A. McQUATTERS.
SLIDING-DOORS.

No. 195,148. Patented Sept. 11, 1877.

FIG. 1

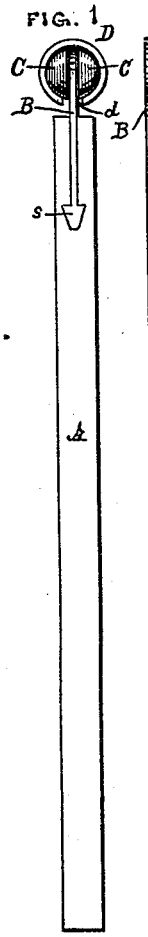

FIG. 2

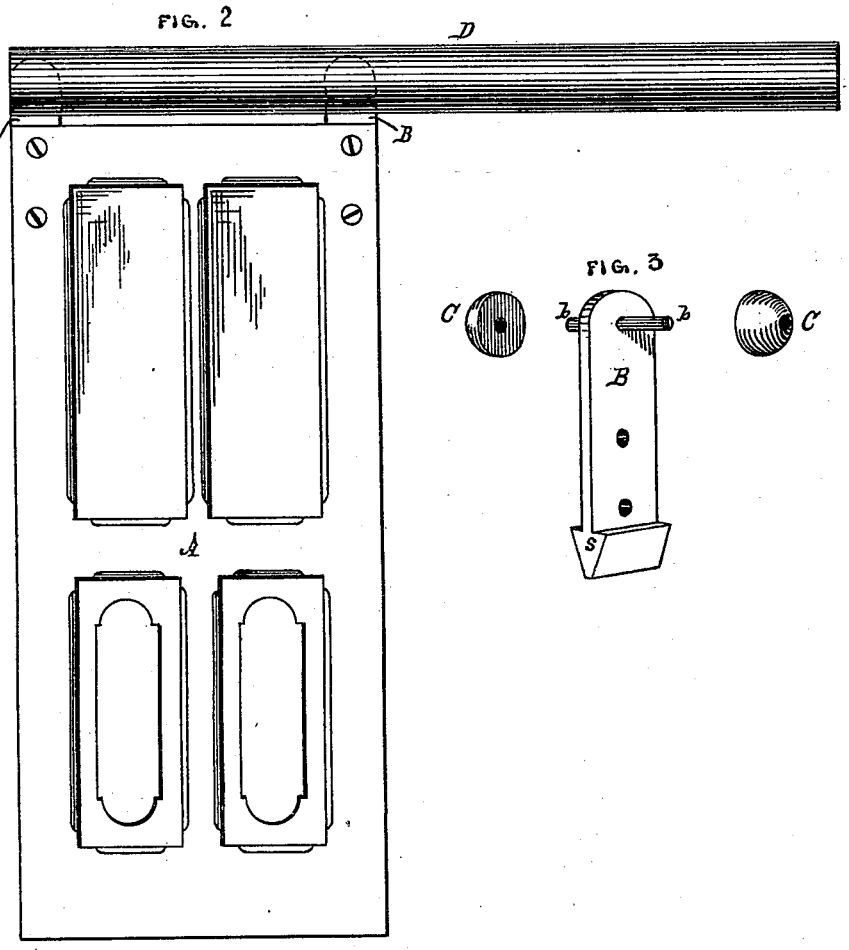

FIG. 3

Witnesses
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UNITED STATES PATENT OFFICE.

ALEXANDER McQUATTERS, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN SLIDING DOORS.

Specification forming part of Letters Patent No. **195,148**, dated September 11, 1877 ; application filed April 30, 1877.

To all whom it may concern:

Be it known that I, ALEXANDER McQUATTERS, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Sliding Doors, of which the following is a specification:

The purpose of my invention is to obviate the liability of sliding doors to bind and get off the track; and it consists in the peculiar form or kind of rollers and track used, as will be fully understood from the following description, and drawings accompanying the same.

Figures 1 and 2 of said drawings are, respectively, edge and front views of my invention, while Fig. 3 shows the rollers, and the hanger carrying the pivot on which they revolve.

Like letters indicate like parts wherever used in said drawings.

A in the drawings represents the door suspended at its upper corners by appropriate hangers B B let into it and secured by screws, as shown, or in some suitable manner. Transversely through the upper end of these hangers are passed pivots *b*, which serve, at each side of the hanger, to support hemispherical rollers or casters C, and whereon the latter are free to revolve in either direction.

D is a tube placed above the door, extending throughout its line of movement, and properly supported in the frame-work in such manner that the slot *d* at the bottom, which is made to reach from end to end of the tube, is exposed for the entire distance. The rollers, after being placed upon the pivot, are caused to enter the tube at the end, the hanger projecting down through the slot, as clearly expressed in the drawing. The inside of the tube is thus made to serve as a bearing or roadway for the casters.

I prefer to use a round tube, such as shown, and also to employ the form of casters shown, as such forms afford advantages not found in others. Among these may be mentioned the following: If it is attempted to raise the door the top of the tube prevents more than a limited amount of movement in that direction, while at the same time the rollers turn as freely as when sliding naturally along the bottom of the tube. If but one end of the door is raised, there is still no binding, as the casters alone come in contact with the tube. If the bottom of the door be swung laterally—that is, away from the line of movement—the same result follows, and for the same reason.

It is, however, true that some of these advantages attend the use of other shapes of tubes and casters.

The casters, when made hemispherical, should not be true hemispheres, but slightly flattened at the centers surrounding the pivots. This construction renders it certain that their peripheral portions will form the tread or bearing parts They may be secured against slipping off the pivots or not, as desired, because when in place the tube will not permit them to get away, and they should preferably be independent of each other. The rounded end of the hanger should come within the peripheries of the rollers for obvious reasons.

The lower end of the hanger is provided with dovetailed projections *s* to support the door and relieve the screws by which the hangers are secured therein.

It will be seen that the running parts are by my invention entirely covered, and protected from dirt and damp, a great desideratum in certain places. Doors hung in this way will be found to move with very little friction, and to be very free from danger of breakage or damage.

What I claim as new is—

1. The combination, with a sliding door, of a tube affording bearings upon its interior surface for the casters, and slotted longitudinally at the bottom, the casters placed within the tube and the hanger carrying the pivot for the casters, and attached to the door at its lower end, substantially as specified.

2. The combination of the supporting-tube D, slotted longitudinally at the bottom, and the hemispherical rollers, with the door and its hangers, substantially as specified.

ALEXANDER McQUATTERS.

Witnesses:

EDW. S. EVARTS,

FORDE R. SMITH.