

(No Model.)

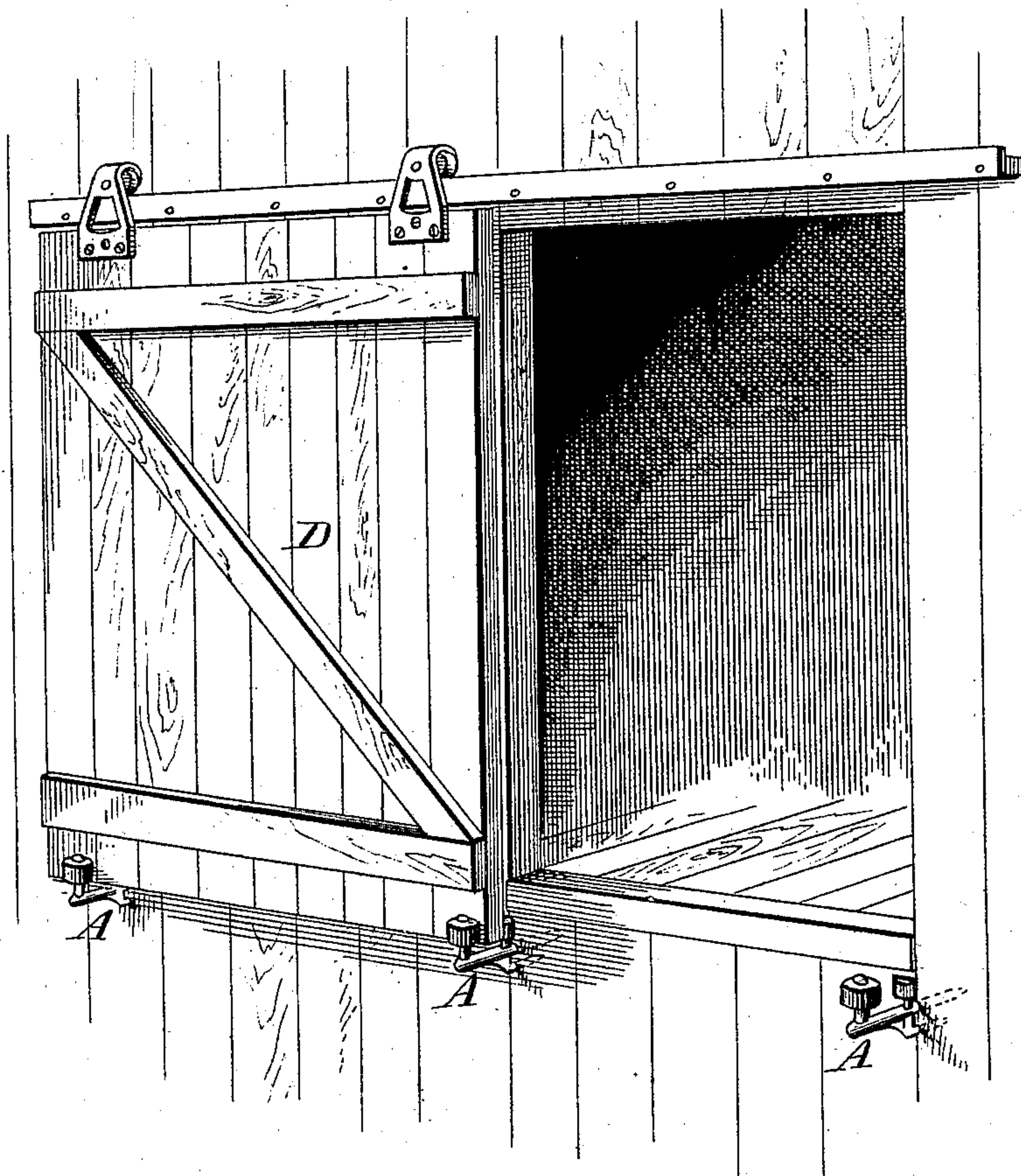
2 Sheets—Sheet 2.

J. BRINKERHOFF.  
STAY ROLLER FOR DOORS.

No. 302,824.

Patented July 29, 1884.

*Fig. 3.*



Witnesses:

Jas. F. DuHamel.  
Walter S. Dodge.

