Feb. 24, 1970 W. C. MUNSIL ET AL 3,496,974

METHOD FOR CONSTRUCTING CARPENTRY FRAMES

Filed June 21, 1967

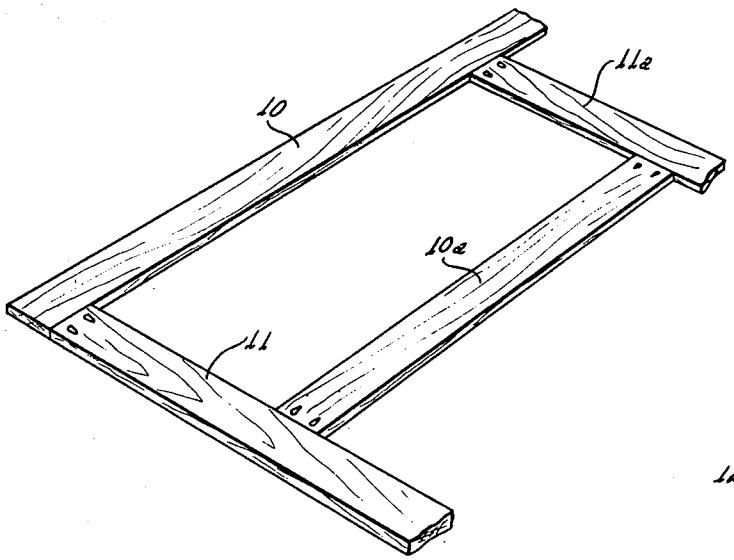


fig. 1

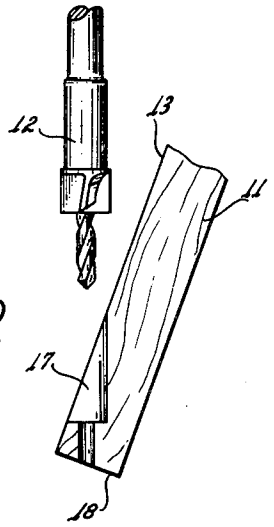


fig. 2

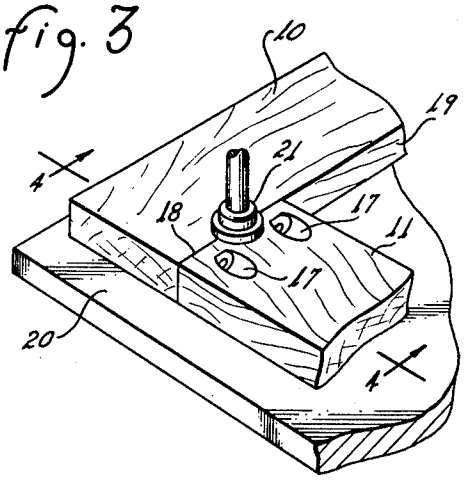


fig. 3

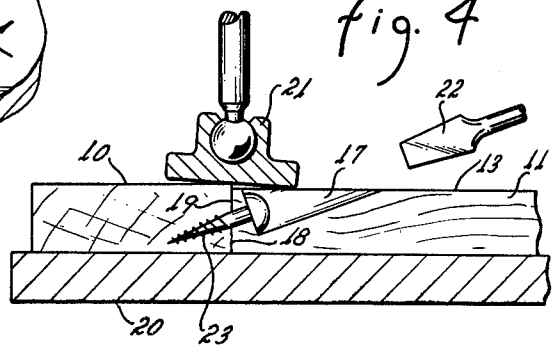


fig. 4

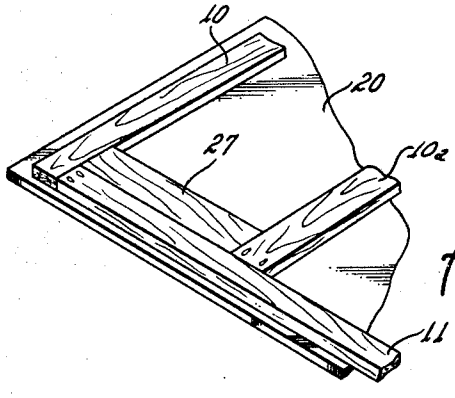


fig. 5

INVENTORS
WILLETT C. MUNSIL
ROBERT L. SILVEY
BY
Drummond & Cahill
ATTORNEYS

United States Patent Office 3,496,974 Patented Feb. 24, 1970

3,496,974

METHOD FOR CONSTRUCTING CARPENTRY FRAMES

Willett C. Munsil, 3331 N. 10th Ave. 85013, and Robert L. Silvey, 126 W. Northview Ave. 85021, both of Phoenix, Ariz.

