

[54] **FASTENER DRIVING DEVICE HAVING
IMPROVED STRUCTURE FOR
DRIVING NAILS**

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[58] Field of Search.....227/120, 125, 126, 130, 136

[56] **References Cited**

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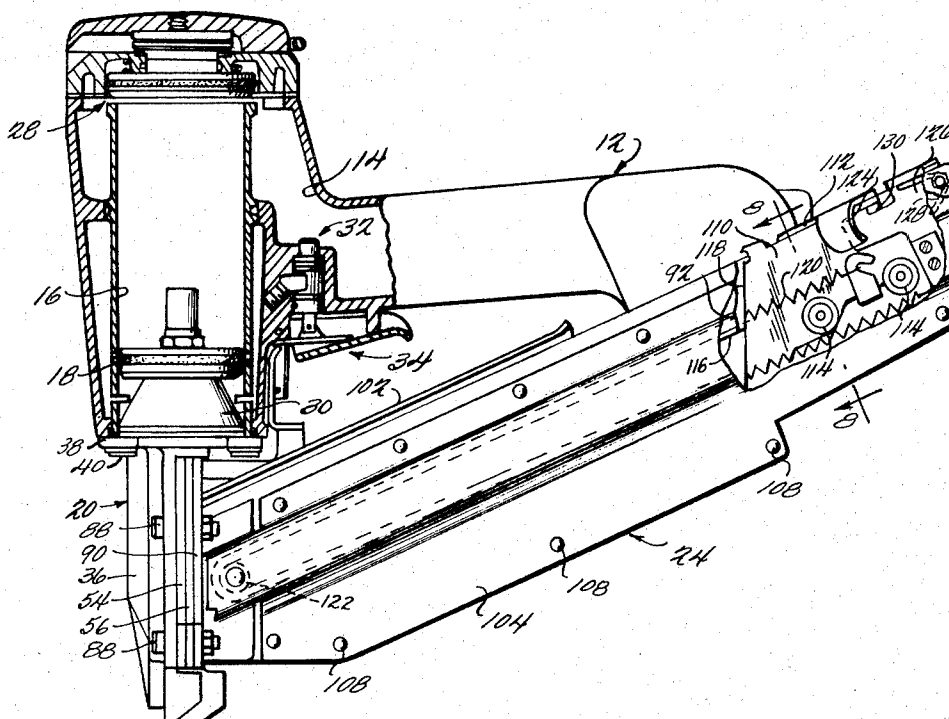
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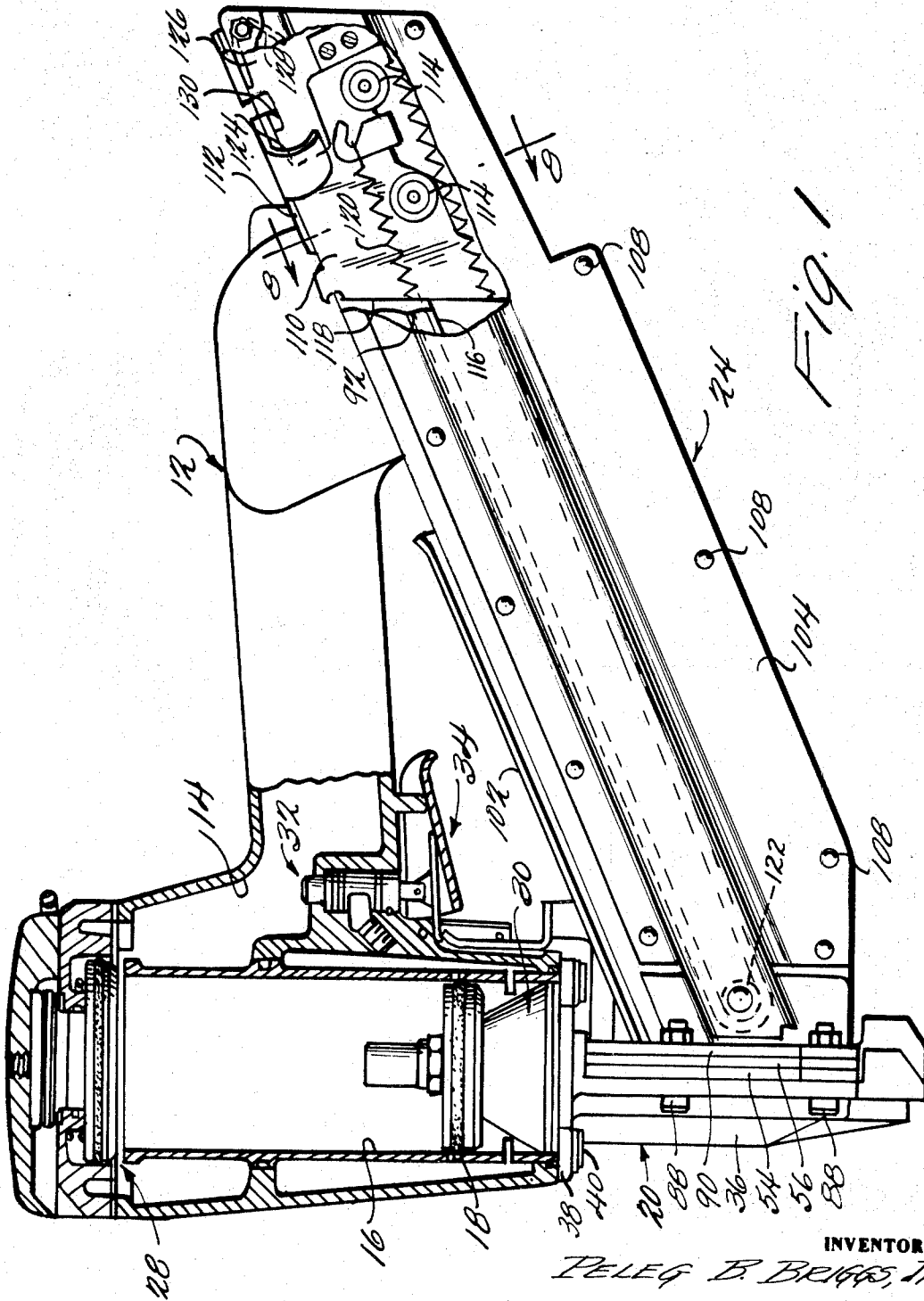
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[57] **ABSTRACT**

