

June 17, 1969

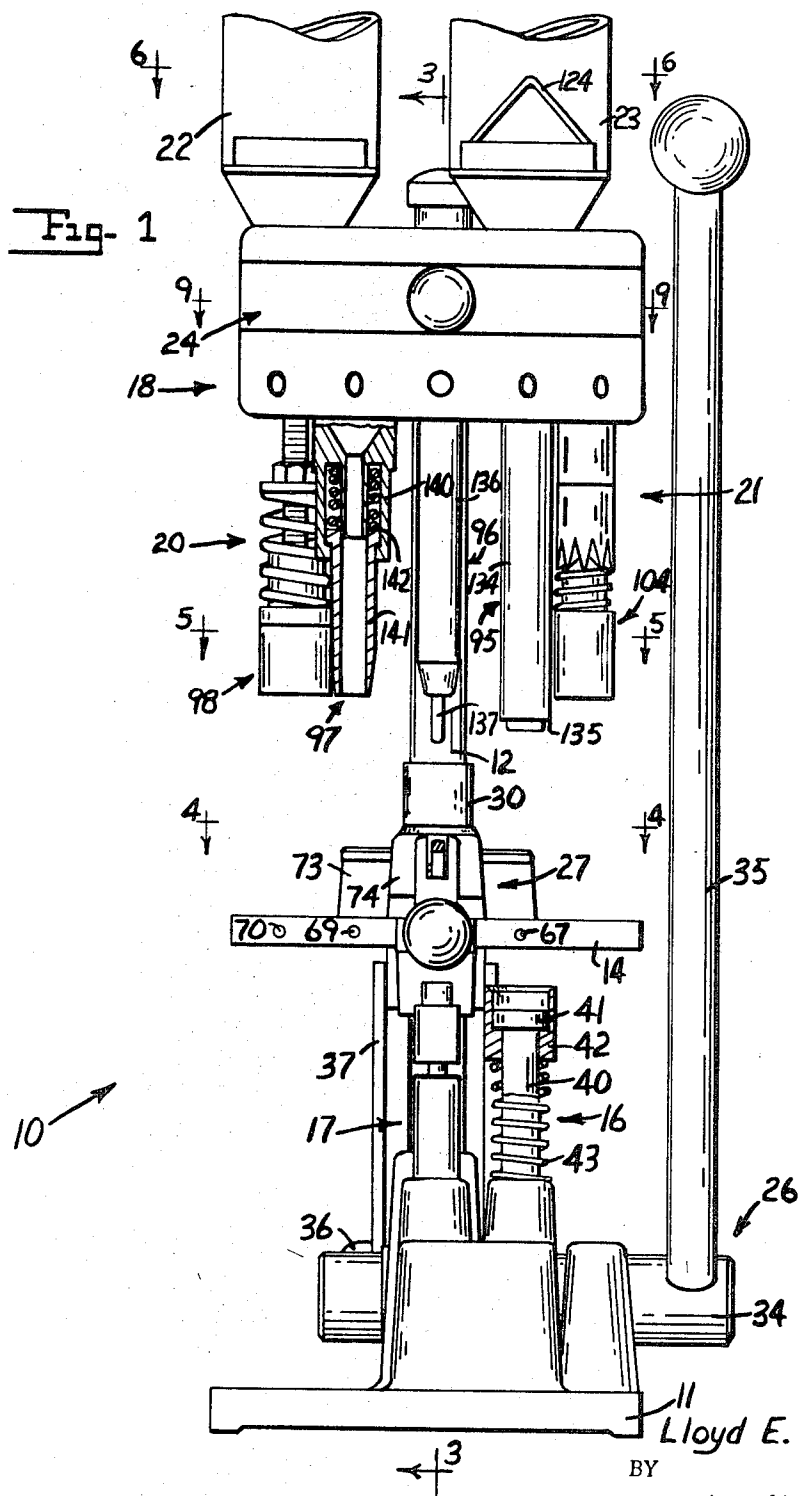
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APPARATUS FOR RECONDITIONING AND RELOADING SHOTGUN SHELLS

Filed March 15, 1968

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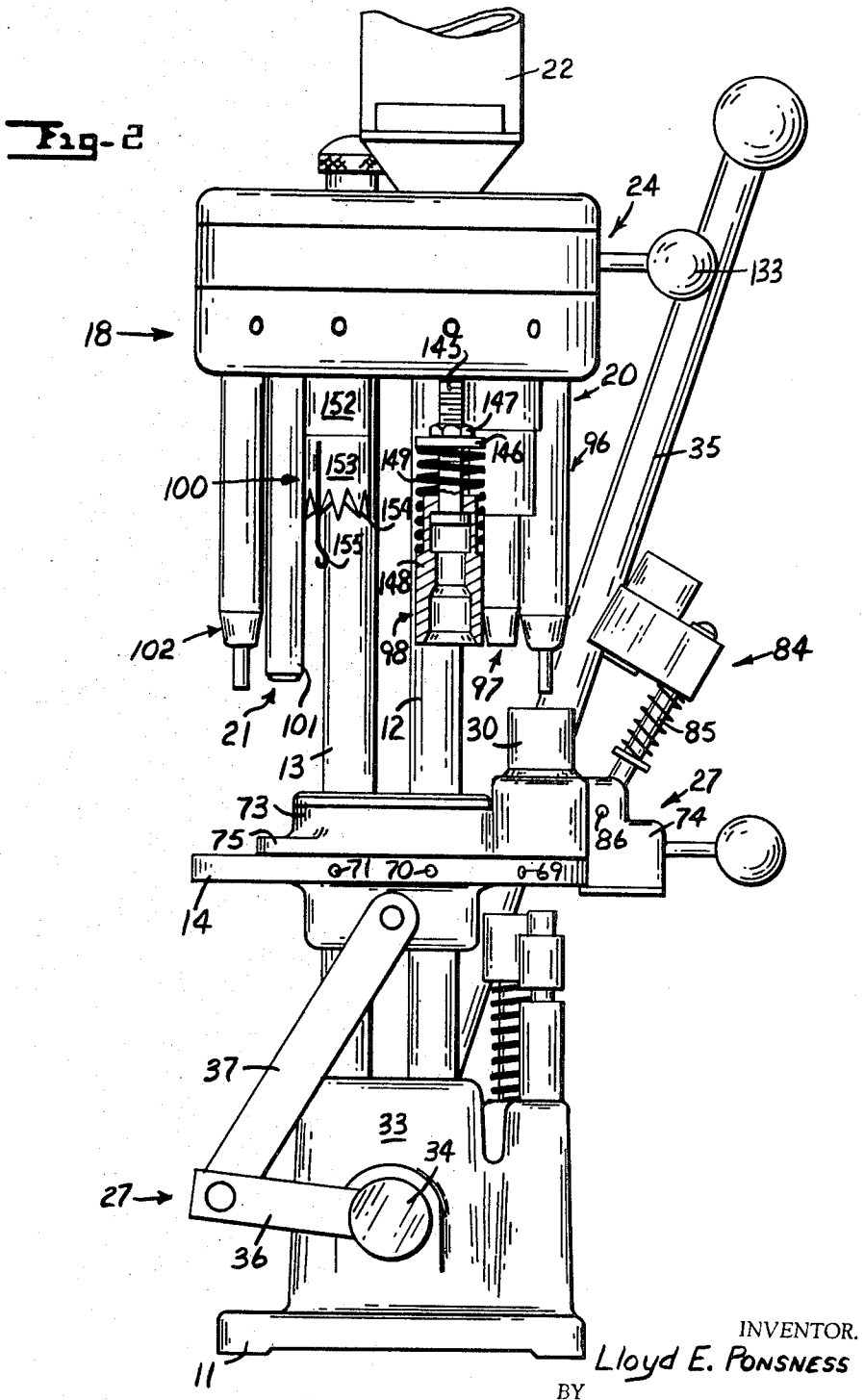
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Sheet 2 of 6



