(No Model.)

W. MASON.

2 Sheets—Sheet 1.

MAGAZINE FIRE ARM.

No. 354,328.

Patented Dec. 14, 1886.

Fig. 1

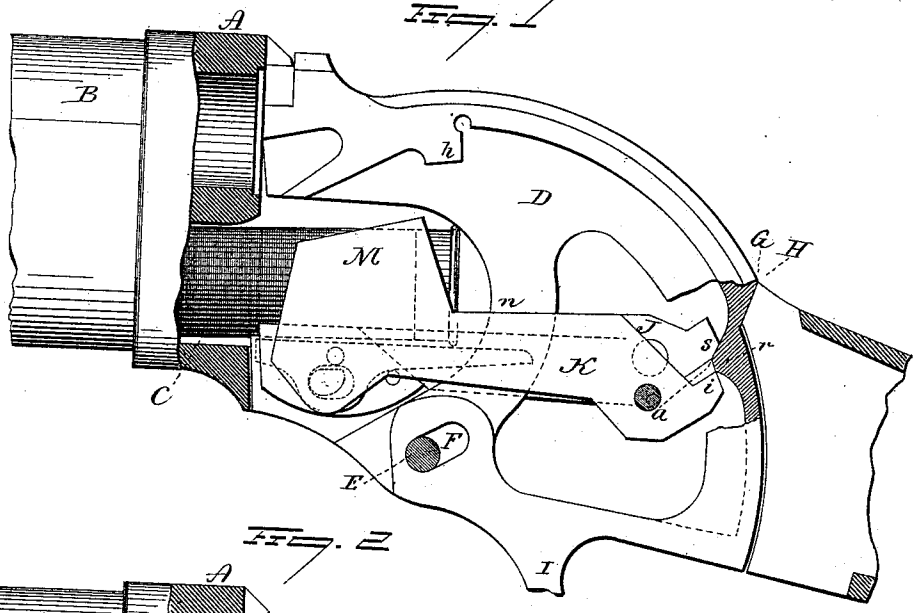


Fig. 2

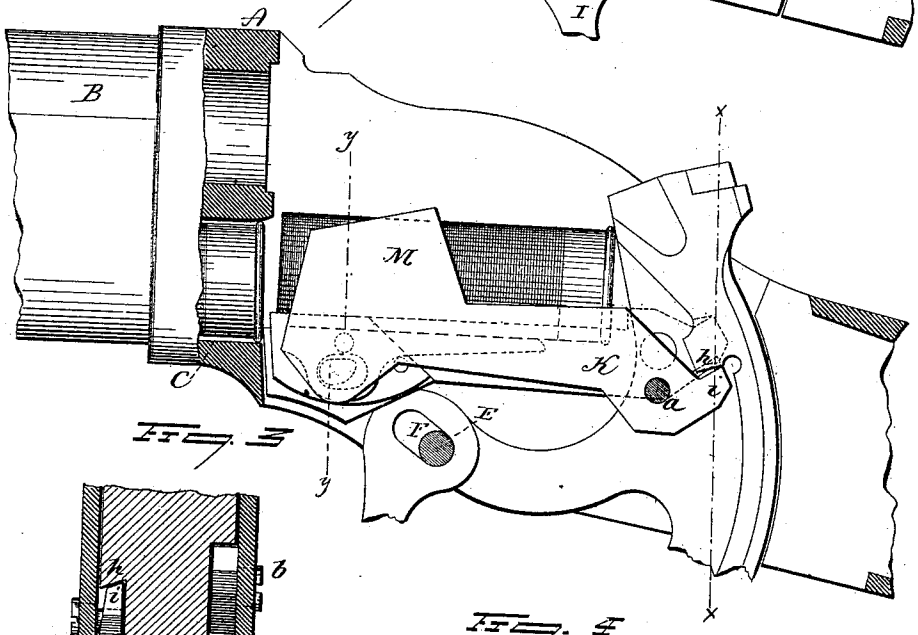
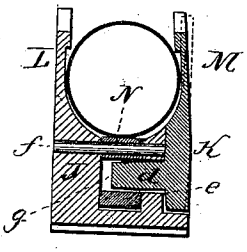


Fig. 3

Fig. 4



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(No Model.)

W. MASON.

2 Sheets—Sheet 2.

MAGAZINE FIRE ARM.

