June 4, 1968 K. UNGER 3,386,639

PORTABLE PNEUMATIC PEG-DRIVING MACHINE

Filed Dec. 22, 1965 3 Sheets-Sheet 1

Fig. 1

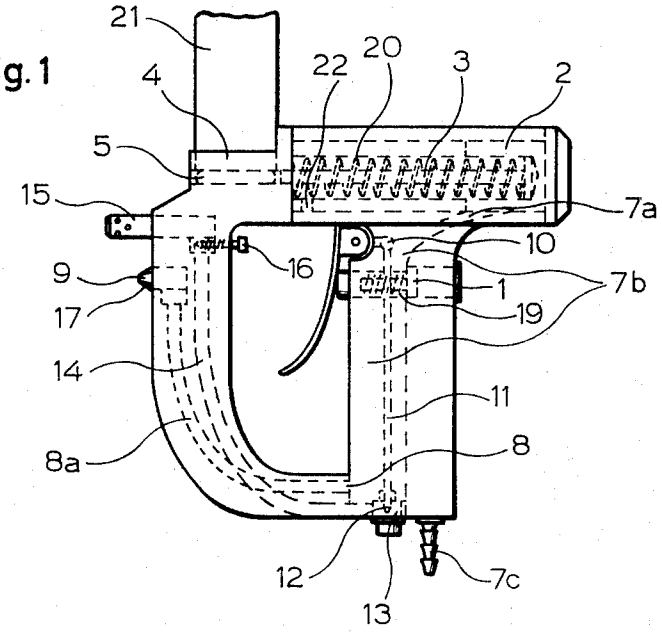


Fig. 2

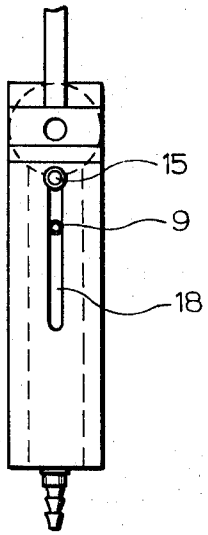
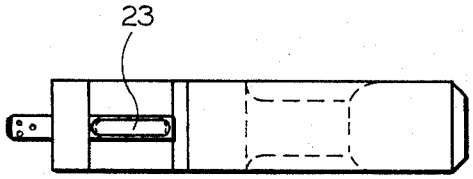


Fig. 3



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PORTABLE PNEUMATIC PEG-DRIVING MACHINE

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Fig. 4

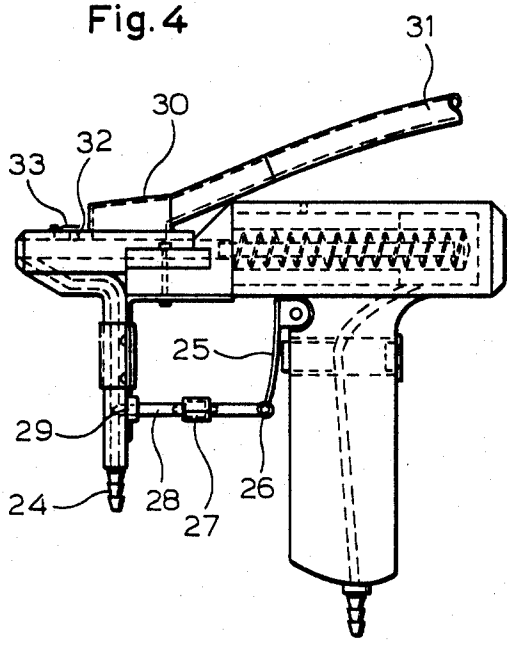
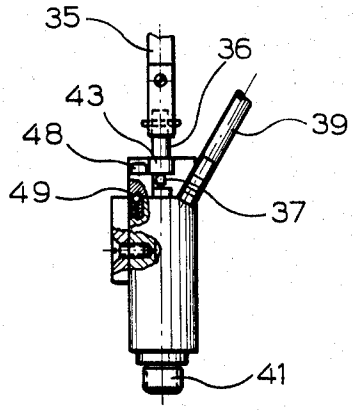


