(No Model.)

W. N. BEARDSLEY, A. D. MOULTON & L. J. WURTH.

CARTRIDGE LOADING TOOL.

No. 481,887. Patented Aug. 30, 1892.

Fig. 1.

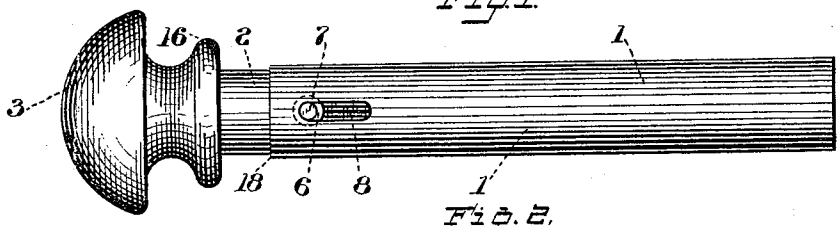


Fig. 2.

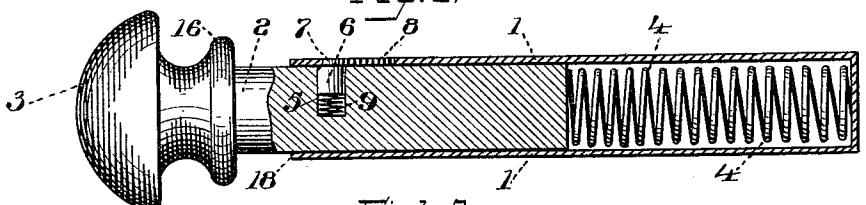


Fig. 3.

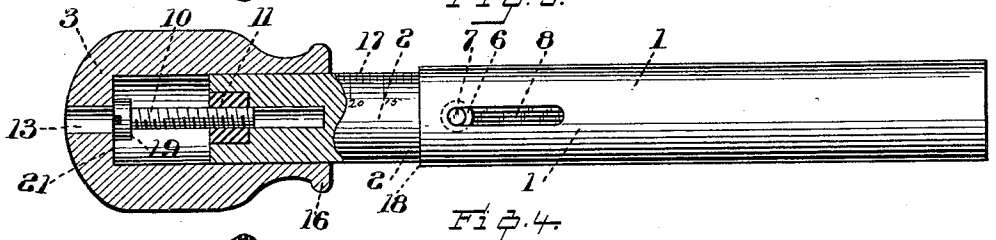


Fig. 4.

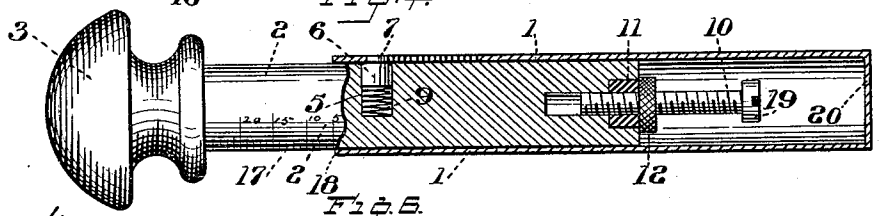


Fig. 6.

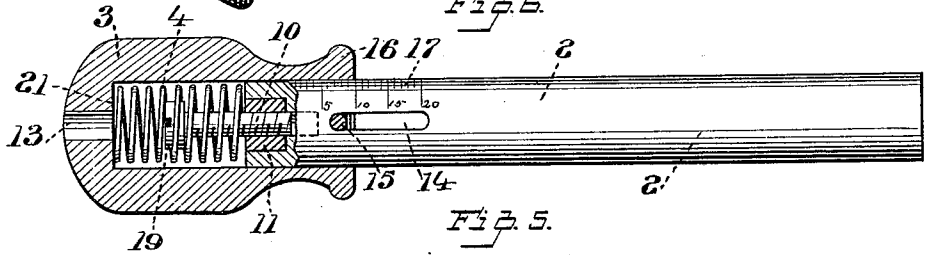
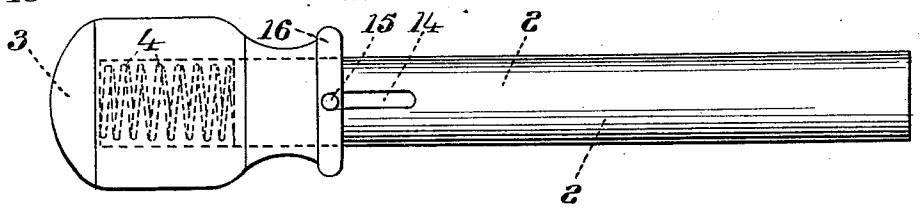


Fig. 5.



