

J. A. R. ELLIOTT.

SHOT OR POWDER GAGE AND SHELL LOADER.

No. 506,425.

Patented Oct. 10, 1893.

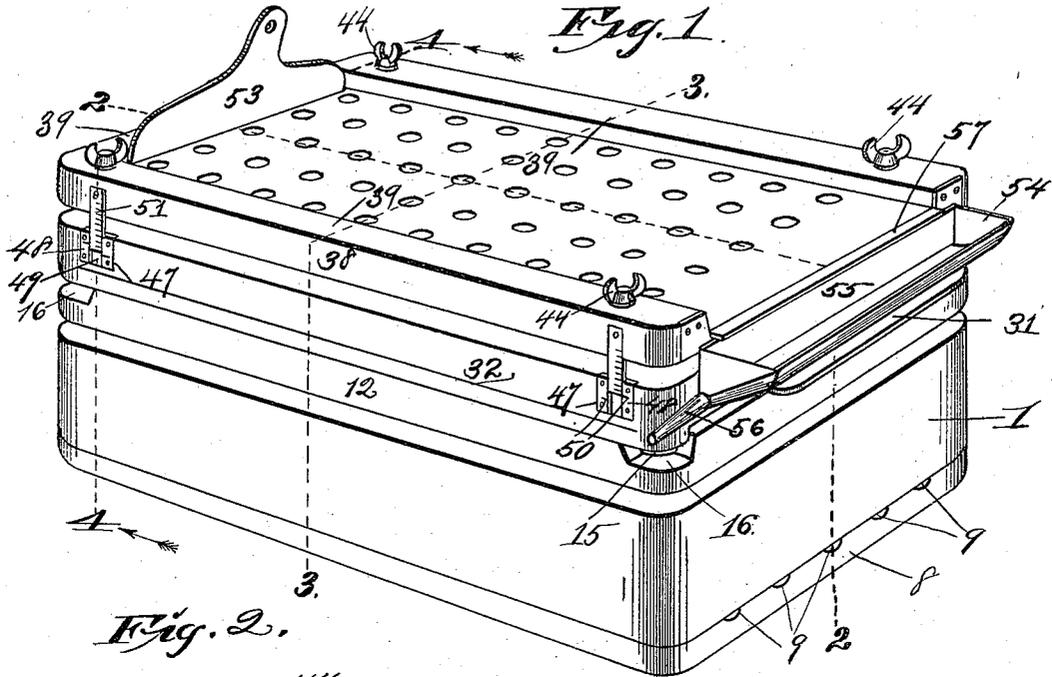


Fig. 2.

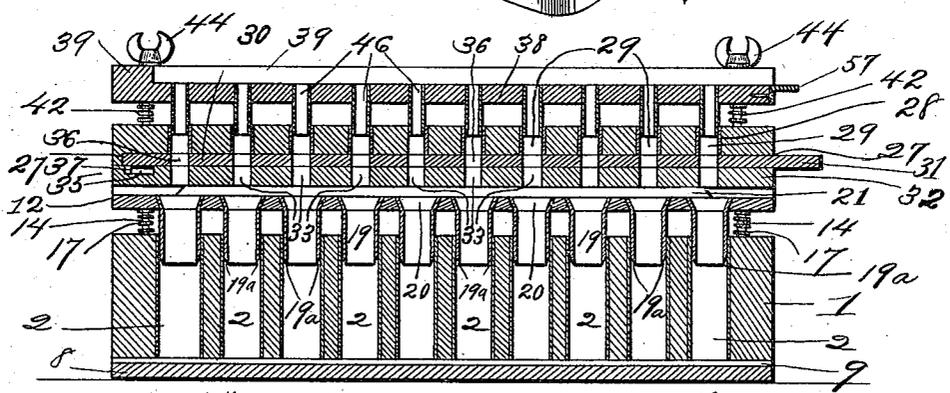
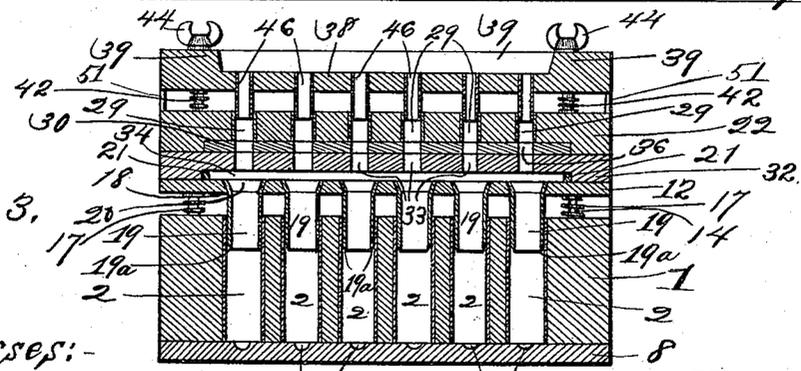


Fig. 3.