Fig. 6



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PORTABLE PNEUMATIC PEG-DRIVING MACHINE

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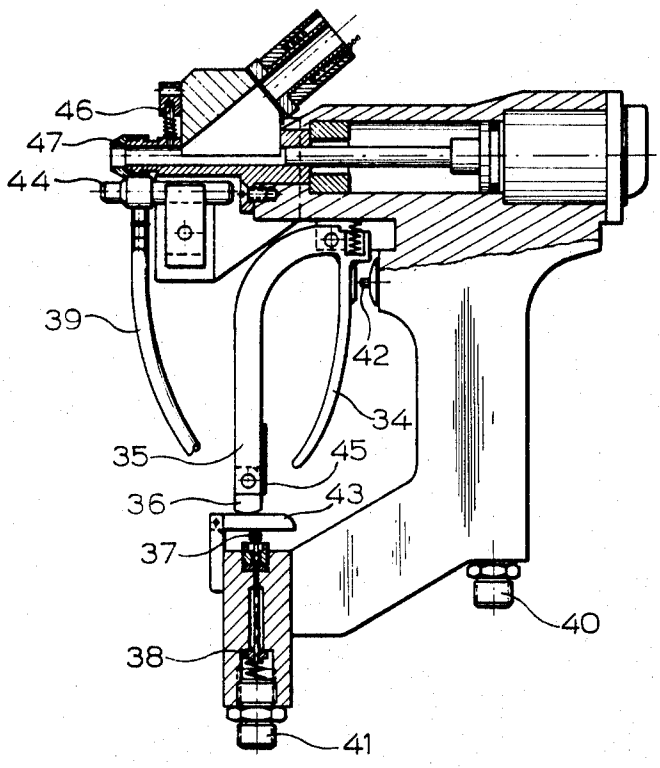
Fig. 5



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United States Patent Office 3,386,639 Patented June 4, 1968

3,386,639

PORTABLE PNEUMATIC PEG-DRIVING MACHINE

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Filed Dec. 22, 1965, Ser. No. 515,593
8 Claims. (Cl. 227—14)

ABSTRACT OF THE DISCLOSURE

A portable pneumatic peg-driving machine for first injecting glue or other adhesive into pre-drilled holes in workpieces and for then driving pegs or dowels into these holes, wherein the manipulation of a single element controls the consecutive operations of injecting an adhesive into the pre-drilled hole, shooting a peg into the hole, and returning the peg-shooting device to a position such that a new peg may be fed into the barrel of the machine, said machine having a resilient blocking member positioned within the barrel so as to prevent a peg from falling out of the mouth of the barrel when the machine is positioned in a non-horizontal orientation. The present invention further contemplates means for feeding a series of pegs consecutively to the barrel from which they are fired, said means including the provision of a positive driving force to position said pegs for firing.

The present invention relates to a portable pneumatic peg-driving machine for first injecting glue or other adhesive into pre-drilled holes in furniture components or other workpieces and for then driving pegs or dowels of wood or any other suitable material into these holes so as to be firmly secured therein.

In the construction of furniture it is conventional to connect different furniture parts to each other by means of wooden pegs or dowels which are glued into predrilled holes in these parts. Since the manual operation of inserting the glue into numerous holes and of then driving the pegs therein requires considerable time and effort, suitable devices have in the past been employed which were combined with drilling elements in a machine tool so as to permit these operations to be carried out mechanically. These known machines are provided with transversely movable slide carriages on which the drilling and peg-driving tools are mounted. After a hole for a peg has been drilled into a workpiece and the slide carriage on which the workpiece is clamped has been shifted for a certain distance, glue is first inserted and thereafter a peg is driven into the hole by mechanical means. These known machines have the disadvantage of being stationary, and the workpieces which are to be pegged must therefore be transported to such a machine. The mechanical production in such a machine also requires a considerable length of time since each workpiece must be clamped individually in the machine which is especially difficult if the workpieces are of a large size or of a very uneven shape or of a delicate design which can be clamped only with great difficulty.

