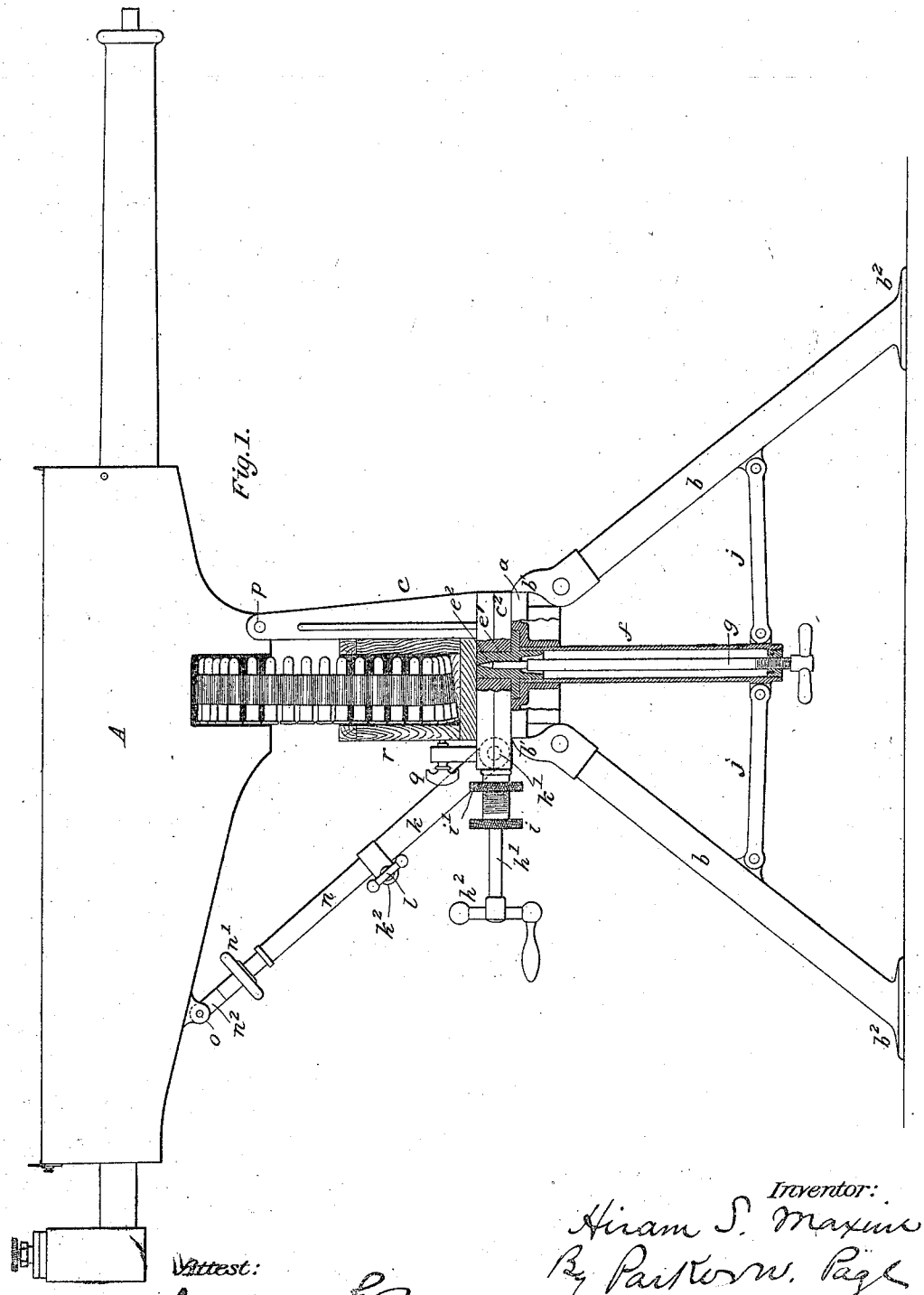
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SUPPORT FOR MACHINE GUNS.

No. 329,471. Patented Nov. 3, 1885.

Fig. 1.



