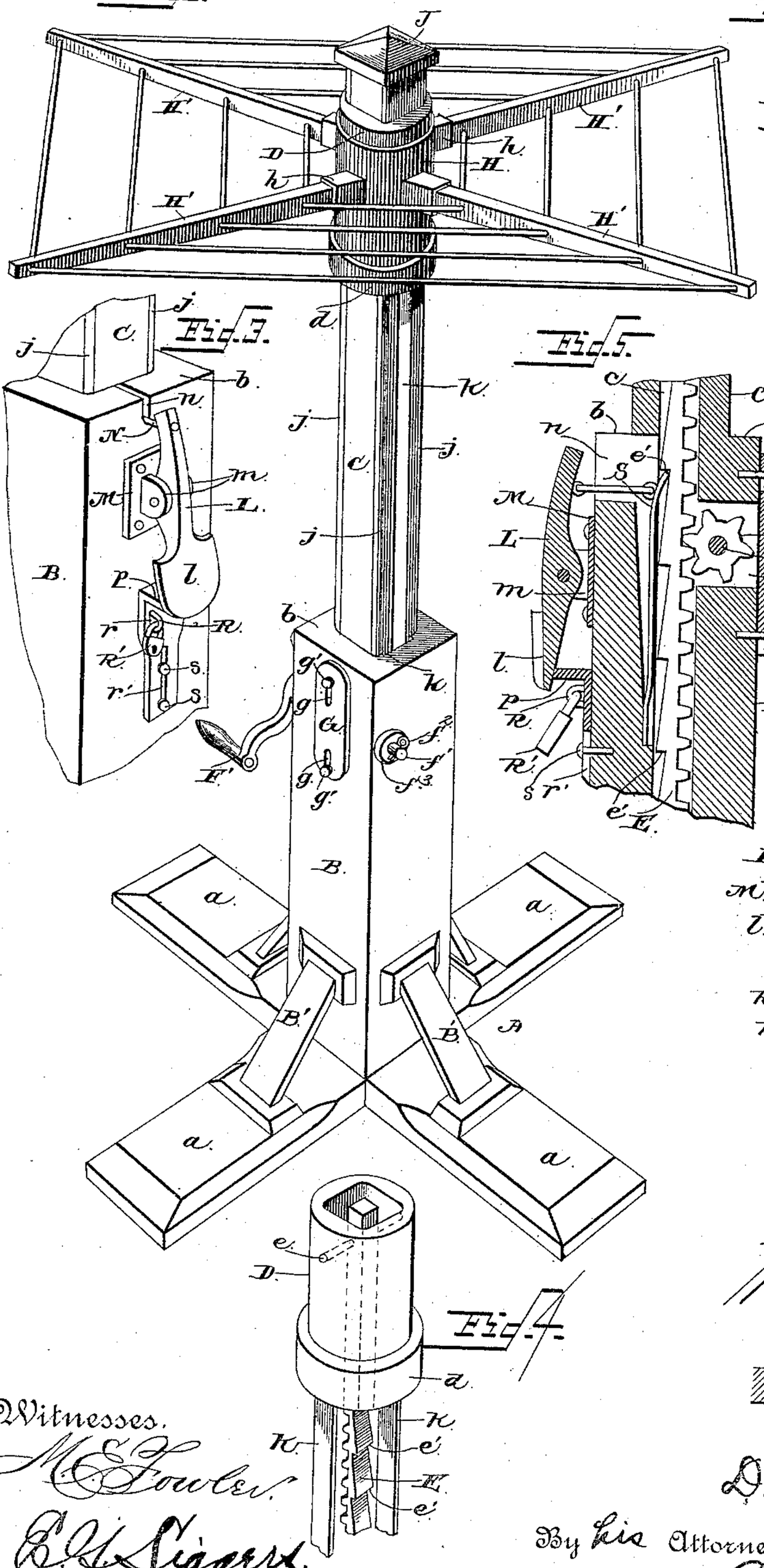

Fig. 2.