Aside from these stationary machines there are portable machines known for repairing the deficiencies which are caused by branch knots. Such a machine may be used for boring out the knot hole, for inserting glue into the bore, and for also fitting a suitable wooden plug into the bore so as to fill the same. The air which is used for cooling the motor of such a machine is also employed for blowing the chips out of the bores. The manipulation of such a machine is, however, very complicated since each of the series of functions requires a separate control handle to be operated. These machines can also be employed only

to a very limited extent since they can operate properly merely in a vertical direction.

In the machines which have been very recently developed for cutting wooden pegs or dowels, it is possible simultaneously with the cutting operation also to drill the bores into the workpiece into which the pegs are to be inserted. Although it would appear that by carrying out these two operations simultaneously valuable time would be saved, this saving is again nullified either because the pegs have to be driven into the holes by hand or because the workpiece has to be specially clamped into an appliance of the type as previously mentioned for driving the pegs into the holes mechanically.

It is an object of the present invention to provide a portable pneumatic peg-driving machine which overcomes the above-mentioned and other disadvantages of the apparatus which are known for similar purposes by permitting this machine to be easily moved to the workpiece and to be easily manipulated with one hand. For attaining this object, the invention provides that the new machine may be controlled by the manipulation of a single element for carrying out at least three different operations consecutively. The first of these operations consists of injecting an adhesive into the predrilled hole for the peg or dowel, the second operation consists of shooting the peg into this hole, and the third operation consists of returning the peg-shooting device to the position in which a new peg may be fed into its barrel. All three operations may therefore be carried out successively by the same hand of the operator of the machine.

In order to facilitate its manipulation, the machine according to the invention is preferably provided with a pistol-like grip and with a single control lever similar to the trigger of a pistol. For carrying out the additional operation of removing the wood chips which remain in the peg holes after they have been bored, the machine according to the invention may be further provided with a compressed-air control valve which may likewise be operated by the trigger so as to blow a jet of air into the peg hole for cleaning the same before the adhesive is injected therein.

In combination with one of the above-mentioned machines for boring the peg holes, the peg-driving machine according to the present invention permits the series of operations to be carried out at a considerable saving in labor and working time because there is now no longer any need for transporting the workpieces to the place where the pegs or dowels are to be driven into the workpieces and because it is no longer necessary to clamp each workpiece upon the peg-driving machine or to drive the pegs into the workpiece by hand.

The peg-driving machine according to the invention is preferably designed so that the glue-injection nozzle is located underneath the mouth of the barrel which is to be aimed at the peg hole. If the machine is also to be provided with an air-injection-nozzle for blowing the chips out of the peg holes before the glue is injected therein, this air nozzle is preferably also provided underneath the glue-injection nozzle. This arrangement of the barrel mouth and the two nozzles in a row underneath each other is of particular advantage especially if the workpiece is provided with a series of holes in which pegs or dowels are to be secured successively. Another preferred feature of the invention consists in designing the machine in a manner so that the entire distance of movement of the trigger will be divided into three parts or steps. When the trigger is then pulled for the first part of its entire distance of travel, only a jet of compressed air will be blown through the air nozzle so as to clean out one of the peg holes. When the trigger is thereafter further pulled and reaches the beginning of the second part of its total length of travel, not only the jet of air will be blown

out of the air nozzle but in addition a certain amount of glue will be ejected from the glue-injection nozzle, and when the trigger is still further pulled and reaches the beginninng of the third part of its travel, the peg is shot out of the barrel. If, for example, a workpiece is provided with a vertical row of holes, the machine is first applied thereon in a position so that the air-injection nozzle, that is, the third outlet opening from above, will be located in front of the uppermost hole. The operator of the machine will then at first pull the trigger only up to the end of the first part of its total length of travel and will thereby clean out the uppermost hole by a blast of compressed air without also operating the glue-injection nozzle or the peg-shooting mechanism. If the operator then shifts the machine downwardly so that the air-injection nozzle will be located in front of the second hole from above and the glue-injection nozzle will be located in front of the first or uppermost hole, and if he then pulls the trigger along the second part of its total length of travel, the second hole will be blown out and at the same time a certain amount of glue will be injected into the first hole. If the operator after releasing the trigger then shifts the machine still further so that the mouth of the barrel will be located in front of the first or uppermost hole and if he then pulls the trigger along its entire distance of travel, that is, along all three parts of this distance, the peg-shooting mechanism will be released so that a peg will be shot into this first hole, while glue will be injected into the second hole from above, and a blast of air will be injected into the third hole from above so as to clean the same. When the machine is thereafter again shifted downwardly for the distance between two adjacent holes so that the three outlet openings of the machine will be located in front of the second, third, and fourth holes from above, and if he then again pulls the trigger from the beginning to the end of its total length of travel, the same functions as last stated will be repeated. This will be continued until the barrel is located in front of the second lowest hole and a peg is shot into this hole. The lowest hole will then at the same time be supplied with glue while the blast of compressed air will be ejected from the air nozzle without any practical effect. In order to prevent a useless ejection of glue from the glue nozzle when a peg is being shot into the lowest hole, the machine is provided with an additional shutoff valve which is actuated by the operator at this time so as to prevent such ejection.