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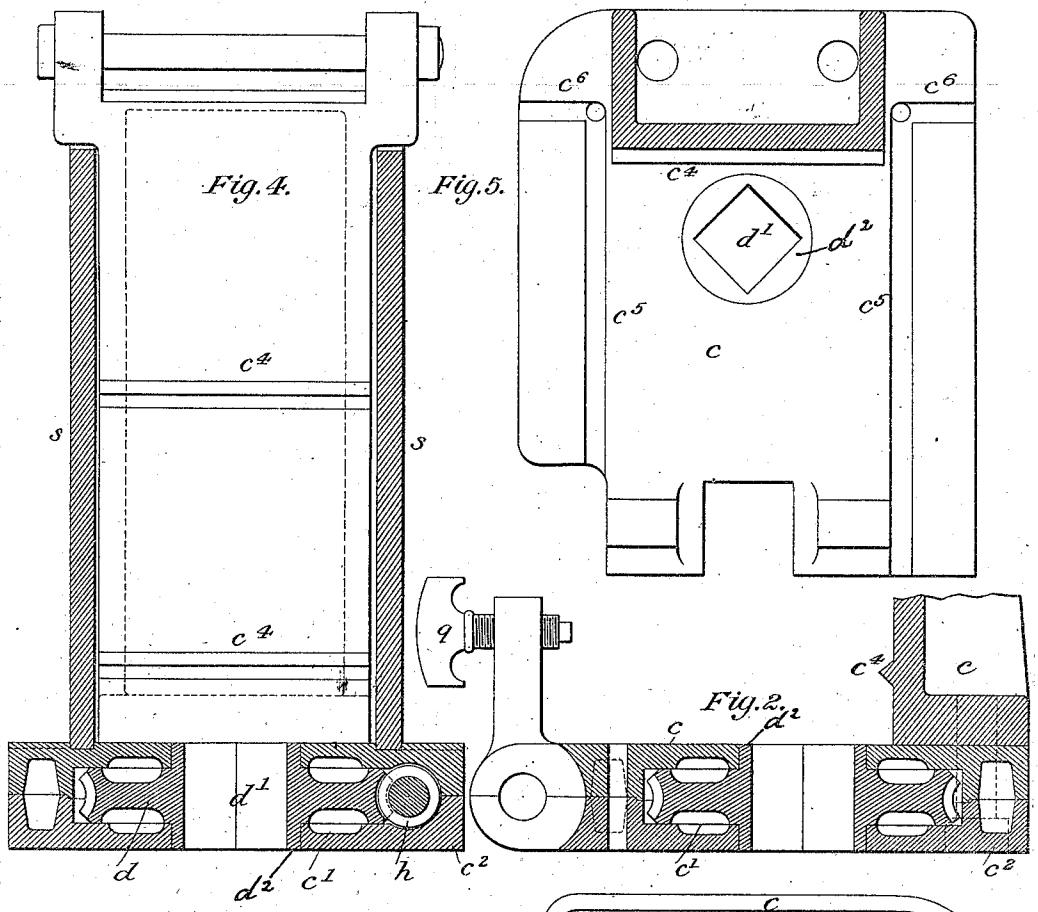
Inventor:
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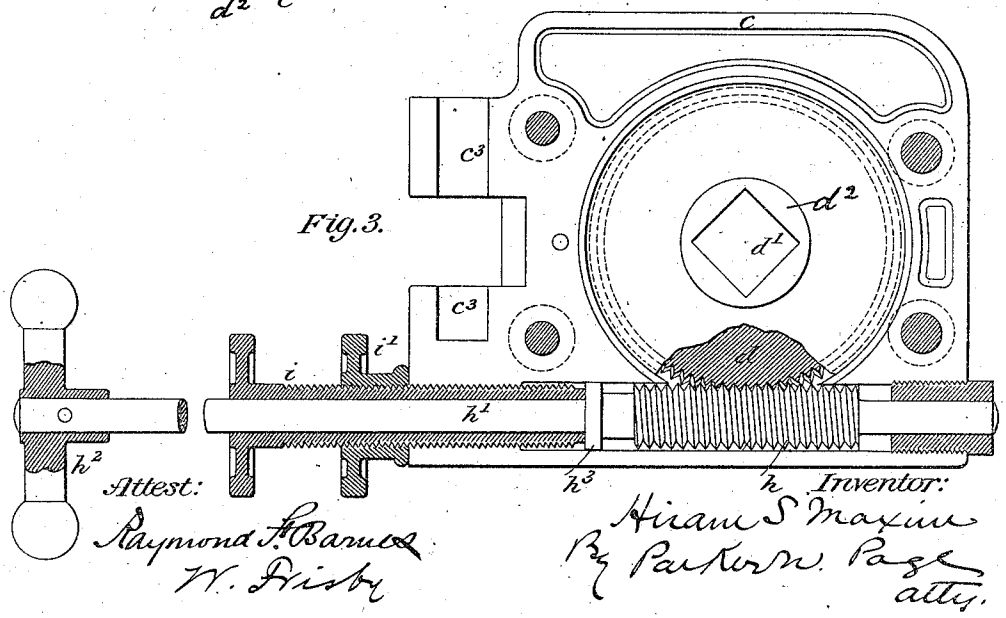
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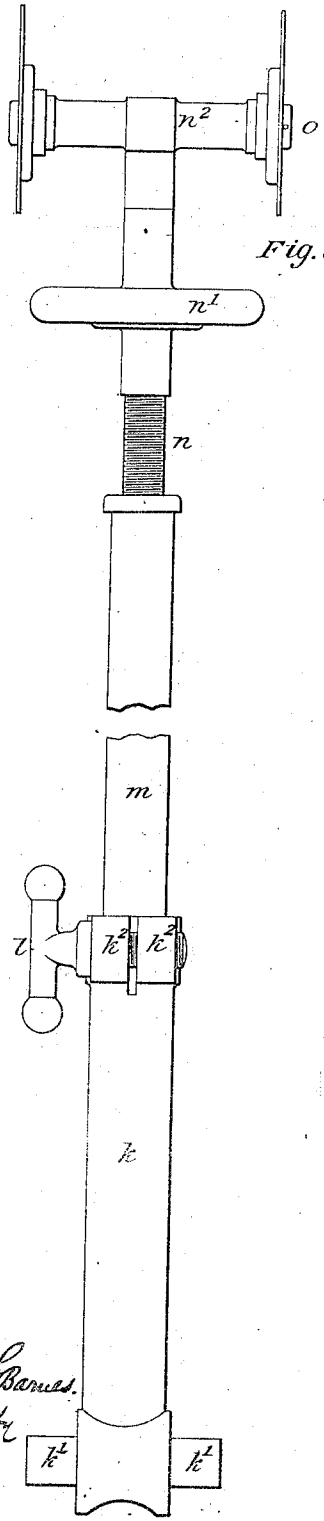