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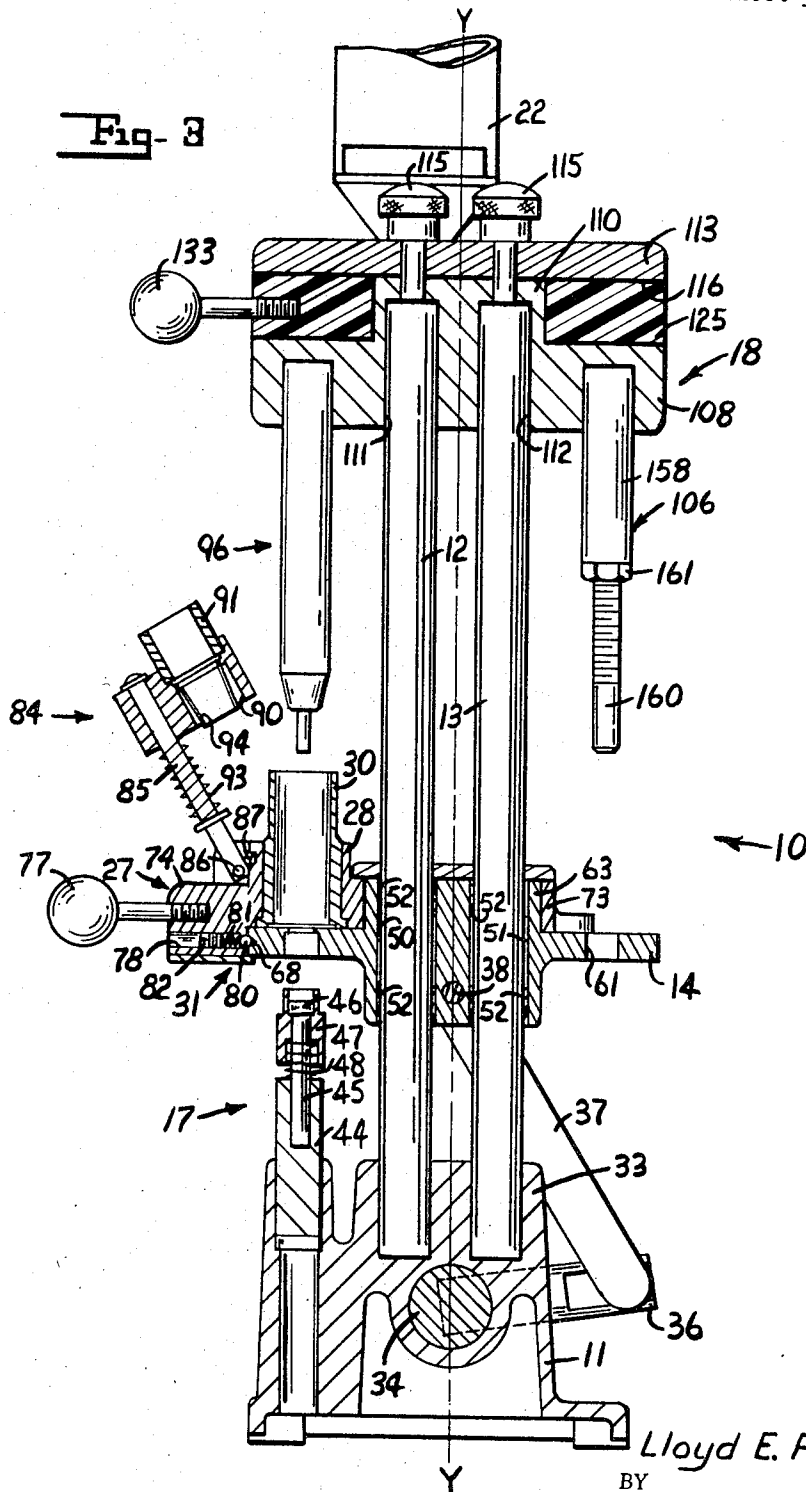
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Sheet 3 of 6