Since the spacing between the adjacent peg holes of one row is usually uniform in each workpiece, but may be of a different size in different workpieces, it is advisable to make the glue and air nozzles adjustable to different distances from each other and from the fixed location of the mouth of the barrel. These two nozzles may then be quickly adjusted and fixed in accordance with the particlular spacing of the peg holes in the workpiece which is next to be worked upon. If desired, the machine according to the invention may also be designed in such a manner that the mouth of the barrel may also serve as a glue-injection nozzle so that a separate glue nozzle as well as the additional shutoff valve as mentioned above may be omitted.

The peg-driving machine according to the invention is further provided with a magazine which is connected to the barrel of the peg-shooting mechanism and is adapted to hold a supply of pegs or dowels. The lowest of these pegs rests under its own gravity and possibly also under the gravity of the upper pegs upon the peg which is then located within the barrel ready to be shot and it passes into the barrel as soon as the previous peg has been shot out of the barrel by the pneumatically driven piston of the schooting mechanism.

While the peg-driving machine as previously described will operate properly as long as its barrel extends substantially horizontally, it may no longer be loaded properly if the position of the workpiece requires the barrel to extend in an inclined direction. If the machine has to be held in such a position, the peg to be next fed from the magazine into the barrel will be acted upon only by a component of its gravity which depends upon the degree of inclination of the barrel. When this inclination increases beyond a certain degree, the gravity component becomes too small to move the peg into the barrel. Furthermore, if the pegs are to be shot downwardly at an oblique angle or even vertically into the peg holes, not only the feeding of the pegs from the magazine into the barrel will discontinue, but the peg which is already within the barrel for the next shooting operation may drop out of the barrel.

These difficulties are overcome according to the invention by the provision of common means for accomplishing two further objects, namely, of preventing the peg from slipping out of the barrel and of also controlling a device which is automatically actuated as soon as a peg has been shot so as to exert upon the next peg a driving force which positively feeds this peg from the magazine into the barrel. The first-mentioned object is attained according to the invention by providing a suitable resilient blocking member, for example, a spring-loaded ball or pin, which is located at a point in front of the peg within the barrel and projects for such a distance laterally into the bore of the barrel that it prevents the plug from falling out of its mouth. However, when the peg is being shot, the pressure of the peg against the resilient or spring-loaded blocking member will force the latter laterally out of the bore without any substantial retarding effect upon the peg. This same blocking member also serves for attaining the second object as mentioned above by either forming or being operatively associated with an electric contact which is connected to a circuit for electrically controlling the operation of a pneumatic device for feeding the next peg from the magazine into the barrel as soon as the previous peg has been shot from the barrel. The electric control circuit is therefore closed by the blocking member when the latter is forced laterally out of the bore of the barrel by the peg which is being shot.