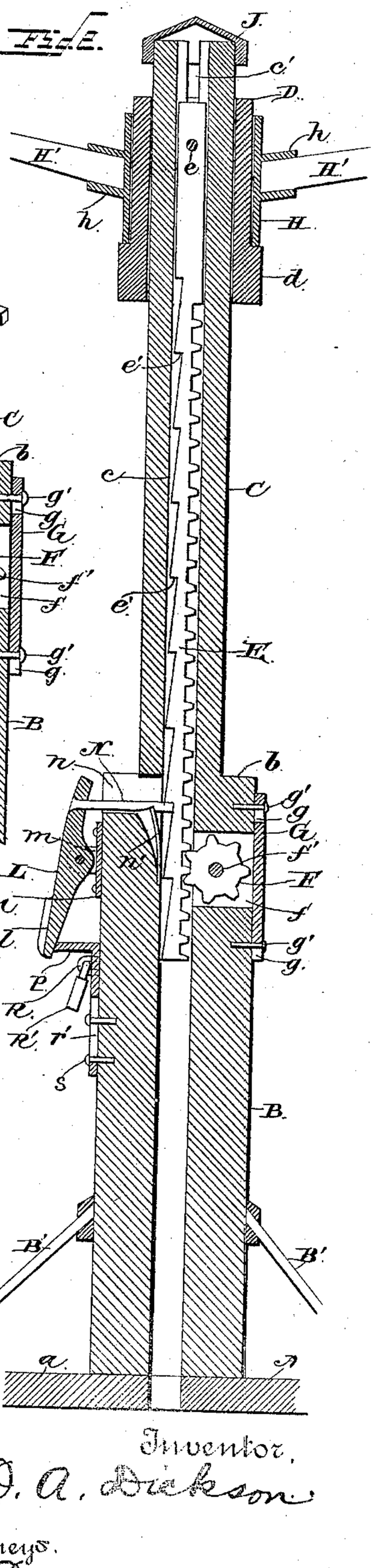

Fig. 3.

Fig. 5.

Fig. 4.

Witnesses.

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DAVID A. DICKSON, OF DULUTH, MINNESOTA.

CLOTHES-DRIER.

SPECIFICATION forming part of Letters Patent No. 387,345, dated August 7, 1888.

Application filed July 2, 1886. Renewed December 16, 1887. Serial No. 258,142. (No model.)

To all whom it may concern:

Be it known that I, DAVID A. DICKSON, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented a new and useful Improvement in Clothes-Driers, of which the following is a specification.

My invention relates to improvements in clothes-driers; and it consists of the peculiar combination and novel construction and arrangement of the various parts for service, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

The object of my invention is to provide an improved clothes-drier in which the arms for holding clothing and other substances that may be suspended on the arms can be elevated at any desired elevation above the floor or ground, and for locking them in such elevated position so that they are not liable to fall accidentally.

A further object of my invention is to provide the clothes-drier with means for elevating the arms which shall be almost wholly concealed from view and be thereby protected from injury, and to improve the parts in minor details so that they will be simple and strong in construction, thoroughly effective for the purpose designed, and cheap.