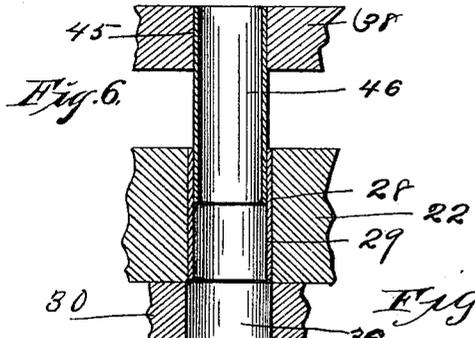
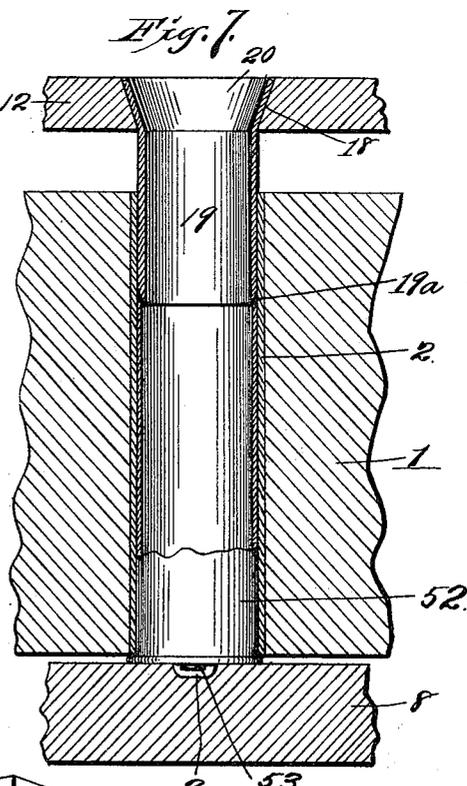
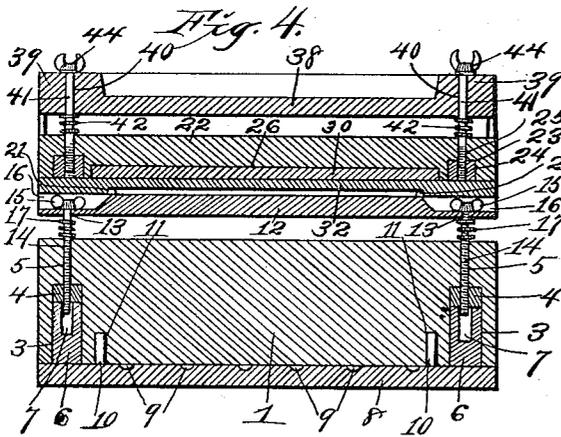
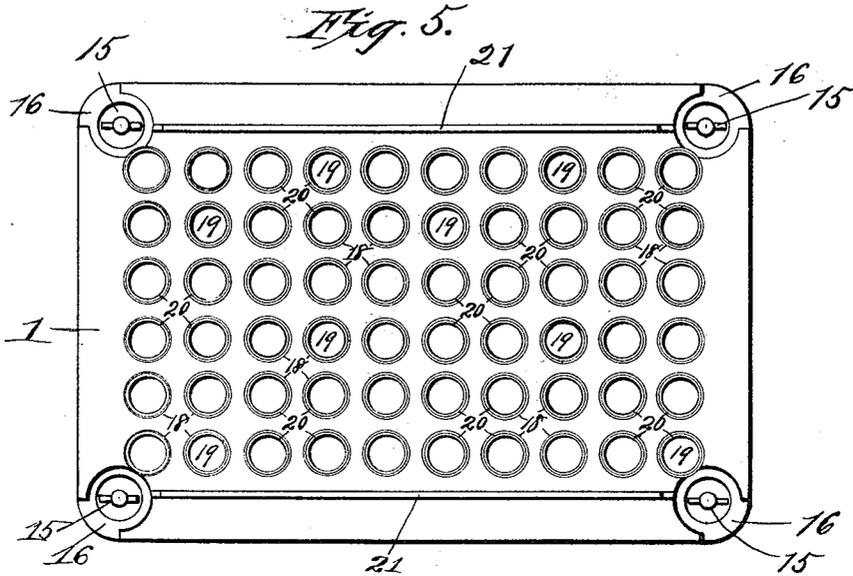
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UNITED STATES PATENT OFFICE.