The provision of such control means is, however, not required in every case. Thus, for example, if the peg-driving machine only needs to be inclined at a small angle during its operation, the gravity of the pegs will be sufficient for feeding them into the barrel so that an additional driving force for effecting the feeding will then be unnecessary. The blocking member for arresting the peg within the barrel should, however, not be omitted since the loaded machine when not in operation is often layed down or hung on a hook or the like in a position in which the mouth of the barrel points downwardly. If the machine is designed accordingly, it is therefore possible to effect the feeding operation either mechanically by the gravity of the pegs when the machine is held so that the barrel extends substantially horizontally or only at a smaller inclination, or by means of the electrically controlled pneumatic driving force. In the first case, that is, when the machine is held in such a position that the gravity feed of the pegs may be relied upon, the electric contact which is actuated by the blocking member may be rendered inoperative or the circuit itself may be switched off.

The above-mentioned as well as additional features and advantages of the present invention will become more clearly apparent from the following detailed description thereof which is to be read with reference to the accompanying drawings, in which:

FIGURE 1 shows a side view of the peg-driving machine according to one preferred embodiment of the invention;

FIGURE 2 shows a front view of the machine according to FIGURE 1;

FIGURE 3 shows a top view of the machine according to FIGURE 1;

FIGURE 4 shows a side view of a peg-driving machine according to a modification of the invention, in which the air injection nozzle has been omitted for the sake of clarity of the illustration;

FIGURE 5 shows, partly in cross section, a side view of a peg-driving machine according to a further modification of the invention, in which the glue-injection nozzle is vertically adjustable underneath and relative to the mouth of the barrel; while

FIGURE 6 shows, partly in cross section, a front view of the glue-feeding part of the machine according to FIGURE 5.

As illustrated in FIGURE 1, the upper part of the peg-driving machine according to the invention which has a shape similar to the barrel of a pistol contains a cylinder in which a piston **2** is slidably guided which contains and acts upon one end of a firing pin **3** which is surrounded by a coil return spring **20** and is slidable against the action of this spring **20** within the bore of a barrel in which a wooden peg or dowel **5** is located. The cylinder chamber behind the piston **2** is connected to the end of a channel **7***a* which comes from an air chamber **7***b* which is provided within the grip of the machine. This grip also contains an air control valve **1** which will be opened against the action of a spring **19** when the trigger of the machine is pulled so that compressed air which is supplied into the grip through a hose nipple **7***c* on the lower end of the grip can enter into the air chamber **7***b* from which it will pass through the channel **7***a* to the part of the cylinder behind the piston **2**. The air control valve **1** is designed so as to allow the compressed air first to enter into the chamber **7***b* and not to connect this air chamber **7***b* with the channel **7***a* until the trigger is pulled back for an additional distance.

As long as the trigger is being pulled back, the compressed air therefore passes into the air chamber **7***b* from which it will then pass through an air conduit **8***a* to an air nozzle **9** from which a blast of compressed air may be injected into an opposite peg hole of a workpiece not shown, for blowing out of this hole any dust or chips which may be contained therein. The trigger is also pivotably connected at **10** to a rod **11**, the lower end of which forms a valve member **12** of a glue-control valve **13** into which glue is supplied under pressure through a hose which is likewise connected to the lower end of the grip. Thus, when the trigger is further pulled back, it will lift the valve member **12** and thereby open the valve **13** so that the glue will be fed through a conduit **14** to a glue-injection nozzle **15** which may be inserted into a peg hole of the workpiece and is provided with glue outlet openings in its free end as well as in its side wall. The amount of glue which will then be injected through the glue nozzle **15** into the peg hole may be varied by means of an adjustable valve **16** which is interposed between the glue feed line **14** and the glue nozzle **15**.

When the trigger is further pulled back toward the end of its distance of travel, compressed air also passes from the air chamber **7***b* through the valve **1** and channel **7***a* into the part of the cylinder chamber behind piston **2** which is thereby propelled forwardly and against the peg **5** so that the latter will be shot out of the barrel and driven into a peg hole of the workpiece which is in axial alignment with the bore of the barrel. When the operator of the machine then releases the trigger, it will be returned to its original position by the action of the spring **19**, while the piston **2** together with the firing pin **3** will be returned to their retracted position by the action of spring **20**.

On its upper side, the barrel has an opening **4** into which a magazine **21** may be inserted which contains a supply of pegs or dowels **23** which rest by gravity on the peg **5** which is loaded within the barrel. When this peg **5** has been shot out of the barrel and the firing pin **3** has returned to its original position, the next peg will slide by gravity from the magazine **21** into the barrel which will thus be reloaded for the next shooting operation.

