

(Model.)

G. W. ARNOLD.

SASH BALANCE.

No. 319,379.

Patented June 2, 1885.

Fig. 1.

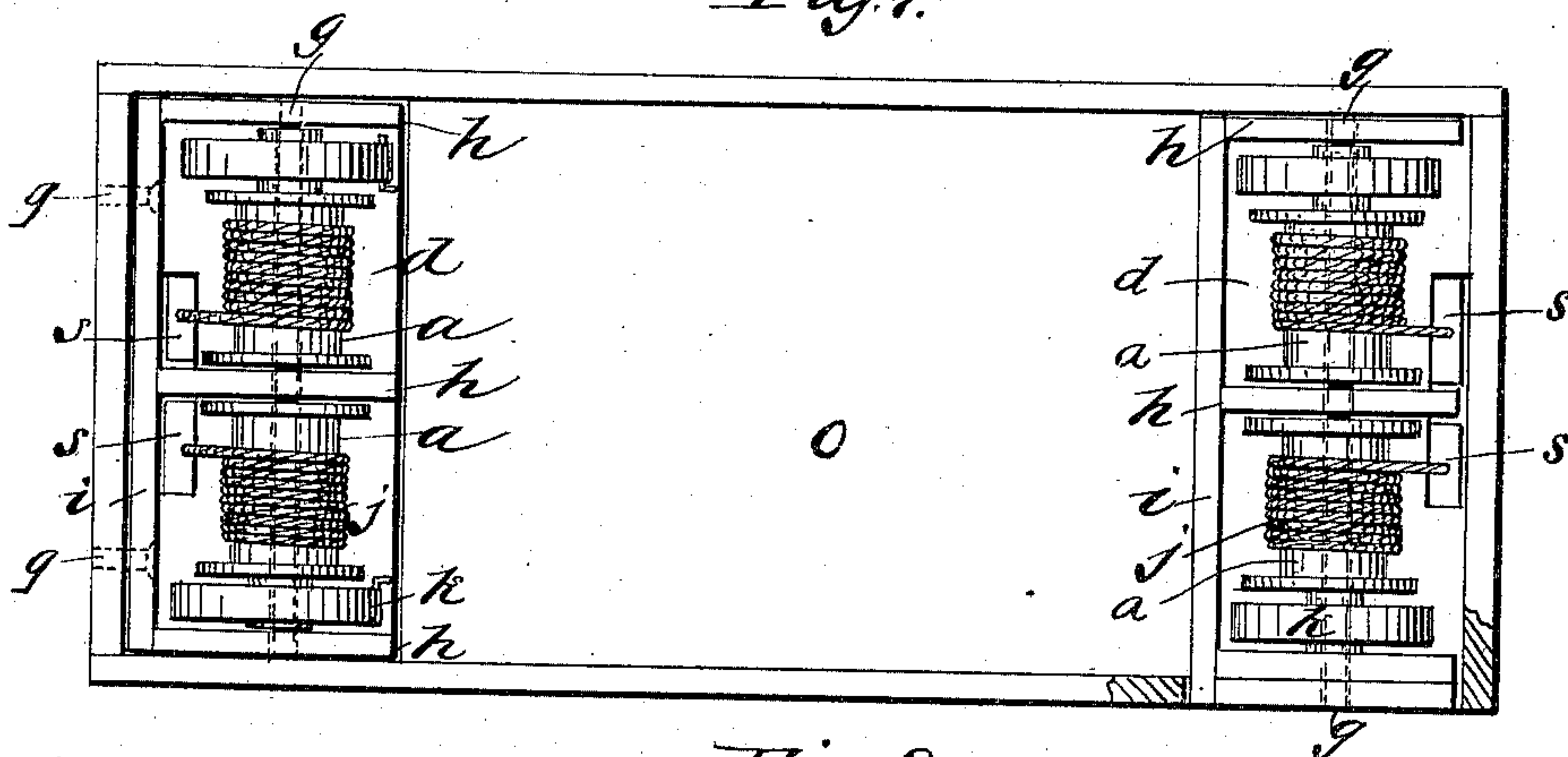
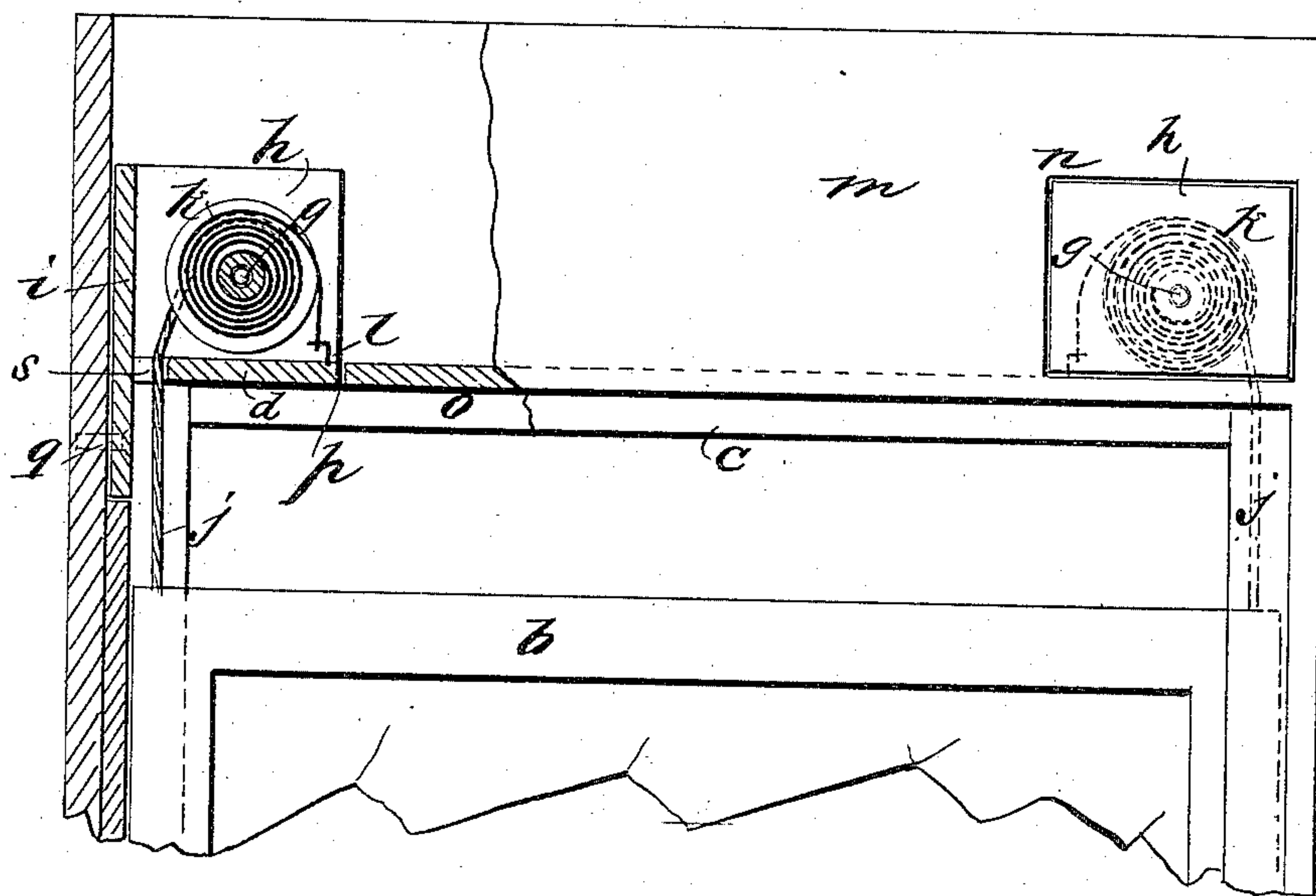


