COHERED, FULL-HEADED NAIL

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This invention resides in the provision of a substantially full headed nail which may be aligned with others in strip form for use in automatic nail driving machines.

A very important object of this invention is to provide nails which may be cohered together in the region of their tangs and which will have substantially a full head comparable to those which are presently only individually obtainable, that is, which have heretofore not been capable of being placed side to side in strip form.

Another important object of this invention is to provide a nail of the general type described which is easy to align in strip form and cohere together, and in which the individual nail may be broken from the strip without difficulty by the nail driving apparatus.

These and other objects of the invention will become apparent to those skilled in the art during the course of the following description and from reference to the accompanying drawings, in which drawings like numerals are employed to designate like parts and in which:

Figure 1 is a top view of one of the nails of this invention,

Figure 2 is a side elevation of the nail of Figure 1,

Figure 3 is an enlarged section on the line 3—3 of Figure 2,

Figure 4 is a side elevation of a plurality of the nails of this invention when cohered together,

Figure 5 is a top view of the nails of Figure 4,

Figure 6 is an enlarged section on the line 6—6 of Figure 4,

Figure 7 is a fragmentary sectional view showing a plurality of the novel, cohered, full headed nails positioned within the feed means of a suitable nail driving apparatus, and

Figure 8 is a perspective view of a finishing nail constructed according to the principles of this invention.

Although attempts have been made in the past to cohere fastening elements in strips so that they might be easily handled and so that they might be driven one by one into work by means of automatic or power actuated driving means, it has not heretofore been possible to secure substantially full headed nails in this manner. Much success has been achieved with staples. These staples, however, have no heads which overhang the body of the legs. Prior attempts to secure nails in a manner similar to that employed for staples have resulted in a substantial amount of the head of the nail being eliminated. This has greatly reduced the efficiency of the nail and has considerably cut down the number of uses to which it may be put. By this invention, however, the head of the nail remains substantially intact and yet it may be cohered in strip form with a number of like nails.

In the drawings the nail is shown as comprised of a tang 20 having a head 21 and point 22. The head 21 has a notch 23 adapted to receive the tang 20 of an adjacent nail. In the embodiment shown the tang 20 is cylindrical, consequently the notch 23 is arcuate. It will be understood that if the tang 20 is given some other configuration, then the notch 23 will have a corresponding configuration. Preferably the tang 20 is provided with a pair of flats 24 extending throughout its length. This enables the nails to be aligned with ease.

The nails may be cohered together as indicated in Figure 6. The material by which these nails are cohered is indicated at 25. The material 25 may be a substance separately applied or, for example, the nails may be made from lead coated wire so that although they may be cohered in strips, the individual nails may easily be broken from the strip. The lead coated wire has the advantage of making the nail weatherproof and therefore suitable for nailing shingles and the like. Lead coated nails may be cohered by application of a small amount of heat.

As shown in Figure 4, the nails are cohered so that the heads 21 of successive nails about one another in a stepped relationship. Considering the right hand nail as viewed in Figure 4, as the first nail in the strip, the tongs of each of the succeeding nails, reading from right to left in this figure, about one another so that the head of each nail is on top of the one immediately preceding it. The result of this is that the strip of nails will have a definite twist to it. The individual nails, however, will have substantially a full head 21, interrupted and lessened only by the notch 23 which is a relatively minor portion of the total head area.

In Figure 7 there is illustrated rather diagrammatically a manner in which the strip of cohered, full headed nails of this invention may be used. Nail feeding means is generally indicated at 26. This means, which comprises a channel to receive a strip of nails, will be so slanted to receive the necessarily slanted strip. The strip will move downwardly from left to right, as viewed in Figure 7 in this channel 26 as indicated by the arrow in that figure. The head nail, that farthest to the right as viewed in this figure, will be received in the nose assembly 27 in front of suitable nail driving means which will include the driving member 28. One manner of driving the nail of this invention is to provide the driving head 26 with a groove to enable it to pass by the head 21 of the nail which is next in line to that being driven. This groove is indicated at 29 in the figure. In this manner the driving means 28 acts substantially along the axis of the tang 20 as is desired in the driving of nails. The dotted lines at the lower part of Figure 7 indicate the manner in which the nail is driven from the nose assembly 27. It will be understood that there may be other means for driving nails arranged according to this invention and the means shown in Figure 7 is exemplary only. This invention is directed to the construction of the individual nail, the strips thereof, and not to the means for driving them into work.

In Figure 8 there is illustrated a finishing nail 30, which nail is also constructed according to the teachings of this invention. Thus the nail is provided with a point 31 and head 32 having a notch 33 to receive the body or tang of a similar nail 36. In these arrangements the notch takes away only a minor portion of the head so that, in effect, the nail has substantially a full head.

Although it might be possible to eliminate the flats 24, it is pointed out that these do make it easier to align the nails in a strip and, therefore, such flats also make it easier to cohere the nails. In its broadest aspects, however, the invention is directed to a nail in which the head is notched to receive the tang of an adjacent nail, the notch conforming to the tang and comprising a minor portion of the head area.

Although the invention has been described in connection with a particular nail having a tang, head and point as shown and described, it is to be understood that modifications in this may be made without departing from the scope and spirit of the invention. The invention is not to be limited to the particular nail described for purposes
of illustration except insofar as such particular nail is specifically set forth in the sub-joined claims.

Having thus described the invention, what is new and what is claimed for protection by United States Letters Patent is:

1. A substantially full headed nail comprising a tang and a head, said head having a notch which conforms with the outer contour of the tang, said notch extending to the tang and interrupting only a minor portion of said head.

2. The nail of claim 1 in which said tang is cylindrical and said head is circular, said tang being located centrally of said head.

3. The nail of claim 1 in which said tang is provided with a pair of flats 180° removed from each other, one of said flats being at the base of said notch.

4. A strip of nails in which each of the individual nails comprises a substantially full headed nail having a tang and a head, said head having a notch extending to said tang and interrupting only a minor portion of said head, and said notch being large enough to receive a said tang; the notch in one head receiving the tang of an adjacent nail, said one head underlying the head of said adjacent nail, and means cohering said tangs of said adjacent nails to one another.

5. The strip of nails of claim 4 in which each said notch conforms with the outer contour of the said tang received thereby.

6. A substantially full headed nail comprising a tang and a head, said head having a notch extending to said tang and interrupting only a minor portion of said head, and said notch being large enough to receive a said tang.

7. The nail of claim 6 in which said tang is provided with a pair of flats 180° removed from each other, one of said flats being at the base of said notch.

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