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PORTABLE NAIL STRIPPER

2 Sheets-Sheet 1



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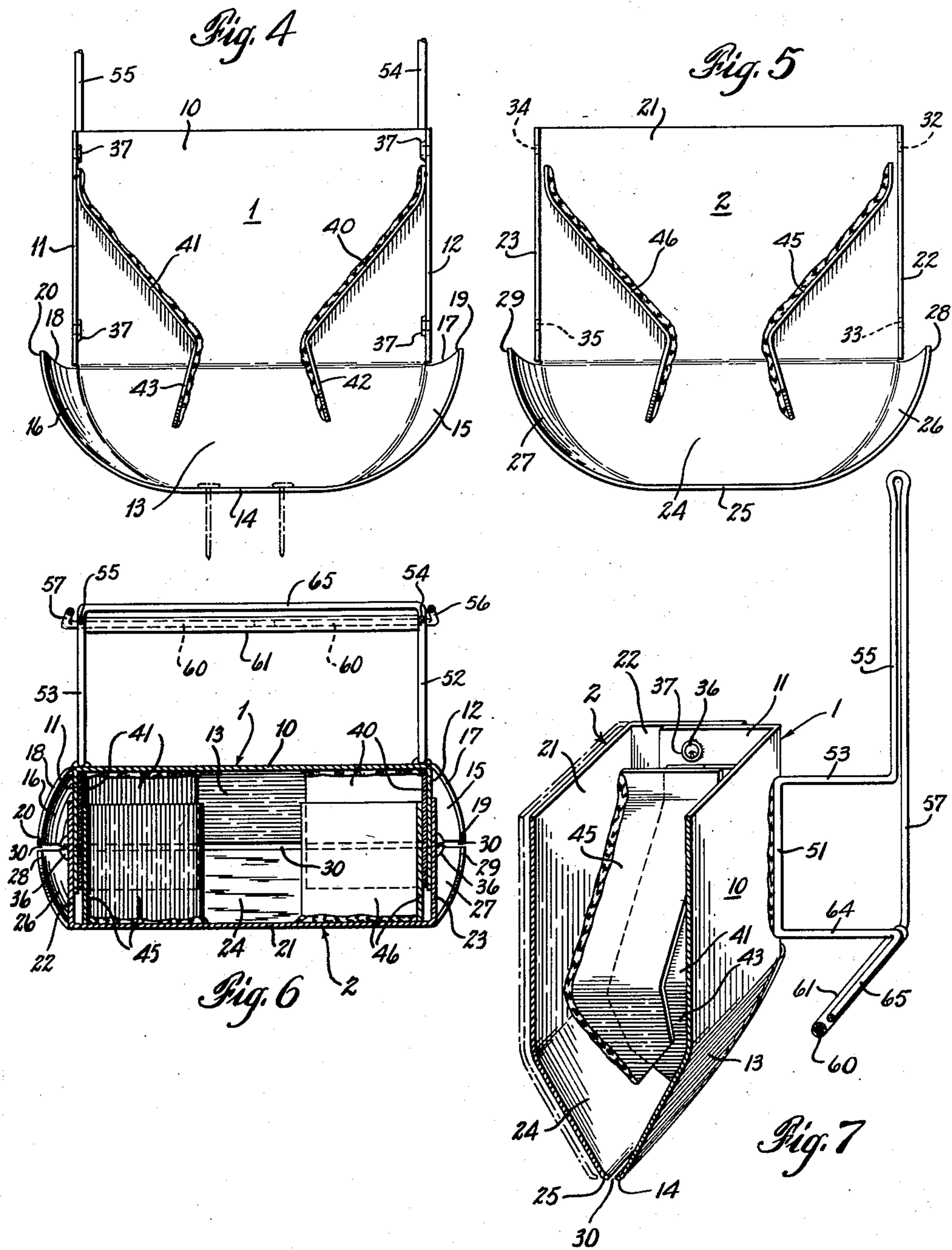
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PORTABLE NAIL STRIPPER

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2 Sheets-Sheet 2



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# UNITED STATES PATENT OFFICE

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## PORTABLE NAIL STRIPPER

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The invention relates to a new and useful form of a portable nail stripper, that is, a device comprising a receptacle from which nails may be readily withdrawn in position for use.

Objects and advantages of the invention will be set forth in part hereinafter and in part will be obvious herefrom, or may be learned by practice with the invention, the same being realized and attained by means of the instrumentalities and combinations pointed out in the appended claims.

The invention consists in the novel parts, constructions, arrangements, combinations and improvements herein shown and described.

The accompanying drawings, referred to herein and constituting a part hereof, illustrate one embodiment of the invention, and together with the description, serve to explain the principles of the invention.