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Fig-4

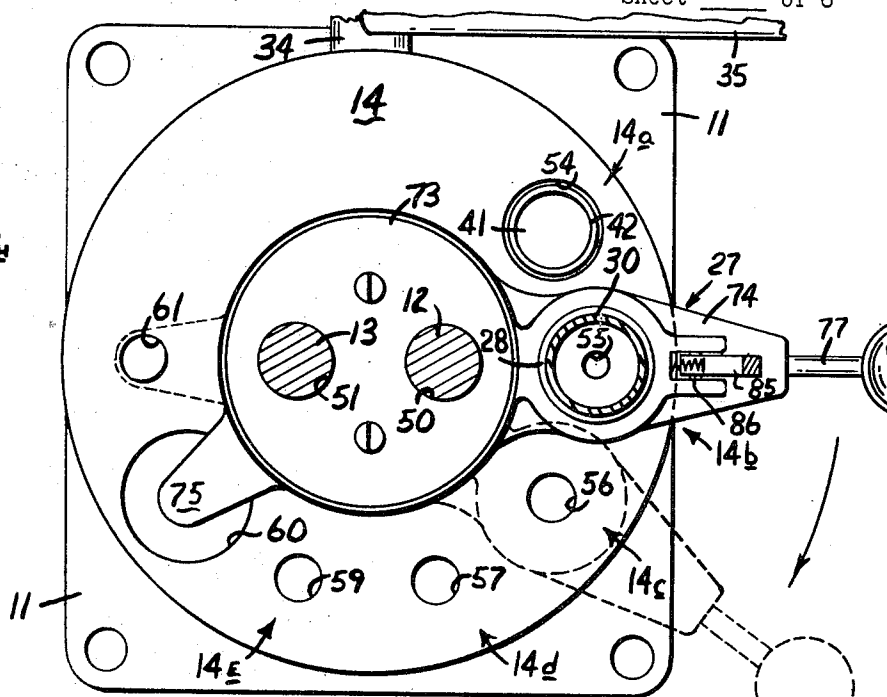
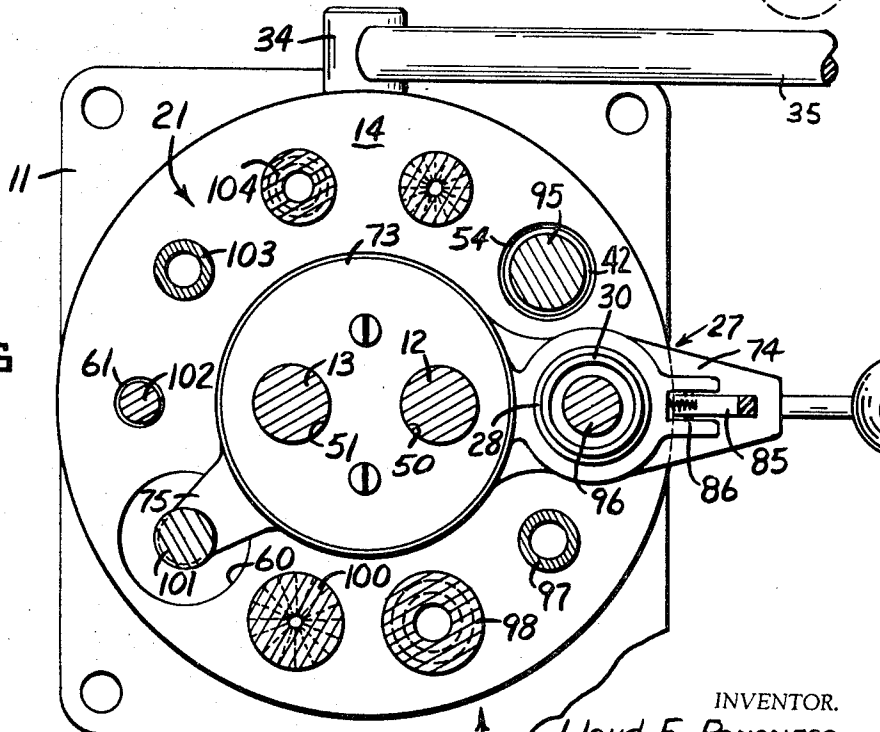


Fig-5



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Fig-6

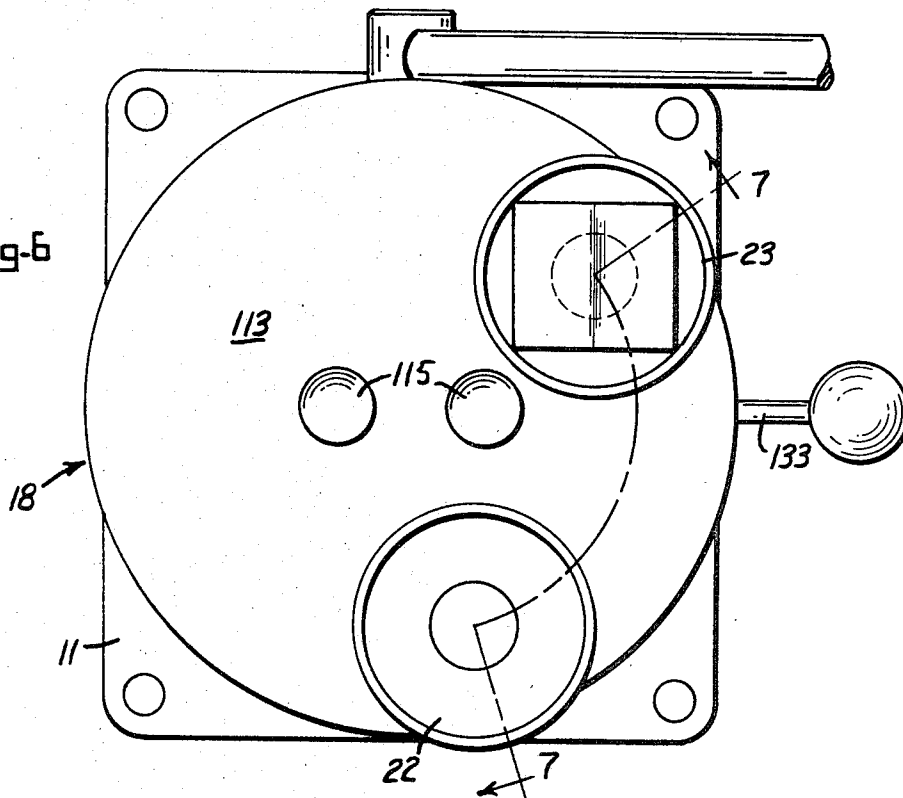
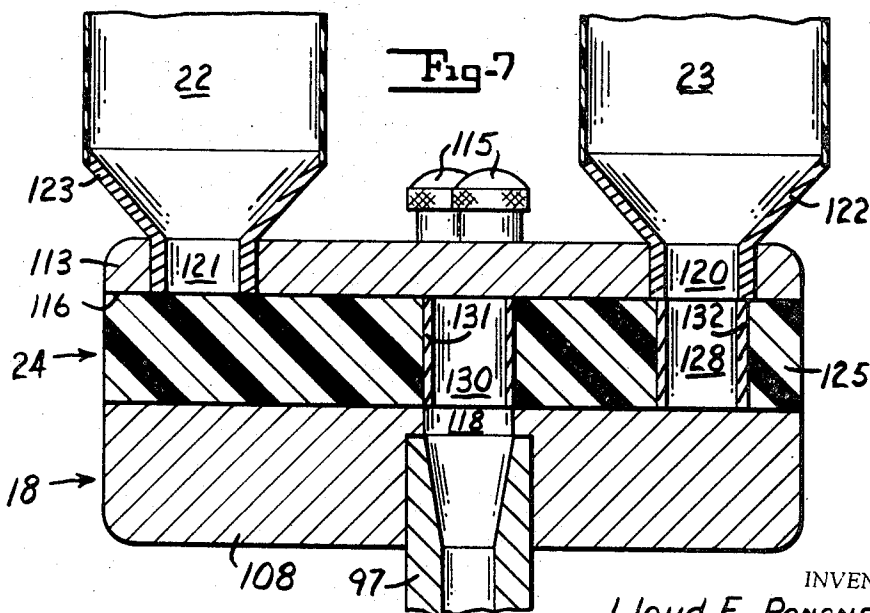