A fastener driving device having improved structure for driving successive leading nails from a package of nails detachably secured together in a formation consisting of a leading nail, a trailing nail and a row of nails therebetween, each nail of the row having a shank disposed in generally abutting relation to the shanks of the nails adjacent thereto and a head on one end of the shank which extends laterally outwardly thereof on opposite sides of the row and forwardly in overlapping relation to the head and shank of the forwardly adjacent nail, the improved structure including a fastener driving element formed with forwardly extending laterally spaced ribs which insure adequate strength and drive track defining surfaces including guide surfaces for the fastener driving element and cooperating cam and stop surfaces for positively effecting a forward movement of the head of the nail within the drive track to align the shank thereof with the fastener driving element during the initial portion of the drive stroke thereof and positive aligned guiding of the head during the completion of the drive stroke.

11 Claims, 8 Drawing Figures

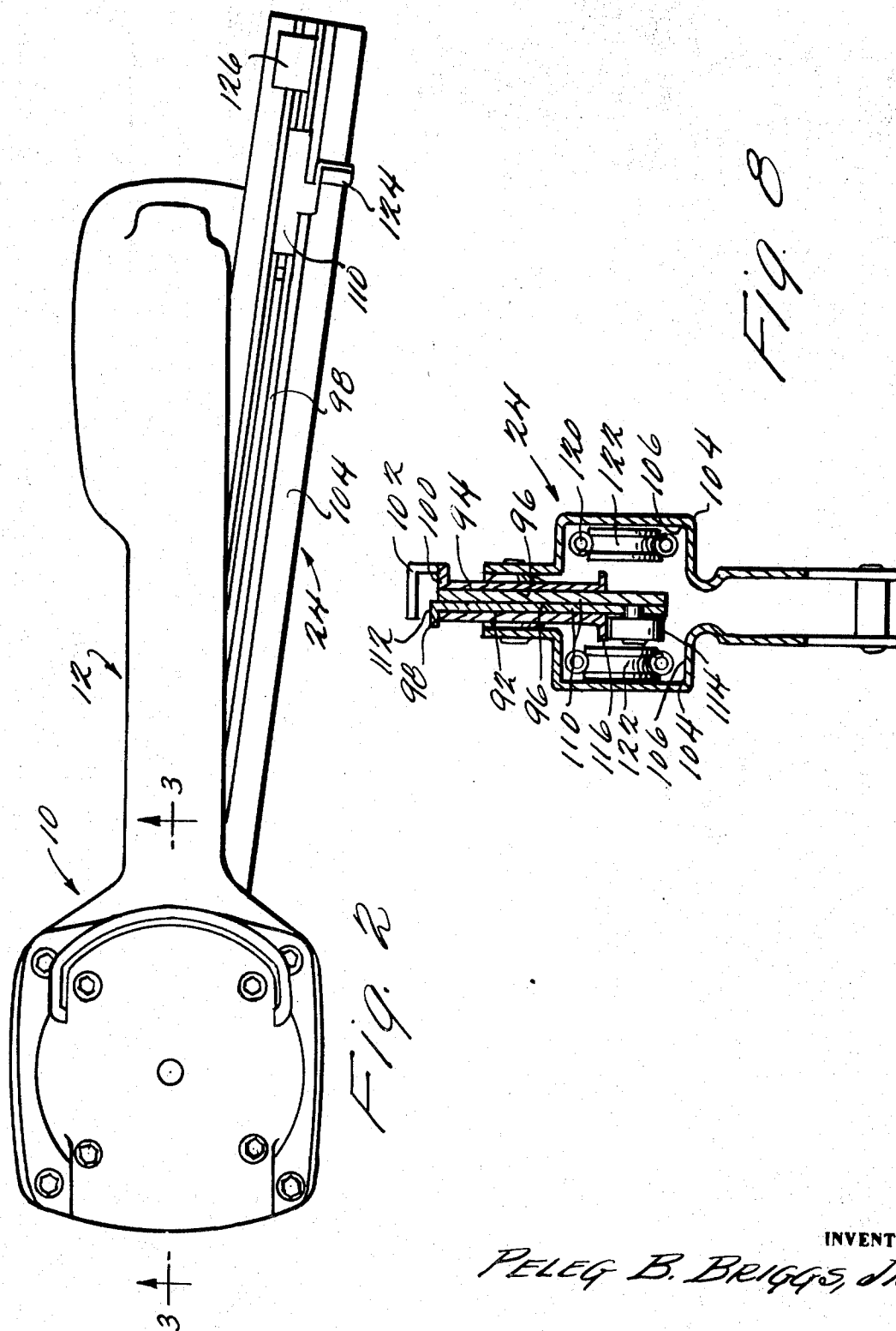




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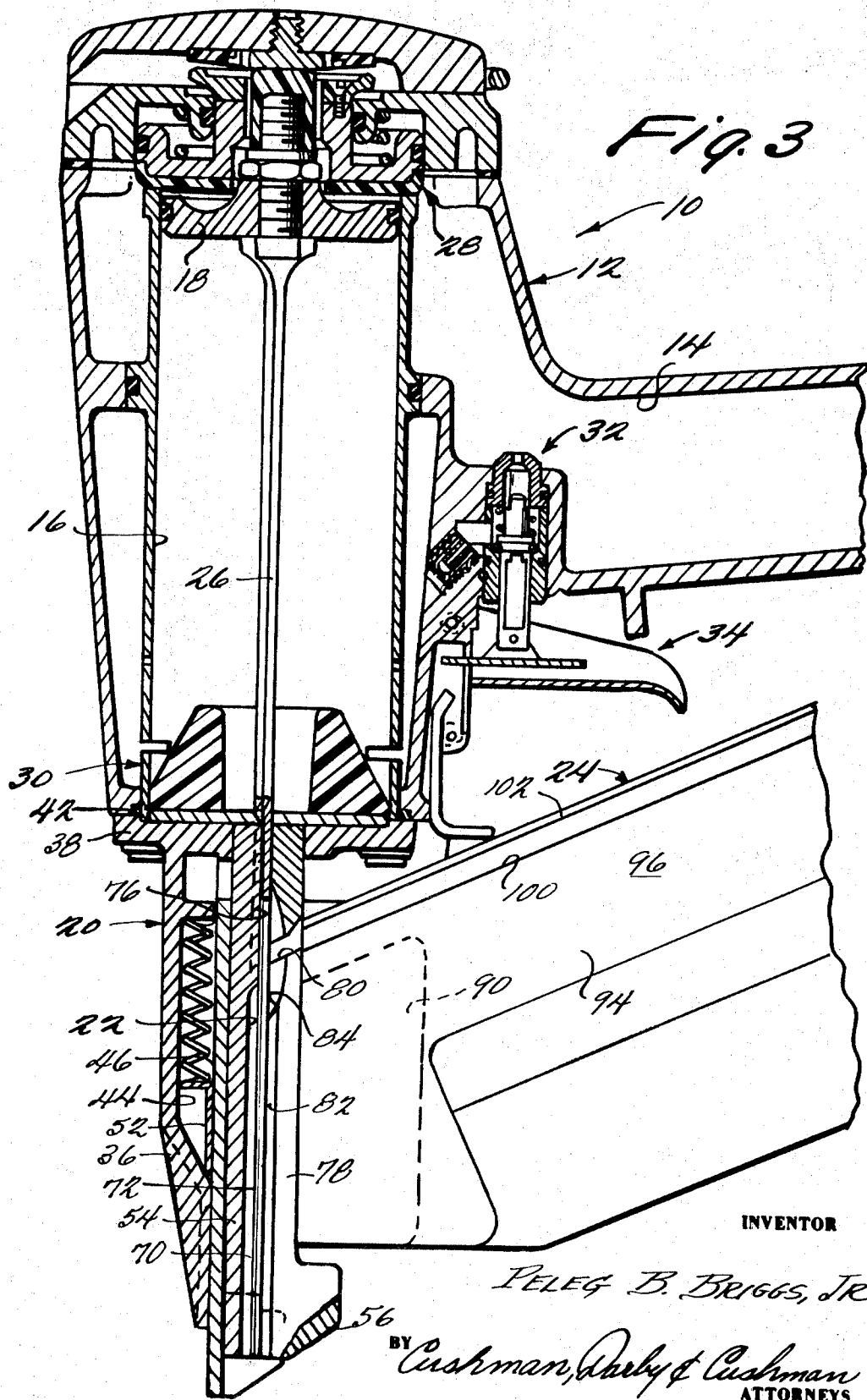
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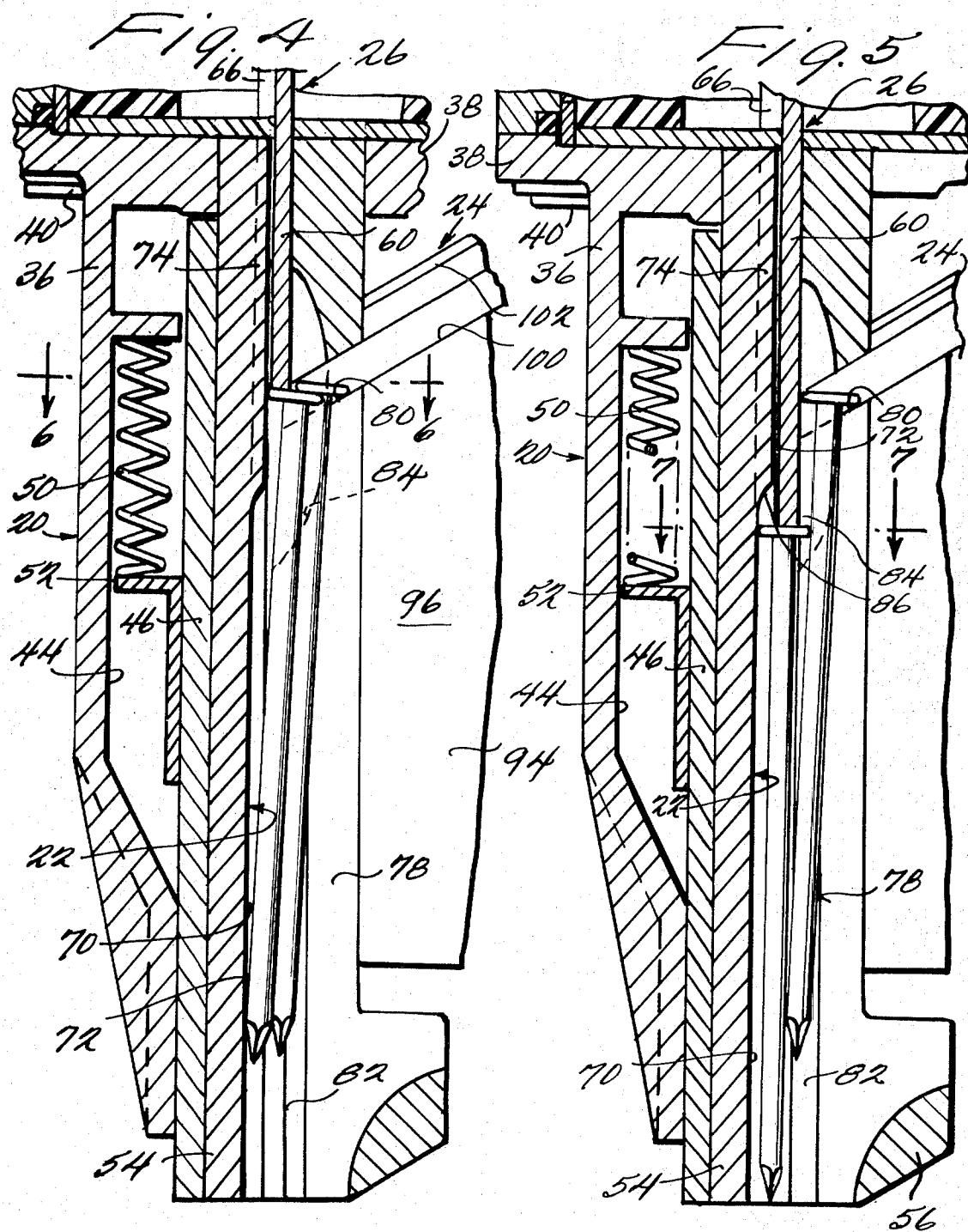


