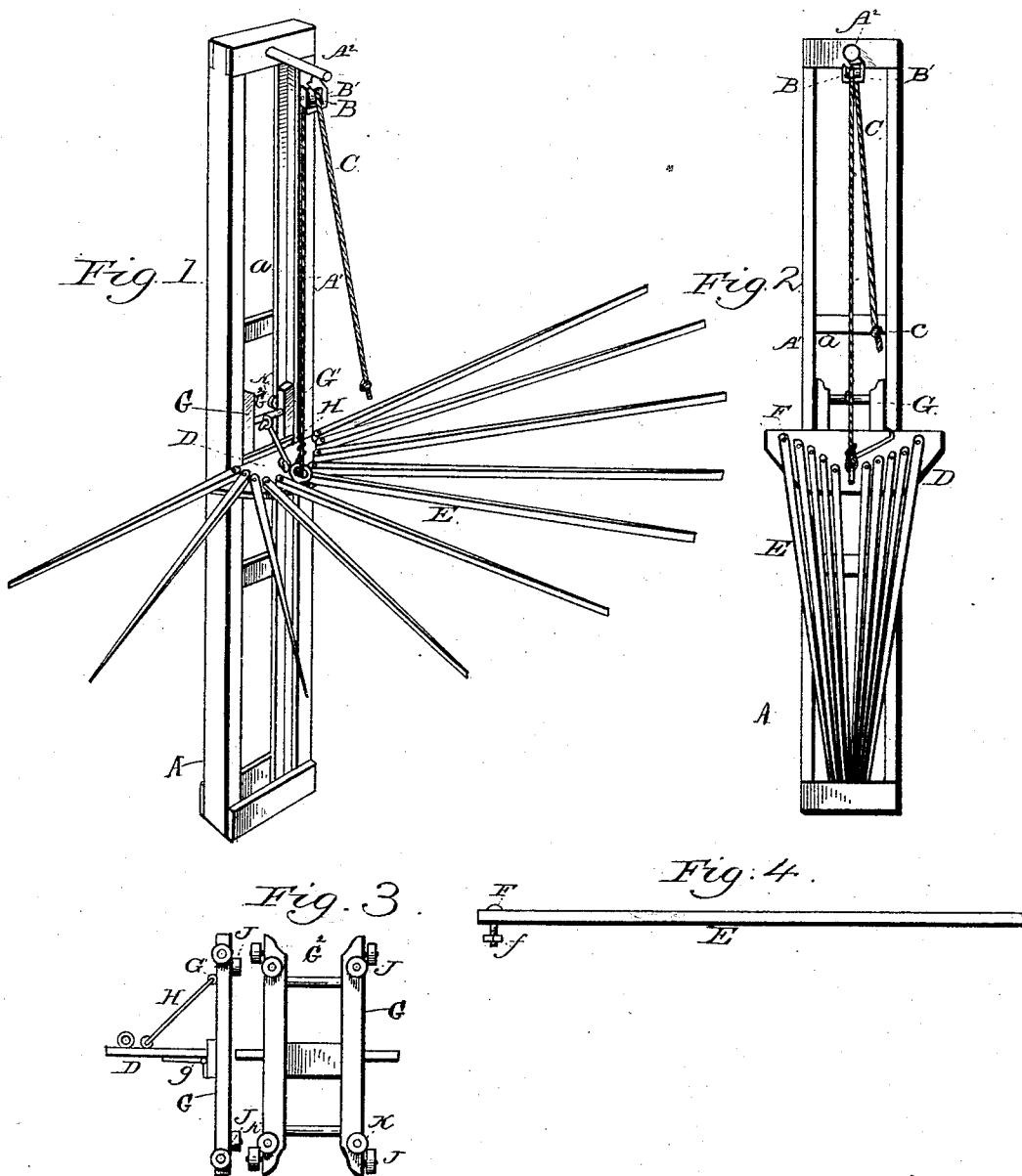


(No Model.)

J. J. BISEL.
CLOTHES DRIER.

No. 342,317.

Patented May 25, 1886.



WITNESSES:

J. W. Reynolds
W. R. Haught

INVENTOR

Joseph J. Bisel
BY *W. H. Babcock*
ATTORNEY

UNITED STATES PATENT OFFICE.

JOSEPH J. BISEL, OF PHILADELPHIA, PENNSYLVANIA.

CLOTHES-DRIER.

SPECIFICATION forming part of Letters Patent No. 342,317, dated May 25, 1886.

Application filed October 3, 1884. Serial No. 144,630. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH J. BISEL, a citizen of the United States, residing at Philadelphia, Pennsylvania, have invented new and useful Improvements in Clothes - Driers, of which the following is a specification.

This invention relates to clothes-driers, and more especially to that class of such driers in which the arms are attached to a shelf secured to a slide which is drawn vertically up in guideways by means of a cord and pulley and descends by its own weight, so that its elevation and that of the arms may be easily adjusted.