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Fig. 5

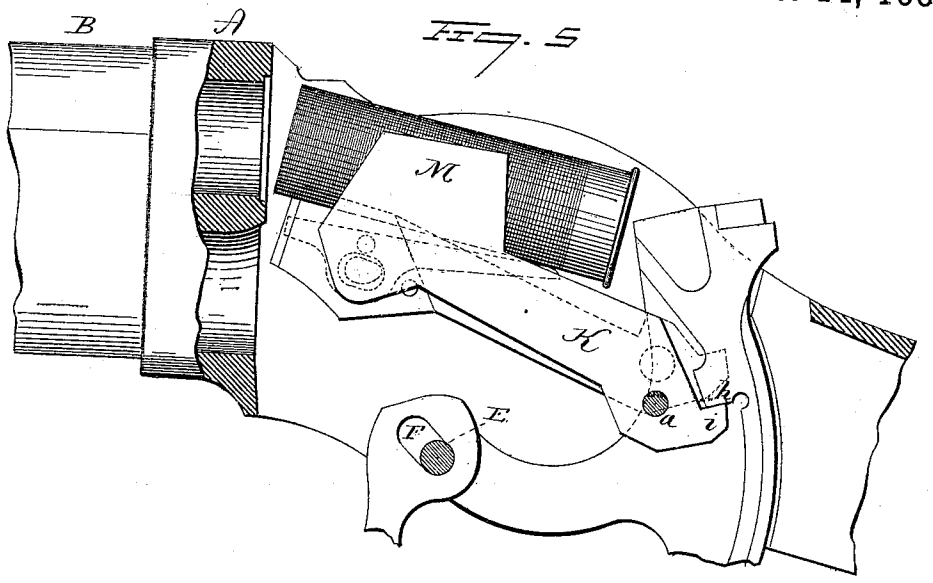


Fig. 6

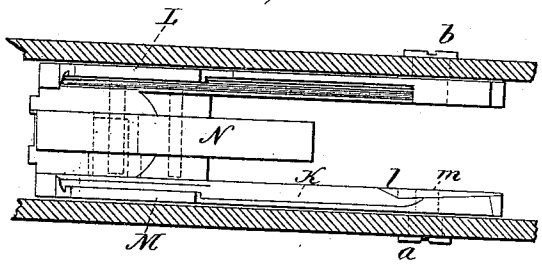


Fig. 7



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UNITED STATES PATENT OFFICE.

WILLIAM MASON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE WINCHESTER REPEATING ARMS COMPANY, OF SAME PLACE.

MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 354,328, dated December 14, 1886.

Application filed May 3, 1886. Serial No. 200,939. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MASON, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Magazine Fire-Arms; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a sectional side view showing the parts in the normal or closed position; Fig. 2, the same showing the parts opening, just as the carrier begins its ascent; Fig. 3, a vertical section of Fig. 2, cutting on line X X through the breech-piece, and showing the rear end of the two parts of the carrier; Fig. 4, a vertical section through the carrier, cutting on line Y Y of Fig. 2, and looking rearward; Fig. 5, the same as Fig. 2, showing the parts in the extreme open position; Fig. 6, a longitudinal section through the receiver showing a top view of the carrier; Fig. 7, a vertical section through the part K of the carrier in rear of the incline *l* and looking forward.

This invention relates to an improvement in that class of magazine fire-arms in which the carrier is hung at the rear, and adapted to swing up and down, turning upon its pivot at the rear to transfer the cartridge from the magazine to a position forward of the front face of the breech-piece and into line with the barrel.

In this class of carrier, unless there be some means provided, the cartridge when raised will stand at a very considerable incline to the line of the barrel, the rear or head end being downward. Various devices have been employed to raise the rear end of the cartridge as it approaches its up position, so as to bring it more nearly into line with the barrel than it could be under the simple vibratory movement of the carrier. It is to this class of carriers that my invention particularly relates, and to the class of fire-arms in which the breech-piece is hung in the receiver below the barrel, so as to swing backward and downward in opening, and is an improvement upon the Browning arm, Patent No. 336,287, the object being to make the rise of the rear end of the cartridge more gradual than in that patent; and the invention consists in a carrier divided into two parts longitudinally, the two parts hung at the rear upon pivots, one pivot for one part on one side being above the pivot of the other part on the opposite side, combined with a lever hung upon a fulcrum in the one part near its forward end, and extending back flush with the surface of the carrier when in its down position, with a connection between the said lever and the other part of the carrier, the said connection on the one part and fulcrum on the other part being the one above the other, and whereby as the carrier rises the said lever will be gradually turned to raise its rear end in advance of the carrier, as more fully hereinafter described.