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Fig 6

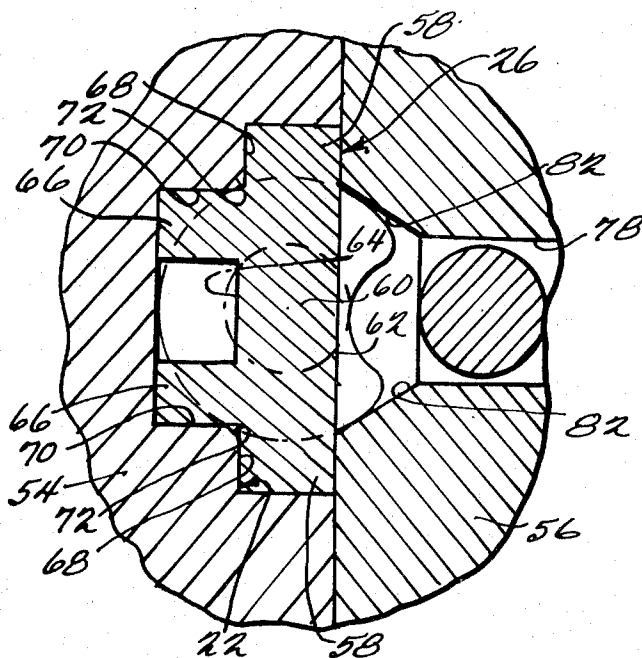
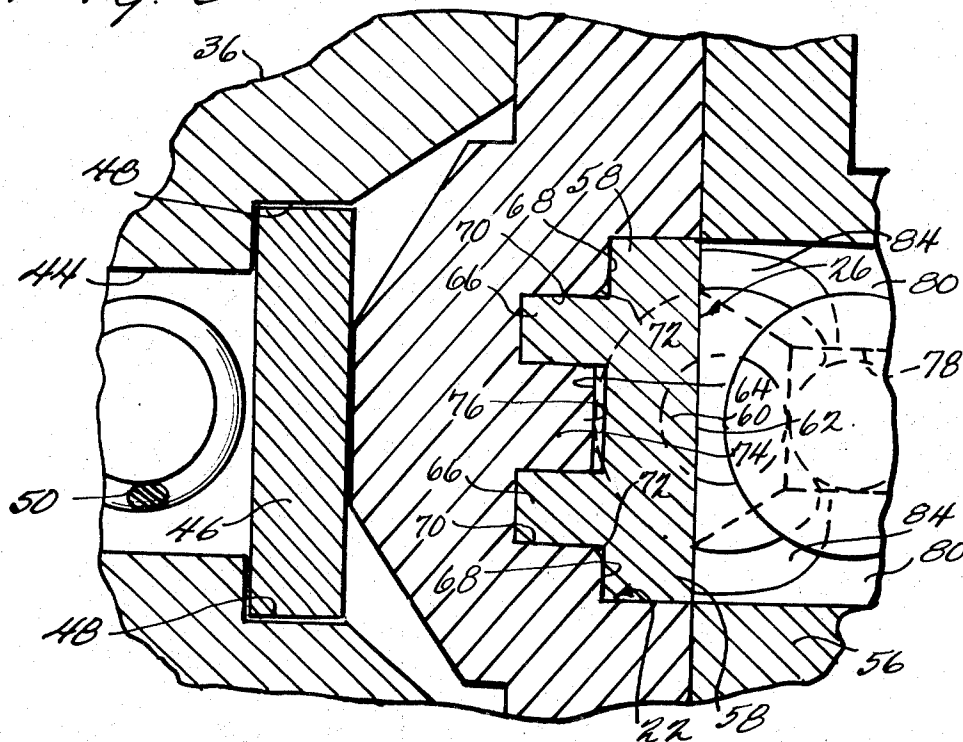


Fig. 7

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FASTENER DRIVING DEVICE HAVING IMPROVED STRUCTURE FOR DRIVING NAILS

This invention relates to fastener driving devices and more particularly to improvements in the structure embodied in such devices for driving successive leading nails from a package of nails of the type described in U.S. Pat. Nos. 2,953,783 (FIG. 10); No. 2,940,081; No. 3,152,334; and No. 3,481,459.

The aforesaid patents disclose nail packages formed together from a multiplicity of similarly constructed nails detachably secured together in a formation consisting of a leading nail, a trailing nail and a row of nails therebetween, each nail of the row having a shank disposed in generally abutting relation to the shanks of the nails adjacent thereto and a head on one end of the shank which extends laterally outwardly thereof on opposite sides of the row and forwardly in overlapping relation to the head and shank of the forwardly adjacent nail.

The structure provided in the fastener driving device for driving the leading nails from packages of this type presents particular problems. These problems arise fundamentally because of the overlapping relationship of the forwardly extending portion of each nail head with respect to the head and shank of the forwardly adjacent nail in the package. It has been proposed to provide a fastener driving element having a cross-sectional configuration which conforms with the configuration of the nail head less the overlapped portion of the rearwardly adjacent nail. See, for example, U.S. Pat. No. 2,940,081. A disadvantage of this relationship is that the head contacting surface of the fastener driving device is not longitudinally aligned with the nail shank. To overcome this disadvantage, it has been proposed to provide a stop surface within the drive track which serves to position the leading nail initially in a position out of alignment with the drive track, the stop surface being relieved so as to permit the nail to move forwardly within the drive track during the completion of the drive stroke so as to permit driver-to-shank alignment as the nail is driven into the workpiece. See, for example, U.S. Pat. No. 3,086,207. This arrangement, however, is not positively acting. Moreover, this arrangement as well as that of the first proposal, does not insure adequate strength to the fastener driving element.

An object of the present invention is the provision of an improved nail driving structure for nail packages of the type described having a fastener driving element formed with forwardly extending laterally spaced ribs which insure adequate strength and drive track defining means providing guide surfaces for the fastener driving element and cooperating cam and stop surfaces for positively effecting a forward movement of the head of the nail within the drive track to align the shank thereof with the fastener driving element during the initial portion of the drive stroke thereof and positive aligned guiding of the head during the completion of the drive stroke.