Filed June 21, 1967, Ser. No. 647,716
Int. Cl. B27m 3/08
U.S. Cl. 144—318 3 Claims

ABSTRACT OF THE DISCLOSURE

A method of constructing a carpentry frame having a flush face. The frame consists of a plurality of horizontal stiles and vertical stiles affixed in an end-to-edge relationship. The method includes the steps of drilling an inclined hole extending from the back face to the end of a first stile; placing the first stile and a second stile, finished face down, on a flat surface; abutting the stiles such that the drilled end of the first stile abuts the edge of the second stile; clamping the stiles against the flat surface; and inserting a screw through the drilled hole and engaging the second stile.

BACKGROUND OF THE INVENTION

This invention relates to carpentry.

More particularly, the invention concerns a method of constructing a carpentry frame.

In a further aspect, the invention concerns a method of constructing a carpentry frame comprising a plurality of substantially horizontal stiles and a plurality of substantially vertical stiles, in which the stiles are affixed in an end-to-edge relationship.

In a still further aspect, the invention concerns a method of constructing a carpentry frame of the above type particularly adapted for assembly line technique and insuring that each frame has a flush face surface.

A routine carpentry exercise is the construction of frames having a plurality of horizontal rails and a plurality of vertical stiles, in which the stiles are affixed in an end-to-edge relationship. (For convenience herein, the term "stiles" will be used to mean either vertical or horizontal members.) This type of frame is utilized extensively in cabinet making where the frame is commonly referred to as a "face frame." Face frames, according to the prior art, are conventionally assembled with dowels, mortise and tenon, half lap joints, or cleats. An essential requisite of a face frame is the flush face surface. The above assembly methods result in a flush face surface only under ideal conditions, usually individually hand fitted joints which requires an exacting layout. Hastily assembled joints usually result in poor surface alignment. This disparity is further aggravated by the frequently varying thickness of the stiles. One or several passes through a sander is then required to obtain the desired flush surface face.

A preponderance of present day carpentry is accomplished by mass production or an adaptation or assembly line technique. For example, it is common practice for a contractor to build a quantity of similar homes having prefabricated walls, roof sections, and cabinets. The effectiveness, savings in time and cost, of preassembled modular units is further enhanced if the cabinetwork face frames are constructed of prefinished materials. However, prefinished materials must be properly aligned during assembly to produce a flush outer face surface.

It would be highly advantageous therefore, to provide an expeditious method of constructing a cabinetry frame having flush surface alignment of the frame parts.

SUMMARY OF THE INVENTION

It is a principal object of the present invention, to provide an improved method of constructing a carpentry frame having a plurality of substantially horizontal stiles and a plurality of substantially vertical stiles affixed in an end-to-edge relationship.

Another object of the invention is to provide a method of constructing a carpentry frame wherein the assembled frame has a flush face surface regardless of the thickness of the individual stiles.

Still another object of the invention is the provision of a method for constructing a carpentry frame of the above type in which the stiles may be prefinished.

Yet still another object of the invention is the provision of a carpentry frame construction method which is rapid and accurate and requires comparatively few processing operations and minimum equipment.

Briefly, to accomplish the desired objectives of my improved method of constructing a cabinetry frame in which the stiles are affixed in an end-to-edge relationship and having a flush face surface, I first cut the stiles to length. The stiles to be secured by their ends are then drilled with an inclined hole, the inclined hole extending from the face to the end of the stile. The stiles are then placed, face down, on a flat surface such that the drilled end of one stile abuts against the edge of a second stile. The stiles are now clamped against the flat surface and a screw is inserted through the drilled hole and engages the second stile.

