MACHINE FOR DRIVING SASH PINS OR THE LIKE

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This invention relates to improvements in machines for driving pointed fastening elements into members to be secured together and more particularly concerns a novel machine of the portable type especially adapted for driving sash pins in the manufacture of window sash or the like.

An important object of the present invention is to provide an improved fastener driving machine having novel fastener driving structure.

Another object of the invention is to provide a novel assembly at the driving end of a fastener setting machine especially constructed and arranged to withstand wear in the repetition of driving shocks to which a machine of this kind is subjected in service.

A further object of the invention is to provide improved driving plunger and blade means in a machine for driving and setting fasteners such as staples, sash pins, or the like.

Still another object of the invention is to provide an improved fastener driving machine construction wherein the machine body comprises separate complementary matching body plates with improved means for retaining and reinforcing the body plates against the repeated percussive shocks and strains imposed thereon in service, especially at the front of the machine in association with the fastener driving mechanism which is adapted for mallet-stroke actuation.

Other object, features and advantages of the present invention will be readily apparent from the following detailed description of a preferred embodiment thereof taken in conjunction with the accompanying drawings in which:

Figure 1 is a side elevational view of a fastener driving machine embodying the features of the present invention;

Figure 2 is a rear elevational view of the machine;

Figure 3 is a vertical sectional detail view through the machine taken substantially on the line III—III of Figure 1;

Figure 4 is an enlarged longitudinal vertical sectional view through the machine taken substantially on the line IV—IV of Figure 2;

Figure 5 is a bottom elevational view of the front portion of the machine taken substantially as indicated by the line V—V in Figure 4;

Figure 6 is a fragmentary top plan view of the rear portion of the machine substantially as indicated by the line VI—VI of Figure 1;

Figure 7 is a horizontal fragmentary sectional detail view taken substantially on the line VII—VII of Figure 4;

Figure 8 is an enlarged vertical sectional detail view taken substantially on the line VIII—VIII of Figure 4;

Figure 9 is an enlarged fragmentary horizontal sectional detail view taken substantially on the line IX—IX of Figure 4; and

Figure 10 is an enlarged fragmentary horizontal sectional detail view taken substantially on line X—X of Figure 4.

Having reference to Figures 1 and 4, a machine according to the present invention comprises a body 15 provided with a handle 17 by which it can be grasped and carried to and held in position upon work into which a fastening element such as a sash pin 18 carried within a magazine 19 in the body is to be driven by a driving blade 20 by actuation of a plunger 21.

In an economical form, the body 15 is made from complementary side members 22 and 23 which may be machined from individual metal plates or castings, but are preferably made from an appropriate moldable material by which the desired configurations and cavities are economically formed on and in the side members or plates. As shown, the side member 22 provides the left side or face of the machine and the side member 23 provides the right side or face of the machine (Figs. 1, 2 and 4).

Appropriate separable fastening devices such as bolts or screws 24 are employed to secure the two half portions or plates of the body in complementary mating assembly to provide the body unit 15. The handle 17 is integral in one piece with the upper portion of the body and defines with the upper portion of the body 23 a hand hole 25.

Each of the sash pins 18 comprises an elongated straight body, generally round or rounded in cross section having a chisel point at one end and a blunt head at the opposite end. Adjacent to the head end of the sash pin body is provided a transverse groove 27 (Figs. 3 and 8) for riding a supporting and guide rail 28 within the magazine 19 of the machine.

Complementary channel recesses in the respective interfaces of the side members or plates 22 and 23 of the body cooperate to provide the magazine channel 19 which extends from the rear end of the machine to the forward end of the machine and freely accommodates the sash pins 18 on the rail 28. The rail 28 includes a depending leg 29 received in a countersunk longitudinal channel recess 30 in one of the side plates in the magazine 19 and is secured by screws 31. It will be appreciated that if other fasteners such as staples are to be fed into the machine for driving therefrom, suitable staple-supporting means will be provided in the fastener magazine 19 instead of the rail 28.

Loading of fasteners into the machine is effected through the rear opening into the magazine 19 wherein a pusher 32 is biased by a coiled compression spring 33 disposed about a guide rod 34 and abutting a washer 35 bearing against a guide sleeve 37. An upward extension 38 on the pusher projects upwardly beyond the rail 28 through a slot 39 in the roof of the magazine 19 into a pusher spring chamber 40 parallel to the pin magazine.

