

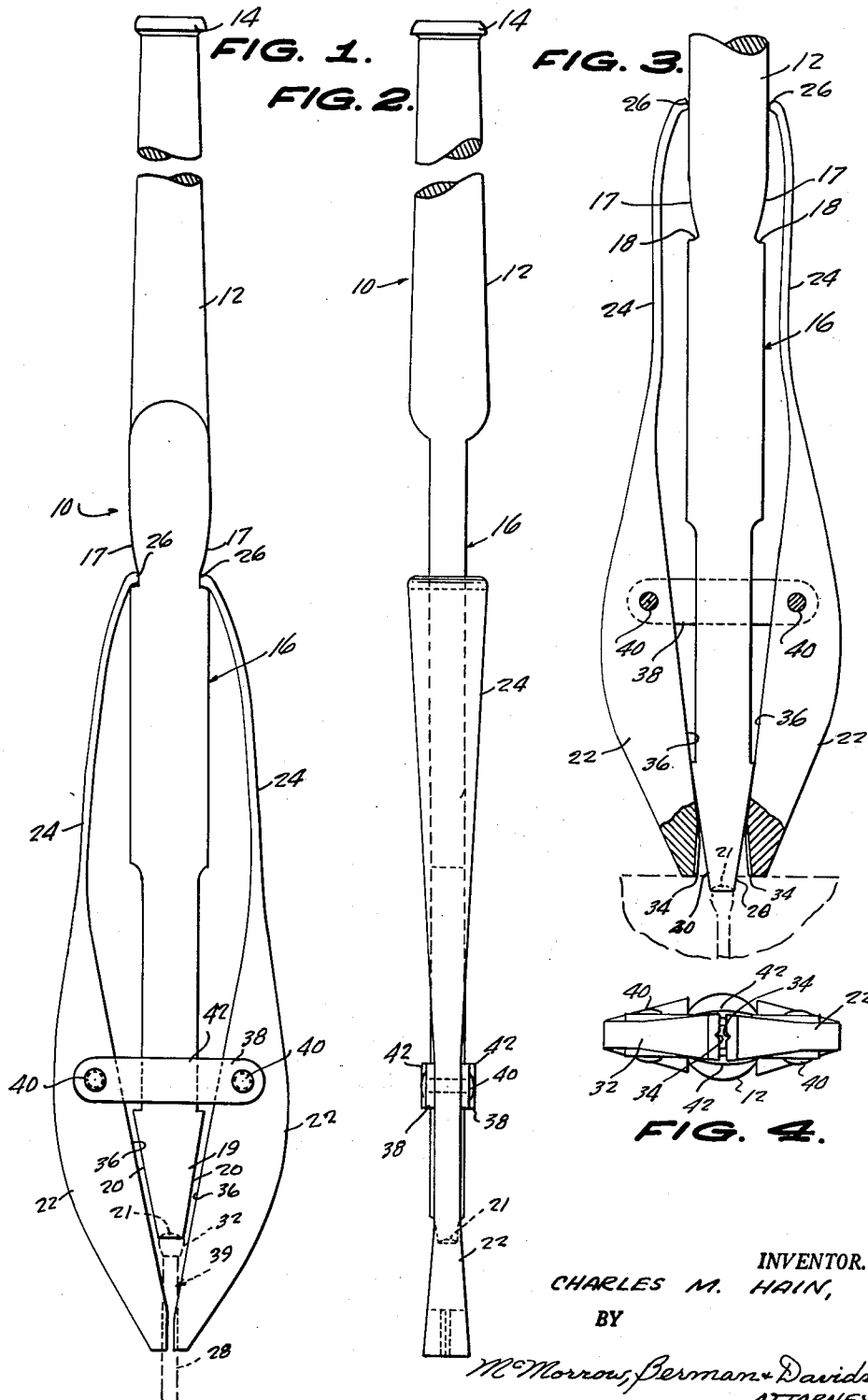
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NAIL HOLDER AND SET DEVICE

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NAIL HOLDER AND SET DEVICE

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1 Claim. (Cl. 1-47)

This invention relates to the general field of hand operated tools and, more specifically, the instant invention pertains to means for driving securing devices such as, for example, various types and sizes of nails, screws and pins.

One of the primary objects of this invention is to provide a device or means for holding a nail or other similar securing device in driving position without the necessity of holding the nail with the hands of the operator, and to drive the nail and set the same.

A further object of this invention is to provide a nail holding and set tool which may accommodate nails of differing sizes within the mechanical limits of the tool.

Another object of this device is to provide a nail holder and set tool which is easy to operate, which requires no new techniques in use, and which serves to protect the hand and/or fingers of the user during the nailing or securing operation.

A still further object of this invention resides in the position of a new and improved hand tool which includes a manually manipulative cylindrical handle means forming an impact receiving element and guide means for the handle means to insure that the impact force is transmitted in the desired direction.

Again, and among the more important objects of this invention is to provide a nail holder and set tool or device for holding and setting nails in positions which are inaccessible under normal conditions or are accessible with difficulty, or where the holding of the nail in the fingers while applying the hammer or driving tool is impossible.

This invention contemplates, as a still further object thereof, the provision of a hand tool of the type generally described supra wherein the same is non-complex in construction and assembly, relatively inexpensive to manufacture, and which is durable in use.