BRIEF DESCRIPTION OF THE DRAWINGS

Further and more specific objects and advantages of the present invention will become readily apparent to those skilled in the art from the following detailed description thereof taken in conjunction with the drawings, in which:

FIG. 1 is a partial perspective view of a cabinet face frame constructed in accordance with the method of the present invention;

FIG. 2 is an elevational view, partly in section, illustrating the preparation of the end affixed stile;

FIG. 3 is a partial perspective view of one joint of the frame of FIG. 1 during an intermediate assembly step;

FIG. 4 is an elevational view, in section, taken along the line 4—4 of FIG. 3 and specifically illustrating the final assembly of the stiles; and

FIG. 5 is a partial perspective view of the frame of FIG. 1 during assembly and showing a preferred method for obtaining proper spacing between parallel stiles.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Turning now to the drawings, in which the same reference numerals indicate corresponding elements throughout the various figures, FIG. 1 illustrates a face frame constructed in accordance with the presently preferred method of the invention and shows the horizontal stiles **10** and **10***a* and the vertical stiles **11** and **11***a* affixed in an end-to-edge relationship. The frame herein illustrated is shown back face up as characteristic positioning during the entire construction method.

FIG. 2 illustrates the preparation of an end abutted stile, as for example, the vertical stile **11**. A combination drill and counterbore **12** enters the back face **13** of the stile **11** at a shallow angle of approximately 15 to 20 degrees. The counterbored hole **17**, thus drilled, extends through the stile **11** from the back face **13** through the end **18**.

FIG. 3 illustrates the end **18** of the stile **11** abutted against the edge **19** of the stile **10** during assembly. The

stiles are positioned on a flat surface or easel **20** to insure flush face surface alignment and clamped with a self-aligning swivel pad **21** to compensate for possible thickness variation between the stiles **10** and **11**. It will be readily understood by those skilled in the art that a plurality of self-aligning swivel pads **21** may be carried by a mechanical or hydraulic arrangement to be selectively positioned over the easel **20**.

FIG. 4 illustrates the final assembly of the components of FIG. 3. Specifically noted in this view is the relative difference between the stiles **10** and **11** and the compensating action of the self-aligning swivel pad **21**. After the stiles have been clamped a screwdriver **22**, either hand or power driven, is used to insert a screw **23** through the counterbored hole **17** to engage the stile **10**.

FIG. 5 shows the use of a gauge block **27**, a drop-in removable wooden spacer, to position the stile **10***a* along the stile **11** relative to the stile **10**.

It is apparent that the stiles herein illustrated in the foregoing detailed description of the presently preferred embodiment of the invention may have been variously processed. In the simplest form the stiles are only cut to length from appropriate sized lumber. In a more sophisticated application, the stiles may have been cut to width and length from a sheet of plywood or other construction material having a pre-laminated facing of veneer or plastic.

Having fully described the invention in such manner as to enable those skilled in the art to understand and practice the same, we claim:

1. A method of constructing a carpentry frame having a flush face surface, which frame includes a plurality of stiles disposed substantially horizontally in situ and a plurality of stiles disposed substantially vertical in situ, said stiles affixed in end-to-edge relationship, which method includes the steps of:

(a) cutting said stiles to length;

(b) drilling an inclined hole through a first one of said stiles, said inclined hole extending from one face to an end of said stile;

(c) sinking a counterbore into the face end of said inclined hole;

(d) placing said stiles on a flat surface;

(e) arranging said first stile and a second stile such that the drilled end of said first stile abuts the edge of said second stile;

(f) clamping said stiles against said flat surface; and

(g) inserting a screw through said drilled hole and engaging said second stile.

2. The method of claim **1** in which said stiles are cut to width and length from a sheet of material having a prefinished face and an unfinished face and in which:

(a) said hole is drilled from said unfinished face to said end of said first stile; and

(b) said finished face is placed against said flat surface.

3. The method of claim **1** including the additional step of positioning a gauge block parallel to said second stile and abutting said first stile to space a third stile.

References Cited

UNITED STATES PATENTS

1,045,223	11/1912	Uhlinger	52—584
2,394,147	2/1946	Brunton et al.	52—582
2,982,321	5/1961	Hancock	144—310
3,057,384	10/1962	Patterson et al.	144—318

FOREIGN PATENTS

858,534	11/1940	France.

GERALD DOST, Primary Examiner

U.S. Cl. X.R.

52—582; 144—325; 287—20.92