March 28, 1933. C. E. PAGET 1,903,065

SECTIONAL DOOR

Filed Aug. 29, 1931 3 Sheets-Sheet 1

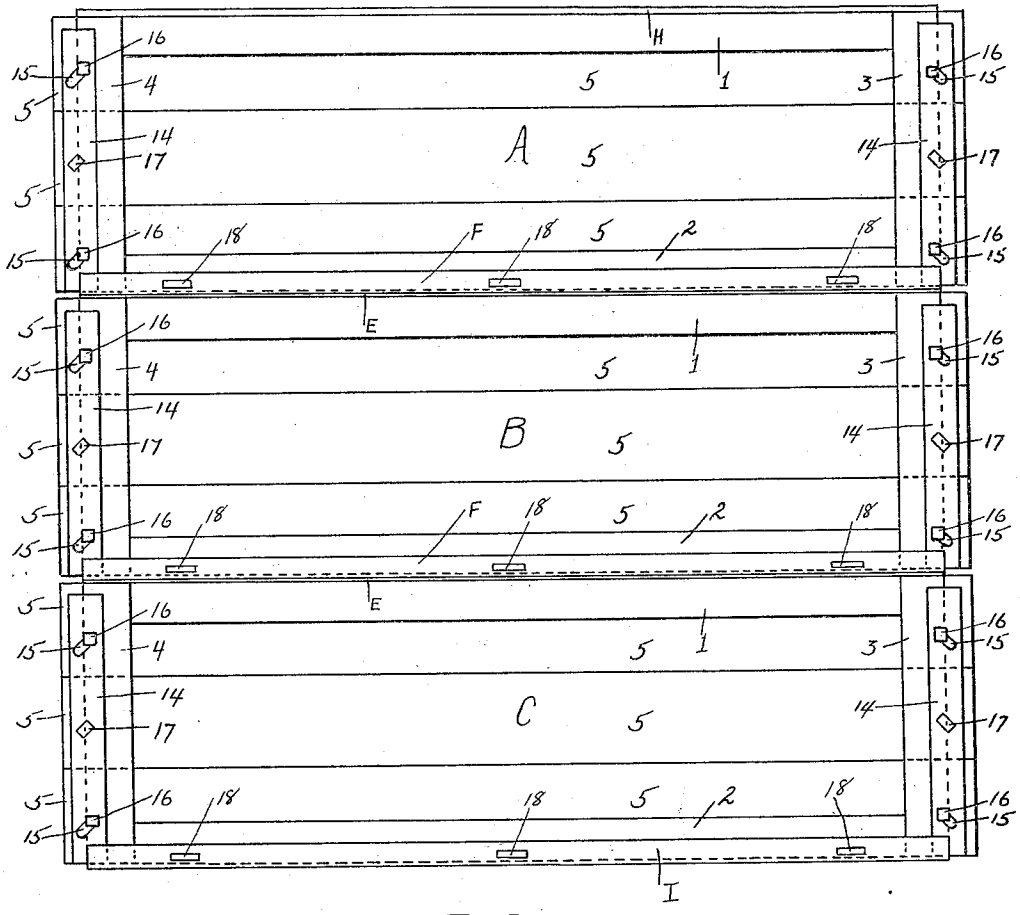


Fig. 1.

