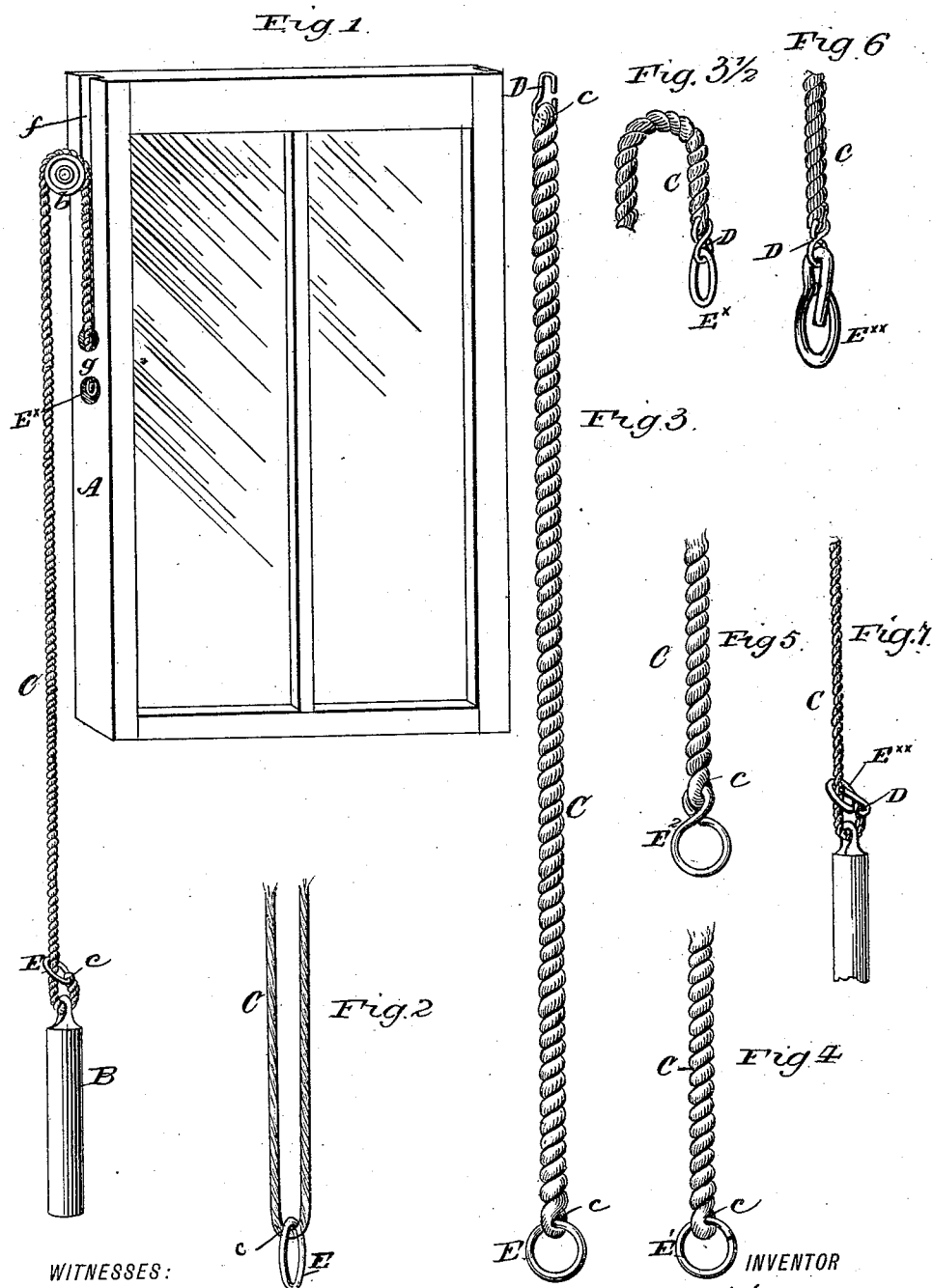


(No Model.)

L. BINNS.
SASH CORD.

No. 473,287.

Patented Apr. 19, 1892.



WITNESSES:

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UNITED STATES PATENT OFFICE.

LEEDHAM BINNS, OF PHILADELPHIA, PENNSYLVANIA.

SASH-CORD.

SPECIFICATION forming part of Letters Patent No. 473,287, dated April 19, 1892.

Application filed November 11, 1891. Serial No. 411,611. (No model.)

To all whom it may concern:

Be it known that I, LEEDHAM BINNS, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and Improved Sash-Cord, of which the following is a full, clear, and exact description.