For venting the cylinder chamber in front of the piston **2**, the housing containing the barrel is provided with an opening **22** which leads from the cylinder to the outside. In addition, the air nozzle **9** is provided with a conical outer surface **17** which, when the peg-driving machine is applied against the upper surface of a workpiece and when the air nozzle is aimed into the mouth of one peg hole after the glue nozzle **15** has been inserted into the next peg hole, centers the mouth of the barrel accurately relative to the peg hole into which the next peg is to be driven. Of course, one or more vent channels may be provided in the conical outer surface of the air nozzle **9**.

As illustrated in FIGURE 2, the glue nozzle **15** and the air nozzle **9** are slidable within a slot **18** so as to permit them to be adjusted to different distances from each other and from the mouth of the barrel in accordance with the spacing between the peg holes of different workpieces. These nozzles are further provided with suitable means, not shown, for securing them in the particular positions to which they are adjusted.

FIGURE 4 illustrates a modification of the peg-driving machine according to the invention. The glue feed line of this machine which is provided at one end with a hose nozzle **24** terminates directly into the barrel at a point which is located at a short distance behind its mouth. The lower end of the trigger **25** is pivotably connected at **26** to one end of a rod **28** which consists of two parts which are connected to each other by a coupling **27**. The other end of rod **28** is connected to a glue-control valve **29** for operating the same. When the trigger **25** is pulled after the mouth of the barrel has been applied upon a peg hole of a workpiece, the first part of the movement of the trigger opens the valve **29** so that a certain amount of glue is supplied into the barrel from which it is injected into the peg hole. When the trigger **25** is further pulled, the peg, not shown, which is then located within the barrel is shot into the peg hole in the manner as already described.

The peg-driving machine according to FIGURE 4 also differs from the machine according to FIGURE 1 by the construction of its peg-feeding means. A magazine, not shown, which contains a supply of pegs is connected by a hose or flexible tube **31** to a hollow cap **30** which is mounted on the barrel and connected by a bottom opening with the bore of the barrel. The pegs coming from the magazine enter the hose **31** successively and slide one after another along the same and into the cap **30** as soon as the peg which was previously deposited this cap has dropped into the barrel. If the hose **31** has a sufficient downward inclination from the magazine to the cap **30**, the pegs may be fed by their own gravity. If, however, the machine is to be held in a position in which such a gravity feed is either impossible or cannot be relied upon, for example, when its barrel points upwardly, the pegs are fed through hose **31** into the barrel by means of compressed air.

Such a pneumatic feeding mechanism must operate intermittently since the sequence of operations is determined by the shooting of the pegs, but the peg which is deposited in the cap **30** must at all times press upon the peg which is located within the barrel. If the machine is held in a position so that its barrel points upwardly either obliquely or vertically, this pressure cannot be produced by the gravity of the peg within cap **30**, but it must be produced by compressed air. If, on the other hand, the barrel is pointed at a similar angle in the downward direction, provisions must be made to prevent the peg which is loaded within the barrel from sliding out of its mouth The machine is for this purpose provided with a resilient

blocking member in the form of a ball 32 which under the action of a leaf spring 33 projects radially for a distance of about one quarter of its diameter into the barrel at a point thereof in front of the loaded peg so that this peg will be retained within the barrel until the trigger is pulled and it is shot from the barrel. In place of such a spring-loaded ball, it is also possible to employ a spring-loaded pin 46, as shown in FIGURE 5. The spring may act upon a fixed contact spring, not shown, which is adapted to close an electric circuit of a control mechanism for the operation of the compressed-air peg-feeding mechanism which is associated with the peg magazine. Whenever a peg is shot out of the barrel, ball 32 or pin 46 is lifted by the direct action of the peg against the pressure of the associated spring and thereby closes the electric contact for a very short time so that an electric impulse will be transmitted to the feed-control mechanism. At each of these impulses a new peg will be fed pneumatically from the magazine into the hose 31 and the peg which is then deposited in the cap 30 will be pushed into the barrel.