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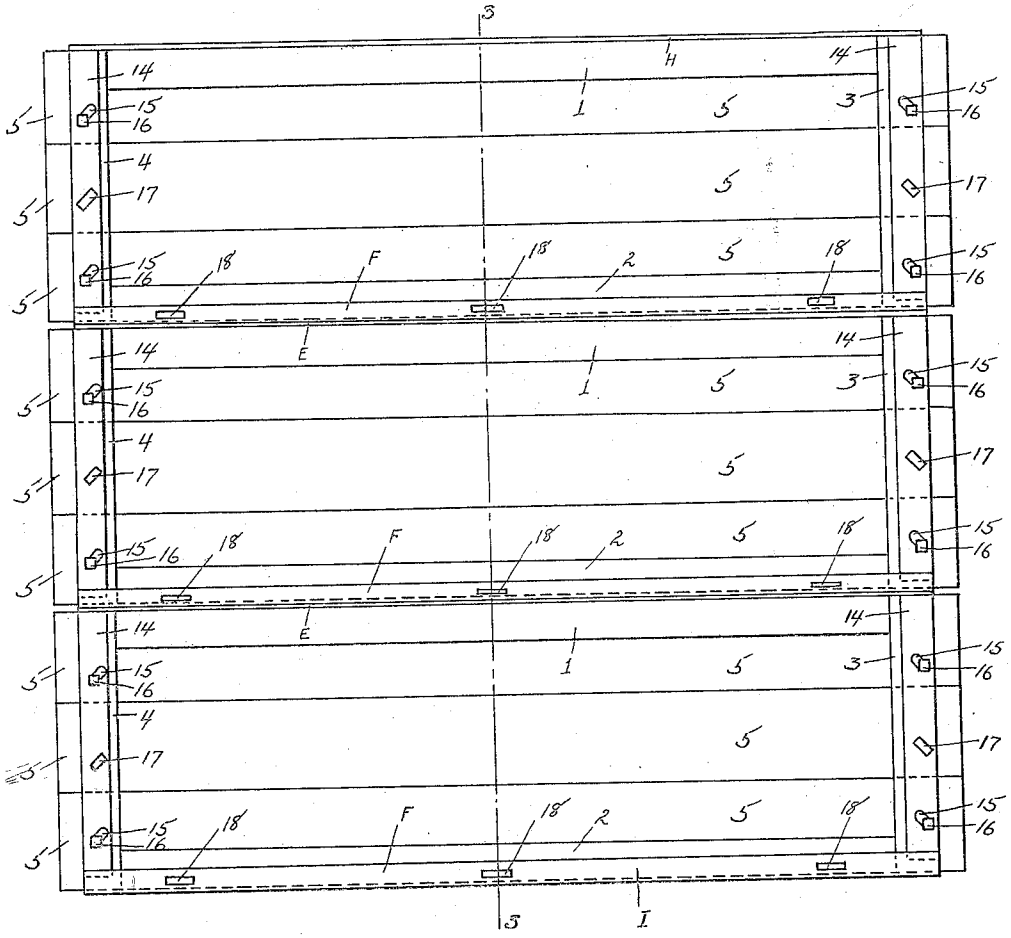


Fig. 2.

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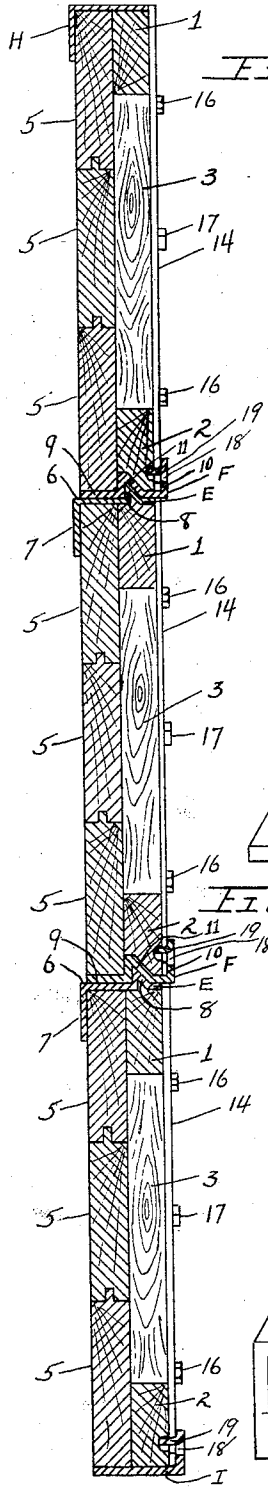


