52-456

No. 885,524. PATENTED APR. 21, 1908.

H. M. ROBINSON.

PANELING.

APPLICATION FILED APR. 23, 1907.

2 SHEETS—SHEET 1.

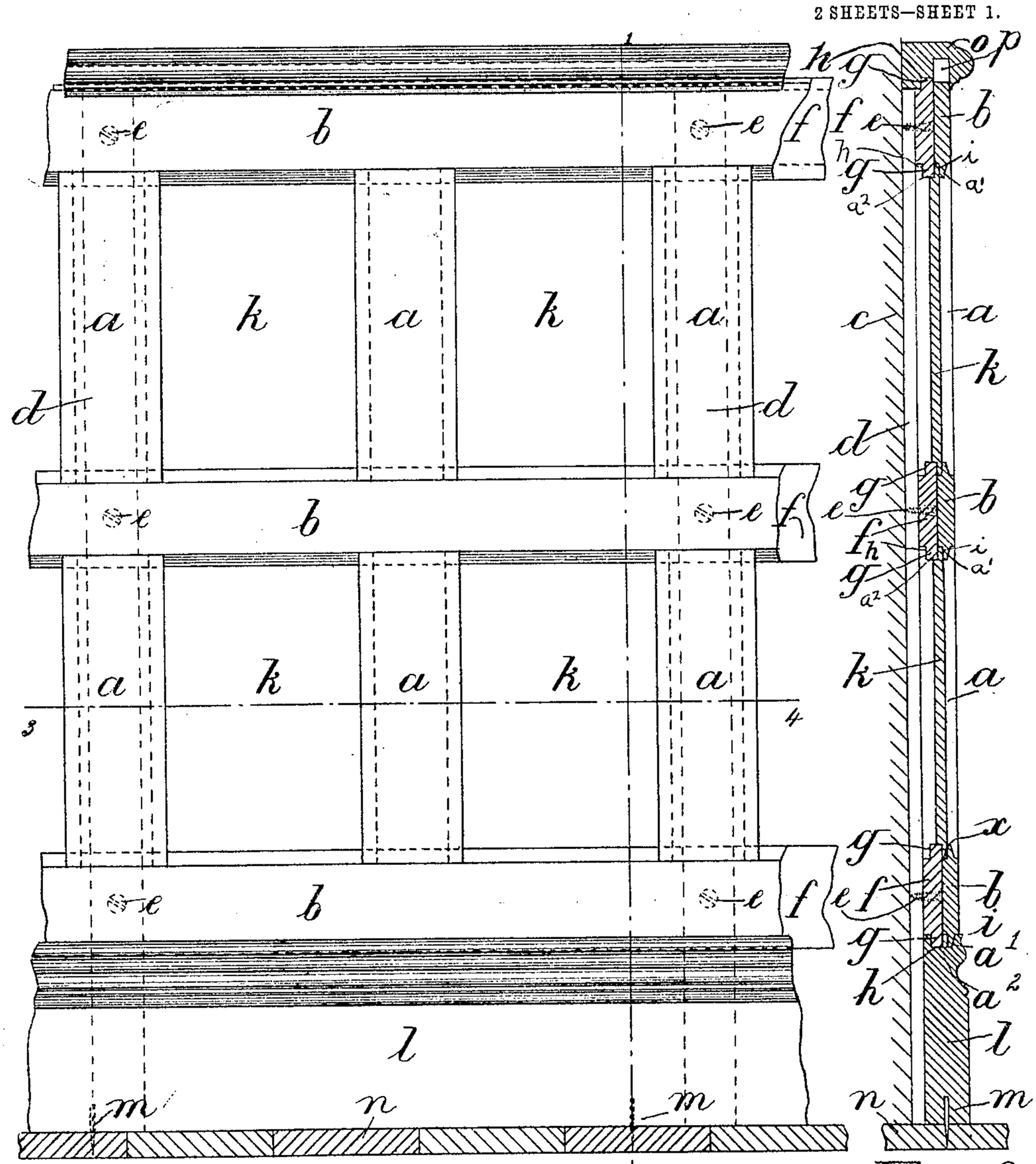

Fig: 1.

Fig: 2.

Fig: 3.

Witnesses:—
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Inventor:
Hugh Mansfield Robinson,
By Wm. E. Richards
His Attorney.

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2 SHEETS—SHEET 2.

Fig: 4.

