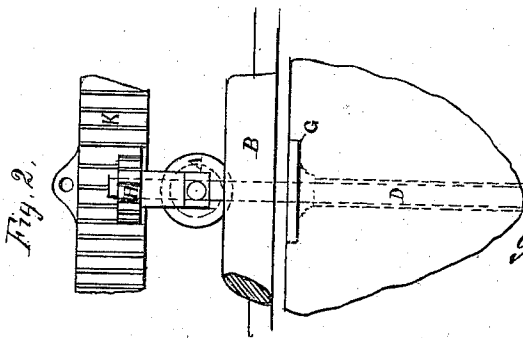
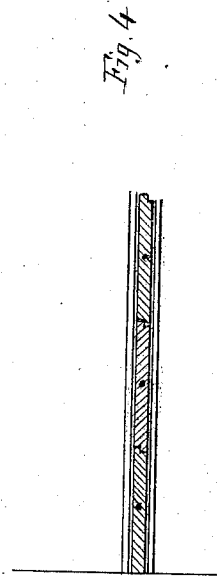
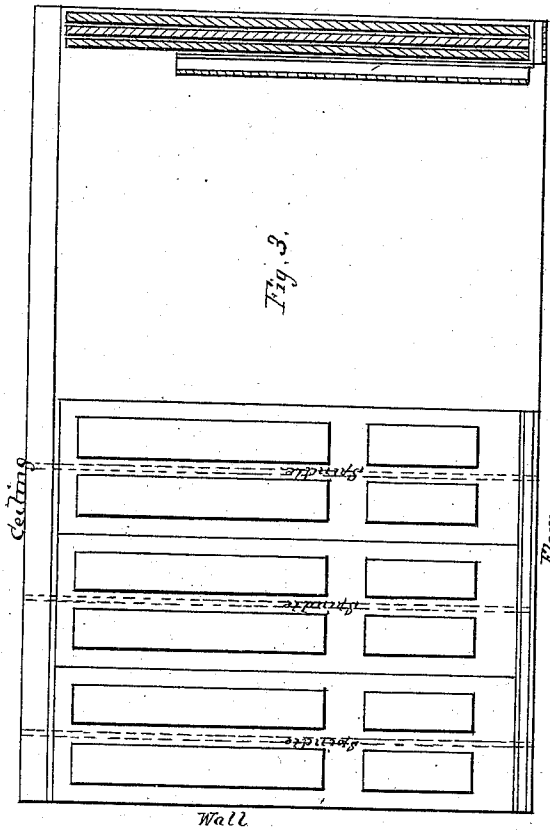


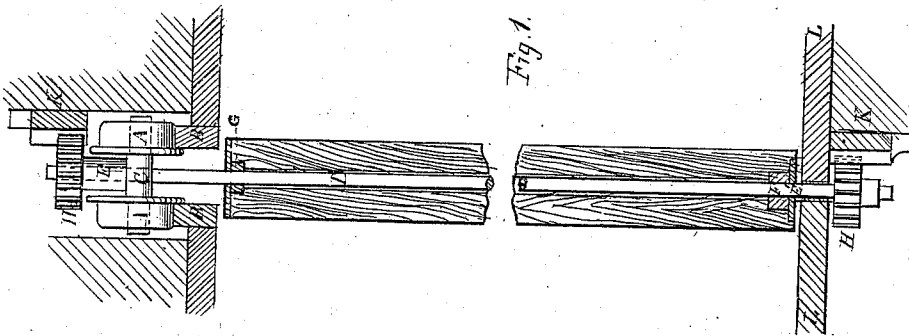
D. J. WILLIAMS.  
MOVABLE PARTITION.

No. 113,476.

Patented Apr. 4, 1871.



*Douglas J. Williams,  
by his Attorneys,  
Burke, Fraser & Osgood.*



# United States Patent Office.

DOUGLAS JOSEPH WILLIAMS, OF BIRMINGHAM, ENGLAND.

Letters Patent No. 113,476, dated April 4, 1871.

## IMPROVEMENT IN MOVABLE PARTITIONS.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern:*

Be it known that I, DOUGLAS JOSEPH WILLIAMS, of Birmingham, England, have invented or discovered certain new and useful Improvements in Movable Partitions, Wide Doors, and Shutters for Buildings; and I do hereby declare that the following is a full, true, and exact description thereof, reference being had to the accompanying drawing—that is to say—

My invention has for its object an improved method of carrying or suspending the parts or divisions composing a movable partition, wide door, or shutter; and consists in suspending each of the said parts or divisions from a cross-head, which is carried by two rollers rolling on horizontal bars fixed above the said movable partition, wide door, or shutter, by means of a swivel or any equivalent mechanism, so that each of said parts or divisions may be turned at right angles, or any suitable angles, to the said bars.