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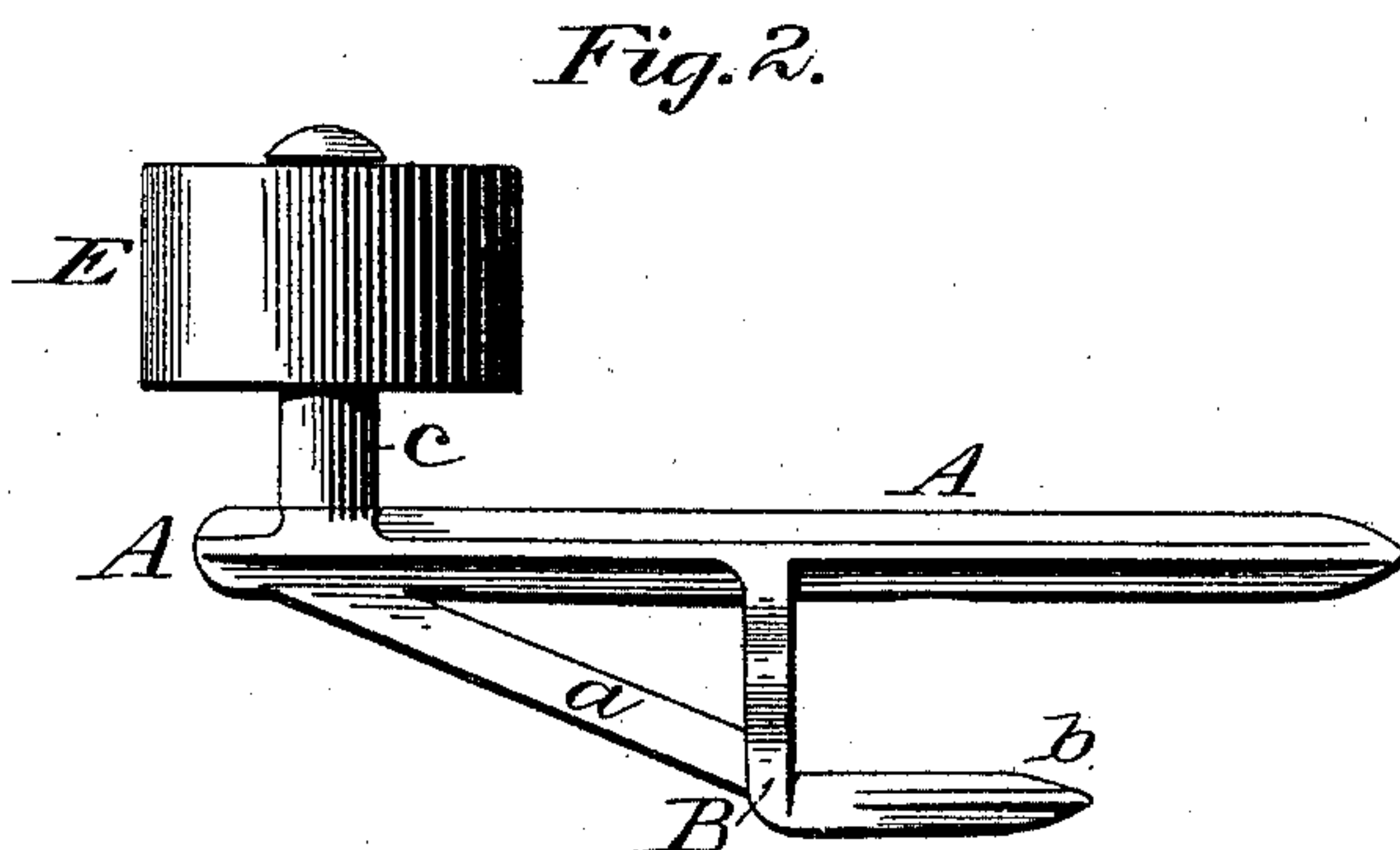
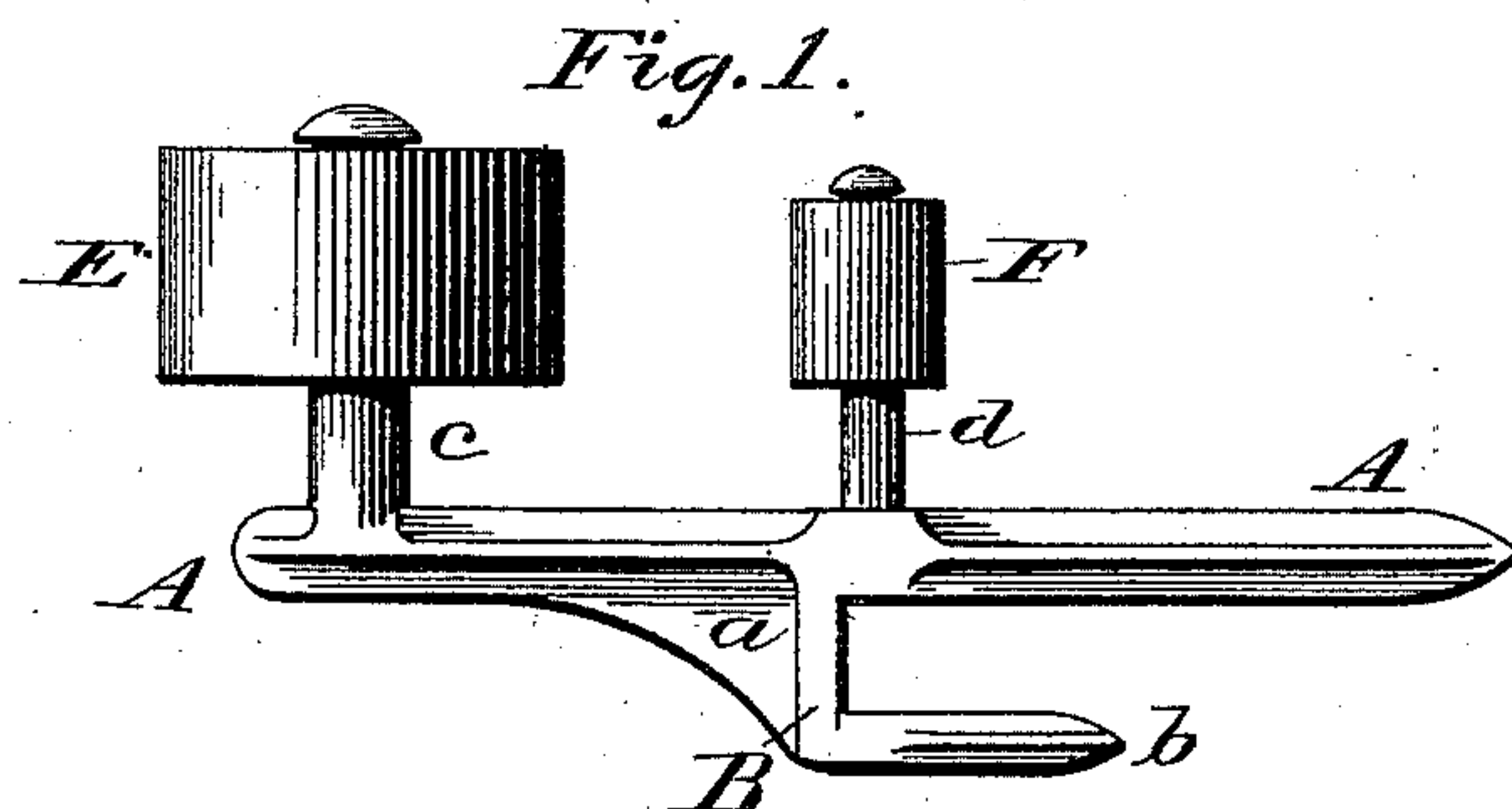
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2 Sheets—Sheet 1.