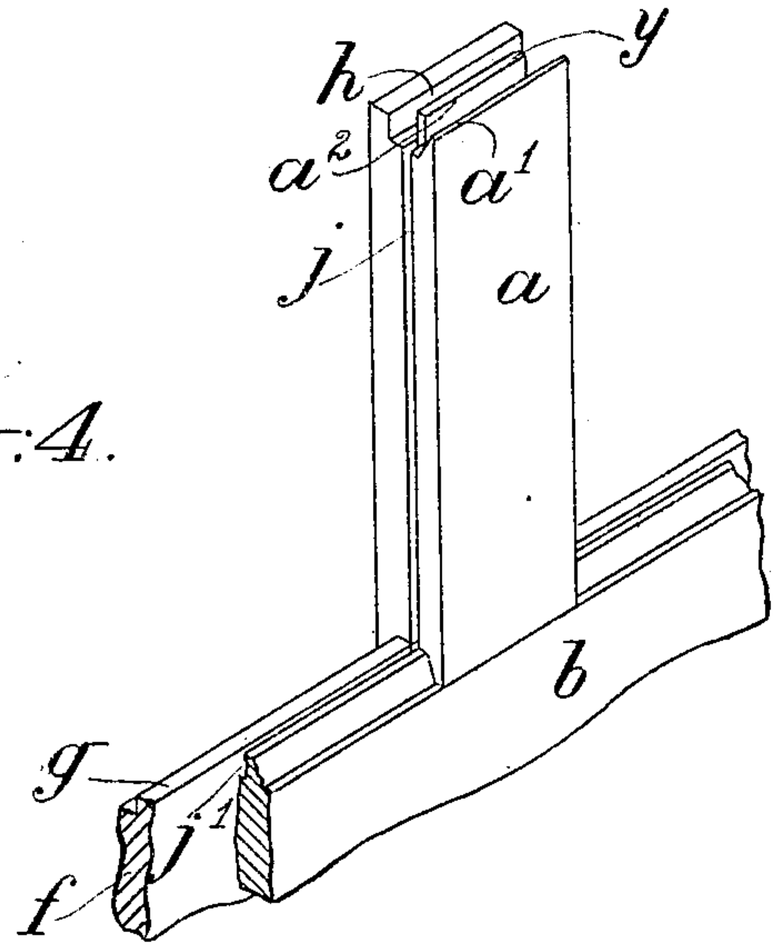
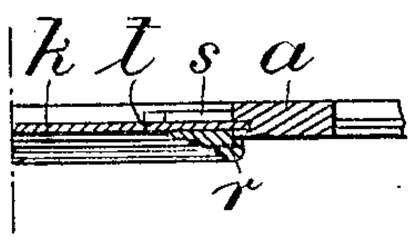


Fig: 8.



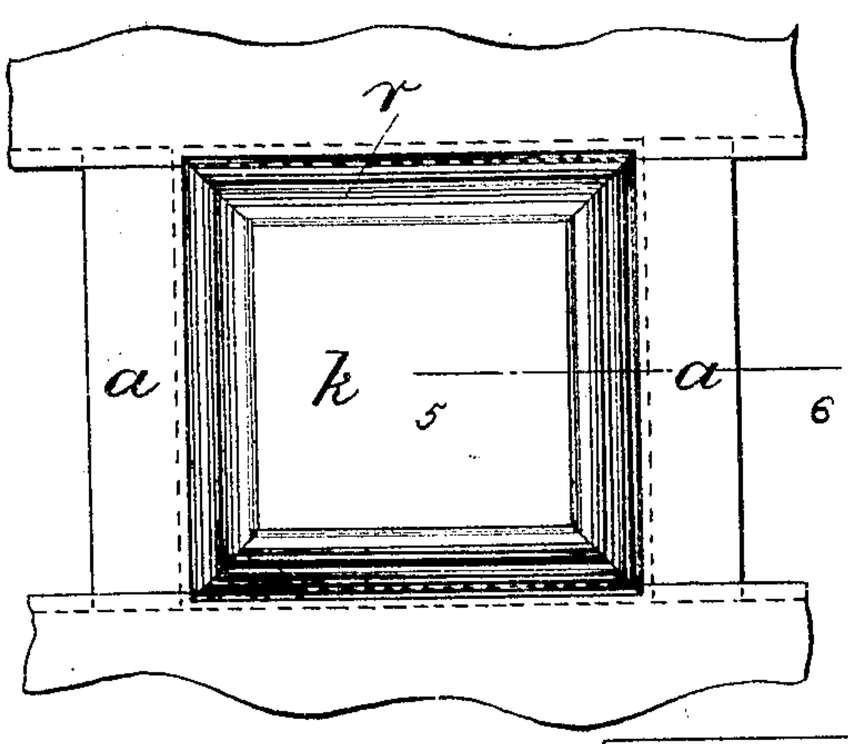


Fig: 6.

