2 Sheets—Sheet 1.

T. TUFTS.

Machine Gun.

No. 46,762. Patented Mar. 7, 1865.

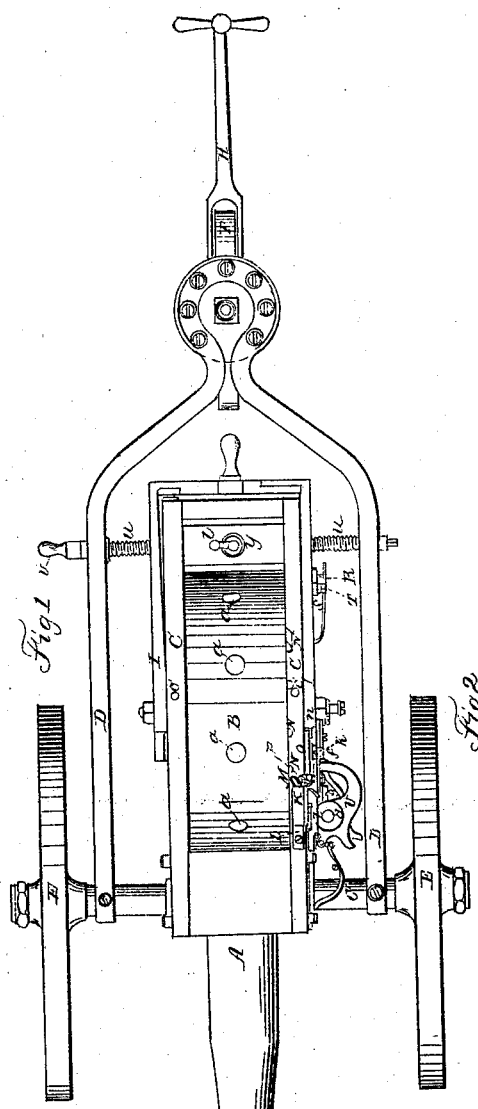

Fig 1.

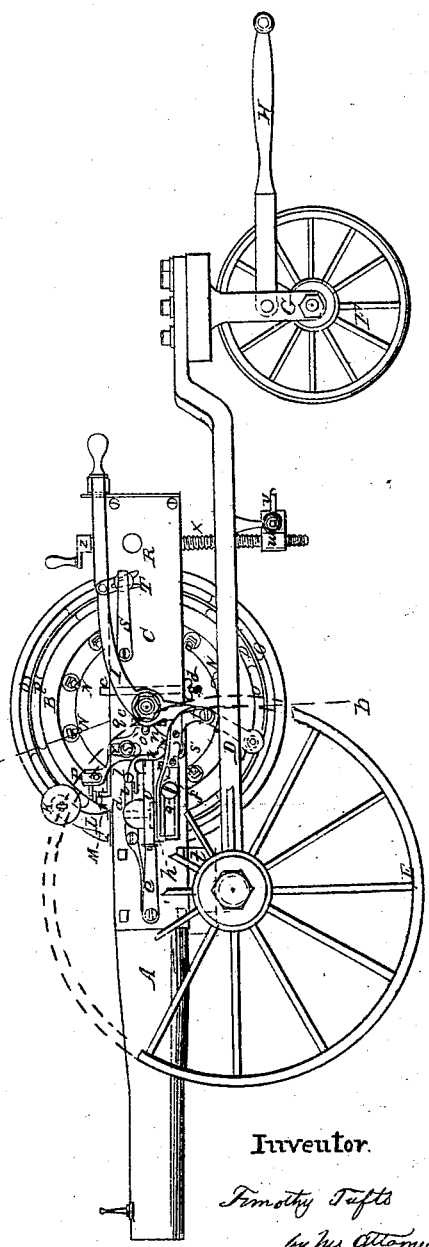

Fig 2.

Witnesses.

H. A. Brooks

Frederick Curtis

Inventor.