JAMES A. R. ELLIOTT, OF KANSAS CITY, MISSOURI.

SHOT OR POWDER GAGE AND SHELL-LOADER.

SPECIFICATION forming part of Letters Patent No. 506,425, dated October 10, 1893.

Application filed April 20, 1893. Serial No. 471,065. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. R. ELLIOTT, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in a Combined Shot and Powder Gage and Shell-Loader, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in combined shot and powder-gages and shell-loaders; and the objects of my invention are to produce a device having a number of tubes adapted to contain an equal quantity of powder or shot, and means to adjust said device so that said tubes shall contain equally, any quantity of powder or shot desired; also to produce a shell loading device which may be adjusted to any length of shell, and a slide-valve or cut-off which is interposed between the bottom of the shot tubes and the upper end of the shell tubes of the shell loading attachment, the operation of which slide-valve or cut-off will allow the powder or shot, contained in the tubes to drop into the shells.

A further object of my invention is to provide a device of this character, which is simple, strong, durable and inexpensive of construction.

To the above purposes, my invention consists of certain peculiar and novel features of construction and arrangement as will be hereinafter described and pointed out in the claims.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1, represents a perspective view of a device constructed in accordance with my invention. Fig. 2, is a vertical longitudinal sectional view taken on the line 2—2 of Fig. 1. Fig. 3, is a vertical cross sectional view taken on the line 3—3 of Fig. 1. Fig. 4, is a vertical cross sectional view taken on the line 4—4 of Fig. 1 and looking in the direction of the arrow. Fig. 5, is a top plan view of the shell-loader attachment. Fig. 6, is a detail enlarged view of a portion of the powder and shot attachment, and showing the telescopic connection of the tubes in which the powder and shot are contained. Fig. 7, is a vertical

sectional view of a portion of the shell loading attachment, and showing the telescopic connection of the shell holding tubes. Fig. 8, is a perspective view of a portion of the slide-valve or cut-off.

In the drawings, 1 designates a block, preferably of oblong rectangular form, and extending vertically through said block are several series of longitudinal aligned and vertical openings, each series of openings being arranged parallel with all the other series of openings, and through which a corresponding number of shell receiving tubes 2 are secured, the upper and lower ends of these tubes being flush or even with the upper or lower surfaces of the block 1. The openings or holes 3 preferably four in number are located one near each corner of and formed in the under side of said block and extended vertically upward for a suitable distance as shown in Fig. 4, and have a number of nuts 4 secured in their upper ends. The vertical screw-threaded passage of each nut 4, aligns with the passage or hole 5, which extends from the upper surface of the block down to the upper end of the openings or holes 3. A plug 6, is also secured into the lower portions of said openings or holes, and bears against the lower side of the nuts 4, to hold them in position; these plugs 6 being also formed with vertical recesses 7 in their upper ends, which communicate and align with the screw-threaded openings of the nuts 4; the object of these nuts and aligned holes will be presently described.

A rectangular-board of similar size and form in plan view as the block 1, but of diminished thickness, is formed with a number of longitudinal grooves 9 in its upper side; these grooves preferably extending from end to end of the board 8. This board 8, is also provided with two or more pins 10 projecting upwardly therefrom; these pins being adapted to engage vertical recesses 11 in the under side of the block 1. To secure said board to the under side of the block the longitudinal grooves 9 are all arranged so as to extend diametrically across and beneath the lower ends of the longitudinally arranged series of tubes 2; the object of which will be hereinafter described.