Fig-7



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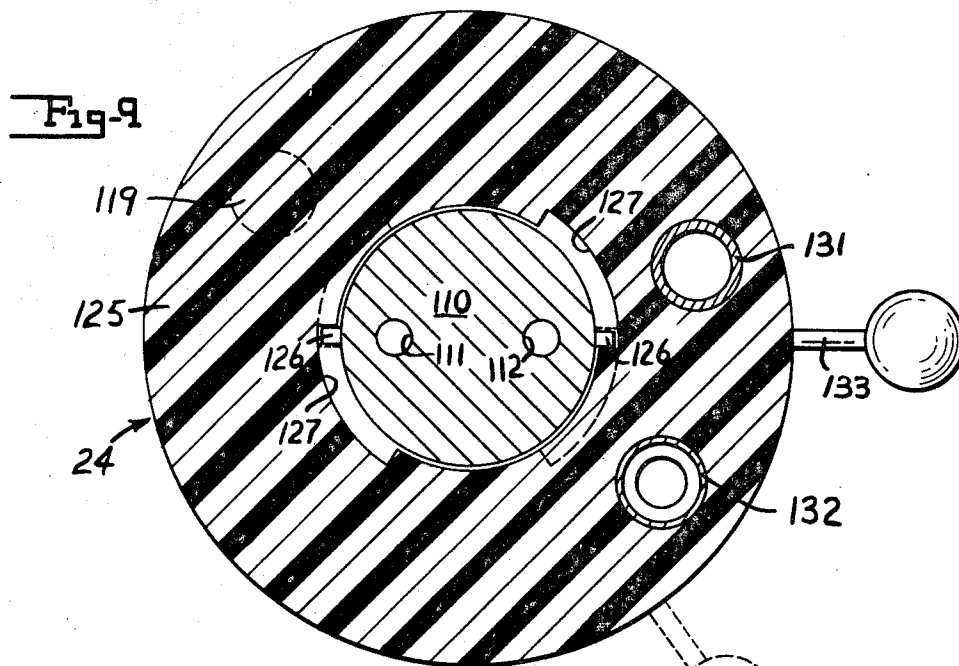
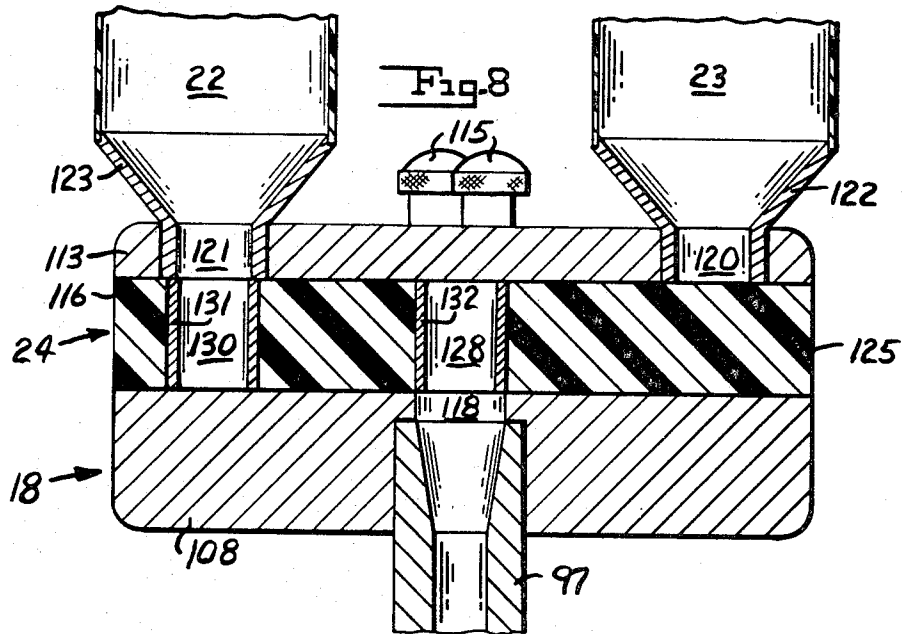
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Sheet 6 of 6



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APPARATUS FOR RECONDITIONING AND RELOADING SHOTGUN SHELLS

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8 Claims

ABSTRACT OF THE DISCLOSURE

An apparatus is described for reconditioning and reloading various gauge shotgun shells by a tool turret assembly having two sets of angularly spaced tools positioned about a center line. The described apparatus has two upright standards for supporting the tool turret assembly and slidably supporting a vertically movable support plate. A shell carrier is slidably mounted on the support plate for pivotal movement about the center line to a plurality of angularly spaced work stations. A dispensing means is mounted on the turret assembly for accurately measuring and dispensing shot and powder through one of the tools into a shell. A wad loading device is movably mounted on the shell carrier for receiving wad and positioning the wad coaxially over a shell mounted on the shell carrier.

Background of the invention

This invention relates to shell reloading apparatus and more particularly to an apparatus for reconditioning and reloading used shotgun shells of various gauges.

Sportsmen engaged in trap shooting generally use a large number of shotgun shells during practice and competition. It is economically advantageous to the participants if the shells can be reused without having to purchase all new shells. Frequently the participants utilize a variety of different gauge shells and desire an inexpensive apparatus for reconditioning and reloading such shells.