In the accompanying drawings, which illustrate a clothes-drier embodying my invention, Figure 1 is a perspective view. Fig. 2 is vertical central sectional view through the vertical standard and the devices for elevating the radial arms. Fig. 3 is a detail view of the latch for locking the adjustable sleeve at any desired elevation. Fig. 4 is a like view of the adjustable collar with a portion of the rack which is connected therewith, and Fig. 5 is a detail view of a modification of my invention.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates the base, which is of any preferred form, the one herein shown comprising four radial sills, *a*, which meet and are connected together at a common point. To the middle of this base is secured the main standard B, which is disposed in a vertical position and braced by inclined struts B′, and the standard B is reduced at its upper end to form an auxiliary standard C of smaller diameter or size, a shoulder or ledge, *b*, being provided between the main and the auxiliary standards, upon which the adjustable sleeve D is adapted to rest when it is lowered, so that the attendant can easily and readily reach the radial arms that are carried by the adjustable sleeve. The auxiliary standard is made substantially square or rectangular in form, and the shape of the opening through the vertically-adjustable sleeve D is of the same form, so that the sleeve is prevented from rotating horizontally, and is thereby caused to move steadily upon the standard. The auxiliary standard or upright C is further provided with a longitudinal central passage or channel, *c*, and with aligned slots *c′*, which open through the sides of the uprights and into the central channel thereof, and the central channel extends entirely through the main standard B, so that a rack-bar, E, can move freely through the channels without obstruction therefrom. The rack-bar E is connected with the upper end of the vertically-adjustable sleeve, D, by means of a transverse pin or shaft, *e*, which passes through the said bar and is secured in the sleeve, and the pin or shaft passes through the slots *c′* of the auxiliary standard when the bar and the sleeve are adjusted vertically. The rack-bar is provided on one side with a series of equidistant notches or teeth, *e′*, and on its opposite side with gear-teeth, with the latter of which meshes a driving-pinion, F, that is located in a slot, *f*, of the main standard B, and is carried or rigidly secured on a shaft, *f′*, that is journaled in the main upright or standard, one end of the shaft being extended beyond the upright B, and having a crank or handle, F′, for its convenient rotation by hand to elevate and lower the rack and the arms, as more fully described presently. The opposite end of the shaft of the driving-pinion is also extended through the main upright B, and receives a key or pin, f^2, that is passed therethrough and bears on a wear-plate or washer, f^3, and the pinion itself is concealed from view within the main upright B by means of a plate, G, having the slots *g*, through which are passed pins *g′*, or the like, to secure the concealing-plate to the outer face of the standard B, the plate being movable vertically to permit the lower end of the plate to clear the lowermost pin *g′*, and then swing the plate laterally for the purpose of having access to the pinion for any cause.

The adjustable sleeve D is free to move or slide up or down on the auxiliary standard, and at its lower edge it has a flange or rib, *d*, on which rests a collar, H, which is thereby supported and is free to rotate horizontally around the adjustable sleeve and independently of the vertical play or movement thereof.

The rotatable collar H is provided with integral sockets *h*, in which are fitted and secured the inner ends of the radial arms H′ of the drier, on which are hung or suspended the clothing or fabrics which it is desired to dry. These arms may be connected by cords, wires, or other like means to provide increased space for hanging a larger quantity of clothing, &c.

The angles or corners of the auxiliary upright C are protected and covered by metallic rods or strips *j*, which are suitably affixed to the said upright, and against which the inner opposing faces of the adjustable sleeve bear in its movements to prevent the said sleeve from coming in contact with the standard C itself and wearing the latter away; and the upper end of the standard C is surmounted by a cap, J, which is rigidly secured in place and serves also to prevent the vertically-adjustable sleeve, the collar, and the arms from being elevated too far.

K designates shields of thin pliable or flexible material, which are secured at their upper ends to the adjustable sleeve D, and which conceal the slots *c*′ of the standard C from view, so that no dirt or other matter can enter the slots and thus adhere to the rack and clog up the teeth thereof, the said shields working in the space *k*, formed between the main and auxiliary standards.

I will now proceed to describe the latch for holding the rack and the devices actuated thereby at any desired elevation above the floor.

L designates a lever or finger-piece, which is provided near or at one end with a thumb-piece, *l*, and near its middle this lever is pivoted between parallel lugs or flanges *m* of a base-plate, M, that is rigidly and firmly affixed to the main standard B at a point thereon about in line with the drive-pinion. To the other free end of this pivoted lever is connected one end of a catch, N, which works in a slot or transverse opening, *n*, of the standard B, the said slot or opening communicating with the central channel, *c*′, of the standards B C, as shown. This catch or latch N is normally projected into the channel *c*′ and in the path of the teeth or notches on the rack-bar E, with which the latch is adapted to be engaged to hold the rack-bar at any desired elevation by means of a retracting-spring, *n*″, which is fitted or inclosed in a recessed portion of the standard. By depressing the thumb-piece *l* of the pivoted lever L the latch will be drawn inwardly and out of engagement with the teeth of the rack-bar, so that the latter can be adjusted vertically by turning the crank of the driving-pinion shaft in the proper direction.