A stop collar 41 on the forward end portion of the rod 34 determines the extreme limit of forward projection of the pusher 32 to be just clear of the driving blade 20 when the last fastener has been pushed into position for driving.

The guide rod 34 has a return bent generally U-shaped loop 42 provided with a forwardly directed leg 43 that lies in service outside of the body of the machine and has at its outer extremity an anchoring lug 44 projecting rearwardly and engageable in a forwardly opening retaining socket 45 on the machine body. A head portion 47 joins the lug 44 to a handle bend portion 48 on the rod. Guard fins 49 on the machine body (Figs. 1, 6 and 7) providing therebetween a groove 50 are protectively related to the forward portion of the spring 33 and rod arm 43. A vertical fin 51 is also provided as a guard at the rear end of the machine body.

An especially compact, rugged, economical and efficient construction is provided for the forward, pin driving portion of the machine. An important feature of this construction comprises a strong, one piece reinforcing and
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The guide nose portion or member 52 which is constructed and assembled in novel fashion with the work engaging forward pin setting portion of the machine.

One of the important functions of the nose member 52 is to retain the forward portions of the side plates 22 and against spreading under the force dissipating incident to the stopping of driving blows imparted to a knob or head 69 on the upper end of the plunger 21 and the driving blade 20 and which head 69 at the end of a driving stroke stops against the upper edges of the side plates 22 and 23 of the machine under the drive engaging portion. For this purpose, the nose member 52 is formed of generally U-shape cross-section (Fig. 5) in horizontal or plan section, including a front vertical wall 53 and similar opposite side walls 54. The body side plates 22 and 23 are preferably thickened as indicated at 55 for reinforcement purposes at the front of the machine and the nose member 52 snugly engages in interlocked manner with the thickened plate portions, being for this purpose arranged to be assembled by sliding the same into position by relative movement from the bottom of the machine toward the upper portion of the machine.

An interlocking interengagement of the nose portion 52 with the thickened side plate portions 55 is effected by providing the rear margins of the side walls 54 of the nose member with opposing inwardly extending interlock flanges or ribs 57 which engage in interlock complementary grooves 58 in the forward plate portions 55. It will be observed that in this manner the forward end portions of the body plates 22 and 23 are held very effectively against spreading and the nose member 52 is held effectively against displacement forwardly from the machine.

Unintentional downward displacement of the nose member 52 is prevented by a securing pin 59 which extends through a pair of upwardly extending spaced parallel attachment ears 60 on the upper forward portion of the side walls 54 of the nose member (Figs. 1 and 3). The pin 59 is detachably held against displacement by means of an integral head 61 at one end and a detachable snap on lock collar 62 adjacent its other end and the Shank of the pin extends through the forward extremity portions of the side plates 22 and 23 forwardly of the driving blade 20 (Fig. 4).

Since the rigid and rugged nose member 52 is especially adapted to withstanding the impact incident to the terminus of pin driving strokes of the plunger, means are provided for assuring this purpose. For this purpose the upper portion of the nose member 52 is provided with a substantial upwardly facing shoulder formation 63 (Figs. 3 and 4) opposing overlying complementary portions of the body side plates of the machine, supplemented by an interengagement of the attachment ears 60 into the sides of the thickened portions 55 of the side plate.

Another important function of the nose member 52 is to provide driving guide-way for the sash pins 18, and the driving blade 20. For this purpose, the inner face of the front wall 53 of the nose member has a generally pin and driving blade guiding channel or way 64 (Figs. 4, 5 and 10). The guide channel or groove 64 is disposed vertically in front of and in centered relation to the forward end of the pin magazine 19 to receive the sash pins 18 successively as fed thereinto from the magazine 19 by the pusher 32. By preference the width of the driving groove is slightly greater than the width or thickness of the pins 18 to accommodate a somewhat wider dimension in the driving blade 20 which should be not excessively wider than the thickness of the pins so that the driving tip of the blade will not make an excessively large hole when countersinking the sash pins but which must be of sufficient cross-section to avoid buckling in driving.

