

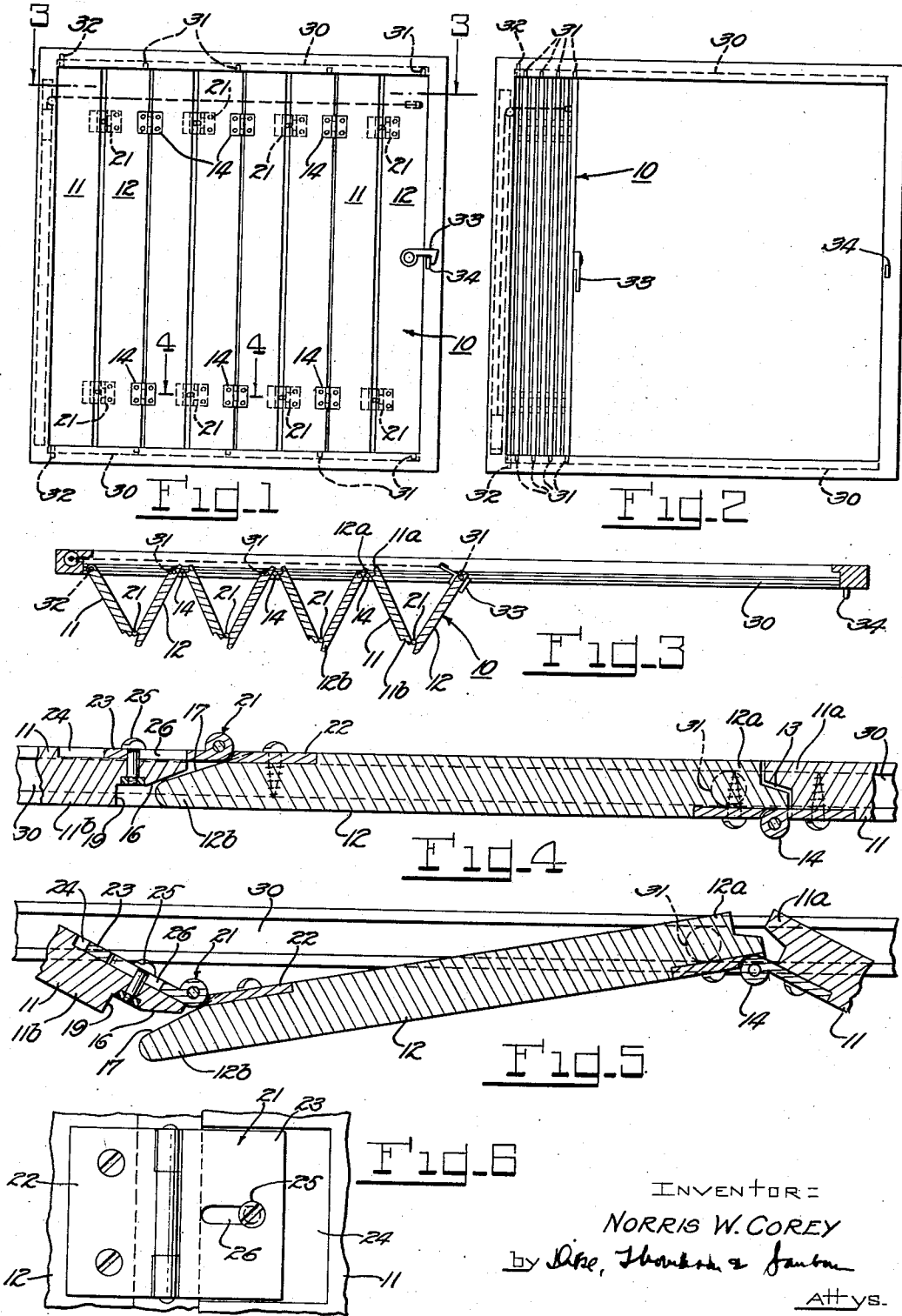
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FOLDING DOOR

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FOLDING DOOR

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2 Claims. (Cl. 160—199)

1

The present invention relates to improved folding doors useful as cupboard doors and the like, and has as its main objective to provide a closure which has heretofore unrealized advantages in simplicity of operation, economy and saving of space.

The folding doors of the invention do not require the space needed by conventional swinging or sliding doors in which to open and shut, nor do they occupy as much space in open position. They eliminate the necessity for recesses, space occupying door jambs and overlapping, all of which complicate door structures and confine otherwise useful openings.