To more effectually prevent the pivoted lever from being actuated accidentally by an object striking against the free end thereof, I provide an adjustable stop plate, which is affixed to the standard B so that it can be moved vertically and lie in rear of or beneath the free end of the pivoted lever. This stop-plate is provided at its upper end with a right-angled lug or flange, *p*, that is adapted to bear against and limit the inward play or movement of the lever when it is in its elevated position, and the said plate is further provided with longitudinal slots *r* and *r*′, the former of which is arranged at the upper end of the stop-plate and intersects with or cuts into the right-angled flange *p* of said plate. A staple or eye, R, is adapted to enter the slot *r* of the stop-plate when the latter is elevated, to cause its flange or lug *p* to lie in the path of the free end of the lever L, and to hold this plate in its elevated position I employ a locking device, R′, (preferably a padlock,) of any approved pattern, that is adapted to take beneath the flange *p*, and thus prevent the descent of the plate. Pins or screws *s* pass through the slot *r*′ of the stop-plate to prevent the displacement thereof on the standard B and to limit the vertical play or movement of the plate.

In order to prevent the lever from retrograde movement when the latch is in engagement with the rack-bar, the stop-plate is elevated by hand, so that the screws *s* and staple will ride in the slots thereof, and the arm *p* will fit in rear of the lower end thereof, after which the padlock is connected to the staple to prevent the stop-plate from descending, and thereby hold its arm in contact with the lever. To release the lever, it is only necessary to remove the lock and force the stop-plate downwardly.

The operation of my invention will be readily understood from the foregoing description, taken in connection with the drawings.

Various slight changes in the form and proportion of parts can be made without departing from the principle of my invention.

In lieu of using the spring-pressed catch or latch, a spring, S, may be secured at one end to a recess within the standard, so that its opposite free end will project into the path of the teeth on the sliding bar to hold it at any desired elevation, and with this free end of the catch is connected one end of a link, which is controlled and actuated by the pivoted thumb piece or lever, as shown in Fig. 5.

I am aware that clothes-driers designed to be raised by hand have been provided with a notched rigid standard, and a latch on the drier-frame to engage the notches of the standard and hold the drier-frame at any elevation. This, broadly, I disclaim.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a clothes-drier, the combination of a hollow standard, a rack-bar working therein and having a series of notches on one side and

carrying the radial arms at its upper end, a shaft carrying a pinion, a spring-controlled latch housed within a recess in the standard and normally projected toward the rack-bar, and a pivoted lever located on the outside of the standard and connected with the latch, as and for the purpose described.

2. In a clothes-drier, the combination of the standard, the rack-bar carrying a sleeve and the radial arm and inclosed within the standard, a spring-pressed latch normally projected into the path of the teeth on the rack-bar, a pivoted lever connected with the latch for withdrawing it from engagement with the bar, and a vertically-adjustable stop-plate adapted to be moved into the path of the free end of the pivoted lever, substantially as described, for the purpose set forth.

3. The combination of the standard, the rack-bar having the notches or teeth and carrying the sleeve and the radial arms, the spring-pressed latch adapted to enter one of the notches of the rack-bar, a pivoted lever connected with the latch, a plate in which the lever is pivoted, and a stop-plate having the extended flange or lug, and the longitudinal slots through which are passed the guide-pins and a staple or eye, with the latter of which a locking device is adapted to be connected to prevent retrograde movement of the stop-plate, substantially as described, for the purpose set forth.

4. In a clothes-drier, the combination of the main and auxiliary standards or uprights of different diameters with the intermediate shoulder or flange, and provided with the central channel and the slots *c'*, the wear-strips at the corners of the auxiliary upright, the cap surmounting the said auxiliary standard, the rack-bar inclosed within the standards and having the notches, the sleeve fitted over the auxiliary standard and connected with the rack-bar, the collar carrying the radial arms and loosely fitted on the sleeve, a pinion for moving the rack-bar vertically, a spring-pressed latch normally projected into the path of the teeth of the rack-bar, and a pivoted lever connected with the latch, substantially as described, for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

DAVID A. DICKSON.

Witnesses:

THEO. T. HEEDSON,

ALFRED JAQUES.