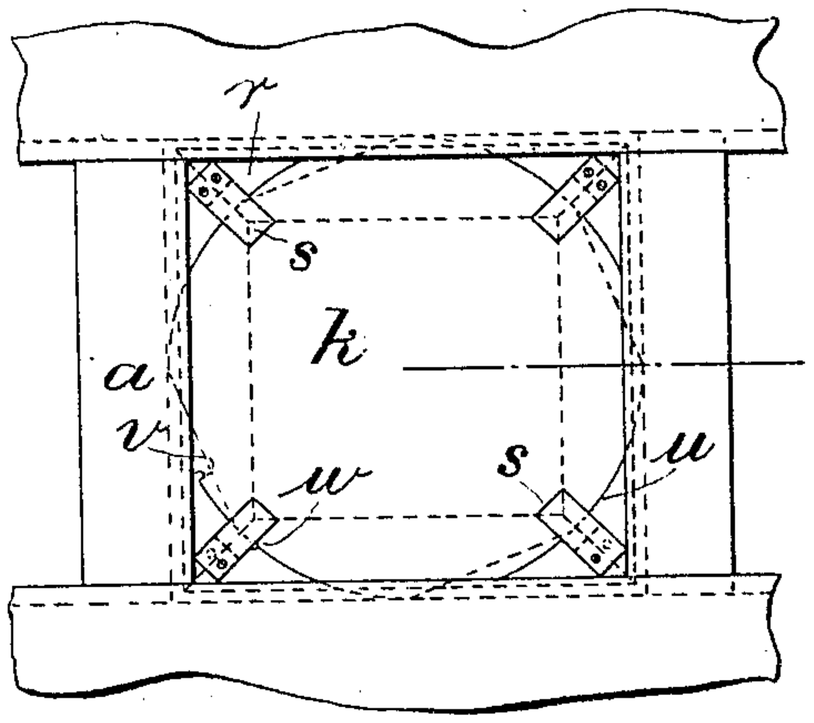


Fig: 7.

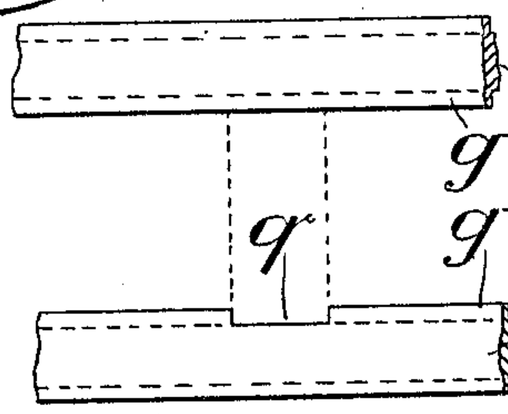
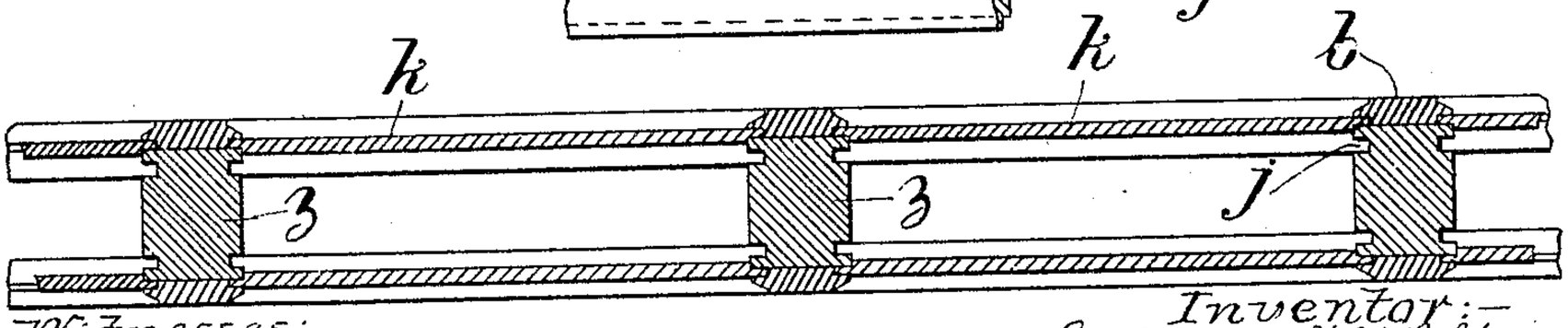


Fig: 5.