A represents the receiver, to which the barrel B is applied, opening into the receiver at the rear, and with a magazine, C, below the barrel, opening also into the receiver at the rear in the usual manner; D, the breech-piece hung in the receiver below and in rear of the barrel upon a pivot, E, the breech-piece being constructed with a slot, F, at the pivot, inclined backward and upward when the breech-piece is in the closed position, as seen in Fig. 1, and the breech-piece also constructed with a shoulder G, and the receiver with an abutment, H, against which said shoulder G will stand when the breech-piece is in the up position, and so that the first part of the opening movement of the breech-piece will be downward toward the pivot until the slot F comes to a bearing thereon, and which downward movement will take the shoulder G on the breech-piece below the abutment H, and so that the breech-piece may then be opened, as in the Browning arm, before referred to, and, as here represented, like the Browning arm, the breech-piece is actuated by an extension, I, therefrom, to form the lever below the breech-piece.

The carrier is made in two parts, J K, (see Fig. 4,) the division being longitudinal. The one part, K, is hung in one side of the receiver upon a pivot, *a*, and the other part, J, is hung at the opposite side of the receiver upon a pivot, *b*, the pivot *b* being above the pivot *a*, and so that each part may turn upon its own in-

dividual pivot. The two parts extend forward and terminate, respectively, in cheeks L M. (See Figs. 4 and 6.) This division of the carrier is substantially the same as that in the Browning patent, before referred to; but in that patent the pivots of the two parts are in the same axial line. The part K is constructed with a stud, *d*, upon its inner side, which extends into a corresponding opening, *e*, in the other part, (see Fig. 4,) the opening *e* being sufficiently large to allow considerable play for the stud *d*. In the part J a lever, N, is hung upon an axis or fulcrum, *f*, above the stud *d*, and the stud *d* extends into an opening, *g*, in the lever N below the fulcrum *f*, so that the lever N is connected to both parts of the carrier, the connection of the one part being above the connection with the other part. A considerable amount of freedom is permitted the part K upon its pivot *a*, and also at the stud *g*, so that a lateral rocking movement may be imparted to the part K, as indicated by broken lines, Fig. 4, and as and for the same purpose as in the Browning gun—that is to say, when the part K is free it may turn outward to the position indicated in broken lines, Fig. 4, and so as to permit the cartridges to pass freely from the magazine onto the carrier between the cheeks L M. Then as the carrier commences its ascent the part K is turned inward to cause the cheeks to grasp the cartridge near its forward end, and so as to prevent its displacement in ascending, as in the Browning arm.

The breech-piece is constructed with a shoulder, *h*, to engage a corresponding projection, *i*, on the part K in rear of its pivot *a*, as indicated in Fig. 2, this engagement being made as the breech-piece approaches its extreme open position. Then as the breech-piece completes its opening movement the shoulder *h* will cause the carrier to rise, as indicated in Fig. 5. The shoulder *h* is inclined downward and outward, and the projection *i* on the part K is correspondingly inclined, as seen in Fig. 3, and so that as the shoulder *h* comes to a bearing upon the projection *i* it imparts to the part K its lateral or inward movement to grasp the cartridge, and this grasp upon the cartridge is maintained during the rise of the carrier and while the breech-piece is in its open position; but so soon as the breech-piece begins its forward movement, and the shoulder *h* leaves the inclined projection *i*, then the part M of the carrier is free to swing laterally and release the cartridge, so that as the breech-piece advances it will force the cartridge forward into its place in the magazine.

In order that the part M of the carrier may not be left free to swing laterally when in its down position, but, on the contrary, may be held in the outward or open position, I construct the inside of the part K with an incline, *l*, (see Figs. 6 and 7,) which leaves a recess in rear of the incline and near the hub or pivot portion of the carrier, which recess permits the part K to be turned inward, as before described, it being understood that the breech-piece works between the two parts J and K, from their pivot forward to the extent indicated in Fig. 1, and that the surface of the breech-piece next the part K is substantially flush with the inside plane of the part K; but when the carrier is thrown upward by the rear movement of the breech-piece the recess *m* in rear of the shoulder *l* permits the inward-turning movement of the carrier, before described; but when the breech-piece is forced forward, and before it reaches its closed position, the forward edge of the breech-piece—say as at *n*, Fig. 1—strikes the incline *l* and forces the part K outward into the open position, (indicated in broken lines, Fig. 4,) and then the inner face of the part K lies close against the side of the breech-piece, so that it will be held in the open position so long as that part of the breech-piece remains forward of the shoulder *l*, and consequently, when the breech-piece is in its closed position and the carrier down, the part K is practically locked in its open position, which will not only prevent possible obstruction for the rear movement of the cartridge, but will also prevent the rattling of the part K, which might occur if not so held.