Still another object of the present invention is the provision of an improved structure for driving the leading nail of a fastener package of the type described which is simple in construction, efficient in operation and economical to manufacture and maintain.

These and other objects of the present invention will become more apparent during the course of the following detailed description and appended claims.

The invention may best be understood with reference to the accompanying drawings wherein an illustrative embodiment is shown.

In the drawings:

FIG. 1 is a side elevational view of a fastener driving device, with parts broken away for purposes of clearer illustration, embodying the principles of the present invention;

FIG. 2 is a top plan view of the device shown in FIG. 1;

FIG. 3 is a sectional view taken along the line 3—3 of FIG. 2;

FIG. 4 is an enlarged fragmentary vertical sectional view through the nosepiece assembly illustrating the fastener driving element in an initial position during its drive stroke when the lower surface thereof engages the nail in the drive track;

FIG. 5 is a view similar to FIG. 4 showing the fastener driving element in a subsequent position during its drive stroke just after the nail has been cammed fully into the drive track;

FIG. 6 is an enlarged fragmentary sectional view taken along the line 6—6 of FIG. 4;

FIG. 7 is an enlarged fragmentary sectional view taken along the line 7—7 of FIG. 5; and

FIG. 8 is a fragmentary sectional view taken along the line 8—8 of FIG. 1.

Referring now more particularly to the drawings, there is shown in FIGS. 1—3 thereof a fastener driving device, generally indicated at 10, embodying the principles of the present invention. In the drawings, the device is shown oriented so as to drive a fastener vertically downwardly into a horizontal workpiece. It will be understood, however, that the device is capable of driving a fastener into workpieces oriented in any position other than the horizontal. For convenience, the device will be described in relation to the orientation illustrated, and consequently terms such as "horizontal," "vertical," "above," "below," "forward," "rearward," etc. as used herein are to be construed in their relative sense.

The device 10 includes a housing structure 12 having internal surfaces defining a reservoir 14 for receiving air under pressure from a suitable source (not shown) communicated with the reservoir by means of a conventional fitting (likewise not shown). Means is provided within the housing structure 12 defining a cylindrical chamber 16 within which a driving piston 18 is slidably mounted. The housing structure 12 includes a nosepiece assembly 20 defining an elongated drive track 22 which is axially aligned with the cylindrical chamber 16 and communicated laterally with a magazine assembly generally indicated at 24. The magazine assembly is operable to receive a supply of fasteners and to feed successive leading fasteners from the supply contained therein into the drive track. Successive fasteners moved into the drive track 22 by the fastener magazine assembly 24 are driven outwardly of the drive track and into a workpiece by a fastener driving element 26 connected with the piston 18 so as to move with the piston from a first position wherein the piston is disposed in the upper end of the cylindrical

chamber 16 and the lower end of the fastener driving element is disposed above the fastener within the drive track 22 through a drive stroke into a second position wherein the piston is disposed adjacent the lower end of the cylindrical chamber 16 and from said second position through a return stroke back into the first position.

The drive stroke of the piston 18 and fastener driving element 26 is accomplished by communicating the air under pressure within the reservoir 14 with the upper end of the cylindrical chamber 16 under the control of a main valve mechanism, generally indicated at 28. The main valve mechanism 28 is mounted for movement between a first position preventing communication between the reservoir and the upper end of the cylindrical chamber 16 and establishing communication of the upper end of the cylindrical chamber 16 with the atmosphere and a second position wherein the communication between the upper end of the cylindrical chamber 16 and the atmosphere is discontinued and communication of the reservoir 14 with the upper end of the cylindrical chamber 16 is established. Air under pressure serves to effect the return stroke of the piston 18 together with the fastener driving element 26 in response to the movement of the main valve mechanism 28 into its first position, the return air being controlled and communicated by a plenum chamber assembly, generally indicated at 30. The main control valve mechanism 28 is moved between its first and second positions by a pilot pressure air system, generally indicated at 32, controlled manually by a manual actuating mechanism, generally indicated at 34.

The present invention is more particularly concerned with the structure of the nosepiece assembly 20, the magazine assembly 24 and the fastener driving element 26 and the manner in which the structural portions of the combined nosepiece and magazine assemblies cooperate with the structure of the fastener driving element to effect the driving action of successive fasteners from a particular type of fastener package. The air system for effecting the drive stroke and return stroke of the fastener driving element 26, is shown merely by way of illustrating a preferred means for effecting this action, it being understood that the principles of the present invention are applicable to fastener driving devices having air systems of different structure and operation, as well as other systems, such as electrical or the like.

A detailed understanding of the specific structure and operation of the air system shown is therefore not believed essential to the present invention. However, such an understanding can be obtained by reference to commonly-assigned application Ser. No. 138,149 filed concurrently herewith in the name of George E. Burke, Jr., which is hereby incorporated by reference into the present specification.

The particular fastener package to which the present invention is applicable is of the type disclosed in the aforesaid U.S. Pat. Nos. 2,940,081; 3,152,334; or 3,481,459. As best shown in FIGS. 4-7, the fastener package consists of a multiplicity of similarly constructed nails detachably secured together in a formation consisting of a leading nail, a trailing nail and a row of nails therebetween. Each nail includes the usual

shank having a workpiece entering point formed on one end thereof and a head formed on the other end thereof. Each nail of the row has its shank disposed in generally abutting relation to the shanks of the nails adjacent thereto. As shown, the head is of generally circular configuration in plan having a notch formed therein of a size generally conforming to the size of the shank cross-section in accordance with the teachings of U.S. Pat. No. 2,940,081. It will be understood that the nail may have a generally D shaped configuration in accordance with the teachings of U.S. Pat. No. 3,152,334. The head of each nail in the row is oriented so that a portion thereof extends laterally outwardly on opposite sides of the row and forwardly in overlapping relation to the head and shank of the forwardly adjacent nail.

The fastener driving device 10 of the present invention is adapted to accommodate nail packages of the type described within a fairly wide range of sizes, as for example, from 10 penny to 16 penny. In general, it is the shank size which varies throughout the size range, the head size being generally constant.