Timothy Tufts

by his Attorney

R H Eddy

2 Sheets—Sheet 2.

T. TUFTS.

Machine Gun.

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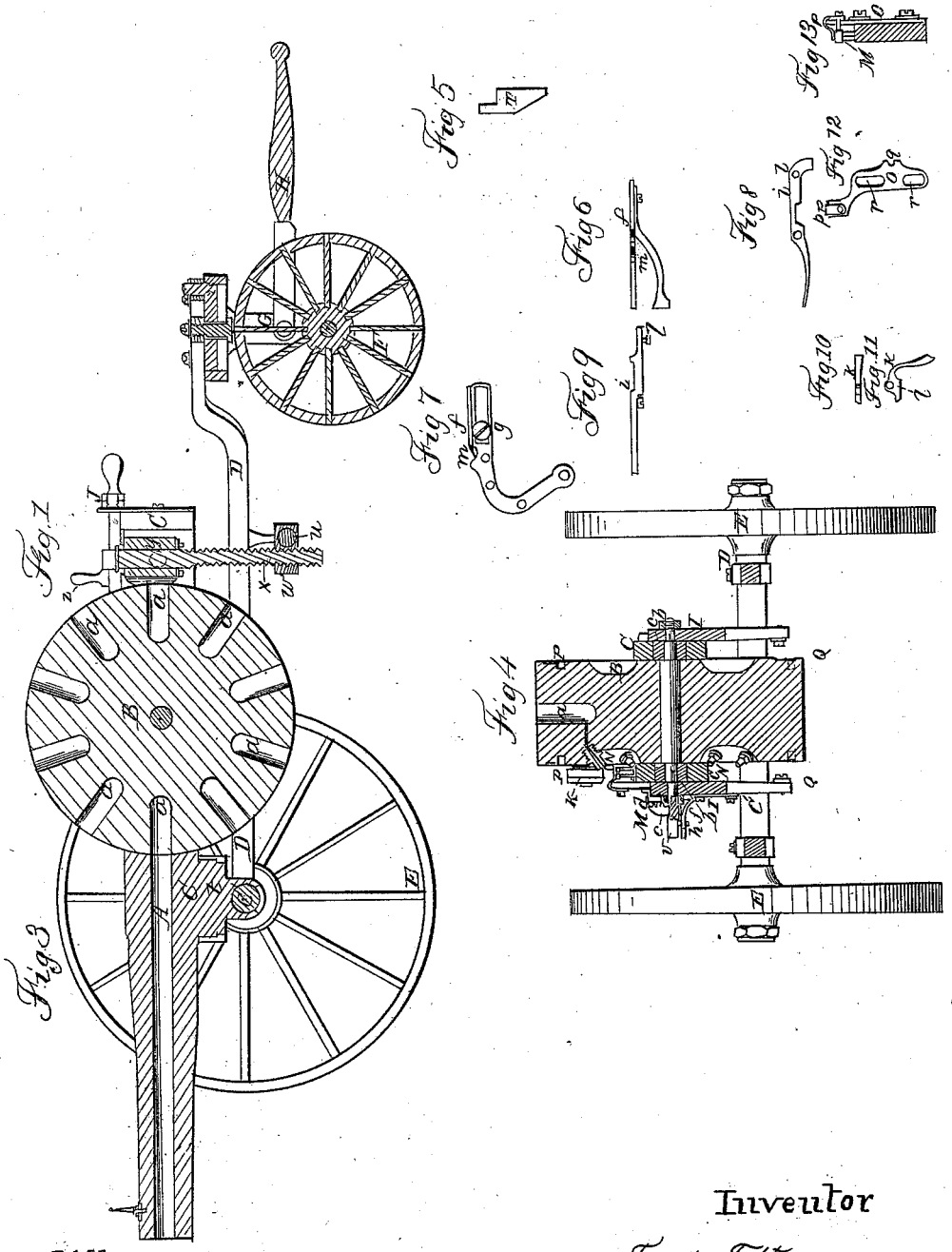

Witnesses.
F. A. Brooks
Frederick Curtis

Inventor
Timothy Tufts
by his attorney
N. W. Eddy

UNITED STATES PATENT OFFICE.