The two pivots upon which the respective parts of the carrier are hung, and the two points of connection between the parts at the forward end, give to each part a simultaneous but independent movement, and as the pivots upon which the parts are hung are fixed it follows that substantially the same relation between the two points of connection at the forward end will be maintained throughout the rise of the carrier, and as these connections at the forward end are made through the lever N it follows that the lower connection will tend to draw the lower part of the lever rearward, while the upper connection will in like manner tend to throw the upper part of the lever forward, and such action throws the rear end of the lever upward as the carrier rises, and as from the position in Fig. 2 to that seen in Fig. 5, and as this lever extends backward beneath the cartridge the rise of its rear end raises the rear end of the cartridge from the plane of the carrier, as indicated in Fig. 5, and because the movement of the lever to thus raise the rear end of the cartridge is gradual and produced through substantially the entire rising movement of the carrier, instead of a sudden movement during the last part of the rise of the cartridge, as in the Browning arm, before referred to, there is no tendency of the lever to throw the cartridge out of place.

To lock the carrier in its down position, the breech-piece is constructed with a projection, *r*, adapted to strike or bear against a corresponding projection, *s*, on the part J of the carrier in rear of its pivot, and, as seen in Fig. 1, so that when the breech-piece is in its closed position the carrier is held down by the projection *r* bearing against the projection *s* on the carrier; but as the breech-piece opens the

projection *r* on the breech-piece passes from the projection *s* on the carrier, and leaves the carrier free to be raised. This engagement between the breech-piece and the carrier insures the bringing of the carrier to its extreme down position to properly receive a cartridge from the magazine.

While illustrating the improvement in the carrier as combined with a breech-piece of the Browning type, it will be evident to those skilled in the art to which this invention pertains that this improvement in the carrier may be applied in arms with various styles of breech-piece. I therefore do not wish to be understood as limiting the improvement in the carrier to any particular class of breech-piece.

The construction of the breech-piece and carrier with the projections *r s*, whereby the carrier is surely brought to and locked in its down position, may be applied with various constructions of carrier other than that shown in the Browning patent, before referred to.

I claim—

1. In a magazine fire-arm in which the magazine is arranged beneath the barrel, the barrel and the magazine both opening into the receiver at the rear, with a breech-piece adapted to open and close the barrel, the combination therewith of a carrier constructed in two parts, J K, each hung at the rear upon independent pivots, the axis of the pivot of one part being above the axis of the pivot of the other part, a lever, N, hung upon a fulcrum in one part, near its forward end, and a connection from the other part with said lever, the said connection and fulcrum being the one below the other, substantially as described, and whereby, as the carrier ascends to transfer a cartridge, the rear arm of said lever, under the action of the said two parts of the carrier, will be raised as the carrier ascends.

2. In a magazine fire-arm having the magazine arranged beneath the barrel, the magazine and barrel both opening into the receiver at the rear, a breech-piece hung at the rear, and so as to swing backward and downward in opening, the combination therewith of a carrier constructed in two parts, J K, the said two parts hung at the rear upon pivots independent of each other, and the axis of one pivot above the axis of the other pivot, a lever, N, hung upon a fulcrum in one part near its forward end, and a connection between the other part and the said lever, the said connection and fulcrum being the one above the other, the breech-piece constructed with a shoulder, *h*, and one of the parts of the carrier with a corresponding projection, *i*, in rear of its pivot, substantially as described.

3. In a magazine fire-arm having the magazine arranged beneath the barrel, the magazine and barrel both opening into the receiver at the rear, a breech-piece hung at the rear, and so as to swing backward and downward in opening, a carrier hung at the rear and adapted to swing up and down in the transfer of a cartridge, the carrier constructed with a projection, *s*, in rear of its pivot, and the breech-piece with a corresponding projection, *l*, adapted to engage said projection *s* on the carrier as the breech-piece approaches its closed position, substantially as described, and whereby said carrier will be held in its down position.

4. In a magazine fire-arm in which the magazine is arranged beneath the barrel, and the breech-piece hung in rear to swing backward and downward in opening, the combination therewith of a carrier constructed in two parts, the division being longitudinal, and so as to form a pair of cheeks, one each side the carrier, and between which parts the breech-piece swings in opening and closing, one of said parts adapted to swing laterally upon its pivot, the said swinging part constructed with an incline, *l*, upon its inner face, and so as to form a recess, *m*, in rear of said incline, to permit said swinging movement of the side of the carrier, and the breech-piece constructed to ride over said incline *l* as it closes, and thereby force the said part to its open position, substantially as described.

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Witnesses:
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