While the forward side of the driving blade 20 is supported within the driving groove 64, the rear side of the driving blade should also receive firm support and for this purpose a backup plate 65 (Fig. 3) is provided which is dimensioned to fit immediately inside of the front wall 53 of the member between the adjacent end portions of the side plates 22 and 23 of the machine body. For passage of the sash pins 18 through the plate 65 it is provided with a doorway slot 67 disposed vertically in alignment for free passage of the pins therethrough into the driving guideway 64. The width of the doorway aperture 67 is slightly less than the width of the driving blade 20 so that throughout its range of movement, the driving blade is backed up between the plate 65 and the forward wall defining the driving guideway 64. As will be noted in Figures 3 and 4, the upper portions of the nose member 52 and the back-up plate 65 extend a substantial distance above the doorway aperture 67 so that in the fully retracted position of the blade 20 above the sash pin 18 next to be driven, a substantial portion of the tip of the blade is thoroughly backed up against buckling and is guided for accurate engagement with the head of the pin.

In order to avoid turning of the sash pins 18 out of the vertical driving alignment with the driving blade in the driving guideway 64, the front to rear dimension of the guideway is in general so related to the width of the sash pins that a snug relationship would normally exist and the snuggness is relieved by respective opposing relief and turn-preventing vertical narrow guide grooves 68 within respectively the forward wall defining the guideway 64 and the opposing lower portion of the surface of the plate 65 below the doorway of aperture 67 (Figs. 3, 4, and 5). The rounded opposite sides of the successive sash pins 18 are received in the opposing guide grooves 68 and thus held against tilting or turning out of the driving path.

In a preferred construction, the driving blade 20 is formed as a separable thin hardened steel plate which is assembled with the forward face of the plunger 21 preferably formed as a square elongated member having an impact knob or head 69 at its upper end. As best seen in Figs. 3, 4 and 9, the driving blade 20 is preferably formed with a substantially elongated narrow and thin lower driving blade portion having upper generally cruciform configuration body portion 70 which need be of no greater thickness than the driving portion of the blade but which is of substantially greater width than the driving portion of the blade. The blade body 70 is set into a complementary cruciform shaped recess 71 in the forward face of the plunger 21 and has a long passage thereto from the body portion 70 which is held against longitudinal displacement with respect to the plunger 21 but it is also held against lateral displacement and moves with the plunger 21 for driving and retraction movements. The cruciform arrangement with the upper end of the blade body 70 rounded as seen in Fig. 3 is substantially continuous in the inner edge surface of the head of the blade member to opposing complementary surfaces of the blade 21 within the recess 71 to distribute driving force from the plunger 21 uniformly and effectively against the blade.

The driving plunger 21 is guided for vertical reciprocation in an appropriate square guideway 72 provided in the thickened portions 55 of the body plates 22 and 23 and formed by complementary opposing vertical channels or grooves in the body plates cooperating to provide the guideway. An appropriate bearing liner 73, comprising a pair of channel-shaped members complementary to and mounted within the guideway 72 to support the guideway 72 for reducing friction and wear between the plunger and the walls defining the guideway. While the bearing liner 73 may be of any preferred material such as hardened steel, it may comprise nylon since this plastic has the desirable property of providing substantial wear-free bearing surface requiring no lubrication. As will be evident from Figures 3, 4 and 9, the front wall of the guideway 72 is cooperative with the front face of the
plunger 21 to maintain the cruciform head portion 70 of the driving blade against escape from the recess 71. Means are provided for automatically retracting the plunger 21 and the driving blade 20, in the present instance comprising a return spring 74 preferably in the form of a coil compression spring which is disposed within a vertical downwardly opening elongated socket 75 within the plunger. The lower end portion of the spring 74 is disposed within a guide tube 77 extending sidewardly into the spring socket 75 of the plunger and having a lower blind end portion 78 resting within which a platform 79 provided therefor by a rearwardly bent upper marginal portion of the back-up plate 65 underlying the lower end of the plunger guideway 72. Fixed retention of the base end portion 78 of the spring tube is effected by the interlocking of a downwardly projecting tip or boss 80 thereon within an aperture 81 provided for this purpose in the flange 79 (Figs. 4 and 10). The reaction of the spring 74 under compression maintains the tube 77 seated on the flange 79 and also functions to normally urge the plunger upwardly into retracted position.

