

G. R. KIDDER.
Sliding-Door.

No. 203,051.

Patented April 30, 1878.

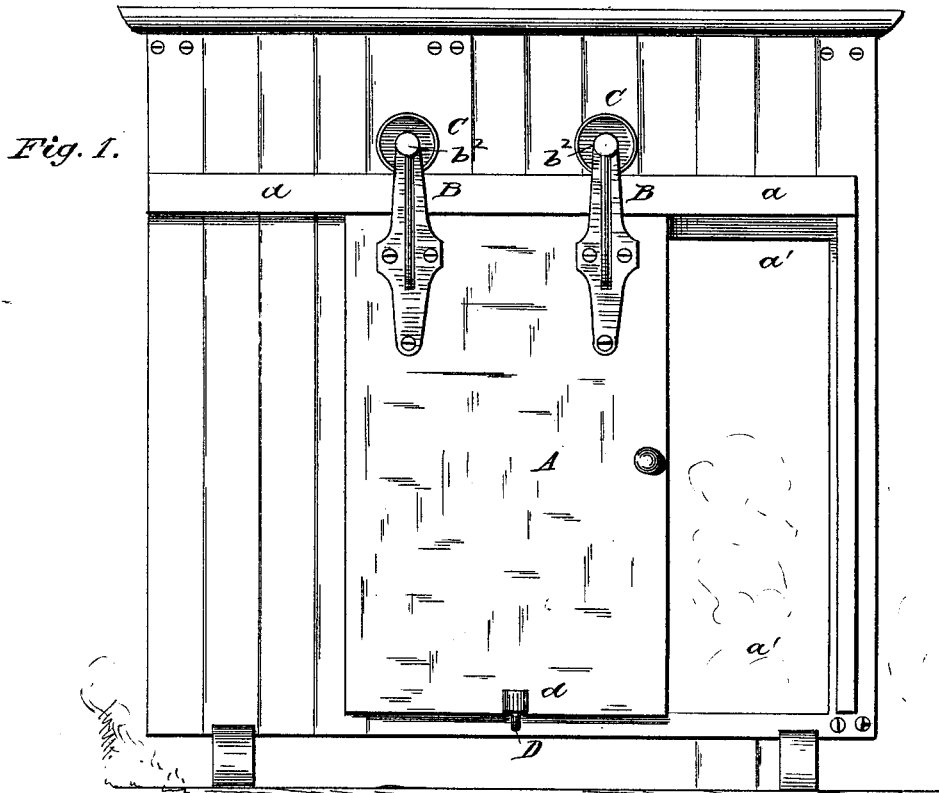
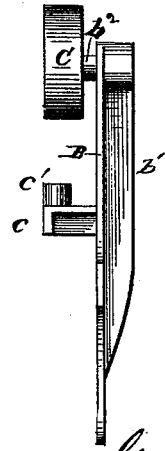
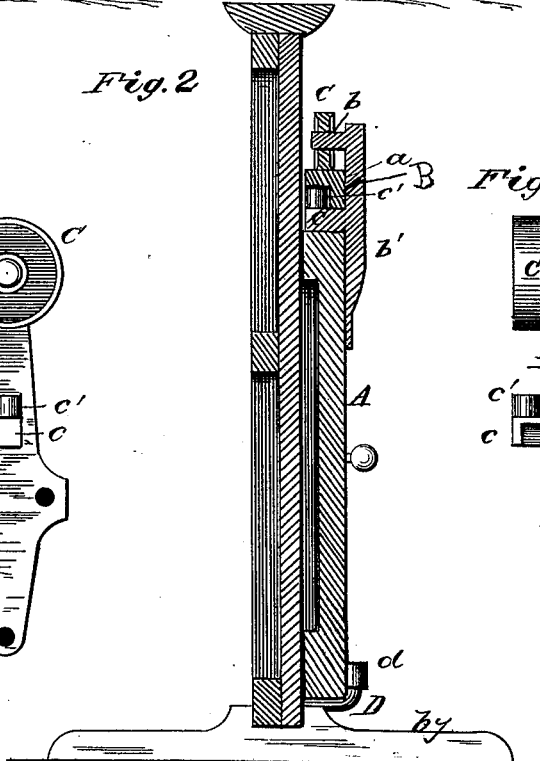
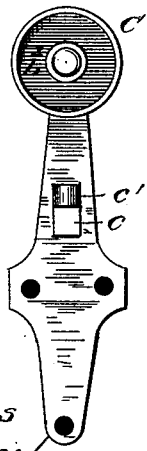


Fig. 2

Fig. 3.

Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE R. KIDDER, OF ARMADA, MICHIGAN, ASSIGNOR TO HIMSELF AND
NATHAN HURD, OF SAME PLACE.

IMPROVEMENT IN SLIDING DOORS.

Specification forming part of Letters Patent No. **203,051**, dated April 30, 1878; application filed
March 23, 1878.

To all whom it may concern:

Be it known that I, GEORGE R. KIDDER, of Armada, in the county of Macomb and State of Michigan, have invented certain new and useful Improvements in Sliding Doors; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 represents a front view of my improved sliding door or gate. Fig. 2 represents an end view with one of the pulleys in section, and Figs. 3 and 4 are detached views of my improvement.

Corresponding parts in the figures are denoted by similar letters.

To enable others skilled in the art to which my invention appertains to make and use the same, I will proceed to describe its construction and operation.

This invention appertains to certain improvements in sliding doors or gates, and has reference particularly to hanging and guiding the door or gate, by which the latter is caused to run more easily and with less friction, and the opening and closing of the same thus facilitated.

The nature of this invention consists in the peculiar construction of the hangers to which the pulleys are attached, and by which the door or gate is hung, and in the combination therewith, for guiding the door or gate, of a bent bar or support, having a frictional roller arranged in contact with said door or gate, substantially as hereinafter more fully set forth.

In the annexed drawing, A marks a door or gate, hung or suspended from an elevated platform, *a*, extending over the gateway or opening *a'*, by means of hangers B B. These hangers are suitably fastened to the door or gate A, and provided with right-angled arms *b*, which serve as axes for the pulleys C C, traveling upon the platform *a*. The point of at-

tachment of each arm or axis to a hanger is strengthened or re-enforced by a web or rib, *b¹*, cast or formed therewith. Upon the axes *b*, on each side of the pulleys C C, are ears or disks *b² b²*, one of each pair of which may be removable, to permit of a broken or impaired pulley being replaced by a new or perfect one.

Cast or otherwise formed with the hangers B B are brackets *c*, having upwardly-projecting studs or projections *c'*, which extend up behind the depending portion of the platform *a*, to hold the upper part of the gate or door and its pulleys in position.

D is a bent or angular bar, fastened beneath the door or gate A, and extending up alongside thereof, which extension is provided with a frictional roller, *d*, arranged closely to or in contact with the door or gate, to guide the latter in its movement, to enable it to run more easily and with less friction, thereby facilitating the opening and closing of the same.

In addition to possessing the above-enumerated advantages, my invention is also exceedingly simple, inexpensive, and easily constructed.

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

1. The hangers B B, provided with the pulleys C C and brackets *c*, having the upwardly-projecting studs or projections *c'*, in combination with the door or gate A and elevated platform *a*, substantially as and for the purpose set forth.

2. In combination with the door or gate A and elevated platform *a*, the hangers B B, provided with pulleys C C and brackets *c*, having projections or studs *c'*, and bent or angular bar D, provided with a frictional roller, *d*, substantially as and for the purpose set forth.

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

GEORGE R. KIDDER.

Witnesses:

H. F. SMITH,
ELBERT M. COOK.