TIMOTHY TUFTS, OF SOMERVILLE, ASSIGNOR TO J. H. W. PAGE, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN REPEATING-CANNONS.

Specification forming part of Letters Patent No. **46,762**, dated March 7, 1865.

To all whom it may concern:

Be it known that I, TIMOTHY TUFTS, of Somerville, in the county of Middlesex and State of Massachusetts, have invented an Improved Repeating-Cannon; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, Fig. 3 a longitudinal and Fig. 4 a transverse section, of it.

The cannon on which my improvement is based consists mainly of a stationary or single barrel, A, and a revolving magazine, B, or series of charge-chambers, applied to a frame or stock, C, the whole being mounted on a carriage, D, whose axle C′ is provided with two wheels, E E. At the rear part of the carriage there is a third wheel, F, whose journals are supported in a swiveling frame, G, so fixed to the carriage as to be capable of being swiveled horizontally and by power applied to a hand-lever, H, projecting from the said frame.

The rotary magazine B is a cylinder, having a series of charge-chamber, *a a a*, &c., arranged in it radially and at equal distances asunder. Each of the journals *b b* of the said magazine runs in one of two sliding boxes *c c*, (see Fig. 4,) which are so supported within the stock C as to be capable of being moved toward the barrel. In rear of each of the boxes there is a wedge, *c′*, or device for moving the box forward, such wedge passing down through the stock and having a screw on its lower end for the reception of a screw-nut, *d*, which, on being screwed up against the stock, causes the wedge to descend and press the box forward. By these devices the close contact of the circumference of the magazine with the rear end of the barrel can be maintained.

By the reciprocating movements of a hand-lever or brake, I, so applied to the stock as to span it, in manner as shown in the drawings, and turn on the journals of the magazine as a fulcrum, certain mechanism will be put in operation, whereby the magazine will be revolved with an intermittent motion, so as to bring the charge-chambers in succession into line and communication with the barrel, the magazine will be stopped or held firmly in position for and during a discharge of the load of its charge-chamber opening into the barrel, the magazine will be released, so as to be capable of being again revolved, the percussion hammer or cock will be elevated or cocked, and subsequently be thrown down upon the priming, and the priming-ribbon will be advanced the necessary distance for another descent of the hammer.

The priming-ribbon is coiled within a small box or receptacle, K, supported by a standard, L, erected on the stock, and is to be made like that of the well-known Maynard primer, the ribbon from the said box being led into a channel or conduit, M, by which it is guided down to the percussion-nipple N, there being one of such nipples to each of the charge-chambers of the magazine.

The nature of my invention therefore consists principally in a combination composed of machinery for imparting to the magazine its intermittent rotary motion, machinery for estopping the magazine when a charge-chamber is in line with the barrel, machinery for releasing the estopping mechanism of the magazine in order to enable the magazine to be revolved, machinery for elevating and discharging the hammer, and, finally, machinery for advancing the priming-ribbon, and operated by the reciprocating movements of a hand-lever arranged substantially as specified.

On each face or side of the rotary magazine there are two concentric ratchets, O P, with one of which an impelling-pawl, Q, jointed to the inferior arm of the lever I, operates, such ratchet and pawl constituting the machinery or auxiliaries by which the intermittent rotary motion of the magazine may be produced.

The retaining or estopping mechanism of the magazine consists of the other ratchet and a sliding pin, R, which pin slides into the stock and against the ratchet, and is pressed inward by the spring S, projecting from the stock.

A furcated wedge, T, extending down from the superior arm of the lever I, and shaped as shown in side view in Fig. 5, is forced between the side of the stock and the head of the pin R during a descent of the said arm of the lever I and forces the pin out of the ratchet, and thus releases the magazine, so that it may be revolved, the pin R and its spring S be-

ing the mechanism for estopping such magazine.