Besides serving as a guide for protecting the lower portion of the spring 74 from catching on the lower end of the plunger 21, the tube 77 also serves as a lubricant chamber for lubricating the spring and thus avoiding frictional operating noises thereof in service. Additionally, by being closely spaced with respect to the driving blade 20, the tube 77 serves as a buckling resistance backing for the driving blade 20 should there be a tendency toward flexing of the blade in response to a resistance condition encountered in service or an oversharp or sudden impact against the plunger. The front of the upper portion of the blade 20 is, of course, supported against buckling by the bearing 73 backed up by the forward wall defining the plunger guideway 72.

Downward movement of the plunger 21 is limited by engagement of the underside of the plunger head 69 against an upwardly facing abutment shoulder 82 provided at the top of the thickened body plate portions 55. In this downward limit position the driving tip of the blade 21 projects into pin-countersinking relation below the lower end of the pin, driving guideway 64. Immediately upon release of the driving force against the plunger, the return spring 74 snaps the plunger 21 and the blade 20 into retracted position.

Limit upon retraction is afforded by a stop block 83 mounted within an appropriate cavity 84 (Figs. 4 and 9) provided in the bodywardly facing side wall of said opening into and through the rear wall of the guideway 72 and the bearing liner 73. The forward end portion of the stop block 83 operatively engages in a rearwardly opening vertical groove 85 in the rear surface of the plunger 21. At its lower end the groove 85 has a stop shoulder 87 which engages against the adjacent opposing portion of the block 83 in the fully retracted position of the plunger and stops the plunger at a height wherein the lower tip of the driving blade 20 clears the head of the next succeeding sash pin 18 fed into the driving guideway 64. As evident from Figures 3 and 4, at the limit of upward or driving blade retraction movement of the driving plunger 21 the cruciform upper or head portion 70 of the driving blade remains within the guideway 72 wherein the front wall defining the passageway and more particularly the front portion of the liner 73 continues to maintain the head portion 70 within the recess 71.

In order to enable removal of the driving plunger and blade assembly without requiring separation body plates 22 and 23, the stop block 83 is so received in the plunger body that the stop block can be easily retracted from its cooperative relation to the plunger into the recess or chamber 84 clear of the plunger guideway. For this purpose the stop block chamber is of sufficient depth to receive the stop block fully in retracted position and the stop block is formed of sufficient weight and is loosely slidable received within the stop block chamber so that by tipping the machine on end with the forward portion up, the stop block will drop by gravity into the chamber 84, while by moving the machine into reverse position wherein the forward end thereof is down, the block can be moved by gravity into the cooperative engagement within the groove 85 in the plunger.

To retain the stop block 83 against unintentional displacement from stopping relation to the plunger, a removable retaining pin 88 is provided (Figs. 4 and 9) which extends through a bore 89 transversely in the thickened portions 55 of the body plates of the machine rearwardly of the plunger guideway 72 and with which the bore 90 in the stop block 83 is adapted to register when the forward end portion of the stop block is in its operative plunger-stopping relation within the groove 85 of the plunger 21. At one end the pin 88 has a head 91 and at its other end portion the pin has an annular groove 92 receptive of a snap on lock collar 93. Thus, while the stop block 83 effectively retains the driving plunger 21 against over-retraction, in the service condition of the machine, displacement of the stop block can be easily effected for release of the plunger by removal of the retaining pin 88 and rearward shifting of the block when its retraction would then be easily accomplished by returning the plunger into the driving position by depressing the same until registration of the groove 85 is effected with the stop block chamber 84, and the machine held with the forward end portion downwardly so that the stop block 83 will drop into operative position, whereupon the retaining pin 98 is returned through the registering bores 89 and 90 in the machine body and in the block, respectively, and the operative relationship is reestablished.

It will be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention.

We claim as our invention:

1. In combination in a fastener driving machine, means defining a body structure including a fastener supporting and feed magazine, the forward end of the magazine having a discharge opening, a generally U-shaped nose member having a front wall opposite the end of the magazine and side walls embracing the sides of the forward portion of the body structure, a driving blade reciprocable between said nose member and the discharge end of the magazine, a back-up plate between the back face of the driving blade and the adjacent forward end of said body structure and cooperating with the nose member to define a fastener driving guideway within which the driving blade is operable, said back-up plate having a doorway opening therethrough for passage of the fastening elements successively from said magazine chamber into said guideway, the width of said guideway opening so that the blade is supported front and back throughout its operative driving stroke, and said back-up plate having a rearwardly extending flange thereon overlying a supporting shoulder on the body structure for thereby retaining the back-up plate against downward displacement during driving strokes of the blade, said backup plate having edge portions thereof in retained engagement with said side walls of the nose chamber.