Referring now more particularly to FIG. 3, the nosepiece assembly 20 includes a main casting 36 providing an upper annular portion 38 arranged to be detachably fixed to the housing structure 12 in generally closing relation to the lower end of the cylindrical drive chamber 16. Preferably, the securement between the nosepiece portion 38 and housing structure 12, which is effected by a plurality of bolts 40 or the like, is also made air-tight, by an O-ring seal 42 or the like suitably mounted therebetween and in interior sealing engagement with the lower exterior surface defining the cylindrical drive chamber 16.

The upper annular portion 38 is centrally apertured and the remaining portion of the main casting 36 extends downwardly from the annular portion 38 at a position forwardly of the central opening and on opposite sides thereof. The depending portion of the main casting 36 thus has a cross-sectional configuration which is generally U-shaped in configuration with flanges extending outwardly from the free ends of the legs of the U. The interior surfaces of the main casting 36 are formed so as to provide an innermost cavity 44 which is vertically elongated and rearwardly open. The open rearward end of the cavity 44 is adapted to be closed by a vertically extending plate-like contact trip element 46 mounted for vertical reciprocation between opposed guide surfaces 48 provided on the interior of the main casting 36 just rearwardly of the cavity 44.

The contact trip element 46 forms a part of the manual actuating mechanism 34 and is resiliently biased into a lower limiting position or inoperative position, as by a coil spring 50, disposed within the recess 44 with its upper end in engagement with the upper wall of the recess and its lower end in engagement with the horizontal flange of an angle bracket 52 fixedly secured to the forward surface of the contact trip element 46. The contact trip element 46 is maintained in sliding engagement with the surfaces 48 by means of a pair of cooperating insert members 54 and 56 which are vertically elongated, disposed in abutting relation and have their upper end portions engaged within the central opening in the annular portion 38 of the main casting 36. The insert members 54 and 56 in-

clude cooperating interior surfaces which define the drive track 22 and slidably receive the fastener driving element 26.

As best shown in FIGS. 6 and 7, the fastener driving element 26 includes an operative portion preferably having a cross-sectional configuration which is generally rectangular with a pair of spaced rectangularly shaped ribs extending from the forward surface thereof. The width of the fastener driving element is of a size greater than the lateral dimension of the nail head so as to provide a pair of lateral guide portions 58 disposed laterally outwardly of a central nail head engaging portion 60. The central nail head engaging portion 60 is formed with a flat planar rearwardly facing surface 62 which, in the preferred embodiment shown, is coincident with the rearwardly facing surfaces of the lateral guide portions 58. The central nail head engaging portion 60 also includes a centrally located forwardly facing surface 64 which is spaced from the surface 62 a distance greater than the head overlapping dimension but less than the head dimension measured in the direction of the row minus the head overlapping dimension. A pair of laterally spaced rib portions 66 project forwardly from the head engaging portion 60 between the surface 64 and the guide portions 58.

As best shown in FIGS. 6 and 7, the insert members 54 and 56 are disposed in abutting relation along surfaces aligned with the rearwardly facing surface 62 of the fastener driving element 26. The rearward portion of the forward insert member 54 is grooved to accommodate the fastener driving element 26. The groove configuration provides a pair of rearwardly facing surfaces 68 for slidably engaging the forwardly facing surfaces of the guide portions 58 of the fastener driving element. The surfaces 68 serve to guide the fastener driving element through its drive stroke and return stroke and to prevent forward movement during the strokes. Lateral movement of the fastener driving element during its stroke movement is prevented by a pair of opposed guide surfaces 70 disposed forwardly of the surfaces 68 and at right angles thereto. At the juncture between each pair of adjacent surfaces 66 and 68 there is formed an inclined head engaging surface 72. The head engaging surfaces 72 are spaced apart a distance slightly less than the lateral head dimension of the nails.

The groove construction in the rearward portion of the forward insert member 54 which defines the surfaces 68, 70 and 72 also defines a stop portion 74 having a rearwardly facing surface 76 disposed adjacent the fastener driving element surface 64. The stop surface 76 is disposed in a position to be engaged by the leading forwardly extending head portion of the leading nail as best shown in FIGS. 4 and 6. In this regard, it will be noted that the rearward insert member 56 is formed with a central vertically elongated slot 78 of a width to receive the nail shanks therethrough. The upper end of the slot 78 has a forwardly and downwardly inclined kerf formed therein of a width slightly greater than the lateral head dimension so as to define a pair of upwardly facing guide surfaces 80 for slidably engaging beneath the laterally outwardly extending portions of the nail heads. The forward portion of the rear insert member 56 adjacent the slot 78 is formed with a pair of rearwardly converging head guide surfaces 82 extending vertically upwardly from the

lower end of the member to a position spaced below the surfaces 80. The portion of the rear insert member between the head guide surfaces 82 and head supporting surfaces 80 is formed with cam surfaces 84 disposed therebetween in downwardly and forwardly extending relation. As shown, the cam surfaces 84 are preferably formed by a rotary tool which in its operation serves to form symmetrical surfaces above the surfaces 80, however these symmetrical surfaces are provided only incident to the manufacturing process. As best shown in FIGS. 3-5, the stop portion 74 is relieved, as indicated at 86, along a forwardly and downwardly extending surface at a vertical position generally coextensive with the cam surfaces 84.

As previously indicated, the main casting 36 of the nosepiece assembly 20 includes laterally extending flanges and similar flanges are provided in both of the insert members 54 and 56. In the assembly of the nosepiece parts, these flanges are disposed in abutting relation and provided with a series of aligned apertures for receiving a series of bolt assemblies 88 or the like which serve not only to retain the nosepiece assembly in assembled relation but to secure the forward end of the magazine assembly thereto.

To this end, the magazine assembly includes a pair of L-shaped brackets 90 disposed with one of their flanges in parallel relation and the other flanges thereof extending laterally outwardly therefrom in laterally aligned relation. These aligned flanges are apertured to receive the bolt assemblies 88. The parallel flanges of the brackets 90 are fixedly secured, as by welding or the like, to the exterior forward surfaces of a pair of laterally spaced elongated rail members 92, 94 extending upwardly and rearwardly therefrom.