The folding doors of the present invention are particularly adapted for use on kitchen cupboards and the like, and eliminate danger of head injury from outwardly projecting open swinging doors which are normally used on cupboards as, for example, over sinks and work benches. They also solve door problems involved when cabinets are placed closely adjacent at corners where conventional doors otherwise interfere with each other.

Further objects and advantages will be apparent from the following description and accompanying drawings in which:

Fig. 1 is a front elevation of a cupboard door embodying the present invention and shown in closed position;

Fig. 2 is a view similar to Fig. 1 showing the door in open position;

Fig. 3 is a cross section through the line 3—3 of Fig. 1;

Fig. 4 is a cross section through the line 4—4 of Fig. 1;

Fig. 5 is a view similar to Fig. 4 showing the door moved part way toward open position;

Fig. 6 is a detail of one of the slidable hinges of the door as viewed from the rear.

Referring to the drawings the folding door indicated at 10 comprises generally a series of pairs of hinged panels 11 and 12 having inside edges 11a and 12a and outside edges 11b and 12b. The edges 11a and 12a may be rabbetted to interfit as indicated at 13, Fig. 4, and are hinged together to break relatively inwardly by a hinge 14 attached to the front of the edges 11a and 12a.

The edges 11b and 12b are cooperatively beveled as indicated at 16 and 17 and shown in Fig. 4, and the edge 16 is undercut as at 19 to provide clearance for a purpose to be described. The edges 11b and 12b are hinged together to break outwardly by a slidable hinge 21, one leaf 22 of which is rigidly attached to the back of the edge 12b, and the other leaf 23 of which

2

is slidably attached in an elongated mortice or groove 24 in the back of the edge 11b by a screw 25 through a horizontal slot 26 in the leaf 23.

When the door 10 is closed, its panels 11 and 12 lie edge to edge with their faces in line and across the door space between upper and lower tracks 30. The panel edges 12a are at all times pivotally and slidably contained between the tracks 30 by pins 31 at their ends which engage the tracks 30. Alternatively the pins 31 may pivot in lugs which in turn, are slidable in the tracks 30. At the left hand edge of the door 10, as seen in Figs. 1 and 3, the panel edge 11a is pivotally anchored in place at one side of the door space by pins 32 extending from the ends of the panel edge 11a and received in holes in the jambs at top and bottom. At the right hand edge of the door 10, as seen in Figs. 1-3, a latch 33 is provided on the edge 12a engageable with a catch 34 in the adjacent jamb to hold the door in closed position.

The door is opened by the application of pressure to the left against the extreme right hand panel 12 as viewed in Figs. 1-5. The surface 17 of each edge 12b slides outwardly along the surface 16 of each edge 11b, this relative edgewise and outward sliding motion being allowed by reason of the slidability of the hinges 21 in their grooves 24 and the camming action of the bevelled edges. All of the outside adjacent panel edges 11b and 12b therefore break outwardly and the inside adjacent edges 11a and 12a being retained in the tracks 30, are caused to slide to the left until the panels 11 and 12 in an accordion-like movement are brought face to face normal to the tracks and at the left hand side as viewed in Fig. 2, with the door open. In closing the door, the operation is reversed.

I claim:

1. A folding door comprising in combination upper and lower tracks, at least one pair of vertical panels between and in line with the tracks in closed position, means slidable in the tracks securing a first edge of a first panel slidably between the tracks, a slidable hinge securing a second edge of said first panel to a first edge of a second panel and adapted to allow said first panel to slide edgewise relative to said second panel, said second edge of said first panel and said first edge of said second panel being bevelled cooperatively relative to each other whereby edgewise pressure on one panel causes the hinged edges of the panels to break and the panels to approach a folded position normal to the tracks toward one end thereof.

2. A folding door comprising in combination

3

upper and lower tracks, at least one pair of vertical panels between the tracks, means slidable in the tracks securing a first edge of a first panel slidably between the tracks, a hinge securing a second edge of said first panel to a first edge of a second panel, said hinge having a leaf and a slot therein and means slidable in said slot securing the leaf to one of said panels whereby the first and second panels are slidable relative to each other within limits, and means pivotally securing a second edge of said second panel between the tracks, one of said hinged edges being bevelled relative to the other providing a camming action causing the hinged edges to break

4

and the panels to fold when pressure is exerted against one panel toward the other.

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