This invention relates to a double-loop sash cord or rope composed of a single length doubled over upon itself to form two strands, which are twisted together, thus forming a loop integral with the doubled-over twisted cord at either end of the latter, as such cords or ropes have heretofore been made; and the invention consists in the combination, substantially as hereinafter described, and more particularly pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a view in perspective of a window-sash with the combination ring and double-loop rope or cord applied to it and to the balance-weight of the sash. Fig. 2 is a longitudinal view of the lower end portion of the cord before its two lengths or strands are twisted together, and showing an undivided or close ring applied to the doubled-over end portion of said strands or lengths. Fig. 3 is a longitudinal view of said cord when twisted, with its end attachments detached from the sash and its balance-weight; Fig. 3 $\frac{1}{2}$, a view of the upper end of the cord with its sash and attachments in full applied. Fig. 4 is a similar view to Fig. 3 of the lower part of the twisted cord with a split ring attached. Fig. 5 is a similar view to Fig. 4, but showing a double ring or piece of wire bent to form two rings, one above the other, applied to the lower looped part of the twisted cord. Fig. 6 is a longitudinal view of the sash end of the cord with a hook-ring instead of a plain ring applied, and Fig. 7 is a like view of the opposite end of the cord with a similar ring applied and showing the sash-weight attached.

Referring in the first instance to the first four figures of the drawings, A indicates a raising and lowering window-sash, b the pulley over which the sash-cord passes, and B the balance-weight of the sash. C is the twisted sash cord or rope, finished at its ends to leave a double loop—that is, a loop c at

at each end—formed by the twisted end portions of the cord as heretofore constructed. The upper one of these looped ends is provided with a small metal hook or link D, adapted to effect engagement with the sash A by passing said end of the cord, with hook attached, down a groove f in the side of the sash and into a pocket g therein, and engaging said hook with a plain ring E^x, (see Figs. 1 and 3 $\frac{1}{2}$,) that holds the hook or sash end of the cord in the pocket. The lower end loop of the cord is provided or has connected with it in any suitable manner a metal ring E— as, for instance, by slipping the ring, as shown in Fig. 2, over one of the lengths or strands of the doubled-over portion of the lower end of the cord before said strands or lengths are twisted together. This admits of the ring E being a solid or close one, as shown in Figs. 1, 2, and 3, which is a great advantage in some cases; but a split or divided ring E', as shown in Fig. 4, may be attached to the lower loop of the twisted cord or be suitably connected with it in any convenient manner.

In using this double-loop sash-cord all that is necessary is to pass the upper hook or small link end of the twisted cord or rope through the eye in the balance-weight B and through the ring E and to draw on the cord to loop it to the balance-weight, and then after passing the cord over the pulley b to connect the upper end of it by the hook D and ring E to the sash.

Instead of an ordinary ring, as shown in the first four figures of the drawings, the wire of which the ring E is made may be bent or crossed to form a double ring E², the one annular portion above the other, and the upper one of which is connected with the lower loop of the doubled-over or two-stranded twisted cord, while the lower annular portion serves for the passage of the cord freely through it, as shown in Fig. 1; or the ring through which the sash end of the cord passes may, as hereinbefore stated, be connected with the lower loop of the cord in any convenient manner.

Instead of a plain ring being used to engage with the hook D in the groove-pocket g of the sash a hook-ring E^{xx}, Fig. 6, may be passed by its hook or link D that then may be a close one. A similar hook-ring E^{xx} (see Fig. 7) may be similarly attached to the lower

end of the cord or rope C, instead of the plain ring E in Fig. 1, for said cord or rope to form a loop with.

5 This sash-cord may be made and delivered in lengths to suit windows of any size, not only ready for application to the sash and its balance-weight quickly and with but little labor, but the ring at its lower end forms a cheap and reliable means for connecting the
10 cord with the balance-weight, much superior and safer than a direct hook connection, and when the cord is attached at its one end to the sash-weight and to the sash at its other end there is little or no possibility of the balance-weight and sash getting loose from the
15 cord by jerking in moving the sash up and down. Said cord, with its attached rings, will carry much greater weight, as said cord is solid or of full double-strand thickness where
20 it passes through the balance-weight, whereas a hook used to directly hang the weight on the cord would only pass through a single or half thickness of the looped end of the cord. To sum up, such sash-cord is much
25 safer and better than a hook or hank sash-cord, there being no knots, nails, or staples required, no cutting necessary or loose ends, and no waste, and it can be applied with

greater ease and safety than a hook or hank sash-cord.

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

1. A sash-cord having a link or hook at its upper end adapted to pass down through a bore into a pocket in the sash and a locking-ring to detachably engage said link or hook within the said pocket and prevent withdrawal through the bore, substantially as set forth.

2. A sash-cord having a link or hook at its upper end adapted to pass down through a bore into a pocket in the sash and a locking-ring having a hook to detachably engage said link or hook within the said pocket, substantially as set forth.

3. A sash-cord doubled and twisted forming loops c c at its ends, a hook or link passed through the upper loop and having a detachable locking ring or hook, and a ring or its stated equivalent passed through the lower loop, substantially as set forth.

LEEDHAM BINNS.

Witnesses:

SAML. K. SPENCER,
H. C. HARPER.