Of the drawings:

Fig. 1 is a front elevation of a device embodying the invention, shown in position of use on a carpenter's overalls;

Fig. 2 is an enlarged front perspective of the device;

Fig. 3 is an end elevation thereof;

Fig. 4 is an elevation of the rear half of the device, viewed from the inside;

Fig. 5 is an elevation of the forward half of said device, viewed from the inside;

Fig. 6 is a horizontal section on line 6—6 of Fig. 2; and

Fig. 7 is a vertical section on line 7—7 of Fig. 2.

The invention is directed to providing an improved portable nail stripper having maximum convenience and adaptability for use by a carpenter or other workman. Objects and advantages of the invention include providing a receptacle from which nails can be readily stripped or removed by the workman so as to come out between his thumb and fingers in position ready to be driven; and to provide such a device which has no working or moving parts and no projecting edges or corners which will inconvenience or injure the user. My invention is carefully designed to permit the free feeding and removal of nails from a jumbled mass thereof with the minimum interference and interruption so that the nails may be stripped rapidly and freely. Another object of the invention is to provide a portable nail stripper which the workman can handle and use regardless of the position in which he may be working, such as sitting, stooping or bending over. The device is also adapted to be removably attached to the workman's overalls, apron or other

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clothing without pulling or binding or otherwise interfering with his freedom of movement while nailing or handling other tools or reaching, or moving in any direction. The hands of the user are left completely free and his pockets are also available for carrying other articles.

Another object of the invention is to provide a receptacle in which a substantially large mass of nails may be contained, but in which those being fed for stripping are relieved from obstruction or interference by the main weight of the mass of nails therein.

In general the stripper of my invention comprises a relatively flat, hollow metal container with an open top and slotted bottom, generally shaped like a hopper. The hopper is supported by a clip-like frame adapted to be quickly hung on the bib of the carpenter's overalls or apron and shaped so as to hold the hopper parallel to his chest and spaced therefrom for access by his thumb and fingers. The bottom of the hopper is provided with a transverse slot wide enough to permit the points and shanks of nails to pass freely, but too narrow to permit the heads to pass. This slot is designed so as to have a horizontal bottom portion of substantial length, but at each end curves upwardly to terminate in a substantially vertical direction. This arrangement causes any nails in the hopper which are not projecting properly through the slot to fall back and leave free the nails being stripped. In the upper part of the hopper there is provided a pair of wings constituting a downwardly narrowing support with a narrow throat, designed to support the main mass of nails and permit them to feed gradually into the lower part of the hopper so that the nails therein will not be weighted down by the mass of nails in the hopper.

It will be understood that the foregoing general description and the following detailed description as well are exemplary and explanatory but are not restrictive of the invention.

Referring now in detail to the present preferred embodiment of the invention, illustrated by way of example in the accompanying drawings, the hopper for containing nails comprises a rear portion 1, constituting roughly one-half thereof, as separately shown in Fig. 4. This portion is provided with a flat rear vertical wall 10 and flat forwardly extending end walls 11 and 12. At the lower part of rear wall 10 it slopes downwardly and forwardly to form the inclined, flat base portion 13. The central part of base portion 13 terminates in an edge 14 which is horizontal for a substantial extent but which, begin-



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ning somewhat inside the end walls 11 and 12, curves rather sharply upwardly and forwardly to form, at the right-hand side, the forwardly extending wing 15, and at the opposite side, a similar wing 16. The upper edges 17 and 18, respectively, of said wings are preferably slanted forwardly and upwardly to terminate in rounded ends or tongues 19 and 20, respectively.

The front half or portion 2 of the hopper is essentially complementary in form to the rear half 1. It comprises the front flat vertical wall 21 having end walls 22 and 23. Said end walls are spaced so as to overlap the end walls 11 and 12 of the rear section when the hopper is assembled. A downwardly and rearwardly inclined base portion 24 is provided on the front portion of the hopper, said base portion terminating in a horizontal edge 25 and upwardly curved wing portions 26 and 27, terminating in tongues 28 and 29, as shown. The extent and curvature of the edge 25 and its associated parts are exactly complementary to those of edge 14 in the rear portion of the hopper.

In accordance with the invention the edges 14 and 25 are spaced apart to provide an open slot 30 which, like said edges, extends horizontally across the bottom of the hopper and curves upwardly to the vertical at the termini of the edges adjacent the four tongues 19, 20, 28 and 29. This slot 30 is suitably spaced to permit the projection therethrough of the shanks of nails, but to prevent passage of nail heads, as shown in Figs. 1 and 4, for example. The width of the slot 30 will of course vary with the size of nails to be used and for this purpose the two sections of the hopper may be spaced varying distances. Accordingly, horizontal slots 32 and 33 are formed in wall 22 and similar slots 34 and 35 in wall 23 of the front section 2. Four set screws 36 are provided, being tapped into suitable bosses 37 formed in the end walls 11 and 12 of the rear portion of the hopper. When the hopper is assembled, the width of slot 30 may thus be set as desired.

