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C. D. McARTHUR

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DOWEL FOR WOODWORK AND THE LIKE

Filed Dec. 26, 1928

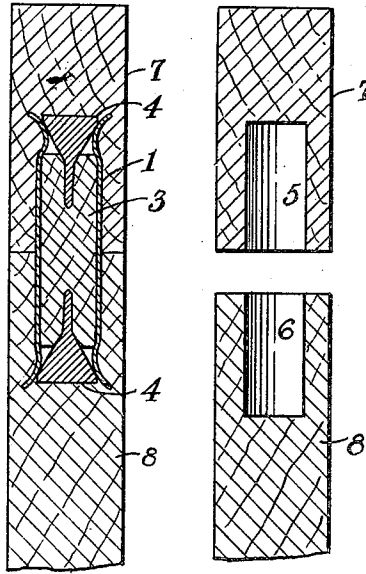


Fig. 7.

Fig. 6.

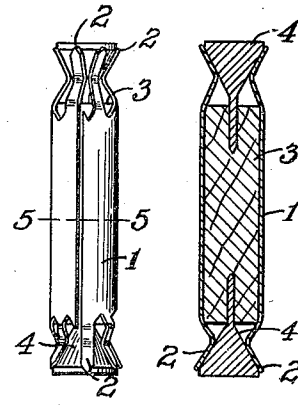


Fig. 3. Fig. 4.

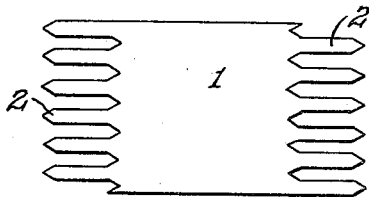


Fig. 1.

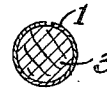


Fig. 5.



Fig. 2.

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UNITED STATES PATENT OFFICE.

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DOWEL FOR WOODWORK AND THE LIKE.

Application filed December 26, 1928. Serial No. 328,429.

This invention relates to new and useful improvements in dowels for wood-work and the like.

It is the principal object of my invention to secure a positive, strong and economical joint for wood-work and the like. It is particularly adapted for those joints which are affected by moisture, as no glue is required; and also for employment in those members which are so small in cross section that standard dowelling cannot be used.

It is another object of my invention to provide a dowel whose use requires no greater skill than that necessary in making any dowel joint. It also provides a very positive lock for any two wood members such as the stile and rail of a door.

Other important and incidental objects will be brought out in the following specification and particularly set forth in the subjoined claims.

In the accompanying drawings illustrating my invention, Figure 1 is a plan view of the flat pronged stamping from which the shell is made. Figure 2 is a cross sectional view taken through that piece after it is formed to U shape. Figure 3 is a perspective view of the shell after it is rolled down over the wood core and its prongs have been crimped to the conical body portion of the nail point wedges. Figure 4 is a longitudinal, sectional view taken through the shell, wood core and nail point wedges after the prongs of the shell have been crimped to the body portion of the wedges. Figure 5 is a cross sectional view taken through the dowel on the line 5-5 of Figure 3. Figure 6 is a longitudinal sectional view taken through the two wood pieces to be joined. And Figure 7 is a longitudinal, sectional view taken through said pieces after they have been positively locked together by my improved dowel.

Referring to the accompanying drawings for a detailed description of my invention, the numeral 1 designates a flat piece of metal, preferably steel. This piece with prongs 2, is stamped from a steel sheet, as the first operation in the manufacture of the shell. (See Figure 1.)

The second operation in the manufacture of the shell is the bending of the pronged piece 1 to U shape, as shown in Figure 2.

As a third operation, the piece 1 is rolled

down over a wood core 3. Before this is done, however, a nail joint wedge 4 is inserted in each end of the core.

The prongs 2 of the shell 1 are then crimped down to the conical body of its respective nail joint wedge 4. (See Figures 3 and 4.) This is the fourth operation in the manufacture of the dowel, which is now ready to be inserted in the holes 5 and 6 of two wood pieces 7 and 8 respectively to be joined. The dowel will easily enter these holes, since during the crimping operation care is taken to see that the ends of the dowel are not greater in diameter than its body portion.

The total depth of the holes 5 and 6 in the pieces 7 and 8 is less than the length of the dowel. When the dowel enters these pieces, the expanding wedges 4 will engage the bottoms of the holes 5 and 6 to force the prongs 2 of the shell outwardly at an angle, whereupon they will piercingly enter the wood to form a positive joint. When so connected, the pieces 7 and 8 will be positively locked together so that they cannot be pulled apart when twisted without destroying the wood surrounding the dowel.

A joint impervious to moisture is also assured by my improved dowel, as no glue is employed with it. It may also be made at low cost, since it is produced by stamping and forming operations.

The nail point wedge 4 at its greatest diameter is just sufficient to enter the hole in the wood piece so that there is no clearance between the wedge and the wall of the hole to permit the prongs 2 of the shell to pull out without embedding themselves in the hole wall.

Having described my invention, I claim:

1. The combination with two members having registering holes, of a shell for insertion in said holes, a core within said shell, a wedge on each end of said core, and prongs on the ends of the shell for guidance by the wedges into the members at the extremities of said holes to positively lock said members together.

2. The combination with two wood members having aligned holes, of a shell for insertion in said holes, a core within said shell, a nail joint wedge on each end of said core, and prongs on the ends of said shell rolled down to the conical portion of the wedge

for guidance thereby into the members at the extremities of said holes to positively lock said members together.

3. The combination with two members
5 having alined holes, of a shell comprising a pronged stamping bent to cylindrical form around a wood core, and a nail joint wedge in each end of the wood core to deflect the

prongs on the shell outwardly at an angle for a piercing entrance into the wood mem- 10
bers at the extremities of said holes to positively lock said members together.

In witness whereof I have hereunto set my hand this 24 day of December, 1928.

CHARLES D. McARTHUR.