J. BRINKERHOFF.  
STAY ROLLER FOR DOORS.

No. 302,824.

Patented July 29, 1884.



Witnesses:

Jas. F. O'Hamel.  
Walter I. Dodge.

Inventor:

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# UNITED STATES PATENT OFFICE.

JACOB BRINKERHOFF, OF AUBURN, NEW YORK.

## STAY-ROLLER FOR DOORS.

SPECIFICATION forming part of Letters Patent No. 302,824, dated July 29, 1884.

Application filed February 9, 1884. (No model.)

*To all whom it may concern.*

Be it known that I, JACOB BRINKERHOFF, of Auburn, in the county of Cayuga and State of New York, have invented certain Improvements in Stay-Rollers for Doors, of which the following is a specification.

This invention relates to what are termed "stay" or "guide" rollers to hold and guide the bottom of sliding doors; and the invention consists in the peculiar construction of the shank or support for the roller or rollers, and in combining therewith one or two rollers, as hereinafter more fully set forth.

Figure 1 is a side elevation of my improved device provided with two rollers. Fig. 2 is a side elevation of the same with but one roller; and Fig. 3 is a perspective view showing a portion of a building with its door, to illustrate the manner of using or applying the device.

Of late years it has become quite common to use sliding instead of swinging doors for barns, carriage-houses, and similar buildings, these doors being suspended by what are known as "door-hangers," which have attached to them rollers which run on a rail, as represented in Fig. 4. Formerly it was customary to let the bottom of the door hang loose; or sometimes to form a groove, by means of narrow boards for the bottom to run in, both of which plans are found to be attended with difficulties. If hung so, the bottom of the door had no guide. The warping and springing of the door, as well as of the boards forming the side wall of the building, and which in country barns are usually rough boards nailed vertically to the frame, interfered with the free movement of the door, the projecting edges of the boards frequently catching against the edge of the door and rendering its movement difficult. This difficulty is greatly aggravated in windy weather, the wind, if blowing against the outer face of the door, crowding it tight against the building and causing it to catch against the slightest projection on the side of the building; and even when there is no projection, the wind, if very strong, crowds the door so tightly against the wall as to require great force to move it. When a groove is used at the bottom, in which the door moves as a