One of the principal objects of this invention is to provide an apparatus capable of efficiently and accurately reconditioning and reloading various gauge shotgun shells.

A further object of this invention is to provide an apparatus that is inexpensive to manufacture and simple to operate for accurately reloading shotgun shells.

An additional object of this invention is to provide a loading apparatus that is sturdy and requires a minimum of realignment after a long period of use.

A further object of this invention is to provide a shotgun shell loading apparatus that has a dispensing device that may be adjusted to accurately dispense different weights of shot and powder into reconditioned shells.

An additional object of this invention is to provide an accurate and adjustable mechanism for setting the wad pressure against the powder during reloading.

These and other objects and advantages of this invention will become apparent upon the reading of the following detailed description of a preferred embodiment.

Brief description of the drawings

A preferred embodiment of this invention is illustrated in the accompanying drawings in which:

FIG. 1 is a front elevation view of an apparatus for reconditioning and reloading used shotgun shells that embodies the principles of this invention;

FIG. 2 is a side elevation view of the apparatus;

FIG. 3 is a vertical cross sectional view taken along line 3—3 in FIG. 1;

FIG. 4 is a horizontal cross sectional view along line 4—4 in FIG. 1;

FIG. 5 is a horizontal cross sectional view taken along

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line 5—5 in FIG. 1 showing the angular arrangement of two sets of tools for reconditioning and reloading two different gauge shotgun shells;

FIG. 6 is a horizontal cross sectional view taken along line 6—6 in FIG. 1 showing the top of a tool turret assembly that has a dispensing device for dispensing accurate amounts of powder and shot into a shotgun shell;

FIG. 7 is a vertical cross sectional view taken along the irregular line 7—7 in FIG. 6 showing the dispensing device in a first position receiving shot and dispensing powder into a tubular loading tool;

FIG. 8 is a view similar to FIG. 7 except showing the dispensing device in a second position receiving powder and dispensing shot into the tubular loading tool; and

FIG. 9 is a horizontal cross sectional view taken on line 9—9 in FIG. 1.

Detailed description of a preferred embodiment

The preferred embodiment of this invention is illustrated in FIG. 1 showing a reconditioning and reloading apparatus generally designated by the arrow 10. The device 10 has a base 11 with two standards 12 and 13 extending upwardly therefrom equally spaced from a center axis Y (FIGS. 2 and 3).

An annular support plate 14 is slidably mounted on the standards for vertical movement. Work stations are located at angularly spaced intervals about the support plate 14. The work stations are viewed in FIG. 4 include a shell mounting and discharge station 14a, a primer knockout station 14b, a reloading station 14c, a shell crimping station 14d and a plastic shell precrimping station 14e.

A shell support anvil 16 (FIG. 1) is mounted on the base 11 immediately below the support plate 14 at the shell mounting and discharge station 14a. An upright primer support anvil 17 is mounted on the base adjacent the shell support anvil at the primer station 14b. A tool turret assembly 18 is mounted on the upper ends of the standards 12 and 13 for supporting two sets of angularly spaced tools 20 and 21 to recondition and reload two different gauge shotgun shells. A shot container 22 and a powder container 23 are mounted on top of the tool turret assembly 18 for delivering powder and shot through a dispensing device 24 mounted on the tool turret assembly.

The support plate 14 is moved vertically by a manual actuating means 26 that is operatively connected to the plate 14. A shell carrier 27 is slidably mounted on the support plate 14 for pivotal movement thereon about the center axis Y. The shell carrier 27 has a vertical aperture 28 (FIG. 3) formed therethrough that is radially offset from the center axis Y by a predetermined distance. The diameter of the vertical aperture 28 is greater than the diameter of the largest gauge shell to be reconditioned and reloaded. A cylindrical sizing die 30 (FIG. 3) is snugly mounted in the vertical aperture 28 for receiving a shell therein. A registering means 31 (FIG. 3) between the annular support plate 14 and the shell carrier 27 accurately aligns the shell carrier 27 at the various work stations.

In more specific detail, the base 11 has a center pedestal 33 (FIG. 3) with a horizontal bore therethrough for rotatably receiving a shaft that extends outwardly from both ends. A handle 35 is radially mounted to one end of the shaft 34 for rotating the shaft by the application of force on the handle. An arm 36 is radially mounted to the other end of the shaft 34 for connecting to a link 37 that is interconnected between shaft 38 (FIG. 3) that is rotatably supported in the base of the support plate 14 and the outer end of the arm 36.

The shell support anvil 16 (FIG. 1) has an anvil bolt 40 threadably mounted in the base 11. The upper end of the bolt 40 has an annular abutment head 41 substan-

tially the same diameter as the base of the shell to be reconditioned and reloaded. The head 41 is surrounded by a shell cup 42 that is slidably mounted on the shank of the bolt 40. The shell cup is resiliently biased upwardly by a spring 43.

The primer support anvil 17 (FIG. 3) has a cylindrical anvil support 44 mounted to the base 11. An upright anvil bolt 45 is threadably mounted to the anvil support 44. The anvil bolt has an annular head 46 with a diameter substantially equal to the diameter of a new primer to be added to the used shell. The head 46 is surrounded by a slidably movable primer cup 47. The primer cup 47 is resiliently biased upwardly by a spring 48.

In more specific detail the support plate 14 has two parallel vertical bores 50 and 51 formed therethrough for receiving the standards 12 and 13 respectively. Nylon bushings 52 are mounted in the bore 50 and 51 for slidably engaging the standards 12 and 13.

As shown in FIG. 4 the support plate 14 has a plurality of angular spaced vertical apertures formed therethrough that include (1) a loading and discharge aperture 54 at the shell mounting and discharge station, (2) a primer aperture 55 at the primer station 14b, (3) an aperture 56 at the loading station 14c, (4) an aperture 57 at the shell crimping station 14d and (5) an aperture 59 at the plastic shell crimping station 14e. A large aperture 60 is angularly spaced from the aperture 59 diametrically opposing the aperture 54 for permitting the loading of various sized dies 30 into the aperture 28 of the shell carrier. A smaller aperture 61 is formed through the plate diametrically opposite to the primer aperture 55. The center axis of the aperture 54-61 are equally spaced from the center axis Y and are successively equally spaced from each other.