WITNESSES:

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Fig. 7.

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By Atty. Geo. L. Phillips.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM N. BEARDSLEY AND ALVIN D. MOULTON, OF BRIDGEPORT, CONNECTICUT, AND LOUIS J. WURTH, OF NEWARK, NEW JERSEY.

CARTRIDGE-LOADING TOOL.

SPECIFICATION forming part of Letters Patent No. 481,887, dated August 30, 1892.

Application filed February 29, 1892. Serial No. 423,104. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM N. BEARDSLEY and ALVIN D. MOULTON, of Bridgeport, in the county of Fairfield and State of Connecticut, and LOUIS J. WURTH, of Newark, in the county of Essex and State of New Jersey, citizens of the United States, have invented certain new and useful Improvements in Cartridge-Loading Tools, of which the following is a specification.

Our invention relates to tools for loading cartridges, and particularly to the hand-rammer used for that purpose.

Heretofore the rammer has been constructed of a short wooden body portion surmounted with a handle or knob to rest in the hollow of the hand when forcing the wads into the shell; but since the introduction of nitro-powder it has been found very important in loading shells that an even uniform pressure should be applied upon the wad in order to obtain uniform results in shooting, and as the quality of nitro-powder varies with the different makers it has been found impossible to obtain good results while using the old-style rammer.

Our invention consists in combining a spring with the rammer to regulate the pressure on the wads placed over the powder in the shell, so that when a certain pressure is required the compression of the spring up to a predetermined point will represent the amount of such pressure.

Our invention further consists in providing means whereby the limit of compression is checked at any point within the range of the spring, all of which improvements will be more fully described in the specification, and particularly pointed out in the claims.

To enable others skilled in the art to which our invention belongs to make and use the same, reference is had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification—

Figure 1 represents a side elevation of our completed rammer, which consists of a short wooden body portion, its handle, and a metal shell constituting the rammer proper, mounted on the body portion and having a free longitudinal movement thereon. Fig. 2 is a longitudinal section of the rammer-shell, broken sectional view of the wooden section supporting the shell, a coiled spring interposed between the end of the wooden section and the bottom of such shell, and a spring-pin situated transversely in the wooden section to hold the shell thereon. Fig. 3 is a sectional view of the head or handle and broken section of the end of the wooden-rod section, showing an adjusting-screw in the end of the same to limit the travel of the pressure-spring and a scale marked on the wooden-rod section to determine the pressure required. Fig. 4 is a sectional view of the rammer-shell and broken section of the wooden-rod section, showing the adjusting-screw inserted in the opposite end of the wooden-rod section and a jam or set nut for such screw. To give a better view of such screw the pressure-spring is not shown in this figure. Figs. 5 and 6 are modifications of our device, which consists in using the wooden-rod section as the rammer proper instead of the shell and placing the pressure-spring in the head or handle. Fig. 7 is a detail view of the shell-spring pin.

Its construction and operation are as follows: 1 represents the shell-rammer; 2, the wooden-rod section operating therein; 3, the head or handle; 4, a pressure-spring, and 5 a hole in the body of the wooden section. 6 is a pin placed therein, having reduced end 7, which enters the slot 8 of shell 1.

9 is a spring actuating pin 6.

10 is an adjusting-screw for the pressure-spring, placed in either end of the wooden section.

11 is a metal bushing inserted into the wooden section to receive the threaded portion of the adjusting-screw.

12 is a jam-nut mounted on the adjusting-screw to tighten the same.

13 is a hole in the handle or head 3 for the insertion of a screw-driver to regulate the adjusting-screw 10.

14 is a transverse slot through the wooden rammer to receive the pin 15, which passes transversely through the shoulder 16 of the head or handle 3.

17 is a scale marked on the wooden rod to determine the pressure or weight of the spring.

The main feature of the improved rammer is the spring.

The stops, which may be arranged on dif-

ferent parts of the device to limit its compression, together with the scale for accurately determining the amount of such compression, may, if desired, be dispensed with, especially on the cheaper class of goods.

In Figs. 1 and 2 the stop or scale is not used. Therefore when the necessary pressure that will give the best results for a certain grade of nitro-powder for any particular gun has been determined—say, for an illustration, fifteen pounds—then the spring 4, Fig. 2, will when compressed until the end 18 of shell 1 strikes the shoulder 16 of the head 3 represent a pressure of fifteen pounds, while a slight variation of the pressure either way would effect no bad result. Whenever a material change of pressure is required a spring can be placed within shell 1 corresponding to such pressure. Removing the shell for this purpose, press upon the end 7 of pin 6, which will disengage such end from slot 8 of the shell.