Fig 3

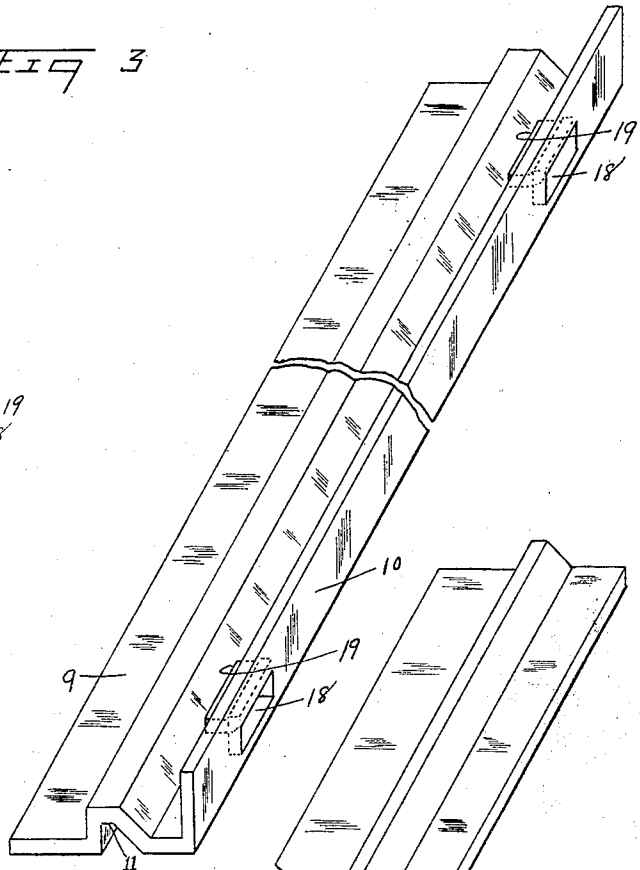


Fig 5

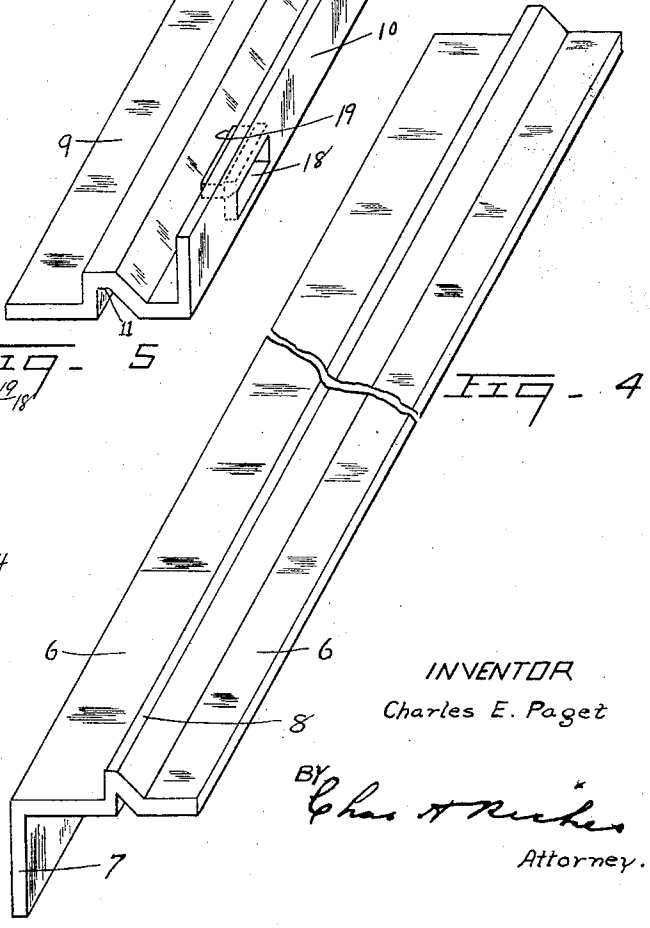


Fig 4

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Patented Mar. 28, 1933

1,903,065

UNITED STATES PATENT OFFICE

CHARLES EDWARD PAGET, OF HUNTSVILLE, ONTARIO, CANADA

SECTIONAL DOOR

Application filed August 29, 1931. Serial No. 560,116.

My invention relates to a sectional door, comprising any selected number of corresponding sections or units which can be used separately or in conjunction with similar sections or units in the construction of the door.

For an understanding of the invention reference is to be had to the following description and to the accompanying drawings in which:

Fig. 1 is a front elevation of a door composed of three units constructed according to this invention showing the locking plates at the ends of each unit adjusted laterally and vertically to engage the door jambs;

Fig. 2 is a similar view to Fig. 1 showing the locking plates retracted;

Fig. 3 is an enlarged vertical section on the line 3—3 Fig. 2;

Fig. 4 is a perspective view of the protecting plate at the top of the unit; and

Fig. 5 is a similar view to Fig. 4 of the protecting plate at the bottom of the unit.

Like characters of reference refer to like parts throughout the specification and drawings.

The door shown in the drawings consists of three sections or units, A, B and C of corresponding dimensions and construction, and of sufficient length to extend between and overlap the door jambs. Secured to the top of each of the units B and C is a protecting plate E and secured to the bottom of each of the units A and B is a protecting plate F. The top of the uppermost unit A may be provided with a protecting plate similar to the plate E when that unit is to be interchanged with the units B and C but when it is to be continuously used as the top unit it may be provided with an angle iron protecting plate H devoid of either a groove or a tongue. If the unit C is to be continuously used as the bottom unit it may be provided with an angle iron protecting plate I, similar to the plate H, but when it is to be interchanged with the units A and B the protecting plate at the bottom of that unit will be similar to the protecting plate F.