Fig. 2.



WITNESSES:

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GEORGE WILT ARNOLD, OF KNOXVILLE, ILLINOIS.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 319,379, dated June 2, 1885.

Application filed November 2, 1883. (Model.)

To all whom it may concern:

Be it known that I, GEORGE W. ARNOLD, of Knoxville, in the county of Knox and State of Illinois, have invented a new and Improved Sash-Balance, of which the following is a full, clear, and exact description.

My invention relates to improvements in sash-balances; and it consists in fitting spring-balance attachments to window-sashes by arranging the cord spools or rollers and coiled springs in boxes preparatory to applying them to the window-frame, and then effecting the application by sliding the boxes into openings prepared for them in the window-frame, thus enabling the fitting and fastening of the spools and springs to be done more conveniently than they can be fitted directly to the frames, and so that they can be readily taken down at any time, all as hereinafter fully described, and pointed out in the claim.

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

Figure 1 is a top view of a window-frame to which the balancing devices are applied in boxes which are inserted through the window to the positions where they are lodged for suspending the sashes. Fig. 2 is partly a sectional elevation and partly a side elevation of the balancing devices represented in Fig. 1.

I arrange two rollers or spools, *a*, for each sash *b* and *c* on a board, *d*, and I mount said rollers on pivot-bearings or axles *g*, suitably fixed in any approved bearing-supports, *h*, set up on said boards—say in the form of end boards—and partitions of a kind of drawer-shaped box, having a side board, *i*, to connect and stay said end boards and partitions, and on these rollers *a*, I coil the cords *j*, for suspending the window-sash; also the springs *k*, for balancing the same, the springs being suitably connected at one end to the rollers and at the other end to the board *d* by a hook, *l*,

or other approved device, the springs and the cords being coiled reversely to each other, so that when the cord unwinds from the rollers the springs will be wound up, and vice versa.

In practice the rollers may be conical, so that the tension of the springs will be uniform by the increase and decrease of the radius of the rollers in proportion as the springs wind up or unwind. The rollers and springs thus mounted on the boards *d* or in drawers or boxes may be inserted through the side *m* of the window-case head, as at *n*, or through the bottom *o* of said case-head, as at *p*, as preferred. In the first plan the board *d* or box will rest on the bottom *o* of the window-case, needing no other fastening; but in the second plan the board *d* will take the place of a portion of the bottom *o* cut away, and will require to be fastened by screws *q*, passing through a part of side *i* extending below the bottom *d* for the purpose. When the rollers are inserted through the side *m*, the bottom *o* of the window-casing will have holes *s* cut through it for the cords to pass through to connect with the sashes; but when inserted through the bottom *o* said holes *s* will be made in the board *d*.

The ends of the drawers or boxes will be made ornamental to harmonize with the finish of the window-casing.

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

The combination, with the side *m* of window-case head, provided with the aperture *n*, of the drawer-shaped box *h i*, sliding in said case-head, and the spring-rollers *a k*, journaled in the said box, substantially as herein shown and described, and for the purpose set forth.

GEORGE WILT ARNOLD.

Witnesses:

J. W. TATE,
F. G. SANBORN.