When in the operation of either of the two machines as shown in FIGURES 1 to 4 the trigger is pulled, the glue control valve 13 or 29 will remain open as long as the trigger is not released. It may therefore happen that the operator may hold the trigger too long in the shooting position and may thereby inject too much glue into the respective peg hole.

In order to eliminate this disadvantage, the peg-driving machine according to the invention may be further modified in the manner as illustrated in FIGURE 5, in which the trigger 34 is provided with an arcuate, downwardly projecting arm 35 which carries on its lower end a connecting member 36 which is pivotable only in one direction relative to the arm 35. When the trigger 34 is pulled while this connecting member 36 is in the position as illustrated in FIGURE 5, arm 35 together with the member 36 is pivoted and the latter presses upon a lever 43 which, in turn, presses upon a knob 37, the movement of which is transmitted against the action of a spring to the glue-control valve 38 so as to open the same. The glue is supplied to the valve 38 through a hose 39 to the glue nozzle 44 which is adjustable in a vertical direction relative to the axis of the barrel. When the trigger 34 is further pulled back, the connecting member 36 releases the lever 43, so that the glue control valve 38 will by the action of its spring be closed and the supply of glue to the nozzle 44 will be interrupted. At the same time, trigger 34 presses upon a pin 42 which thereby opens the air control valve so that the compressed air which is supplied through the hose connection 40 will pass to the cylinder and drive the piston therein together with the firing pin forwardly and shoot the peg into a peg hole. When the trigger 34 is released and returns to its inoperative position, the connecting member 36 hits against the lever 43 and is thereby pivoted upwardly so that valve 38 is not again actuated. As soon as the trigger 34 is pivoted back to its original position, the connecting member 36 is pivoted by a leaf spring 45 to its original position in which it extends parallel to the lower part of the arm 35.

In order to prevent the shooting mechanism from being unintentionally actuated, the machine according to FIGURE 5 may be provided with a safety bolt 48 which is slidable laterally to the position as shown in FIGURE 6 intermediate the lever 43 and the upper surface of the housing of valve 38 so as to prevent the lever 43 from being pivoted downwardly and for thus preventing the arm 35, 36 together with the trigger 34 from pivoting out of the inoperative position as shown in FIGURE 5. This safety bolt 48 may be arrested in its locking position between the lever 43 and the housing of valve 38 as well in its retracted position by means of a spring-pressed ball 49 which in either of these positions engages into one or another locking recess in the lower side of the safety bolt 48.

As illustrated in FIGURE 5, the front end of the barrel is provided with an outer screw thread on which a cap 47 may be screwed. By screwing this cap in one direction or the other or by exchanging it for a cap of another length, it is possible to vary the depth to which the peg may be shot into a peg hole. If, for example, cap 47 is screwed outwardly, the distance is increased between its front end and the front end of the firing pin in its retracted position before being propelled forwardly. This distance determines the depth of penetration of a peg into a peg hole since the pegs are generally made of a slightly larger diameter than the peg holes and therefore have to overcome a certain friction when being shot into the peg holes. This friction will, however, be overcome only as long as the peg is positively driven by the firing pin, that is, as long as the firing pin engages directly upon the end of the peg and drives the latter into the peg hole.

Although my invention has been illustrated and described with reference to the preferred embodiments thereof, I wish to have it understood that it is in no way limited to the details of such embodiments but is capable of numerous modifications within the scope of the appended claims.

Having thus fully disclosed my invention, what I claim is:

1. A portable pneumatic peg-driving machine comprising means for injecting an adhesive into a peg hole of a workpiece, a barrel adapted to be loaded with a peg, a drive member adapted to be forwardly propelled from a retracted position behind said peg in said barrel for driving said peg from said barrel and into said peg hole after said adhesive has been injected therein, pneumatic means for forwardly propelling said drive member, means for returning said drive member to said retracted position after said peg has been driven from said barrel so as to permit a new peg to be loaded into said barrel, and a single control member adapted to be moved by hand in one direction from a released position for controlling at least the successive operations of said injecting means, said pneumatic means, and said returning means, in which said adhesive injecting means comprise a conduit terminating into said barrel so that the mouth of said barrel will also serve as a nozzle for injecting said adhesive into said peg hole.