In the better class of rammers or for some very sensitive grades of nitro-powder it might be advisable to provide means whereby the exact pressure may at all times be accurately determined. For this purpose the screw may be inserted in the end of the short wooden-rod section, (see Fig. 4,) a metal bushing 11 having first been inserted in such end and threaded to receive such screw. This will be found advantageous, as the contact of the threaded parts will be better preserved than if the screw were inserted directly into the rod. The jam-nut 12 will set the screw firmly at any point within the limit of the spring. In this arrangement when the head 19 of the screw strikes the bottom of the shell 1 the spring will have been compressed just the amount determined upon.

The adjusting-screw may be set to the scale 17, provided on the wooden section 2, which may represent pounds. If, for instance, a pressure of fifteen pounds is required, the screw is adjusted until the end 18 of the shell 1 registers with the mark "15" on the scale, when the head of the screw engages with the bottom 20 of the shell; or the head 19 of the adjusting-screw could be made large enough to rest on the spring for the purpose of compressing instead of using the end of the wooden-rod section 2 for this purpose, in which case the adjustments could be made with the screw and the shoulder 16 of handle 3 used as a stop for all pressures.

The adjusting-screw could be inserted (see Fig. 3) in the opposite end of the wooden section 2. In this case it might be advisable to make the head or handle 3 somewhat longer and the wooden section movable therein. The hole 13 in the end of the head is provided, whereby the screw may be adjusted without removing the handle. With this arrangement the edge or face of the shoulder 16 will be made to register with the graduations on the wooden section. The head 19 of the screw-engaging shoulder 21 of the handle 3 will limit the travel of the spring in substantially the same manner as before described.

In the above-mentioned views the shell 1 is used as the rammer. In the modification shown in Figs. 5 and 6 the shell may be dispensed with and the wooden section 2 extended and used as the rammer. In this case the head would be constructed as shown in Fig. 3 and the spring placed therein. This device could be used, also, with or without the adjusting-screw.

To retain the head on the wooden rammer, the elongated slot 14 is cut therethrough and the pin 15 driven firmly through shoulder 16 of the head (see Fig. 6) and working freely in the slot when the spring is compressed.

As before mentioned, the use of the spring in combination with the rammer is the main feature of our improvement, and the exact position of the spring, whether placed in the handle, shell, end of the rammer, or around the outside of the rammer, is a matter of convenience in manufacture or requirements of the trade, and may be used with or without adjustable stops to limit its compression. Therefore we do not wish to limit ourselves to the exact form or location of the spring or to the exact construction or location of the means which we may employ to limit its compression. It is necessary, however, that a stop to limit the further compression of the spring must be used; but this, as before mentioned, can be made either fixed or adjustable.

For convenience the scale can be formed on any other place as well as on the wooden-rod section, if desired.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A rammer for nitro or other like powders, comprising, in combination, shell-rammer 1, having closed end 20 to engage the wad, handle 3, having plunger 2 placed in the open end of said shell-rammer and arranged to operate in the direction of its length, pressure-spring 4, placed between the end of said plunger and the closed end of the shell-rammer, adjustable stop 10, arranged, substantially as shown, so as to regulate the travel of the plunger with reference to the pressure of the spring against which said plunger operates and by so doing regulate the pressure of the shell-rammer upon the powder through the medium of the overlying wad, and means, substantially as shown, to keep the plunger and shell-rammer in operative engagement with each other.

2. A rammer for nitro or other like powders, comprising, in combination, handle 3, having plunger 2 projecting therefrom, shell-rammer 1, mounted on said plunger, in which said plunger operates in the direction of its length, and means, substantially as shown, to maintain them in such operative engagement, pressure-spring 4, placed between the end of the plunger and the closed end of the shell-

rammer, and adjustable stop 10, arranged, as shown, to regulate the travel of the plunger, for the purpose set forth, combined with a scale arranged substantially as shown, said scale graduated to indicate the different pressures represented by the spring, as described.

3. A rammer for nitro-powder, comprising, in combination, the wooden section 2, metal shell 1, operatively mounted thereon, having elongated slot 8 therein, spring-pin 6, having point 7 to engage with such slot, said pin operatively located in the wooden section, pressure-spring 4, arranged substantially as shown, and handle 3, all combined and arranged substantially as shown, and for the purpose set forth.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 24th day of February, A. D. 1892.

WILLIAM N. BEARDSLEY.
ALVIN D. MOULTON.

Witnesses:
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EDWARD A. JONES.

Signed at New York, in the county of New York and State of New York, this 25th day of February, A. D. 1892.

LOUIS J. WURTH.

Witnesses:
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ADAM SEIPEL.