In accordance with one feature of the invention the upper portion of the hopper is provided with a downwardly narrowing support for supporting the major part of the mass of nails therein. For this purpose the rear portion of the hopper is provided with downwardly and inwardly inclined wings 40 and 41, the upper ends and the rear edges of which are welded or otherwise fixed to the end and rear walls, respectively. Said wings 40 and 41 have smooth flat surfaces and at their lower portions are bent downwardly and somewhat laterally to provide spaced terminal wings 42 and 43, thus forming a restricted throat for the downward passage of nails from the upper portion of the hopper. The front section of the hopper is similarly provided with complementary wing members 45 and 46 which are spaced to overlies and be parallel to the wings 40 and 41 in the assembled hopper. Thus it will be clear that the two sets of wings form a support for a mass of nails in the upper portion of the hopper, permitting said nails to feed downwardly gradually through the restricted throat and into the enlarged bottom portion thereof. Thus only a small part of the total mass of nails in the hopper will exert downward pressure on the nails adjacent the slot 30, and then only in the central portion thereof, leaving the nails adjacent the upwardly inclined ends of the slot free from binding. It is also important that the slopes of the bottom walls

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13 and 24 of the hopper be quite steep to facilitate free flow of nails to the slot. I have found that the angle formed by said walls, with the slot 30 as apex should not be greater than 60°.

In accordance with the invention, means are also provided for removably supporting the stripper on the user's chest, hanging from the upper edge of the bib A of his overalls or apron in a convenient position. As shown, these means preferably comprise a spring-like bail or clip composed of a frame of sturdy, resilient wire, preferably of one continuous length. As shown, two spaced, vertical reaches 50 and 51 are welded to the rear face of rear plate 10 of the hopper adjacent the edges thereof. Horizontal reaches 52 and 53 extend rearwardly a substantial distance, preferably about two inches, and then turn upwardly to form vertical members 54 and 55, preferably about four inches long. The wire then is bent downwardly to form parallel vertical legs 56 and 57 which extend vertically downwardly to slightly below the lower ends of the vertical members 50 and 51. The two legs 56 and 57 are each provided with a horizontal cross piece 60 which terminate within a sleeve 61. Two horizontal legs 62 and 64 extend horizontally rearwardly from the lower ends of the members 51 and 52, respectively, and are connected by a cross bar 65. Bar 65 lies slightly above sleeve 61 and slightly to the rear thereof, the legs 53 and 57 being bent slightly inwardly. Thus when the bail, constituting legs 56, 57 and sleeve 61, is slid downwardly over the inside of the upper edge of the carpenter's overall bib A, it exerts a gripping spring-like action against bar 65 and against the legs 54 and 55, tending to hold the hopper in position, as shown, but being quickly removed when desired.

The use of my nail stripper will be fairly obvious to those skilled in the art. As shown in Fig. 1, nails may be withdrawn by the workman who pulls them outwardly and upwardly from the upper ends of the slot. The device is symmetrical so that it may be used by both right-handed and left-handed workmen. The substantially vertical terminal portions of the slot 30 provide an important advantage in that as nails are drawn toward the end of the slot, any which do not project through the slot in the proper manner are shaken loose and will tend to fall by gravity back into the bottom of the hopper, thus leaving free the nails being withdrawn.

The particular curvature of the slot also facilitates use of the stripper in any position because the workmen may lean sideways in either direction to a considerable angle and the nails will not slide out of the slot ends.

The construction of the supporting bail or clip is such that the hopper stands well away from the user's body at all times. This leaves plenty of clearance for his thumb to pass behind the nails to seize them even when he is in a stooped or sitting position. At the same time the hopper is essentially narrow fore and aft so that it does not get in the way while the carpenter is reaching, working at a bench, sawing or handling other tools. Because of the bail construction, it rests snugly against his chest and does not tip or swing. At the same time it does not pull down on his neck or bind his waist.

The invention in its broader aspects is not limited to the specific mechanisms shown and described but departures may be made therefrom within the scope of the accompanying



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claims without departing from the principles of the invention and without sacrificing its chief advantages.

What is claimed is:

1. A nail stripper including in combination a hopper for containing nails adapted to be supported in a substantially upright position, a slot in the lower portion of the hopper for permitting nail shanks to project from the hopper and be withdrawn therefrom, said hopper having wing means extending from its opposite sides thereof, said wing means forming a downwardly narrowing support for retaining a substantial body of nails in the upper portion of said hopper with the lower portion of said means forming a restricted outlet for feeding a limited amount of nails from said body into the lower portion of the hopper.

2. A nail stripper as defined in claim 1 in which the wing means comprises two pairs of wings, one pair overlapping the wings of the other pair.

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3. A nail stripper as defined in claim 2 in which one pair of wings overlies and is parallel to the other pair of wings.

4. A nail stripper as defined in claim 3 in which one pair of wings is connected to the rear of the hopper and the other pair of wings is connected to the front of the hopper.

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