Each unit consists of a top batten 1, a bottom batten 2, a right side batten 3, a left side batten 4, and panel strips 5. When the unit is constructed of wood the lumber used should be sound and free from knots, slits, and rot, and should be thoroughly air-dried with two nails in each panel piece, staggered and well clinched on all upright battens.

Secured to the top of each of the units B and C is a protecting plate E comprising a horizontal member 6 overlying the top of its respective unit and of corresponding lengthwise and lateral dimensions, and an apron or vertical member 7 extending downwardly from the back of the horizontal member and overlying the top part of the inner surface of the unit. The horizontal member 6 is formed with an upwardly projecting tongue 8 substantially triangular in cross section with its vertical side in the vicinity of the middle of the plate and its inclined side extending downwardly, at an angle of approximately 45°, from the top of the vertical side towards the front of the plate. The tongue may extend from end to end of the horizontal member or it may only extend between the door jambs, the length of the tongue in this respect being optional to meet the requirements for which the unit is employed.

Secured to the bottom of each of the units A and B is a protecting plate F comprising a horizontal member 9 underlying the bottom of the unit and of corresponding dimensions, lengthwise and laterally, thereto, and an apron or vertical member 10 extending upwardly from the front of the horizontal member and overlying the bottom part of the outer surface of the unit. The horizontal member 9 is formed with an upwardly projecting groove 11 triangular in cross section and corresponding in location to that of the tongues. The internal dimensions of the groove 11 are such as to permit of the free entry of the tongue therein and for a tight contact therewith, and the strength and rigidity of the protecting plates E and F are sufficient to prevent the warping or twisting of the sectional unit and damage or injury thereto under reasonable conditions of use.

It is not necessary in all cases to provide the protecting plate at the top of the uppermost unit A with a tongue nor is it necessary

in every case to provide the protecting plate at the bottom of the lowermost unit C with a groove as there may be no co-operating parts for the tongue at the top of the uppermost unit nor for the groove at the bottom of the lowermost unit, but it is necessary in all cases to provide the protecting plate at the top of each intermediate unit with a tongue and the protecting plate at the bottom of each of the same units with a groove as the tongues and grooves of those units find co-operating parts in the adjacent units.

To facilitate the locking of the units to the door jambs each unit is provided with two locking plates 14 located one at each end of the unit. These locking plates are movable lengthwise of each unit between the apron or vertical member 10 of the protecting plate and the battens of the door; and each locking plate 14 is formed with two inclined slots 15 through which are entered guide bolts 16. Each slot 15 is inclined downwardly outwardly for lowering the locking plates during their outward movement and raising them during their inward movement, and each of the locking plates is provided with a knob 17 by which it is moved.

In the assembly of the door the bottom unit is first placed in position and its locking plates are moved into engagement with the door jambs to hold it securely in place. The second unit is tightly fitted upon the top of the bottom unit with the tongue 8 of the lower unit entered in the groove 11 of the upper one, and the inclined construction of the tongue and groove operates to correctly assemble the units and draw them tightly together in their assembled relation.

When the second unit is assembled its locking plates are moved into engagement with the door jambs and securely hold it in place, the fitting of the locking plates being such that it is necessary to forcibly drive them against the door jambs and forcibly separate them therefrom, so that when the units are assembled the inadvertent release of the locking plates from the door jambs will be impossible under ordinary usage.

For separating the units from each other, the vertical member 10 of each of the protecting plates F may be formed with one or several slots 18, each of which has an inwardly extending lug 19 at the top of the slot, to be engaged manually, or, by a lifting lever or other tool for raising the unit from its set position.

The door is designed for a multiplicity of purposes among which may be mentioned bulkheading and inside doors for frieght cars, carrying grain or other granular or loose material, and the construction of the protecting plates E and F is such that when the units are assembled no granular material can pass through the joint formed by the tongue 8 and groove 11 or between the locking plates and the door jambs. In fact when a packing is introduced between the tongue and groove it will make the joint absolutely watertight under the generally accepted meaning of that phrase.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. A sectional door comprising a unit, a protecting plate covering the top of said unit and secured thereto, a vertically projecting tongue extending lengthwise of the plate, a protecting plate covering the bottom of the unit and secured in contacting relation thereto formed with a lengthwise groove to receive the tongue of an adjoining unit and formed with an upturned member extending lengthwise, and overlying the bottom part of the front of the unit, said upturned member having a slot for the insertion of a tool for prying adjoining units apart.

