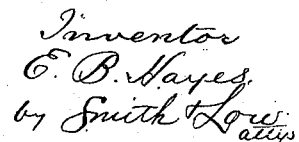


E. B. HAYES.
DOOR.

Patented Mar. 21, 1893.



UNITED STATES PATENT OFFICE.

ELI B. HAYES, OF OSHKOSH, WISCONSIN.

DOOR.

SPECIFICATION forming part of Letters Patent No. 494,114, dated March 21, 1893.

Application filed July 15, 1891. Serial No. 399,579. (No model.)

To all whom it may concern:

Be it known that I, ELI B. HAYES, a citizen of the United States, residing at Oshkosh, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Doors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to that class of doors in which the molding around the panels is formed integral with the stiles, rails, and muntin.

It is the object of my improvement to so shape relative to each other and unite the above parts constituting the door frame that molding of less simple and more elaborate shape may be thus employed to surround and ornament the panel and nevertheless be formed integral with the parts of the frame.

Heretofore moldings of highly ornamental character have been employed in doors, but they have been made separate from and stuck or nailed or otherwise secured to the frame. Moreoever moldings have been employed which were integral with the frame, but it has only been possible to thus use moldings of the most simple character, it being necessary to obtain a fit between the rails and stiles by recessing or coping out the ends of the rails in a form which was the exact reverse of the contour of the molding upon the stiles. It was therefore impossible to so employ a molding in which there was any re-entering curve or angle.

According to my invention I obtain the advantages of both of the old methods, namely: the use of the highly ornamental and elaborate moldings permitted by the "sticking" process, and the economy and neatness of finish resulting from forming the molding integral with the door frame. As the result of my improvement I can produce economically a door of highly finished and ornamental appearance.

In order to make my invention more clearly understood I have shown in the accompanying drawings means for carrying the same into practical effect, without however limit-

ing my improvements to the exact construction which, for the sake of illustration, I have delineated.

In said drawings:—Figure 1 is an elevation of a door embodying my invention. Fig. 2 is a similar view showing the parts of the frame slightly separated from each other. Figs. 3 and 4 are sectional views illustrating different forms of moldings. Fig. 5 is a detail view illustrating the use of dowels for uniting the parts of the frame in place of the mortise and tenon shown in Figs. 1 and 2.

Referring to the drawings, S, S, indicate the stiles.

R, R, R', indicate the upper, lower and middle rails, and M, M, indicate muntins of a door, having formed integrally therewith the moldings *m*. The latter are preferably double or have formed between them the usual groove *m'* to receive the edges of the panels *P*. The moldings are suitably removed from the different parts of the frame at those points where other parts of the frame abut so as to form recesses *r*, the ends of the moldings thus interrupted being mitered as indicated at *r'*. The parts of the frame thus shaped relative to each other, being brought together with the panels secured in the usual manner in the grooves *m'*, will make a perfect fit and produce a door of highly ornamental and finished appearance though of simple and economical construction.

By an examination of Figs. 3 and 4 it will be seen that the ends of the rails could not be recessed or coped out so as to fit moldings of the character therein shown, the re-entering angles or depressions *a* making such a fit impossible. Yet such angles and depressions are essential in any molding which is at all elaborate. On the other hand, whatever be the shape of the molding a perfect fit can be produced by the recesses *r* and miters *r'*.

Different forms of molding can be employed in the same frame as indicated in Fig. 4.

The parts of the frame can be united in any suitable manner.

In Fig. 2 I have shown the rails as provided with tenons *t* and the stiles as formed with corresponding mortises *t'*. In Fig. 5 the parts

of the frame are formed with dowel holes and provided with dowels *d*.

The ends of the rails which abut the stiles have the ends of their molding mitered as indicated at *r*².

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a door the combination of the panels and the rails and stiles, provided with moldings integral therewith, said moldings being cut away or removed to form recesses for the abutting ends of said parts and the ends of

the moldings being mitered, substantially as set forth.

2. In a door a frame the parts of which are provided with integral moldings having re-entering angles or depressions *a*, recesses *r*, and miters, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

ELI B. HAYES.

Witnesses:

CHAS. R. NEVITT, Jr.,
H. C. SAWTELL.