C. C. JENSEN.

NAIL.

APPLICATION FILED MAY 10, 1920.

1,413,737. Patented Apr. 25, 1922.

Fig. 1.

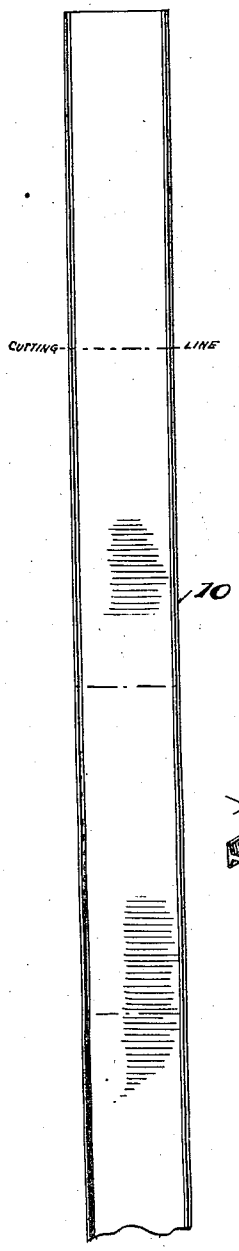


Fig. 2.

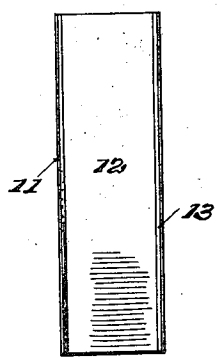


Fig. 3.

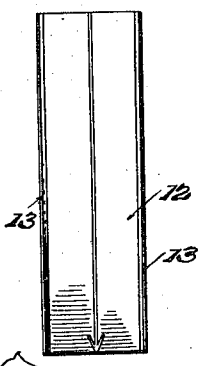


Fig. 4.

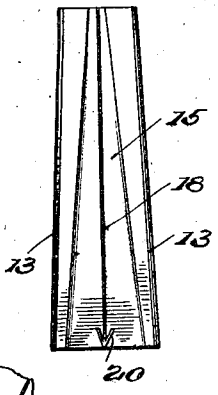


Fig. 8.

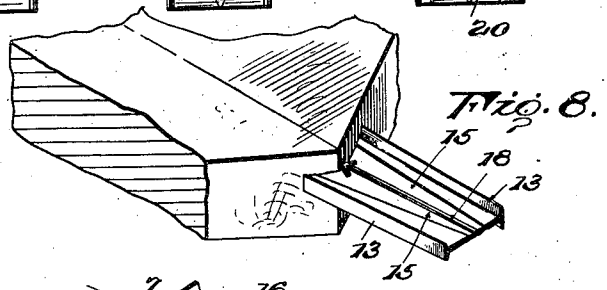


Fig. 5.

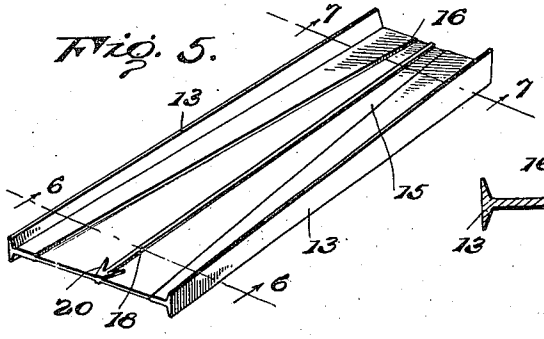


Fig. 7.

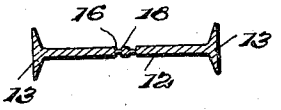
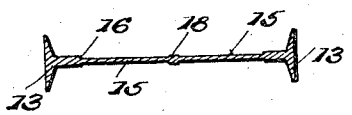


Fig. 6.



C. C. Jensen. INVENTOR.

BY

Lacey & Lacey, ATTORNEYS

UNITED STATES PATENT OFFICE.

CARL C. JENSEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO CLAMP NAIL COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

NAIL.

1,413,737. Specification of Letters Patent. Patented Apr. 25, 1922.

Application filed May 10, 1920. Serial No. 380,345.

To all whom it may concern:

Be it known that I, CARL C. JENSEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Nails, of which the following is a specification.

This invention relates to improvements in nails especially adapted for clamping the meeting ends of sections of wood together.

Generally, in the manufacture of nails of the above type the clamping shoulders along the edges of the same are swaged or otherwise secured along the edges of a tapered blank of metal and, as both the tapered blank and the clamping shoulders must be separately formed, the cost of manufacture is comparatively high.

An important object of this invention is therefore to provide novel means whereby the shank of a nail of the above type and the clamping shoulders along the edges of the same may be formed from a single piece so as to dispense with the necessity of swaging or otherwise securing the clamping shoulders along the longitudinal edges of the blank.

A further object of the invention is to provide a nail of the class described wherein the web or shank of the same is stamped or rolled to form depressions which gradually increase in width toward the forward end of the web for gradually increasing the width of the nail in the direction of its driving end.

A further object of the invention is to provide a nail of the class described having novel means for indicating to the operator the proper direction of travel of the nail upon being driven into the meeting ends of the wood sections.