The swivel arrangement consists of an upright spindle, which protrudes above the cross-head before named, and also below the bottom of the parts or divisions. The said upright spindle works freely in the cross-head at the top, and is carried from it by means of a collar on the spindle. The said spindle is provided with a spur-pinion, top and bottom, which work in horizontal racks, and thus keeps the said part or division perpendicular in the direction of the said movable partition, wide door, or shutter. The pinion, at the bottom of the said part or division, is kept in gear with the rack by the side of a groove, which will be hereinafter referred to, and the pinion at the top is kept in gear with its rack by the rollers before named. The said part or division is carried by a collar on the upright spindle, and is allowed to turn freely on the said collar and round the said upright spindle.

The said bars, rollers, and pinions may be concealed, when required, by a wood casing, molded cornice, or whatever may be in keeping with the peculiar architecture of the building to which the said movable partition, wide door, or shutter is applied. The lower ends of the upright spindle may work through a groove in the floor, running parallel to the bars at the top, the pinions and rack working under the floor one side of the said groove, thus keeping the pinions in gear with the rack; or above the floor, when required, by reason of there being a carpet or other floor covering immediately under the partition, wide door, or shutter, (or from any other cause,) where they may be concealed in, and the rack fixed to a hollow wood-sill, which may be either removed altogether, or may be divided in the middle and hinged near each end, for a purpose to be hereinafter explained. The sill is provided with a groove, which will answer the same purpose as if it were formed in the floor.

The said parts or divisions being turned at right

angles, or any suitable angles, to the bars at the top and groove at the bottom, either all of the said parts or divisions may be rolled against one wall or side of the opening, or half or part of their number against each wall or side of the opening, as may be more convenient.

When desirable, a recess may be formed in one or each wall or side of the opening, to receive the said parts or divisions; or a casing, having the appearance of a pilaster, or otherwise, may be constructed against one or each wall or side of the opening; but in school-rooms and certain other buildings, a recess or casing may be dispensed with, the front part or division being fastened so as to keep the remainder as placed. The sill, before referred to, is hinged, in order that it may be raised up against the parts or divisions when they are pushed flat against the wall or into the recess or casing.

When closed the said parts or divisions may be fastened together by means of bolts, and they may be constructed with rabbets, dowels, or otherwise, so that one of the said parts or divisions forms a key, which, being fastened, fastens all the rest, or by any suitable means so used for ordinary shop-window shutters, or by any convenient method.

By the above arrangement the opening and closing of movable partitions, wide doors, and shutters for buildings is facilitated, and space is gained where the said arrangement is substituted for the wide hinged doors now in use.

Where the word building occurs in this specification, unless otherwise explained in the particular occurrence, it is used as applying to ships and other structures, as well as to buildings more commonly so called.

Having thus stated the nature of the said invention, I now proceed more particularly to describe the manner of performing the same with reference to the accompanying drawing.

### *Description of the Drawing.*

Figure 1 is a vertical section through one of the said parts or divisions, the end only being shown for convenience.

A A are two rollers rolling on the bars B B.

C is a cross-head carried by the rollers A A.

D is the upright spindle, having a collar, E, by which it is carried from the cross-head C, and a collar, E', at its lower extremity, upon which the journal F, which is fixed in the said part or division bears.

A journal, G, is also shown at the top of the said part or division.

A pinion, H, working in a rack, K, is shown at the top and bottom of the upright spindle D. The bottom pinion and rack are shown, in this case, below

the floor. The said rack is fastened to the floor or joist, and the pinion kept in gear with it by the side of the groove in the floor, which is lined with hoop-iron.

When the bottom pinion and rack are required to be above the floor, (for reasons before stated,) the boards L L would represent the top of a boxed sill, which would be on the floor. The top rack is shown fixed to the side timber.

Figure 2 is a front elevation of the arrangement at the top of the said part or division, shown in side elevation in fig. 1.

Figures 3 and 4 are, respectively, an elevation and plan of a general arrangement of the parts or divisions composing a movable partition for a building as required for the application of my invention.

A hinged sill is shown, which carries the rack for the bottom pinion.

The arrangement of the parts or divisions composing shutters for buildings is of a similar nature to those just described for movable partitions; but

My invention consists not in the arrangement, but in the method of suspending, by means of the swivel arrangement aforesaid, the parts or divisions used for the purpose hereinbefore described.

What I claim as novel, and desire to secure by Letters Patent, is—

1. the upright spindle D, forming a swivel in the part or division, and used in conjunction with the cross-head C, which is carried by the rollers A A, rolling on the bars B B, substantially as and for the purpose herein described and shown in the drawing.

2. In combination with the said upright spindle D, the pinions H H and the racks K K, substantially as and for the purpose described and shown.

In witness whereof I, the said DOUGLAS JOSEPH WILLIAMS, have hereunto set my hand this 13th day of April, A. D. 1870.

DOUGLAS JOSEPH WILLIAMS.

Witnesses:

STEPHEN WATKINS,  
WALTER H. PERKS.