Fig: 9.



Witnesses:
Mabel V. Goldsmith.
George D Stevens

Inventor:—
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UNITED STATES PATENT OFFICE.

HUGH MANSFIELD ROBINSON, OF EVERSLEY, SAWBRIDGEWORTH, ENGLAND.

PANELING.

No. 885,524. Specification of Letters Patent. Patented April 21, 1908.

Application filed April 23, 1907. Serial No. 369,823.

To all whom it may concern:

Be it known that I, HUGH MANSFIELD ROBINSON, a subject of the King of Great Britain and Ireland, residing at Eversley, Sawbridgeworth, Herts, have invented new and useful Improvements in the Construction of Paneling in Wood and other Materials, of which the following is a specification.

My invention relates to an improved method of constructing paneling in wood and other materials by which the cost is greatly reduced compared with known methods, the framework panels and molding being firmly fixed together without any nails or screws to deface either surface of the paneling material while every part of the paneling is easily removable separately for cleaning, repairs, or alterations without damaging the rest of the work and the paneling is made a tenant's fixture removable by him.

In order that the invention may be the better understood I will now proceed to describe the same in relation to the accompanying drawing, reference being had to the letters and figures marked thereon.

Like letters refer to like parts in the various figures.

Figure 1 is a front elevation of paneling constructed according to my invention. Fig. 2 is a vertical section of same on the line 1—2 of Fig. 1. Fig. 3 is a horizontal section through the line 3—4 of Fig. 1. Fig. 4 is an isometric view of one of the stiles engaged with one of the rails and one of the battens. Fig. 5 shows a modified construction in which the stiles can be inserted between the rails at intermediate positions, to the ends of the rails without disturbing the battens. Fig. 6 shows a front view of a removable panel which can be used as a last panel for completing the paneling or for use in situations where the panel cannot be slid into place in the usual way. Fig. 7 is a back view of same showing the means for holding the panel to the molding and the means for attaching the panel to the rails and stiles. Fig. 8 shows a part sectional side view of the removable panel on the line 5—6 of Fig. 6 showing one of the fastening devices at the corner of the molding for securing the panel. Fig. 9 is a sectional view of my system of paneling applied to a stud partition.

In the following description the vertical strips of wood or other material forming the upright part of the frame work of the paneling are called stiles *a* and the horizontal strips forming the other part are called rails *b*.

To carry the invention into effect I first affix to the wall or surface *c*, to be paneled by any usual means sufficient supports such as strips of wood *d* parallel to one another and preferably perpendicular and level (but where the wall is dry and nails or screws can be driven therein such strips can be dispensed with), to form a groundwork for the paneling and keep it from contact with the wall. I then affix by screws *e* or other usual means to such groundwork, strips *f* of cheap wood (hereafter called "battens"), of substantially the same width as the paneling rails *b*, and parallel to each other at the same distance apart as the rails are desired to be. Such battens *f* have a protruding tongue *g* formed along each side so as to engage with a corresponding groove *h* cut in the end of each stile *a* in the back half thereof so that the stile *a* is attached at each of its ends to a fixed batten *f* by being tongued and grooved therewith respectively as shown in Fig. 4. The stile *a* being equal in thickness to the batten *f* and rail *b* combined, the end of the stile *a* engaging the batten *f* will project above the surface of the batten *f* to the same thickness as the rail *b* and in such projecting part I make an undercut angular channel *i* shaped so that the part a^1 of the end of the stile *a* overhangs or protrudes beyond the part a^2. Into such angular channel I introduce the edge of the rail *b* which is beveled off at a corresponding angle to engage therewith and to be prevented from being displaced forwardly thereby, the other edge of the rail *b* being prepared in like manner to engage the end of the next stile *a* so that the whole horizontal element comprising the rail *b* and batten *f* is held on the upper and lower side by the ends of the respective stiles *a* and cannot be removed without disengaging such ends. Below the beveled edge of the rail is a rabbet *x* which forms between the rail and batten a groove for the panel edges and also for the tongue *y* in the end of the stile *a*. Thus the ends of the stiles *a* form the connecting link between the fixed battens *f* and the rails *b* and the whole framework is securely attached to the fixed battens *f* without a nail or screw being necessarily employed.