As best shown in FIG. 8, the rail members 92 and 94 include inner parallel vertically extending surfaces 96 which are spaced apart a distance to guidingly receive the shanks of the nails therebetween. The rail member 92 has an upwardly facing nail package supporting surface 98 formed on the upper end thereof and the rail member 94 has its upper edge bent outwardly to provide a similar generally co-planar nail package supporting surface 100. The nail package supporting surfaces 98 and 100 are adapted to slidably engage beneath the laterally outwardly extending portions of the heads of the nails of the package.

As best shown in FIG. 1, the rail member 94 has a cover portion 102 formed from the upper forward edge portion thereof which extends upwardly and then laterally horizontally over the surfaces 100 and 98. It will be understood that the portion of the rail members 92 and 94 disposed rearwardly of the cover 102 are vertically upwardly open so as to receive a nail package thereon by a vertical downward movement of the nail package. The surfaces 98 and 100 serve to slidably support the nail package for forward movement in a direction toward the drive track 22. In this regard, it will be noted that the surfaces 98 and 100 are in alignment with the guide surfaces 80.

The rail members 92 and 94 are maintained in rigidly spaced relation by the brackets 90 and by a pair of magazine housing members 104 fixedly connected along their upper marginal edge portions with the upper exterior surfaces of the rail members 92 and 94 respectively, by any suitable means. Each of the

magazine housing members 104 includes central bent portions defining an interiorly open channel 106. The lower marginal edge portions of the magazine housing members 104 are rigidly interconnected by any suitable means, as for example, a plurality of spacer bolt assemblies 108.

The nail packages supported on the rail members 92 and 94 are resiliently urged forwardly so as to feed the leading nail into the drive track 22 by a pusher member 110. As shown in FIG. 8, the pusher member is mounted on the rail member 92 for sliding movement therealong by any suitable means, such as an upper flange 112 extending laterally outwardly from one side of the pusher member and disposed in engagement with the surface 98 and a pair of rollers 114 suitably journaled on the lower portion of the pusher member adjacent the same side thereof. The rollers engage a track 116 formed by an outwardly turned flange along the lower marginal edge portion of the rail member 92. As best shown in FIG. 1, the pusher member 110 includes a forward vertically extending nail shank engaging surface 118 for contacting the shank of the trailing nail within the magazine assembly.

Any suitable means may be provided for resiliently urging the pusher member 110 forwardly and, as shown, such means is in the form of a pair of elongated coil springs 120 mounted within the channels 106. Each spring 120 has one of its ends connected with a tab or the like formed on the pusher member and extends forwardly and downwardly within the upper portion of its associated channel and then around a guide roller 122 rotatably mounted therein adjacent the nosepiece. From the roller 122, each spring 120 extends upwardly and rearwardly within the lower portion of the associated channel 106 and has its rearward end anchored to a tab or the like formed on the rearward end of the associated rail member.

The magazine assembly 24 is prepared for loading by the operator manually moving the pusher member 110 upwardly and rearwardly against the action of the spring members 120. To facilitate this movement, the pusher member 110 includes an integral knob 124 which is bent from the upper end thereof. To facilitate loading, a latch member 126 is pivoted between the rear ends of the rail members 92 and 94 for movement between latching and unlatching limiting positions. As shown in FIG. 1, the latch member 126 is resiliently biased for movement into its latching position, as by a spring 128. The pusher member 110 includes a cooperating cam latch element 130 which functions to engage the latch member and move the same from its latching position into its unlatching position against the spring bias thereof in response to the rearward movement of the pusher member 110 by the operator. The cam latch element 130 overrides the cooperating locking structure of the latch member 126 to permit the latter to automatically move into its latching position to retain the pusher member 110 in its rearwardmost loading position in response to its manual movement into that position.

After the magazine assembly 24 has been loaded, the latch member 126 is manually moved from its latching position into its unlatching position, permitting the pusher member 110 to be moved forwardly until the surface 118 engages the shank of the trailing nail sup-

ported on the rail members 92 and 94. This engagement serves to resiliently bias the leading nail toward the drive track 22.

Assuming that the fastener driving element 26 is disposed in a retracted position preparatory to a drive stroke, the leading nail will be moved into the drive track into a position, such as shown in FIGS. 4 and 6, wherein the leading portion of the head engages the stop surface 76. It will be noted that the leading portion of the rearwardly adjacent nail is disposed rearwardly of the drive track 22.

The drive stroke of the fastener driving element 26 is initiated by effecting a manual actuation of the manual actuating mechanism 34. As previously indicated, the contact trip element 46 constitutes a part of the manual actuating mechanism 34. The manner in which the manual actuating mechanism including the contact trip element 46 functions is disclosed in commonly-assigned co-pending application Ser. No. 843,665 filed July 22, 1969 in the name of Peter A. Readyhough and Walter G. Lemos, the disclosure of which is hereby incorporated into the present specification. When the manual actuating mechanism is actuated, the main valve mechanism 28 is operated to communicate air under pressure within the reservoir 14 with the upper end of the cylindrical chamber 16 in the manner indicated in the aforesaid Burke application. This pressure acts upon the piston 18 which, in turn, effects the drive stroke of the fastener driving element 26.

As best shown in FIG. 4, during the initial portion of the drive stroke, the lower end of the fastener driving element 26 will engage the forward portion of the head of the leading nail extending within the drive track 22. During the next portion of the drive stroke movement, the leading nail is moved downwardly by the fastener driving element 26, thus moving the lateral rearward peripheral portions of the head into engagement with the cam surfaces 84. This interengagement causes the head of the leading nail to be cammed forward during its downward movement with the fastener driving element. The relief 86 of the stop surface portion 74 permits this forward movement.

FIGS. 5 and 7 illustrate the position of the leading nail after the forward camming action has taken place. It will be noted that the shank of the nail is disposed in general alignment with the central portion 60 of the fastener driving element 26. During the subsequent movement of the fastener driving element through its driving stroke, the nail is moved outwardly of the drive track 22 and into the workpiece by the fastener driving element. During this movement, the nail head is guided by engagement of the periphery thereof with the surfaces 72 and 82.

It can thus be seen that the particular configuration of the fastener driving element 26 and the combined structure of the nosepiece assembly 20 and magazine assembly 24 cooperating therewith will effect the driving movement of the leading nail into the workpiece with the driver aligned with the nail and with a maximum controlled guiding movement of the head of the nail. Moreover, this action is obtained by a fastener driving element 26 which is provided with sufficient strength, by virtue of the rib portions 66 and lateral guide portions 58, to prevent failure during operation even when driving relatively large nails as, for example, 16 penny.