2. In combination in a fastener driving machine, means defining a body structure including a fastener supporting and feed magazine, the forward end of the magazine having a discharge opening, a nose member embracing the forward portion of the body structure, a driving blade reciprocable between said nose member and the discharge end of the magazine, a back-up plate between the back face of the driving blade and the adjacent forward end of said body structure and cooperating with the nose member to define a fastener driving guideway within which the driving blade is operable, said back-up plate having a doorway opening therethrough for passage of
the fastening elements successively from said magazine chamber into said guideway, a solid portion of the back-up plate extending below said doorway opening, the width of said guideway and said blade being slightly greater than the width of said doorway opening so that the blade is supported front and back throughout its operative driving stroke, said nose portion and the opposing solid portion of said back-up plate below said doorway aperture having narrow vertical fastener guiding complementary grooves therein.

3. In combination in a fastener supporting and driving machine means providing a body structure having a fastener supporting and feed magazine therein opening forwardly, a nose member and a back-up plate cooperating at the forward portion of the magazine for receiving a series of fastening elements successively from said magazine, a driving blade cooperating between said nose member and said back-up plate for driving the elements, a plunger on the upper portion of said driving blade, a coiled compression return spring for normally urging the plunger into retracted position, a guide tube supporting the lower portion of said spring, the upper end portion of the guide tube and the lower end portion of the plunger being telescopically related in alignment, a rearward extension on said back-up plate, the lower end of said guide tube resting on said rearwardly extending portion of the back-up plate, and means for confining said plunger to a predetermined range of reciprocal movements.

4. In combination in a fastener supporting and driving machine means providing a body structure having a fastener supporting and feed magazine therein opening forwardly, a nose member and a back-up plate cooperating at the forward portion of the magazine for receiving a fastening element successively from said magazine, a driving blade cooperating between said nose member and said back-up plate for driving the elements, a plunger on the upper portion of said driving blade, a coiled compression return spring for normally urging the plunger into retracted position, the guide tube supporting the lower portion of said spring, the upper end portion of the guide tube and the lower end portion of the plunger being telescopically related in alignment, a rearwardly extending upper portion on said back-up plate, the lower end of said guide tube resting on said rearwardly extending portion of the back-up plate, and means for confining said plunger to a predetermined range of reciprocal movements, the rearwardly extending portion of the back-up plate having an aperture therein and the lower end portion of said spring tube having an interfacing lug in said aperture for retaining the tube against lateral displacement.

5. In a fastener driving machine, means providing a body structure having a fastener supporting and feed magazine therein opening forwardly, a nose member and a back-up plate cooperating at the forward portion of the magazine for receiving a series of fastening elements successively from said magazine, a driving member cooperating between said nose member and said back-up plate for driving the elements, a plunger on the upper portion of said driving member, a coiled compression return spring for normally urging the plunger into retracted position, the plunger having a down wardly opening blind end bore therein, said return spring being seated in the blind end of said bore, and a guide tube supporting the lower portion of said spring and extending upwardly thereabout and being received in telescopic alignment in said bore, the lower end of said guide tube being supported relative to said body structure below said plunger.

6. In a fastener driving machine, a body structure, a back-up plate and a nose member carried by the body structure and providing therebetween a fastener drive way, a driving blade operable drivingly in said drive way and having a driving thrust imparting plunger thereon, and laterally extending shoulder structure on the back-up plate overlying upwardly facing shoulder structure on the nose member operable to transmit thrust from said plunger through said back-up plate to said nose member.

7. In a fastener driving machine means providing a body structure having a fastener supporting and feed magazine therein opening forwardly, a nose member and a back-up plate cooperating at the forward portion of the magazine for receiving fastening elements successively from said magazine, a driving blade cooperating between said nose member and said back-up plate for driving the fastening elements, and shoulders on said back-up plate shoulderering against said nose member for maintaining a relative longitudinal position of assembly of the back-up plate and the nose member.