The support plate 14 has a cylindrical hub 63 (FIG. 3) formed about the standards 12 and 13 with a flat horizontal surface extending outwardly therefrom for slidably supporting the shell carrier 27.

The registering means 31 includes a plurality of indentations (FIGS. 1, 2 and 3) 67, 68, 69, 70 and 71 formed in the side of the support plate 14 at angularly equally spaced intervals corresponding to the locations of the working stations.

The shell carrier 27 includes a ring section 73 (FIGS. 3 and 4) that is slidably mounted about the hub 63 of the support plate for pivotal movement of the shell carrier about the center axis Y. A shell carrier housing 74 (FIG. 4) extends radially outward from the ring 73 with the vertical aperture 28 formed therethrough for receiving the sizing die 30. A radial projection 75 (FIGS. 2 and 4) extends from the ring 73 angularly spaced from the vertical aperture 28. In this embodiment the projection 75 is angularly spaced approximately 144° from the aperture 28.

A radial aperture 78 (FIG. 3) is formed in the shell carrier housing 74. As part of the registering means 31 a ball 80 is mounted in the radial aperture 78 for engaging the side of the support plate 14 for moving into and out of the indentations 67-71. The ball 80 is resiliently biased against the edge of the support plate by a compression spring 81 that is mounted in that radial aperture 78. A spring tensioning screw 82 is threadably mounted in the radial aperture 78 for adjusting the tension of this spring against the ball 80. When the ball 80 seats in one of the indentations 67-71 the die 30 is coaxially positioned over one of the apertures 54-59 at one of the working stations.

A wad loading device 84 (FIGS. 2 and 3) is movably mounted on the carrier 27 for receiving a wad and positioning the wad over the die 30 to enable the wad to be pushed coaxially into the shell against the powder. The wad loading device 84 includes an upright support post 85 that is pivotally mounted on a horizontal shaft 86 affixed on the carrier 27. A horizontal compression spring 87 is mounted between the carrier 27 and the post 85 for pivotally biasing the wad loading device 84 outwardly to a

wad receiving position shown in FIGS. 2 and 3. A loading housing 88 is slidably mounted on the support post 85. The loading housing 88 has an aperture 90 formed therethrough. A sleeve 91 is positioned in the aperture 90 for receiving a wad. Fingers 94 are mounted in the lower portion of the aperture 90 for resisting the downward movement of the wad as it is being pushed into a shell to maintain the wad in a substantially horizontal position in the shell. The compression spring 93 is mounted about support post 85 for biasing the housing upwardly on the support post 85.

Each set of tools 20 and 21 is designed for a different gauge shell. For purposes of illustration, the set 20 is designed for reconditioning and reloading 12-gauge shells and the set 21 is designed for reconditioning and reloading 20-gauge shells. The tools 20 include a shell ejector tool 95, a primer knockout tool 96, a tubular reloading tool 97 and a crimping tool 98. Each of these tools 95-97 are angularly spaced to correspond to the distance between the working stations. An alternate plastic shell precrimping tool 100 may be mounted adjacent the crimping tool 98 for precrimping the plastic walled shells.

The second set of tools 21 (FIGS. 2 and 5) includes a shell ejector tool 101 that is diametrically opposed to the tool 95. A primer knockout tool 102 is diametrically opposed to the tool 96. A tubular reloading tool 103 is diametrically opposed to tool 97. The crimping tool 104 is diametrically opposed from tool 98. Alternately a plastic shell precrimping tool may be mounted on the turret assembly diametrically opposed to tool 100.

During the normal operation of the apparatus, the primer knockout tool 102 as shown in FIG. 2 is a removed and a stop rod 106 is mounted in its place as is shown in FIG. 3. When the shell carrier 27 is at the reloading station 14c the radial projection 75 is immediately below the stop rod 106 covering the aperture 61 to limit the upward movement of the plate with respect to the tools to limit the pressure applied on the wad in a shell being loaded.

The tool turret assembly 18 includes an annular tool head 108 (FIG. 3) that has a central hub portion with two apertures 111 and 112 formed thereon for receiving the upper ends of the standards 12 and 13 respectively. The tool turret assembly includes a cap 113 mounted on the tool head 108 with knurl headed bolts 115 extending through the caps 113 and hub 110 and into the upper ends of the standard 12 and 13 for rigidly affixing the tool turret assembly to the standards. The mounting of the cap 113 on the tool head 108 forms a circumferential rectangular cross sectional groove 116 (FIG. 3) about the hub 110.

As part of the dispensing mechanism 24 a vertical dispensing aperture or passageway 118 (FIGS. 7-9) is formed through the tool head 108 communicating with the tubular reloading tool 97 defining a lower passageway. A like vertical dispensing aperture or passageway 119 is formed in the annular bottom section diametrically opposed to the aperture 118 in communication with the tubular reloading tool 103. A shot aperture or passageway 120 is formed vertically through the cap 113 angularly spaced to one side of the aperture 118. A vertical powder aperture or passageway 121 is formed through the cap 113 angularly spaced from the dispensing aperture 118 so that the horizontal distance between the shot aperture 120 and the dispensing aperture 118, and the powder aperture 121 and the dispensing aperture 119 are equal. An adapter 122 is mounted on the cap 113 in communication with the powder aperture 120 for supporting the powder container 23. An adapter 123 is mounted on the cap 113 in communication with the shot aperture 121 for supporting the shot container 22. A baffle 124 is mounted in the powder container 23 for regulating the flow of the powder.

One of the principal elements of the dispensing device 24 is a ring 125 (FIG. 3) that has a rectangular cross section slidably mounted in the circumferential groove

116. The ring 125 is preferably made of a plastic material that has a low friction co-efficient with the metal parts 113 and 108.

Two cylindrical chambers 128 and 130 (FIGS. 7 and 8) are formed vertically through the ring 125 angularly spaced from each other a distance equal to the distance between the powder aperture 120 or the shot aperture 121 and the dispensing aperture 118. A handle 133 is mounted to the ring 125 for facilitating the angular movement of the ring from a first position in which the cylindrical chamber 128 is in vertical alignment with the powder aperture 120 and the cylindrical chamber 130 is in vertical alignment with the dispensing aperture 118 and a second position in which the cylindrical chamber 128 is in vertical alignment with the dispensing aperture 118 and the cylindrical chamber 130 is in vertical alignment with the shot aperture 121.