Other and further objects and advantages of the instant invention will become more manifest from a consideration of the following specification when taken in conjunction with the annexed drawing, in which:

FIGURE 1 is a side elevational view of a hand tool for driving and setting nails constructed in accordance with this invention;

FIGURE 2 is an end elevational view of the tool shown in FIGURE 1;

FIGURE 3 is a side elevational view of the tool shown in FIGURE 1, FIGURE 3 showing the various positions of the component elements thereof as the tool is utilized in setting a nail; and

FIGURE 4 is a bottom plan view of the tool shown in FIGURE 1.

Referring now more specifically to the drawing, reference numeral 10 designates, in general, a hand tool or nail driving and setting device constructed in accordance with teachings of this invention. The tool 10 is seen to comprise an elongated handle member 12 having a substantially circular transverse cross-sectional configuration which tapers from its inner end to terminate in an enlarged impact receiving head 14 at its outer end. At its inner end, the handle member 12 is flattened and made integral with the inner end of a substantially rectangular shank 16. As is seen in FIGURES 1 and 3, the inner ends of the shank 16, at the edges thereof, are inwardly curved as at 17 to form oppositely disposed stop shoulders 18, and the shank 16, at its other end, terminates in a flat

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inverted substantially frusto-pyramidal nailhead-engaging boss 19 having edges 20 converging towards the frustum plane or apex. The latter is recessed at 21 to receive the heads of nails or pins having relatively small diameters.

Reference numeral 22 denotes a pair of identically constructed nail gripping jaws having resilient handles 24 at one end thereof, the handles 24 each having laterally and inwardly projecting terminal flanges 26, respectively, normally abutting against the shoulders 18 when the tool is not in use or when the same is being employed in the holding or gripping of the shank 28 of a nail 30 (see FIGURE 1) having an enlarged driving head 32. The shank 28 is releasably gripped between the jaws 22 at the respective other ends thereof, the shank being received within longitudinal extending, confronting and substantially V-shaped recesses 34 which extend inwardly from the aforesaid other ends of the jaws. The inner edges 36 of the jaws 22 are constructed on angles complementing the angles of the edges 20 of the boss 19 and are disposed in confronting relationship relative thereto.

A pair of links 38 have their respective ends pivotally connected on pins 40 to opposite sides of the jaws 22, the links slidably receiving through the bowed central portions 42 thereof, the shank 16.

To use the tool 10, and assuming that the component elements thereof are in their respective positions shown in FIGURE 1, the operator grasps the handles 24 in one hand and squeezes inwardly thereon. This causes the jaws 22 to pivot away from each other about their respective pins 40. The nail 30 or other similar securing device is now inserted between the jaws 22 in such a manner that the shank 28 is juxtaposed with respect to the recesses 34. The handles 24 are now released so that the jaws 22 close about the shank 28 of the nail 30, the nail preferably, but not necessarily, having its head 32 engaging against the free end of the boss 19. The tool 10 is now moved to position the nail 30 at the point it is to be driven and an impact tool, such as a hammer is now struck against the head 14. Inertia, due to the force of the hammer blows, drives the handle member 12 and its associated shank 16 towards the jaws 22 and tends to drive the nail 30 outwardly therefrom. At the same time, the flanges 26 ride upwardly on the curved surfaces 17 to finally engage the inner end of the handle member 12. This insures a gripping force on the nail as it is being driven.

As the nail 30 is driven, the boss 19 moves towards the jaws 22, bringing the confronting edges 20 and 36 into face-to-face contact. Continued hammering on the handle member 12 forces the jaws 22 to be wedged open by the boss 19, thereby freeing the nail 30 from therebetween so that it may be freely driven to the desired extent. The construction of the tool 10 is such that, if desired, the free end of the boss 19 may be driven beyond the adjacent ends of the jaws 22 to set the nail 30 (see FIGURE 3).

Having described and illustrated one embodiment of this invention, it is to be understood that the same is offered merely by way of example, and that this invention is to be limited only by the scope of the appended claim.

What is claimed is:

A hand tool for holding a driving and securing means comprising an elongated substantially cylindrical impact-receiving handle member having a flat elongated substantially rectangular shank at one end thereof, said shank having a free end terminating in an enlarged boss having a substantially pyramidal configuration, a pair of jaws for holding said securing means therebetween, said securing means being adapted to have an end thereof

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juxtaposed with respect to said free end of said shank, means pivotally connecting said jaws together with said shank being disposed therebetween whereby impacts received by said handle member drives the boss against said securing means and through and between said jaws and to effect the separation of said jaws to free said securing means, each of said jaws having a handle extending axially of said shank and said handle member, said jaw handles being formed of a resilient material to permit the same to be flexed to effect an opening of said jaws to receive said securing means in position, said resilient jaw handles at their respective ends remote from their associated jaws, being in sliding engagement with said impact-receiving handle member and constantly biasing said jaws for pivotal movement toward each other, and stop means for limiting the movement of said cylindrical impact-receiving member in a direction away from said jaws, said means comprising a stop shoulder formed on opposed sides of said shank and said jaw

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handles adjacent the ends thereof remote from said jaws having ends turned inwardly to effect said sliding engagement axially of said cylindrical impact-receiving handle member and with said shoulders to effect said limiting movement.

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