8. In a fastener driving machine, a body structure including a pair of upright body plates of substantial thickness disposed in face-to-face assembly and providing therebetween adjacent to one end of the assembly a vertical driving plunger guideway, a driver structure reciprocably guided in said guideway and including a driving blade portion projecting downwardly therefrom into a cut back lower forward marginal portion of said body plate and a nose member of generally horizontal U-shape in cross-section having a front wall and rearwardly extending side wall portions of substantial width, said front wall fitting in said cut back and defining in its inner face a vertical driving blade driveaway receptive of fastening elements to be driven downwardly thereafter by said driving blade, said side wall portions engages said body plate at the respectively opposite lower front portions thereof and having at the distal extremities thereof inwardly projecting vertical interlock ribs slidably engageable received in complementary vertical grooves in the outer sides of said lower front portions of said body plate, said front wall and said side wall portions of said nose member having lateral flange structure providing upwardly facing shoulders of substantially greater width than the nose member walls therebelow engaged with generally complementary downwardly facing shoulders on the body plates for defining the slidably assembled relation of the nose member with the body plates and affording a mutual thrust imparting relationship.

9. In a fastener driving machine, a body structure including a pair of upright body plates of substantial thickness disposed in face-to-face assembly and providing therebetween adjacent to one end of the assembly a vertical driving plunger guideway, a driver structure reciprocably guided in said guideway and including a driving blade portion projecting downwardly therefrom into a cut back lower forward marginal portion defined by said body plate, a nose member of generally horizontal U-shape in cross-section having a front wall and rearwardly extending side wall portions of substantial width, said front wall fitting in said cut back and defining in its inner face a vertical driving blade driveaway receptive of fastening elements to be driven downwardly thereafter by said driving blade, said side wall portions engaging said body plate at the respectively opposite lower front portions thereof and having at the distal extremities thereof inwardly projecting vertical interlock ribs slidably engageable received in complementary vertical grooves in the outer sides of said lower front portions of said body plate, said front wall and said side wall portions of said nose member having upwardly facing shoulders engaged with generally complementary downwardly facing shoulders on the body plates for defining the slidably assembled relation of the nose member with the body plates and affording a mutual thrust imparting relationship, a back-up plate member also received in said cut back and disposed in face-to-face relation to the inner face of the nose front wall, said back-up plate having a fastener passage or doorway therein aligned with said driving blade driveaway and with side edges of the back-
up plate coacting with the inner sides of said side wall portions of the nose member adjacent to said front wall to maintain the back-up plate in proper alignment, and shoulders on said back-up plate shoulder and said nose member for maintaining a relative longitudinal position of assembly of the back-up plate and the nose member.

10. In a fastener driving machine, means providing a body structure having a fastener supporting and feed magazine therein opening forwardly, a nose member and a back-up plate cooperating at the forward portion of the magazine for receiving fastening elements successively from said magazine, a driving blade cooperating between said nose member and said back-up plate for driving the fastening elements and having an actuating plunger thereon, shoulders on said back-up plate shoulder and said nose member for thereby maintaining a relative longitudinal position of assembly of the back-up plate and the nose member, a further shoulder means on said back-up plate facing generally toward said plunger, and biasing means acting between said further shoulder means and said plunger for normally returning the plunger from a driving stroke, said back-up plate shoulders which shoulder against the nose member being related thereto to transmit thrust imposed from the plunger through said biasing means through said back-up plate to said nose member.

11. In a fastener driving machine, a body structure including a pair of upright body plates of substantial thickness disposed in face-to-face assembly and providing therebetween adjacent to one end of the assembly a vertical driving plunger guideway, a driver structure reciprocably guided in said guideway and including a driving blade portion projecting downwardly therefrom into a cut back lower forward marginal portion defined by said body plates, a nose member of generally horizontal U-shape in cross-section having a front wall and rearwardly extending side wall portions of substantial width, said front wall fitting in said cut back and defining in its inner face a vertical driving blade driveway receptive of fastening elements to be driven downwardly therefrom by said driving blade, said side wall portions embracingly engaging said body plates at the respectively opposite lower front portions thereof and having at the distal extremities thereof inwardly projecting vertical interlock ribs slidably engageably received in complementary vertical grooves in the outer sides of said lower forward portions of said body plates, said front wall and said side wall portions of said nose member having upwardly facing shoulders engaged with generally complementary downwardly facing shoulders on the body plates for defining the slidably assembled relation of the nose member with the body plates and affording a mutual thrust imparting relationship, said nose member side portions having upstanding portions thereon, and a releasable securing pin extending through said upstanding portions and the body plates for thereby securing the nose member against unintentional downward sliding displacement from the body plates.

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