To limit the rotation movement of the dispensing ring in the circumferential groove 116 between the first and second positions, diametrically opposed radial abutments 126 (FIG. 9) are formed on the hub 110. Annular grooves 127 are formed in the inner wall of the ring 125 for permitting limited rotational movement of the ring with respect to the hub to alternate the chambers 128 and 130 between the two positions.

Frequently it is desirable to load the shells with various weights of shot and powder. To accommodate this, various shot bushings 131 and various powder bushings 132 may be inserted into the cylindrical chambers 130 and 128 respectively for accurately determining the volume of shot and powder to be dispensed into the shells.

In more specific detail the shell ejector tools 95 and 100 (FIG. 1) each have a shank 134 that has an outer diameter slightly less than the inner diameter of the shell sizing die 30. The shank 134 has a reduced end forming an angular shoulder 135 for engaging the cylindrical end of the shell to push the shell from the sizing die at the completion of the crimping operation. Each of the primer knockout tools 96 and 102 have a cylindrical shank 136 with a diameter slightly less than the internal diameter of the wall of the shells. Ejector pins 137 are mounted in the end of the shank for removing the old primer from the shells.

The tubular reloading tools 97 and 103 (FIG. 1) each have a cylindrical housing 139 that is affixed to the tool turret. The cylindrical housing has a sleeve 140 extending therefrom for slidable receiving a filling tube 141 therein. A compression spring 142 biases the filling tube downwardly to the extended position. The spring 142 has a predetermined compression curve.

Each of the crimping tools 98 and 104 (FIG. 2) have a thread shank 145 affixed to the tool turret with a threaded collar 146 mounted thereon. A lock nut 147 prevents the movement of the collar. A crimping die 148 is coaxially mounted on the end of the shank 145 for vertical movement therewith. A compression spring 149 is mounted between the collar 146 and the crimping die 148 for biasing the crimping die downwardly. By moving the location of the collar 146 on the shank 145 the compression of the spring may be adjusted.

Each of the plastic shell precrimping tools 100 and 105 have a cylindrical housing 152 that is firmly mounted to the tool turret 108. A crimping die 153 is rotatably mounted on the lower end of the shank 152. The crimping die has a plurality of radial crimping teeth 154 formed on the lower surface thereof for performing an initial crimping operation on plastic walled shells. A finger spring 155 is mounted on the side of the crimping die 153 and extends downwardly therefrom. The purpose of the finger spring 155 is to angularly position the crimping die with respect to the opening serrations of plastic shells.

The stop rod 106 (FIG. 3) which replaces the primer knockout tool in the set of tools 21 has a cylindrical shank section 158 secured to the tool turret 108. A threaded rod 160 is threadably mounted in the lower end

of the shank 158 to enable the length of the stop rod to be adjusted. A lock nut 161 is threadably mounted on the rod 160 for preventing the angular movement of the rod 160. The length of the stop rod 106 is adjusted in relationship to the predetermined compression curve of the wad spring 142 (FIG. 1), so that the pressure exerted on the wad may be preset.

To begin the reloading of a 12-gauge shotgun shell, a 12-gauge sizing die is mounted in shell carrier 27 and a 12-gauge shell support anvil 16 is mounted on the base. Initially a 12-gauge shell is loaded on the shell support anvil 16 with the shell carrier 27 moved to the shell mounting and discharge station 14a with a die 30 mounted immediately above the aperture 54 of the support plate 14. The operator then pivots the handle 35 forward to move the support plate downwardly forcing the sizing die 30 over the shell supported in the support anvil 16. As support plate 14 moves downwardly the sizing die reform the outer surface of the used shell. The support plate 14 engages the shell cup 42 to bias the shell cup against the spring 43 to move the shell cup below the top of the anvil bolt 40 to release the base of the shell. When the handle is moved to its foremost position the shell is fully mounted in a sizing die 30.

The operator then releases the handle 35 to permit the support plate to move to the intermediate rest position. At this point, the operator grasps the shell carrier handle 77 and pivots the shell carrier to the primer station 14b with the sizing die 30 coaxially aligned with the primer aperture 55, the primer support anvil 17 and the primer knockout tool 96. The operator then pivots the handle 35 back to move the support plate upwardly to move the shell coaxially over the shank 136 of the knockout tool to reform the wall of the shell. The knockout pin 137 engages the old primer of the shell and forces the primer out through the primer aperture 55. After the old primer is ejected from the shell, the operator pivots the handle 35 forward to move this plate downwardly against the primer cap 46 to move a new primer through the aperture 55 and to force a new primer into the base of the shell.

After a new primer is positioned in the shell, the operator, utilizing the handle 77, shifts the shell carrier 27 to the loading station 14c with the sizing die 30 coaxially aligned with the tubular reloading tool 97. Initially the operator pivots the handle back to move the support plate upwardly to position the upper end of the shell about the filling tube 141. At this point the operator then grasps the handle 133 of the dispensing device and moves the handle to the left to position the cylindrical powder chamber 128 in communication with the filling tube 141 to dispense a predetermined weight of powder into the shell. The operator then releases the handle 35 to permit the support plate 14 to move downward to the resting position. The operator then places one or two layers of wad in the wad loading device 84. The operator then pivots the wad handling device forward coaxially aligning the sleeve 91 with the die 30. The handle 35 is then moved back to raise the support plate to move the wad against the filling tube 141 to force the wad through the sleeve 91 and fingers 92 and into the shell.

When the shell carrier 27 is positioned at the loading station 14c the radial projection 75 of the shell carrier is positioned immediately below the stop rod 106, covering the aperture 61. Continued rearward movement of the handle 35 brings the radial projection 75 into engagement with the stop rod 106 to prevent further upward movement. The pressure of the wad against the powder of the shell is dependent upon how far the support plate is moved upwardly. The pressure may be changed by adjusting the threaded rod 160 in the shank 158 of the stop rod. At this point the operator then moves the dispensing ring 125 to the right to position the shot chamber 130

to dispense a predetermined weight of shot into the filling tube 141 through the filling tube into the shell. After the shot is loaded into the shell, the handle 35 is released to permit the support plate 14 to move to the neutral position. If the shell has a paper wall the operator then shifts the shell carrier 27 to the shell crimping station 14d. At this point the sizing die 130 is coaxially aligned with the crimping tool 98. The operator then pivots the handle 35 back to move the support plate upward to force the top of the shell against the crimping die 148. The crimping die crimps the upper end of the shell to enclose the shell. At the conclusion of this operation the operator releases the handle 35 and then moves the shell carrier 27 back to the station 14a. The operator pulls the handle back to move the support plate upward to move the shell against the shell ejector tool 95 to eject the shell from the sizing die 30.