A channeled groove *j* for the sides of the panels *k* is cut in the sides of the stiles *a* so that the inner side of the groove *j* is level

with the front side of the tongue *g* protruding from the batten *f* in which the sides of the panel *k* are made to lodge.

I erect the paneling *in situ* in the following method and order: I first take the skirting board *l* which has a groove *h* and angular channel *i* in its upper edge similar to those described in the ends of the stiles *a* and after putting it in place and hammering it down so that the protruding nail ends or dowels *m* in its bottom edge are driven into the floor boards *n*, I fix the first batten *f* of the groundwork upon the wall *c* after inserting its tongue *g* into the groove *h* of the skirting board *l*. I then insert the lower edge of the first rail *b* into the angular channel *i* in the skirting board *l* and proceed to insert all the stiles *a* required along the length of the rail *b* engaging their lower ends with the first batten *f* and rail *b* and as each stile *a* is fixed the panel *k* on each side of it is slid into the grooves *j* and j^1 prepared for it. I next fix the second batten *f* after inserting its lower edge in the grooved ends of the stiles *a* and insert the next rail *b* as before and so on working upwards until the top rail *b* of the dado or cornice piece *o* as the case may be is reached. The dado rail *o* is made with its lower edge grooved and beveled like the ends of the stiles *a* so as to engage the top edges of the last batten *f* and rail *b* and if tightly fitted no other attachment is needed but a touch of glue or a dowel at each end can be used to prevent it being easily removable. The cornice piece *o* has in its lower edge a groove *h* which engages with the tongue *g* of the last batten *f* and is fitted into it before the batten is screwed into its place. In the edge of the cornice *o* above the groove *h* engaging with the batten *f* is formed another groove *p* sufficiently wide to allow of the upper edge of the last rail *b* (which is made square and of the same thickness as the groove *p*) to slide into it, and sufficiently deep to allow spare way enough for the rail *b* to be pushed upwards until its bottom edge (which is beveled like the other rails) passes over the ends of the last stiles *a* when the rail *b* can then be drawn down till its edge engages with the angular channels *i* in the ends of the stile *a* while its upper edge is still engaged and held in the groove *p* of the cornice *o*.

While in the above description to avoid confusion I have specified the fixing of the ends of the stiles *a* to the battens *f* by tonguing and grooving and to the rails *b* by undercut angular channels engaging beveled edges it must be understood that either method can be adopted in either case and any pattern of grooving or channeling can be adopted so long as the effect is to prevent the stile from being pulled or moved from the batten or the rail from being pulled or moved from the stile. The tongue or underlapping projection of the stile *a* which engages the batten *f* does not entirely fill the depth of the groove or channel in the batten *f* but a certain clearance is allowed as is also the case between the top and bottom ends of the panels and the groove in the rails as the case may be, so that in case unseasoned wood is used and through shrinkage of the rails *b* the joints open or gap between the ends of the stiles *a* and the sides of the rails *b* each rail *b* may be tapped down to engage closely with the end of the stiles *a* from the bottom to top of the paneling when fixed without injury or disturbance of the work to the extent allowed by the clearance in the said grooves or channels.

Where it is desired to secure further removability of each part of the paneling for cleaning, repair or alterations, I adopt the following method for making each panel *k* and stile *a* capable of being removed or replaced without disturbance of the rest of the work. In the portion of the edge of the batten *f* which underlies the center of either end of the panel *k*, I cut away so much of the projecting tongue as is equal to the width of the stile *a* as shown in Fig. 5, so that when one end of the stile has been introduced into the uncut tongue of one batten *f* the other end can be passed down through the space *q* cut in the tongue of the other batten *f* until the groove in the stile *a* is level with the tongue of the batten *f* when the stile *a* can be slipped along sidewise into its proper position with its groove engaging the portion of tongue remaining which is sufficient to support the panel edge. To make each panel *k* removable I frame it like a picture in a bolection or other molding *r* of suitable size as shown in Figs. 6, 7 and 8 to fit the space between the rails *b* and stiles *a* and preferably square in shape the panel *k* being held in position at the back of the molding *r* by a piece of wood or other devices *s* screwed or fastened to each corner of the molding frame preferably so as to bind the moldings *r* together and having an engaging surface *t* projecting like a tongue above the lower part of the device *s* and so shaped as to fit over the panel and hold it up to the molded frame *r* as shown in Fig. 8, two of such pieces *s* being preferably made to revolve so as to enable the panel *k* to be slid into its place under the other two pieces *s* when the two first pieces *s* can be turned round so as to grip the panel edge.