The fastener driving element 26 is guided during its stroke movements by guiding surfaces, provided by the nosepiece assembly 20, which engage the fastener driving element and preventing movement thereof transversely both in the direction of nail feed and in a direction laterally therefrom. In the preferred embodiment shown, the surfaces 68 and 70 serve these functions. The remaining cooperating surfaces are utilized to provide for the flow of return air, restricted by a conventional bottom plate in the drive cylinder, through the drive track to the atmosphere so that the return air is dissipated substantially coincident with the completion of the return stroke in accordance with the teachings of the aforesaid Burke application. Clearly, other arrangements of guiding surfaces and return air flow providing surfaces may be utilized.

It thus will be seen that the objects of this invention have been fully and effectively accomplished. It will be realized, however, that the foregoing preferred specific embodiment has been shown and described for the purpose of illustrating the functional and structural principles of this invention and is subject to change without departure from such principles. Therefore, this invention includes all modifications encompassed within the spirit and scope of the following claims.

I claim:

1. A fastener driving device comprising a housing, a combined nosepiece and magazine assembly carried by said housing, said assembly including means for receiving and supporting a package of fasteners including a multiplicity of similarly constructed nails detachably secured together in a formation consisting of a leading nail, a trailing nail and a row of nails therebetween, each nail of the row having a shank disposed in generally abutting relation to the shanks of the nails adjacent thereto and a head on one end of the shank which extends laterally outwardly thereof on opposite sides of the row and forwardly in overlapping relation to the head and shank of the forwardly adjacent nail, and means defining a drive track for receiving the leading nail of the package laterally therein, means for feeding the fastener package forwardly in the direction of extent of the row formation, a fastener driving element mounted within said drive track for downward movement through a drive stroke to drive a nail disposed within said drive track longitudinally outwardly thereof into a workpiece and for upward movement through a return stroke to permit the next adjacent nail to be fed into said drive track, said fastener driving element having a lateral dimension greater than the lateral nail head dimension so as to provide lateral guide portions disposed laterally outwardly of a central nail head engaging portion, said nail head engaging portion having a flat planar rearwardly facing surface and a central forwardly facing surface spaced from said rearwardly facing surface a distance greater than said head overlapping dimension but less than the head dimension measured in the direction of feed minus the head overlapping dimension, and a pair of spaced rib portions projecting forwardly from said central portion between said central forwardly facing surface and said guide portions, said drive track defining means including guide surfaces for slidably engaging said guide and rib portions and a pair of nail head engaging surfaces spaced laterally apart a distance less than the lateral nail head dimension and disposed adjacent the juncture

between adjacent guide and rib portions of the fastener driving element, said nail package receiving and supporting means including elongated upwardly facing nail package supporting surfaces for engaging beneath the laterally outwardly extending head portions of the nail package and shank receiving and guiding surfaces disposed below said nail package supporting surfaces, said drive track defining means further including a nail head stop portion disposed in a position between the rib portions of said fastener driving element and having a rearwardly facing surface disposed adjacent said central forwardly facing surface in a vertical position to be engaged by the leading surface of the head of the leading nail as said nail package is fed forwardly, said nail package supporting surfaces terminating in spaced relation to the rearwardly facing planar surface of said fastener driving element, said drive track defining means including nail head guiding surfaces disposed in spaced relation below said nail package supporting surfaces adjacent the flat rearwardly facing surface of said fastener driving element and cam surface means extending downwardly and forwardly between the forward end of said nail package supporting surfaces and said nail head guiding surfaces, said stop portion being relieved forwardly at a position generally vertically coextensive with said cam surfaces so that during the drive stroke of said fastener driving element the lower surface thereof will engage the leading nail head disposed in engagement with said stop surface and move the head thereof downwardly into engagement with said cam surface to thereby cause the head of the nail to be cammed forwardly during its initial movement by the fastener driving element into a position beneath the central nail head engaging portion thereof so as to be driven longitudinally outwardly of the drive track during the completion of the drive stroke.

2. A fastener driving device as defined in claim 1 wherein said assembly includes a main nosepiece member detachably connected with said housing, a pair of cooperating insert members detachably fixedly connected with said main nosepiece member, said cooperating insert members providing said guide surfaces, said pair of nail head engaging surfaces, said nail head stop portion, said nail head guiding surfaces and said cam surface means.

3. A fastener driving device as defined in claim 2 wherein said main nosepiece member and the forward insert member define a vertical channel therebetween for slidably receiving a contact trip element therein.

4. A fastener driving device as defined in claim 3 wherein said main nosepiece member includes means defining a recess extending forwardly from said channel for receiving a trip element biasing spring therein.

5. A fastener driving device as defined in claim 1 wherein the lateral guide portions of said fastener driving element include rearwardly facing surfaces coplanar with the rearwardly facing surface of the central portion of said fastener driving element.

6. A fastener driving device as defined in claim 5 wherein the rib portions of said fastener driving elements are generally rectangular in cross-section, each rib portion including a laterally outwardly facing surface.

7. A fastener driving device as defined in claim 6 wherein the lateral guide portions of said fastener driv-

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ing element include forwardly facing surfaces coplanar with the central forwardly facing surface of the central portion of said fastener driving element.

8. A fastener driving device as defined in claim 1 wherein said nail package receiving and supporting means comprises a pair of laterally spaced rail members extending upwardly and rearwardly from said drive track.

9. A fastener driving device as defined in claim 8 wherein said rail members are maintained in spaced relation by means including a pair of magazine housing members fixedly secured to the upper exterior surface of said rail members and extending downwardly therefrom below said rail members, said magazine housing members having central portions bent to pro-

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vide inwardly opening channels.

10. A fastener driving device as defined in claim 9 wherein said fastener package feeding means comprises a pusher member slidably mounted between said rail members and spring means disposed in said channels for resiliently urging said pusher member forwardly.

11. A fastener driving device as defined in claim 10 including self-locking and manually releasable latching means carried by the rearward end portions of said rail members for maintaining said pusher member in a rearward loading position against the action of said spring means.

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