If used plastic walled shells are reconditioned the shell carrier 27, after the shell is filled with powder, wad and shot, it is first moved to the plastic shell crimping station 14e to position the die 30 in alignment with the plastic shell crimping tool 100. The operator then moves the support plate upwardly to initially form the upper end of the plastic shell. At the completion of this step, the shell carrier 27 is moved back to the shell crimping station 14d whereupon the shell moves upwardly against the crimping die to complete the crimping and enclosing the plastic walled shell.

If it is desired to recondition and reload 20-gauge shells, a 20-gauge support anvil replaced the 12-gauge support anvil and a 20-gauge sizing die replaces the 12-gauge sizing die. The tool head 108 of the tool turret is then rotated 180° to position the 20-gauge tools 21 at the working stations. This is accomplished by removing the knurl headed bolts 115, the caps 113 and the dispensing ring 125. The tool head 108 is then removed from the support standards and rotated 180° and then repositioned on the standards 12 and 13 with the set of tools 21 mounted at the working stations. The dispensing ring 125 and the cap 113 are then repositioned on the turret head and fastened thereto by the knurl headed bolts 115. Also a 20-gauge wad sleeve 91 may be mounted on the wad handling device 84.

If a different wad pressure is desired, the stop bolt 106 may be adjusted accordingly. If different weights of shot and powder are desired then different sized bushings 131 and 132 may be inserted into the chambers 128 and 130 respectively.

Frequently an avid trap shooter may desire to utilize as many as four different gauge shells. If this is the case, it is very convenient to have a second tool head that has two sets of tools for reconditioning 28-gauge and 410-gauge shotgun shells.

From the above description, one can readily appreciate the ease with which one tool head may be replaced with another to efficiently and accurately recondition and reload different gauge shells.

It should be appreciated that the above described embodiment is simply illustrative of the principles of this invention and numerous modifications may be made without deviating from the principles thereof.

What I claim as my invention and seek to protect by United States Letters Patent is:

1. A machine for reconditioning and reloading various gauge used shotgun shells at various stations including a shell mounting and discharge station, a shell primer knockout station, a shell reloading station and shell crimping station that are angularly spaced about a center axis, said machine comprising:

- (a) a base;
- (b) at least two spaced upright standards centrally mounted on the base and extending upwardly therefrom;
- (c) a support plate slidably mounted on the standards for vertical movement, said support plate having a

first vertical aperture formed therethrough at the shell mounting and discharge station which has a diameter greater than the diameter of the largest shell to be reconditioned and reloaded, and a second vertical aperture formed therethrough at the shell primer knockout station;

- (d) a shell support anvil mounted on the base in vertical alignment with the first aperture of the movable support plate for initially mounting a used shell;
 - (e) a primer support anvil mounted on the base in alignment with the second aperture of the movable support plate for supporting the new primer to be placed in the used shell;
 - (f) a tool head positioned on the upper ends of the standards that may be mounted thereto in a first angular position or a second angular position;
 - (g) two sets of angularly spaced tools mounted to the head in which each of the tool sets corresponds to a different shell gauge and includes a shell ejector tool for discharging the shell at the shell mounting and discharge station, a primer knockout tool for removing the old primer at the shell primer knockout station, a tubular reloading tool for loading powder and shot at a shell reloading station, and a crimping tool for enclosing the end of the shell at the shell crimping station, so that when the head is in the first angular position one set of tools is located at the stations and when the head is in the second angular position the other set of tools is located at the stations;
 - (h) manual actuating means operably connected to the support plate for moving the support plate vertically;
 - (i) a shell carrier slidably mounted on said support plate for pivotal movement about said center axis, said carrier having a vertical aperture therethrough with a diameter greater than the diameter of the largest used shell to be reloaded;
 - (j) a cylindrical sizing die mounted within the carrier aperture for receiving a used shell mounted on the shell support anvil;
 - (k) registering means between the carrier and support plate for accurately positioning the shell carrier at the various stations to align the sizing die with the tools and anvils at the various stations; and
 - (l) dispensing means for dispensing predetermined amounts of powder and shot into the reloading tool.
2. A machine as defined in claim 1 wherein each tool of one set is diametrically opposed to a corresponding tool of the other set.

3. A machine as defined in claim 1 further comprising a wad sleeve movably mounted on the shell carrier for receiving a wad and positioning the wad over the sizing die at the shell reloading station so that when the supporting plate is moved upwardly the reloading tool will engage the wad and force the wad into the shell.

4. A machine as defined in claim 3 further comprising a wad pressure stop depending from the head radially spaced from the center axis and wherein the shell carrier has a radial projection formed thereon for engaging the wad pressure stop when the support plate is moved vertically to a predetermined elevation to apply a predetermined amount of pressure on the wad by the reloading tool.

5. The machine as defined in claim 1 wherein the tool head has a passageway communicating with the tubular reloading tool and wherein a source of powder and a source of shot are mounted on the tool head and wherein further the dispensing means has two measuring chambers that are movable between a first position with one chamber communicating with the powder source and the other chamber communicating with the head passageway and a second position with the one chamber communicating with the head passageway and the other chamber communicating with the shot source.

6. A machine as defined in claim 5 wherein the tool

head is angularly shaped with a circumferential groove formed thereon and wherein the tool passageway extends from the groove to the tubular reloading tool thereby defining a lower passageway and wherein the tool head has two upper passageways formed therein angularly spaced from the lower passageway with one of the upper passageways extending from the groove to the powder source and the other upper passageways extending from the groove to the shot source and wherein further the dispensing means includes an angular ring slidably mounted in the tool groove with said measuring chambers formed therein extending between the sides of the ring.

7. A machine as defined in claim 6 further comprising a shot bushing removably mounted within one of the ring chambers that defines the volume of shot dispensed into the tubular reloading tool when the corresponding chamber is moved into communication with the head lower passageway.

8. A machine as defined in claim 7 further comprising

a powder cylinder removably mounted within the other ring chamber that defines the volume of powder dispensed into the tubular reloading tool when the corresponding chamber is moved into communication with the head lower passageway.

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U.S. Cl. X.R.

86—30, 31