guide, such groove is liable to be filled more or less with snow, ice, straw, dirt, or other obstructions, thereby causing much delay and annoyance. In windy weather, also, great friction is produced between the sides of the door and the guide, thus greatly increasing the force required to open the door, while if no guide be used, the wind sometimes gets between the door and the building, and, forcing the loose bottom of the door outward, either dismounts it from the rail or breaks or injures the hangers. To obviate these difficulties stay-rollers have been devised of late, they usually consisting of a straight shank or stem having a single roller mounted on a vertical journal at or near their outer end, and which are so arranged as to have the roller bear against the outer face of the door at the bottom. While such a device will keep the bottom of the door from being forced outward by the wind, it does not prevent the door from being forced by the wind against the wall of the building, or from catching against any projections there may be, as above described. When these stay-rollers are constructed with a single straight shank, they are subject to two other difficulties: first, they are liable to turn in their socket or the hole into which they are driven, thereby throwing the roller out of its proper position, unless specially provided with means for preventing it; and, second, they are liable to be bent in driving them into the wall or timber, and also by being accidentally struck or otherwise interfered with by a falling timber or other object; and therefore the object of my present invention is to construct a stay-roller in such a manner as to overcome all these difficulties. To do this I construct a shank, A, with a brace, B, as shown in Figs. 1, 2, and 3, with the vertical face of the brace, or a portion of it, arranged to bear against the outer face of the wall or building when in place, as represented in Figs. 1, 2, and 3. To stiffen the outer portion of this shank, so as to prevent it from being accidentally bent, either when driven into the wall or timber, or when pressure is applied in any way to the outer portion of the shank after it is in position, I fill in the angle be-



tween the brace B and the outer end of the shank for a suitable distance with a solid web, *a*, as shown in Fig. 1, or by a brace, *a'*, as shown in Fig. 2, either form being used, as  
 5 may be preferred. To prevent the shank from turning in its socket or hole, I prefer to make it with longitudinal ribs, as shown, and also to provide the brace B with a spur, *b*, as shown in Fig. 1. This shank A, which will prefer-  
 10 ably be made of malleable cast-iron, has near its outer end a vertical arm, *c*, on which is mounted a roller, E, and which is secured thereon by heading down the end of said journal, as shown in Figs. 1, 2, and 3, this roller  
 15 E being designed to work against the outer face of the door. Inside of the vertical face of the brace B, I form another journal, *d*, on which in like manner I secure another roller, F, the space between the rollers E and F being suffi-  
 20 cient to permit the bottom of the door to pass freely between them. In applying the device with the two rollers a recess will be cut in the wall for the roller F, as shown in Fig. 3, so that its periphery will project beyond the outer  
 25 face of the wall. When thus applied, it will be seen that the bottom of the door will have a roller on both sides, which will not only hold the door against being moved to or from the building to any considerable extent, but will  
 30 prevent the friction that would occur if a fixed groove or guide were used, and will enable the door to be moved with ease, even in the most windy weather.

In case it be desired to use the device with-  
 35 out the inner roller, as may occasionally be the case on account of some peculiarity in the construction of the building, or if parties do not care to pay the extra cost of the same, it, with the journal *d*, may be omitted, as represented  
 40 in Fig. 2, the device still retaining all its other advantages.

The manner of using or applying these roll-

ers is shown in Fig. 4, where it will be seen that three of them are arranged in line along the face of the building or wall in such a position  
 45 that both when the door is closed and also when it is open it will be held between two sets of the rollers, thus holding it securely in position and preventing it being wrenched or  
 50 torn loose by the wind. Whichever way it be moved in opening and closing, its edge will enter between the rollers of one stay before its opposite edge will pass from between the other pair, and by using more of them and placing  
 55 them nearer together the door may be always held by two sets of the rollers at any and all positions during its movement from one extreme to the other.

By these means I am enabled to produce a device that obviates or overcomes all the diffi-  
 60 culties mentioned, and which can be furnished complete as an article of manufacture, the same as door-hangers now are, thus enabling the builder or farmer to apply them either to new  
 65 or old buildings, as may be desired.

Having thus described my invention, what I claim is—

1. A shank or support for stay-rollers, consisting of the shank or body A, one end or portion of which is adapted to be driven into the  
 70 wall, its outer portion being provided with one or more journals for supporting rollers, and having the depending brace B, provided with the spur *b*, substantially as shown and described.

2. A stay-roller for sliding doors, consisting of a shank, A, provided with two arms or journals, *c* *d*, each having a roller mounted thereon to bear against opposite sides of the door, substantially as shown and described.

JACOB BRINKERHOFF.

Witnesses:

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JAS. A. STOUGHTON.