MULTIPARTITE SLIDING DOOR

Friederich Wilhelm Kieckert, Heiligenhaus, Germany

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This invention relates to sliding doors consisting of several parts displaceable in relation to one another. The method of construction hitherto employed for such doors, in which the door parts are disposed adjacent one another and are displaceable over one another, has the disadvantage that there is produced a very wide total cross-section of the sliding door and of the door pocket. Furthermore when such doors are closed there is produced at the point of transition from the one door part to the other an unsightly projection and also a gaping opening at the entry to the door pocket.

According to the invention these disadvantages are avoided in that one or more of the displaceable door parts is formed hollow and the door parts are displaceable telescopically within one another. The telescoped door parts are not much thicker than the single part hitherto employed so that the sliding door assembly as a whole requires very little space. Unsightly large steps from the one to the other door part are avoided and furthermore when the doors are drawn out there are no longer any gaps at the entry to the door pocket because the width of the pocket opening corresponds to the thickness of the hollow door.

One constructional form of the door according to the invention is illustrated by way of example in the accompanying drawings. Fig. 1 is an elevation and Figs. 2 and 3 are cross-sections with the parts in different positions. Figs. 4 and 5 are representations of the horizontal sections to a larger scale and Figs. 6 and 7 are vertical sections to a larger scale.

In the construction illustrated the door halves 1 and 2 consist of pressed and profiled sheet metal plate. Of course the narrower part 1 could however be produced from wood. The part 2 has an open U-shape in horizontal section which is closed at the one narrow edge 3 and is open at the other narrow edge. It fits into the door pocket 4 at the entry to which it abuts against a stop by means of a strip 5 in order to prevent a complete sliding out. At the open narrow edge there are provided hook-like bent strips 6 for engagement by hook-line projections 7 on the inner narrow side 8 of the door 1 when the door is in the closed position. The doors 1 and 2 are guided with respect to one another by means of sliding guide members 9, 10 engaging in one another in a clamp-like manner, the walls of the door part 2 being at the same time held together thereby. The door part 2 is suspended by means of rollers 11, 12 from a fixed guide rail 13 of the frame 14 while the door part 1 is suspended by means of a roller 15 from a guide rail 16 in the interior of the door part 2 and by means of a roller 17 mounted on its outer edge also from the guide rail 13 of the frame. Instead of the rolling guide rail there may also be provided ball guide members. The toothed gear drive 18, 19, 20 for producing the common displacement of the door parts 1 and 2 is constructed in the manner usual for multi-partite sliding doors.

The drawings show a double sliding door the parts of which abut together for example by resilient strips 21. In Figs. 1, 2 and 4 the doors are shown closed. Figs. 3 and 5 show the door part 1 within the door part 2 and both parts 1 and 2 slid back together into the door pocket 4 whereby the door has been opened.

Of course, if desired, more than two telescoping door parts may be provided.

1. A sliding door comprising a hollow outer section consisting of pressed sheet metal plates arranged in parallel spaced relation and connected with each other only along one vertical edge by bending said plates inwardly, said plates being otherwise free from each other, an inner section adapted to telescopically fit into said outer section and consisting of pressed sheet metal plates arranged in spaced parallel relation and connected with each other along both vertical edges by bending said plates inwardly, and interengaging guide members located respectively on contiguous faces of said door sections slidable relatively to each other with said sections and adapted to maintain the latter against relative spreading in all positions of said sections.

2. A sliding door comprising an outer section of horizontal U-shape, an inner section telescopically combined with said outer section, guide members fixed upon the opposite inner faces of said outer section and extending substantially throughout the width thereof, and co-operating guide members fixed upon and extending substantially the entire width of the outer faces of said inner section in slidable interengagement with the guide members of said outer section for maintaining said sections against relative spreading in all positions thereof.

3. A sliding door comprising a hollow outer section having a transverse wall along one vertical edge and being open along the other vertical edge, an inner door section telescopically combined with said outer section, and interengaging
guide members located respectively on contigu-
ous faces of said door sections slidable relatively
to each other with said sections and adapted to
maintain said outer door section against relative
spreading in all positions of said sections.
4. A sliding door comprising a plurality of tele-
scopically combined sections slidably displaceable
relatively to each other, at least one of said sec-
tions being of horizontal U-shape, guide members
fixed upon the inner faces of the U-shape section
and extending in the direction of the sliding move-
ments thereof, and co-operating guide members
fixed on the outer faces of the next adjacent sec-
tion in interengaging sliding connection with the
guide members of said U-shaped section whereby
the latter is maintained against relative spread-
ing in all positions of said sections.

FRIEDRICH WILHELM KIEKERT.