The said invention consists, chiefly, in the combination of the frame and sliding support for the clothes-arms with two sets of anti-friction rollers arranged at an angle (preferably a right angle) to one another.

It also consists in the combination, with said frame and the clothes-arm shelf, of a detachable arm which extends from the upper part of said frame over the front part of said shelf, a locking-pulley attached to the outer end of said arm, and a cord which passes over said pulley and is attached to the front part of said shelf, all as hereinafter set forth.

In the accompanying drawings, Figure 1 represents a perspective view of the clothes-drier open for use. Fig. 2 represents a front elevation of the same folded down. Fig. 3 represents a detail perspective view of the slide, and Fig. 4 represents in detail one arm and its detachable fastening-bolt.

A designates the frame of the drier, which is arranged upright and provided with vertical guideways *a* on the inner faces of its sides *A'*. Into the upper part of this frame is screwed a removable horizontal forward-extending arm, *A*². To the under side of the forward end of this arm is attached the bearing block or case *B'* of a grooved pulley, *B*, the grooves of which are so arranged with respect to the upper part of said case as to lock automatically (as hereinafter described) a cord, *C*, passing over said pulley. The rear end of this cord is attached to the forward part of a shelf, *D*, to which double sets of arms *E* are pivoted horizontally. When these arms are spread outward, they are available for supporting clothes, towels, or other articles of textile fabric. Their lateral motion is limited by one

another and by the frame *A*. Their only attachment to the shelf is by means of detachable pivot-bolts *F*, one of said bolts being passed vertically through the rear end of each arm *E* and held beneath the shelf *D* by a nut, *f*. This attachment allows any one of the arms to be removed easily and expeditiously without disturbing the others.

The removability of arm *A*² is important in packing and on other occasions; but, in addition to said removability, the position which it gives to the pulley is a decided improvement.

Hitherto the cords used for raising and lowering such shelves have been attached to them at a point behind their centers, the pulley being vertically above this point. Such an arrangement gives the weight of the clothes great leverage and causes corresponding strain of force. This leverage I lessen by transferring the line of lifting from the rear to the front of the shelf.

By my construction the arms *E* and the clothes hung thereon are made to balance better than when the cord is attached to the slide or the rear part of the shelf. My cord *C* being attached to the forward part of said shelf, some of said arms are turned so as to be behind it obliquely on each side, as shown in Fig. 1, the point of attachment of the cord being central, or nearly, with respect to the weight on said arms *E*, as a whole. This arrangement and construction of parts greatly facilitate the raising and lowering of the clothes.

G designates a vertical slide or sliding frame, to the middle part of which the said shelf is connected by a hinge, *g*. Said slide is provided at a point considerably above said hinge with a cross-bar, *G*², having a screw-eye, *G'*, and said shelf is provided at a point in front of said hinge with a long hook, *H*, adapted to engage with said eye. When these parts are thus engaged the shelf is held horizontal. By disengaging them said shelf is left free to fold down against said frame *A*, as shown in Fig. 2. Before turning down the said slide the arms *E* are turned inward, so as to converge, as shown in Fig. 2, and the sliding frame *G* is then drawn up, if necessary, allowing the tips of arms *E* to fall into the space between the sides of frame *A*. When in use, inclination of the frame may be compensated for by loosening the screw-eye *G'*. The slide *G* does not extend into the

guideways *a*, but is provided at its sides with anti-friction rollers *J*, which are arranged at right angles to the front of said slide and fit in said guideways, turning therein, so that the slide moves up and down with little friction. Additional anti-friction rollers, *K*, are attached to the face of said slide at each side thereof, and turn against the sides *A'* of frame *A* behind said grooves. Each side or edge of said slide is thus provided with two sets of anti-friction guide-rollers operating at right angles to one another and holding said slide firmly in position with very little friction as it moves up and down.

The cord *C* is preferably provided with knots *c* between its free end and the pulley, for convenience in grasping. For raising the shelf and arms said cord is pulled straight down, passing freely over a central groove in the pulley. This groove is in communication with two eccentric grooves, one on each side of it, the construction of the pulley being the same as that described and shown in my Patent No. 303,695, to which reference is hereby made for fuller explanation.

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

1. A vertically-movable slide and a shelf hinged thereto, in combination with a lifting-cord attached to the outer part of said shelf, and a series of pivoted arms arranged on said shelf on each side of said cord and obliquely behind it, in order that the weight may be evenly distributed about the point of attachment of said cord, for convenience in raising and lowering the clothes, substantially as set forth.

2. A frame, a slide moving vertically therein, a hinged shelf attached to said slide, in combination with an arm extending over the outer part of said shelf, a locking-pulley on the outer end of said arm, a lifting-cord passing over said pulley and attached to the middle of the outer part of said shelf, and a series of clothes-supporting arms pivoted to the said shelf on each side of the point of attachment of said cord and obliquely behind the same, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOSEPH J. BISEL.

Witnesses:

FRANK N. EVANS,
AMBROSE R. POSSELL.