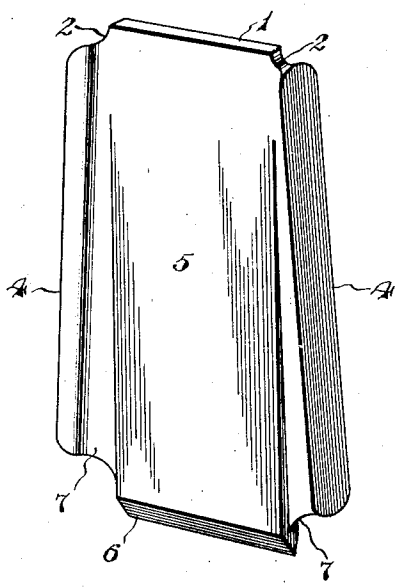
July 10, 1928. 1,677,092

C. C. JENSEN

CLAMP NAIL

Original Filed Sept. 13, 1926

Fig. 1.



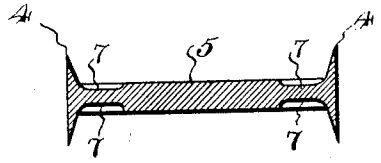


Fig. 2.

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Patented July 10, 1928. 1,677,092

UNITED STATES PATENT OFFICE.

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CLAMP NAIL.

Original application filed September 13, 1926, Serial No. 135,225. Divided and this application filed February 9, 1927. Serial No. 167,012.

This invention has for its object the provision of a clamp nail which can be more expeditiously engaged in the kerfs provided therefor than has heretofore been possible. The invention is illustrated in the accompanying drawing and consists in certain novel features which will be hereinafter fully described, and then particularly defined in the appended claim.

This application is a division of an application filed by me September 13, 1926, Serial No. 135,225.

In the drawing:

Figure 1 is a perspective view of the clamp nail,

Fig. 2 is a transverse section of the same.

The clamp nail constituting the present invention is formed from a narrow strip of sheet metal having one end cut so as to produce a central transverse tongue 1 and recesses 2 at the sides of said tongue extending to the side edges of the nail. Parallel flanges 4 are formed at the side edges of the metal strip, the said flanges projecting from both faces of the central web 5 of the nail. The strip is passed through a rolling or pressing machine whereby depressions 7 are formed in the opposite faces of the central web at opposite sides of the central longitudinal line of the web, the transverse distance between the depressions or grooves being equal to the width of the tongue 1. It is also to be noted that the grooves or depressions decrease in depth toward the end of the nail having the tongue 1 so that they merge into the surfaces of the nail at the latter end thereof which is the driving end. The pressure applied to the blank to produce the grooves or depressions causes the material to spread laterally at one end, the spreading being greatest at the end where the pressure is greatest and gradually diminishing in the same ratio as the depth of the grooves, the result being that the flanges 4 are spread at the driven end of the nail and converge toward the driving end. The nail is completed by cutting the blank strip on transverse lines, each nail having the tongue 1 at one end and the tongue 6 at the opposite end, the tongue 6 at the wider driven end of the nail being beveled on both sides so that it will have a cutting edge which will readily pass through the material of the joint to which the nail is applied. The beveling of the tongue 6 is accomplished by properly shaping the cutter employed to separate the stamped or rolled blank into the sections which form the completed nails. The flanges 4 are very thin and are beveled so that their edges constitute cutting edges to penetrate the wood of the joint to which the nail is to be applied and thereby aid in embedding the nail in the structure. In actual practice, the converging relation of the side flanges is very slight and the several parts are very thin so that waste of material and weakening in the joint to which the device is applied is avoided, but the converging relation of the flanges is sufficient to effect a wedging binding action upon the members of the joint so that a very tight joint will be attained.

Clamp nails are employed for tightly closing the joints in boxes, frames and other structures formed of wood, and by the use of such clamp nails the employment of glue or other means of closing the joints is rendered unnecessary. In the use of the nails, kerfs are formed in the opposed edges or surfaces of the members of the joint and the wider end of the clamp nail is engaged in the alined kerfs. As the nail is driven home, the converging relation of the side flanges exerts a wedging pulling action upon the members of the joint which forces them together and their opposed faces into intimate contact so that a tight closed joint is attained without the use of any filling adhesive or other similar material. Usually the kerfs are formed with straight parallel side walls and the side flanges of the clamp nail embed themselves in the side walls of the kerfs so that they obtain a good grip upon the material of the joint and positively force the joint members together. Heretofore the ends of the nails have been straight and flush with the ends of the flanges and the result has been that considerable time in the aggregate has been lost due to the care which must be observed in placing the clamp nail in position to enter the kerf. By the present invention, a projecting tongue is formed at each end of the clamp nail and the tongue at the wider end is readily engageable in the kerfs of the joint while the tongue at the narrower end presents a surface which fa-

cilitates the handling of the nail and the driving home of the same. The cutting dies, as has been said, are so shaped that as the blank is divided into sections, each section constituting a nail, the projecting tongue left at the wider end of each section will be sharp, while the end of the tongue at the narrower end of the nail will be blunt to more effectually receive the blows of the hammer or other tool employed to drive the nail home. With the former construction, the ends of the flanges were frequently bent and mashed because the driving blow was not delivered squarely upon the end of the nail, but this objection is overcome in the present device which provides a tongue projecting beyond the ends of the flanges to receive the blow, and at the opposite end provides a tongue to enter the kerfs. If the entering end of the nail be flush with the ends of the flanges, the flanges bridge the kerfs and a blow must be delivered upon the driving end of the nail to effect entry of the nail into the kerfs but the tongue provided at said end in the present device will enter the kerf in advance of the flanges before a blow is struck so that the nail may be properly positioned and it is not necessary for the user to hold the nail while driving the same home. If the entering tongue were merely a point, it would be ineffectual as the nail would rock and the flanges would not properly engage the kerfs and it would be necessary for the user to hold the nail until it had been driven into the kerfs just as though the end thereof were straight across and flush with the ends of the flanges.

Having thus described the invention, I claim:

A clamp nail consisting of a flat web, a central transverse straight tongue at each end of the web, the tongue at the driving end of the web being blunt and the tongue at the driven end being beveled and the width of the tongues being less than the width of the web, and flanges along the side edges of the web projecting from both faces thereof and converging toward the driving end of the web, the flanges terminating short of the transverse edges of the tongues.

In testimony whereof I affix my signature.

CARL C. JENSEN. [L. S.]