2. In a portable pneumatic device for injecting adhesive into predrilled holes and subsequently driving dowels or the like into said pre-drilled holes, comprising a pistol-like handle, adhesive-injecting means, a barrel housing a dowel to be driven, a firing pin pneumatically movable longitudinally within the barrel for propelling the dowel from the barrel, and a manually operable actuating lever for controlling at least said adhesive-injecting means and said firing pin,

the improvement comprising a resilient blocking member positioned within said barrel at a point forward of the dowel to be ejected and projecting radially into said barrel to such an extent that it prevents said dowel from falling out of said barrel, said blocking member adapted to yield under the force of the dowel when said dowel is activated by said firing pin.

3. A machine as defined in claim 2, in which said adhesive injecting means comprise a conduit terminating into said barrel so that the mouth of said barrel will also serve as a nozzle for injecting said adhesive into said pre-drilled hole.

4. A machine as defined in claim 2, further comprising means for locking said actuating lever in a released position so as to prevent it from being moved unintentionally.

5. A machine as defined in claim 8, further comprising one of a plurality of interchangeable threaded caps adapted to be screwed onto the muzzle end of the barrel, each of said caps having a bore corresponding to the inside diameter of said barrel, but differing in length from

the other caps, thus providing means for selectively predetermining the depth of penetration of said dowels.

6. A machine as defined in claim 2, further comprising one of a plurality of interchangeable threaded caps adapted to be screwed onto the muzzle end of the barrel, each of said caps having a bore corresponding to the inside diameter of said barrel, but differing in length from the other caps, thus providing means for selectively predetermining the depth of penetration of said dowels.

7. A machine as defined in claim 2, in which said control member comprises a trigger adapted to be pulled and thereby pivoted for a certain distance until said drive member is forwardly propelled, an arm secured to and pivotable with said trigger, spring means for returning said trigger with said arm to its released position, and an actuating member pivotably connected to the end of said arm so as to be pivotable from an extended position in which it forms an extension of said arm to an angular position at one side of said arm, said adhesive injecting means comprising an injection nozzle, a control valve, and means for supplying said adhesive to said control valve and through said valve when open to said injection nozzle, said control valve having a movable valve member, said actuating member when in said extended position being adapted to act upon said valve member so as to open said control valve while said trigger together with said arm is being pivoted for only a part of said distance, said actuating member being adapted to abut against said valve member and thereby to be pivoted to said angular position and out of engagement with said valve member when said trigger is released and returns with said arm to said released position, and spring means for pivoting said actuating member from its angular position to said extended position when said trigger together with said arm is in said released position.

8. A portable pneumatic peg-driving machine comprising means for injecting an adhesive into a peg hole of a workpiece, a barrel adapted to be loaded with a peg, a drive member adapted to be forwardly propelled from a retracted position behind said peg in said barrel for driving said peg from said barrel and into said peg hole after said adhesive has been injected therein, pneumatic means for forwardly propelling said drive member, means for returning said drive member to said retracted position after said peg has been driven from said barrel so as to permit a new peg to be loaded into said barrel, and a single control member adapted to be moved by hand in one direction from a released position for controlling at least the successive operations of said injecting means, said pneumatic means, and said returning means, further comprising means for locking said control member in said released position so as to prevent it from being moved unintentionally.

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LEONIDAS VLACHOS, *Primary Examiner.*

G. Y. CUSTER, *Assistant Examiner.*

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,386,639 June 4, 1968

Karl Unger

It is certified that error appears in the above identified patent and that said Letters Patent are hereby corrected as shown below:

In the heading to the printed specification, lines 4 and 5, "Hochstrasse 13, Alsfeld, Hessen, Germany " should read -- Alsfeld, Hessen, Germany, assignor to Anton Bilek, Philippsburg, Baden, Germany --.

Signed and sealed this 7th day of October 1969.

(SEAL)
Attest:

Edward M. Fletcher, Jr.
Attesting Officer

WILLIAM E. SCHUYLER, JR.
Commissioner of Patents