The panel is substantially of the same size as the space between the rails *b* and stiles *a* except that the square corners are cut away in the form of the arc of a circle *u* (having its center at the center of the panel) to such an extent as will leave the diagonal measurement of the panel equal to its width plus twice the depth of the groove *j* formed in the stiles *a* and rails *b* to receive it, the bolection molding *r* being made wide enough to cover

the arcs *u* so cut at the corners of the panel *k*. The panel *k* can thus be rotated within the molded frame *r* being kept in position by the overlapping corner devices *s* which are made to engage with the arcs of the panel corners. By cutting a notch *v* in the panel arc *u* and arranging it to engage a wooden peg *w* passed through or supported by one of the wooden devices *s* the panel *k* may be required to be pressed upwards to escape the peg *w* before it can be rotated and by varying the position of the notch or notches different movements of a special nature can be provided for, to prevent any but those familiar with the movements from removing the panels *k*. I then fit the molded frame *r* containing the panel so arranged into the space between the rails *b* and stiles *a* and by rotating or twisting the panel *k* to right or left I cause the arc shaped corners of the panel *k* to pass into the grooves *j* in the center of the sides of the stiles *a* and rails *b* for a distance sufficient to strongly attach the panel and molding to the stiles and rails while the narrower sides of the panel pass into the positions previously occupied by the corners and are still engaged by the wooden fixing pieces *s* attached to the corners of the molding *r* the overlapping of such fixings being made sufficiently long for such purpose. Thus the panel *k* and molding frame *r* is firmly attached to the panel frame and by twisting the panel back to its original position both the panel and moldings can be drawn out for cleaning or repairs or alterations, without disturbing the rest of the work and can be easily replaced in the manner described.

To secure a tight fit of the panel *k* I bevel the edges of the panel *k* so that its thickness gradually increases till it fits tightly into the grooves *j* and the force then required to rotate the panel can be exerted by pressing on pieces of moistened gelatin temporarily stuck on the top and bottom of the panel or a grip of the surface can be obtained by the adherence thereto of a circular piece of rubber moistened on the inner surface. Where desired the stiles *a* can be made the lengthy part of the frame and the rails *b* the short parts between the stiles *a* by placing the groundwork supports or strips *d* horizontally, the battens *f* vertically and forming the stiles *a* and rails *b* in the manner above described conversely for the rails *b* and stiles *a*. If economy of the paneling wood is desired the stiles *a* (as first described) can be made as to the upper half of the paneling wood desired and the lower half deal or other cheap wood, the two portions being glued or screwed together as one. Where it is desired to panel both sides of a partition wall made with studwork, I form the grooves *j* in each of the sides of the studs *z* near the surface as if they were the battens above described into which the ends of the rails *b* engage, the stiles *a* in that case being laid over the studs *z* and held down by the undercut or grooved ends of the rails *b* in which case no strips of wood *d* as groundwork or battens *f* are required and a very economical result is obtained. To get the rails *b* into position I cut gaps leading into the grooves of the studs as above described and shown in Fig. 5.

It is obvious that although I have described my system of paneling as a wooden construction my invention is equally applicable to metal or stone construction for example I may use earthenware or stone or enameled iron or the like.

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

1. Paneling construction consisting of, in combination, supports adapted to be fixedly attached to or to form a part of the surface to be paneled, and provided with engaging means, rails of substantially similar width to said supports and provided with engaging means, stiles adapted at each end to engage with the said engaging means of both supports and rails so as to be held fixedly to the supports and to hold the rails fixedly in position on the supports and means for fixedly holding panels on the rails and stiles in the spaces bordered by the same so that the parts of the paneling structure can be assembled and held in position only by the said means, substantially as described.

2. Paneling construction consisting of, in combination, supports adapted to be fixedly attached to or to form a part of the surface to be paneled, and provided with engaging means, rails of substantially similar width to said supports and provided with engaging means, stiles adapted at each end to engage with the said engaging means of both supports and rails so as to be held fixedly to the supports and to hold the rails fixedly in position on the supports, means for holding panels on the rails and stiles in the spaces bordered by the same and a removable panel consisting of a frame having a panel movably carried thereby and adapted after insertion into the said space to be moved relative to the frame so that the panel edges engage with the holding means of the stiles and rails and hold the frame or panel fixedly in place in the same.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HUGH MANSFIELD ROBINSON.

Witnesses:
RICHARD A. HOFFMANN,
MAY F. DRINKWATER.