The invention further aims to provide a nail of the class described which is cheap to manufacture, efficient and desirable in use.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing forming a part of this application and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a plan view of a blank of metal from which the improved nail may be formed,

Figure 2 is a plan view of one of the nail blanks cut to the proper length,

Figure 3 is a plan view of the improved nail prior to the stamping operation,

Figure 4 is a plan view of the improved nail at the completion of the stamping or rolling operation,

Figure 5 is a perspective view of the improved nail complete,

Figure 6 is a transverse section taken on line 6—6 of Figure 5,

Figure 7 is a transverse section taken on line 7—7 of Figure 5,

Figure 8 is a perspective view of the improved nail, the view illustrating the manner in which the same is used.

In the drawings wherein for the purpose of illustration is shown a preferred embodiment of the invention, the numeral 10 generally designates a blank of metal from which the improved nail is formed. In practice the length of metal 10 may be cut into a plurality of sections to form a nail blank 11 which as illustrated in Figure 2 is of elongated formation and comprises a flat web or shank 12 and longitudinally extending parallel flanges or shoulders 13 formed integral with the longitudinal edges of the web 12. As illustrated in Figures 2 and 3, the nail blank 11 has its longitudinal edges extending in parallel relation and in order to give the web the desired taper toward the rear end the web is formed with a depression or mutilation 15 on each side. The depressions or mutilation on each side of the web may be formed by stamping or rolling and the metal displaced by this stamping or rolling operation flares the forward portion of the blank laterally. With reference to Figure 5, it will be noted that the stamped or mutilated portion of the web gradually increases in width from the rear to the forward end of the web so that the nail is uniformly and gradually decreased in width towards its rear end. The mutilations or depressions 15 formed on opposite sides of the shank or web form shoulders 16 which coact with the shoulders or flanges 13 to effectively draw the sections of wood together as the nail is driven home. That is to say, the shoulders 16 extend outwardly from the surface of the web and are disposed angularly with relation to the longitudinal center of the wood and with relation to the side shoulders 13. The depressions 15 in opposite sides of the shank extend out through the forward end of the same and thereby decrease the thickness of

the forward end of the shank so that the same may readily enter the sections of wood.

As illustrated in Figures 6 and 7, the shoulders 13 formed along the edges of the shank are beveled along their free edges so that upon driving the nail into the meeting edges of a pair of wood sections the wood will be effectively clamped together and will not crack.

The web is formed with centrally longitudinally extending ribs 18 on opposite sides and which extend out through opposite ends of the nail and serve as a guiding means when the nail is being driven into place. It might be stated that it is highly important to drive the nail exactly straight into the meeting portions of the wood sections to provide an efficient connection between the parts. The rib 18 on each side of the nail is therefore maintained directly between the meeting portions of the sections of wood so as to assure the proper positioning of the nail. As the width of the rear end of the nail is only a fractional part of an inch less than the forward end of the nail, the rear end is frequently driven first with the result that the sections are spread rather than clamped together. To overcome this difficulty and to dispense with the necessity of examining each nail prior to driving the same into place, I have formed an arrow head 20 at the forward end of each centrally arranged rib 18 to indicate to the operator the proper direction of travel of the nail. By this construction the operator may see at a glance which is the forward end of the nail and may therefore work with increased rapidity. The arrow heads 20 may also serve as gripping means to prevent the displacement of or working out of the nail.

In the use of the improved nail the forward flared end is, of course, driven into the work first and as the shoulders 13 and 16 enter the sections of wood, the sections are drawn tightly together. The fibres of wood adjacent the inner shoulders 16 are engaged by said shoulders so that the same cooperate with the outer shoulders 13 in drawing the sections together. As the nail is being driven home the ribs 18 are kept in line with the meeting ends of the sections of wood so that equal portions of the shank are driven into each of the sections of wood for producing an efficient and secure connection between the parts.

Having thus described the invention, what is claimed as new is:

1. A clamp nail including a shank having straight parallel ends and having gripping shoulders on its faces between its side edges and depressions between said shoulders, said depressions being each contracted toward one end of the shank whereby the shoulders are converged, and the faces of the shank between the shoulders and the respective side edges of the shank being flush with the outer edges of the shoulders.

2. A clamp nail including a shank and lateral flanges along the longitudinal edges of the shank, said shank being formed with depressions in its opposite faces forming shoulders spaced inwardly from said flanges, and the faces of the shank between the shoulders and the respective flanges being flush with the outer edges of the shoulders.

3. A clamp nail comprising a shank and flanges along the side edges of the shank, the shank having depressions in its opposite faces between its side edges and extending from end to end of the shank, said depressions gradually and uniformly increasing in width from the rear end toward the forward end of the shank thereby forming shoulders disposed obliquely relative to the longitudinal medial line of the shank and converging toward the rear end of the shank, said shoulders extending from the bases of the respective depressions to the corresponding faces of the shank and terminating flush with said faces.

4. A clamp nail comprising a shank and lateral flanges along the longitudinal edges of the shank, said shank being formed in its opposite faces with central longitudinal ribs and depression at the opposite sides of said ribs whereby shoulders are formed between the ribs and the flanges, the ribs being pointed at the driven end of the shank and the height of the shoulders being less than the height of the flanges, the opposite faces of the shank lying in parallel planes touching the outer edges of the respective shoulders and passing through the bases of the respective flanges.

In testimony whereof I affix my signature.

CARL C. JENSEN. [L. S.]