The percussion-hammer is represented at U as arranged horizontally and supported on a fulcrum, *d*, and having a mainspring, *e*. A pitman, *f*, (shown in top view in Fig. 6, in side elevation in Fig. 2, and in rear view in Fig. 7,) is jointed to the inferior arm of the lever I, and is further supported by and so as to be capable of sliding on a pin, *g*, projecting from the side of the stock. This pitman, during a descent of the longer arm of the lever, will be forced against a stud, *h*, projecting down from the hammer, and will cock the hammer, which will be held at cock by a spring-latch, *i*, shaped in side and top views as shown in Figs. 8 and 9, and arranged on the side of the stock in manner as indicated in Figs. 1 and 2.

While the pitman *f* and the pin *g* constitute the mechanism for cocking the hammer, the latch *i* serves as a means of holding it at cock, which such latch will do by springing between the head of the hammer and the side of the stock.

A trigger, *k*, (shown in top view in Fig. 10 and in side view in Figs. 2 and 11,) turns vertically on a fulcrum or pin, *l*, projecting from the side of the latch *i*, and operates with or is operated by a cam, *m*, extending from the pitman *d*. During a retraction of the pitman the trigger will slip over the cam without producing any movement of the latch, but during the advancement of the pitman the cam will force upward the lever, which, in consequence of the projection of its shorter arm underneath the latch, will at the same time so move upward the latch as to set free the hammer in a manner to permit the mainspring to discharge it upon the priming of the next adjacent nipple. The machinery for discharging the hammer therefore consists of the spring-latch *i*, the trigger *k*, and the cam *m*, projecting from the pitman.

The machinery for advancing the priming-strip consists not only of a cam, *n*, projecting from the lever I, but a slider, *o*, provided with a spring hook or pawl, *p*, such slider having a notch, *q*, for reception of the cam *n*. A side view of the slider is represented in Fig. 12, while Fig. 13 exhibits a front view of it and the priming-box and conduit, hereinbefore mentioned. There are two slots, *r r*, in the slider. Screws *s s* pass through these slots and serve to hold the slider against the side of the stock. The slider is moved up and down during the reciprocating movements of the lever I. The hook or pawl *p* operates to advance the priming-ribbon as it is advanced in the "Maynard primer" and by the mechanism thereof.

The stock turns horizontally on a bearing, *t*, which turns vertically on the axle C′ of the carriage D. Furthermore, the said carriage supports in stationary projections the journals of a long screw, *u*, provided with a crank, *v*, fixed on one end of it and screwed through a block, *w*, through which an elevating-screw, *x*, extending down from a rocker-shaft, *y*, arranged in the stock, is also screwed. On the top of the elevating-screw there is a crank, *z*.

By the application of the stock to the carriage-axle in manner as described—viz., by a compound joint, and by means of the horizontal and vertical screws *u x* and the blocks *w*—the barrel and stock of the carriage may be either elevated or depressed or turned more or less to the right or left with respect to the carriage, as circumstances may require, in order to insure correct aim of the piece at an object.

I claim—

1. The combination composed of machinery for imparting to the magazine its intermittent rotary motion, machinery for estopping the magazine when a charge-chamber may be brought in line and in communication with the barrel, machinery for releasing at the proper time the stopping mechanism of the magazine in order to enable the rotation of the magazine to be effected, machinery for elevating the hammer, machinery for holding the hammer at cock, machinery for discharging the hammer, and, finally, machinery for advancing the priming-ribbon and operated by the reciprocating movements of a hand-lever or brake, arranged and applied with respect to the stock substantially as specified.

2. Application of the stock to the axle and the carriage by a compound joint, as described, in combination with the vertical and horizontal screws and their blocks, the whole being substantially as and for the purpose specified.

3. In combination with the barrel, the stock, and the magazine, and the boxes of its journals, a mechanism, substantially as described, for moving the said boxes so as to maintain the periphery of the magazine in its proper relation to the breech of the barrel.

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Witnesses:

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