Horizontally arranged above the block 1 is a board 12, said board also being of similar

size and form in plan view as the block 1. The board 12 is also formed with a vertical hole or passage 13 near each corner, and in vertical alignment with the screw threaded passages of nuts 4, and extending vertically downward through said holes or passages 13 and passages 5, and engaging the screw threaded passages of the nuts 4, are the adjusting bolts 14; said bolts being formed with the thumb-heads 15 so as to be operated by hand, and which bears upon the upper side of the board. The board 12 is recessed at 16 in its upper side at each corner, so that the heads 15 of the bolts will be in the same horizontal plane as or lower than the upper side of the board 12. A stiff spiral-spring 17 surrounds each bolt 14 and bears at its opposite ends against the upper and lower sides of the block 1, and the board 12 respectively; the tendency of said springs being to hold the board firmly against the under side of the bolt heads 15. This board is further formed with the flaring or funnel-shaped openings 18, in number equaling and being located vertically above the openings of the block 1 in which the tubes 2 are secured. A tube 19 of diameter to fit within the tubes 2, is passed vertically downward through each opening 18, until the flaring end or mouth 20 of said tube rests and is secured in each flaring opening, and the lower or discharge end of said tubes has entered the upper end of the tubes 2 for a suitable distance. Each tube 19 is also beveled inwardly and downwardly at its lower end at 19^a, the object of which will be hereinafter referred to. It will thus be seen, by operating the screw-bolts 14, the board 12 may be adjusted vertically toward or from the upper side of the block 1; the recess 7 of the plug 6 being for the reception of the lower ends of the screw bolts 14, when the board 12 is forced downwardly a suitable distance. It is to be understood, however, that an internally threaded tube may be secured in the block 1 for the reception of each of the screw bolts 14 if desired, and also the precise manner described for adjustably connecting the block and the board 12 may be varied, without departing from the essential spirit of my invention. Secured to the opposite side of the board 12 are the parallel guide-strips 21; these guide strips being arranged a suitable distance from and parallel with each side margin and extending preferably, from end to end of the board 12.

Referring now to the powder or shot-gage portion of the device, 22 designates a block of similar size and form in plan view as the board 12, and said board is formed near each corner and in its under side with the vertical recesses 23, into which are secured nuts 24; said nuts being of length to extend about half way through said board. The board 22 is further formed with the holes or passages 25, extending from the upper surface thereof vertically downward and communicate at their lower ends with the screw threaded pas-

sages of the nuts, and is also formed with a recess 26 in its under side; this recess extending from one end nearly to the opposite end, so as to form a vertical shoulder or end wall 27, and is of width to extend laterally beyond the outermost line or series of holes or openings 28 formed through said board, said holes or openings corresponding in number to and located vertically above the holes or openings in the block 1. Secured vertically in said holes or openings 28, are the receiving tubes 29; the upper and lower ends of said tubes being flush or even with the upper surface of the board and the lower surface of the board at its recessed portion, so as not to project into said recess. A slide-valve or cut-off 30, is of width to fit snugly within said recess and of length to bear at one end against the shoulder or stop 27, and at the other to project beyond the end of the board 22, so as to form a handle 31. Secured by any suitable means against the under side of the board 22, and of similar form and size, in plan view, is a bottom-board 32; this board being provided with openings or holes 33, in number corresponding to and in vertical alignment with the openings 28 of the board 22, and said board is further recessed at 34 at its under side; this recess extending the full length of the board preferably, and being of such width that its side margins will fit closely against the opposite sides of the guide strips 21 of the adjustable board 12 when placed thereon as hereinafter explained. This bottom-board is further formed with a transverse groove 35, this groove being of width slightly greater than the diameter of the receiving tubes 29. The slide-valve or cut-off is also formed with vertical openings or holes 36 each adapted to register at times with one of the vertical aligned openings or holes of the board 22 and the bottom board 33, and is also provided with a transverse and depending strip 37 which rests against the rear side of the groove 35 when the openings of the slide-valve or cut-off are registered with the openings of the boards 22 and 32, as shown in Fig. 2. When the handle 31 is grasped and the slide-valve or cut-off is pulled outward, the object of which will hereinafter appear, the depending strip 37 coming in contact with the forward edge of the groove 35 limits the forward movement of the slide-valve or cut-off, so that the openings 36 thereof will be out of alignment with the openings of the boards 22 and 32, and the lower ends of the receiving tubes 29 will be closed.