2. A sectional door comprising a unit, a protecting plate covering the top of said unit and secured thereto, formed with a downturned outward thrust distributing member extending lengthwise and overlying the top part of the back of the unit, a vertically projecting tongue extending lengthwise of the plate, a protecting plate covering the bottom of the unit and secured thereto formed with a lengthwise groove to receive the tongue of an adjoining unit and with an upturned inward thrust transmitting member extending lengthwise in overlying the bottom part of the front of the unit and formed with tool admitting slots.

3. A sectional door comprising a unit, a protecting plate covering the top of said unit and secured thereto, formed with a member extending lengthwise and overlying the top part of the back of the unit, a vertically projecting tongue extending lengthwise of the plate, a protecting plate covering the bottom of the unit and secured thereto formed with a lengthwise groove to receive the tongue of the adjoining unit and with an upturned slotted member extending lengthwise and overlying the bottom part of the front of the unit, vertically and laterally adjustable locking plates movable beneath the said upturned members, inclined slots in the locking plates and guiding bolts entered through the slots for the adjustment of the locking plates.

4. A sectional door comprising a unit, a protecting plate covering the top of said unit and secured thereto, a vertically projecting tongue extending lengthwise of the plate, and a protecting plate covering the bottom of the unit and secured thereto formed with a lengthwise groove to receive the tongue of the adjoining unit, and vertically and laterally adjustable locking plates at each end of the unit.

5. A sectional door comprising a unit, a protecting plate covering the top of said unit

and secured thereto, a vertically projecting tongue, substantially triangular in cross section, extending lengthwise of the plate, and a protecting plate covering the bottom of the unit and secured thereto formed with a lengthwise groove, substantially triangular in cross section, to receive the tongue of the adjoining unit, and vertically and laterally adjustable locking plates at each end of the unit.

6. A sectional door comprising a unit, a protecting plate covering the top of said unit and secured thereto, formed with a downturned member extending lengthwise and overlying the top part of the back of the unit, a vertically projecting tongue extending lengthwise of the plate, a protecting plate covering the bottom of the unit and secured thereto formed with a lengthwise groove to receive the tongue of the adjoining unit and with an upturned member extending lengthwise and overlying the bottom part of the front of the unit, and vertically and laterally slidably mounted locking plates at each end of the unit.

7. A sectional door comprising a unit, a protecting plate covering the top of said unit and secured thereto, a vertically projecting tongue extending lengthwise of the plate, a protecting plate covering the bottom of the unit and secured thereto formed with a lengthwise groove to receive the tongue of the adjoining unit and with an upturned member extending lengthwise and overlying the bottom part of the front of the unit, said member being formed with spaced slots and lugs thereabove, and vertically and laterally adjustable locking plates at each end of the unit.

8. A sectional door comprising a unit, a protecting plate covering the top of said unit and secured thereto, formed with a member extending lengthwise and overlying the top part of the back of the unit, a vertically projecting tongue extending lengthwise of the plate, a protecting plate covering the bottom of the unit and secured thereto formed with a lengthwise groove to receive the tongue of the adjoining unit and with an upturned slotted member extending lengthwise and overlying the bottom part of the front of the unit, vertically and laterally adjustable locking plates movable beneath the said upturned members, inclined slots in the locking plates and guiding bolts entered through the slots for the adjustment of the locking plates.

9. A sectional door comprising a plurality of units superposed in edge to edge relation and vertically and laterally adjustable locking plates at each end of each unit.

10. A sectional door comprising a plurality of units superposed in edge to edge relation and having interfitting means on the adjacent edges, and vertically and laterally adjustable locking plates at each end of each unit.

11. A sectional door comprising a unit, a protecting plate covering the top of said unit and secured thereto, a protecting plate covering the bottom of the unit and secured thereto, interfitting means on said plates, and vertically and laterally adjustable locking plates at each end of the unit.

12. A sectional door comprising a plurality of units superposed in interfitting edge to edge relation, locking plates on the ends of each unit, and means mounting said plates for combined vertical and lateral sliding movement.

Signed at the city of Toronto, in the county of York, and Province of Ontario, this 29th day of July, A. D. 1931.

CHARLES EDWARD PAGET.