Of similar size and shape in plan view to the board 22, above which it is located, is the adjusting board 38; said board being formed at its rear end and at each side margin with an upwardly projecting flange 39, and is also formed with a hole or opening 40 near each corner, through which are passed the adjusting screw-bolts 41, said screw-bolts being also passed through the vertical aligned holes 25 of the board 22, and engage the screw-thread-

ed passages of the nuts 24 secured in said board. A spiral spring 42 surrounds each screw bolt 41 and bears at its opposite ends against the under side of the top-board 38 and the upper side of the board 22; the tendency of said springs being to force the board 38 upward and hold it firmly against the under side of the thumb-heads 44 formed at the upper ends of the screw-bolts 41. Formed vertically through the adjusting board 38 are the openings 45, corresponding in number to and located vertically above the receiving tubes 29, and secured in said openings 45 are the tubes 46, of suitable diameter, and having their lower ends fitting within the receiving tubes 29. It will thus be seen that the operation of the screw bolts 41 will cause the board 38 to be raised or lowered, thereby increasing or decreasing the distance between the upper ends of the tubes 46 and the lower ends of the tubes 29.

Secured in vertical recesses 47 near each corner of the board 22 are the plates 48; these plates being each provided with a vertical groove 49 in its outer face, and are also formed with an indicator mark 50 upon each side of said groove; one of these marks being for powder, and the other for shot.

Secured at its upper end to the adjusting board 38 near each corner is a gage-bar 51 which depends vertically downward and engages the groove 49 of the corresponding indicator plate 48. This indicator-bar 51 is also provided with a scale upon its face to indicate a number of drams of powder and ounces of shot, and fractions thereof.

In the operation of the device, a shell 52 is inserted upwardly into each receiving tube 2, in such manner that the cap 53 thereof will register with and engage the corresponding groove 9 in the bottom board 8, which is secured against the bottom of the block 1 to prevent the shells from slipping out of the receiving tubes 2. The screw-bolts 14 are then operated to move the adjusting board 12, so that the lower beveled ends 19^a of the tubes 19 will rest upon the inner margin and the upper end of the shells 52. The shot and powder attachment is then placed upon the board 12 so that the strips 21 thereof, will engage the recessed under side 34 of the bottom board 32 of the powder and shot gage attachment, and the openings of said board will register with the tubes 19. The slide-valve or cut-off 30 is then pulled outwardly so as to close the lower ends of the receiving tubes 29. If it is desired to load the shell with three drams or any other suitable quantity of powder the screw bolts 41 are operated to cause the adjusting board 38 to move up or down as required, until the three-dram or other mark desired registers with the powder-mark of the plate 48. The powder is then poured upon the upper side of the board 38 and enters and fills the receiving tubes 29 and 46; the bottom of the receiving tubes, of

course being closed by the slide-valve or cut-off. A scraper 53 of suitable construction is then grasped in the hand and the surplus powder upon the surface of the board 38 is scraped from the open end thereof and into a scoop 54; the said scoop being formed with a vertical wall 55 and with a nozzle 56, the scoop when in position, rests upon the projecting end or handle 31 of the slide-valve or cut-off, and has the upper margin of the vertical wall 55 bearing against the under side of the retaining strip 57 which is secured to and projects horizontally from the end of the board 38; the upper side of said strip, lying flush with the upper side of the board 38. After the receiving-tubes 46 and 29 are filled with powder, and the surplus scraped from the upper side of the board 38 into the receptacle or scoop 54, the slide-valve or cut-off is operated to allow the powder to drop from the tubes 46 and 29 through the tubes 19 and into the shells 52. The powder and shot attachment is now removed and the wad inserted in each shell in the usual manner. The powder and shot attachment is now replaced upon the shell block attachment as before, and the board 38, is adjusted by operating the screw-bolts 41 so that the tubes 46 and 29 are arranged to receive the quantity of shot desired; this adjustment being determined by reference to the gage plates and bars. The slide-valve or cut-off is now operated to close the lower end of the tubes 29, and the shot is poured upon the upper surface of the board 38 and enters and fills the tubes 46 and 29. The surplus is removed as before, by means of the scraper 53, into the scoop or receptacle 54, from which of course the powder has been removed. The slide-valve or cut-off is now operated to allow the shot to descend into the shells 52, and the powder and shot-gage attachment is removed from the shell loading block, so that the wads may be inserted into the upper end of the shells upon the shot in the usual manner.

It will be understood from this description, that the arrangement of the gages at each corner of the device, allows the adjusting board to be elevated or depressed in a horizontal plane, so that the shells shall each contain an equal quantity of powder or shot.

From this description, it will be seen that I have produced a combined shot and powder-gage and shell-loader, by which the amount of powder required in a shell and also the amount of shot, may be obtained in a positive and reliable manner, and also a shell-loading attachment which can be adjusted to any length of shell desired; the telescopic guide tubes 19 being arranged to rest upon the inner margin and the upper end of the shell, so as to guide all of the powder therein; also a device of this character which is simple, durable and inexpensive of construction.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. A combined powder and shot-gage and shell-loader, comprising a block having openings arranged in longitudinal series, receiving-tubes fitted vertically in said openings, a bottom board fitted against the under side of said block, and having longitudinal grooves registering with each series of said openings, and an adjustable board located above said block and having openings, and tubes having flaring mouths resting in said openings and having their lower ends beveled and fitting within the vertical tubes of the block, substantially as set forth.

2. A combined powder and shot-gage and shell-loader, comprising a block, having vertical receiving tubes therethrough and a bottom board closing the lower ends of and having grooves registering with said tubes, nuts secured in said block and an adjusting-board above said block, headed screw-bolts passing through said board and engaging said nuts, and lifting springs surrounding said bolts and interposed between said block and said board, and tubes depending from said board and engaging the receiving tubes of the block, and guide strips or ribs projecting from the upper side of said board, substantially as set forth.

3. In a combined powder and shot-gage and shell-loader, a shell-loader attachment, comprising a block provided with vertical receiving tubes, and a board to close the lower end of said tubes and an adjustable board having depending tubes fitted telescopically within the upper end of said tubes, in combination with the powder and shot attachment, comprising a bottom-board fitting upon the adjusting-board of the shell loading attachment and having openings registering therewith, and a block fitting upon said bottom-board and having openings registering therewith, and a slide-valve or cut-off provided with openings and interposed between said block and said board so that the openings of said slide-valve may register with the registering openings of said block and bottom-board, and an adjustable board located above said block, and having depending tubes fitted telescopically within the tubes of said block, and means to move said adjusting-board so that said tubes shall approach nearer to or farther from the bottom of said tubes, substantially as set forth.

4. In a powder and shot-gage and shell-loader, a block having vertical openings, and receiving tubes secured therein, and having a recessed under side, and a bottom-board provided with openings registering with the openings of the block, and formed with a transverse groove, and a slide-valve or cut-off fitting in the recessed under side of the block and upon the bottom-board, and having a depending strip engaging the transverse groove of the bottom board so as to limit the move-

ment of the slide-valve or cut-off, substantially as set forth.

5. In a combined powder and shot-gage and shell-loader, a block having vertical openings and tubes secured therein, and having a bottom-board provided with registering openings, and a slide-valve or cut-off also provided with openings adapted to register with the receiving tubes and the openings of the bottom-board, and interposed between the block and the bottom-board, and formed with a handle at one end, and nuts secured in said block, in combination with an adjusting-board located above said block, and having openings, and tubes fitting in said openings and depending and engaging the receiving-tubes of the block, and screw bolts passing through said adjusting board and engaging said nuts, and lifting-springs interposed between said block and said adjusting board, substantially as and for the purpose set forth.

6. In a combined powder and shot-gage and shell-loader, a block provided with receiving tubes, and a slide-valve or cut-off adapted to close the lower ends of said tubes and also provided with openings adapted to register with said tubes, and indicator-plates carried near each corner of the block, and a vertically adjustable-board having openings and tubes depending from said openings into the receiving-tubes of the block, and indicator-bars depending from said board and engaging the indicator-plates, and means to vertically adjust said board so that the tubes thereof shall approach or recede from the lower ends of the receiving tubes to receive the requisite quantity of powder or shot, which is determined from reference to the indicator-plate and bar, substantially as set forth.

7. In a combined powder and shot-gage and shell-loader, a block having a number of vertical openings, and receiving-tubes secured therein, and a slide-valve or cut-off adapted to close the lower end of said tubes, and also provided with openings adapted to register with the lower end of said tubes, and a vertically adjustable-board, having a number of tubes depending therefrom and fitting within the receiving tubes of the block, and formed with vertical shoulders or flanges at each side and at one end, and a retaining-strip secured at the other end, in combination with a receiving-scoop detachably carried beneath the retaining strip, and a scraper adapted to remove the surplus powder or shot from the upper side of the adjustable board into the detachable scoop or receptacle, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

JAMES A. R. ELLIOTT.

Witnesses:

G. Y. THORPE,
MAUD FITZPATRICK.