Fig. 8.

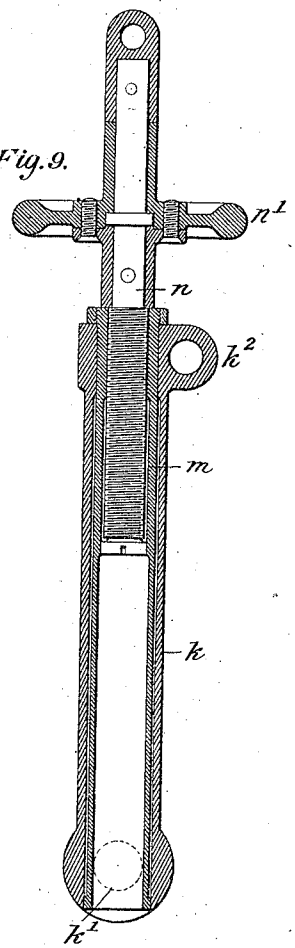


Fig. 9.

Fig. 6.

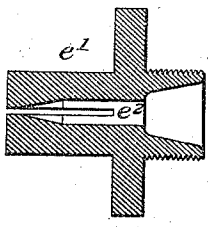
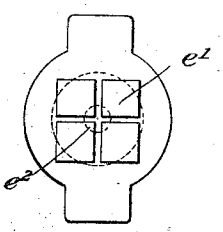


Fig. 7.



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SUPPORT FOR MACHINE GUNS.

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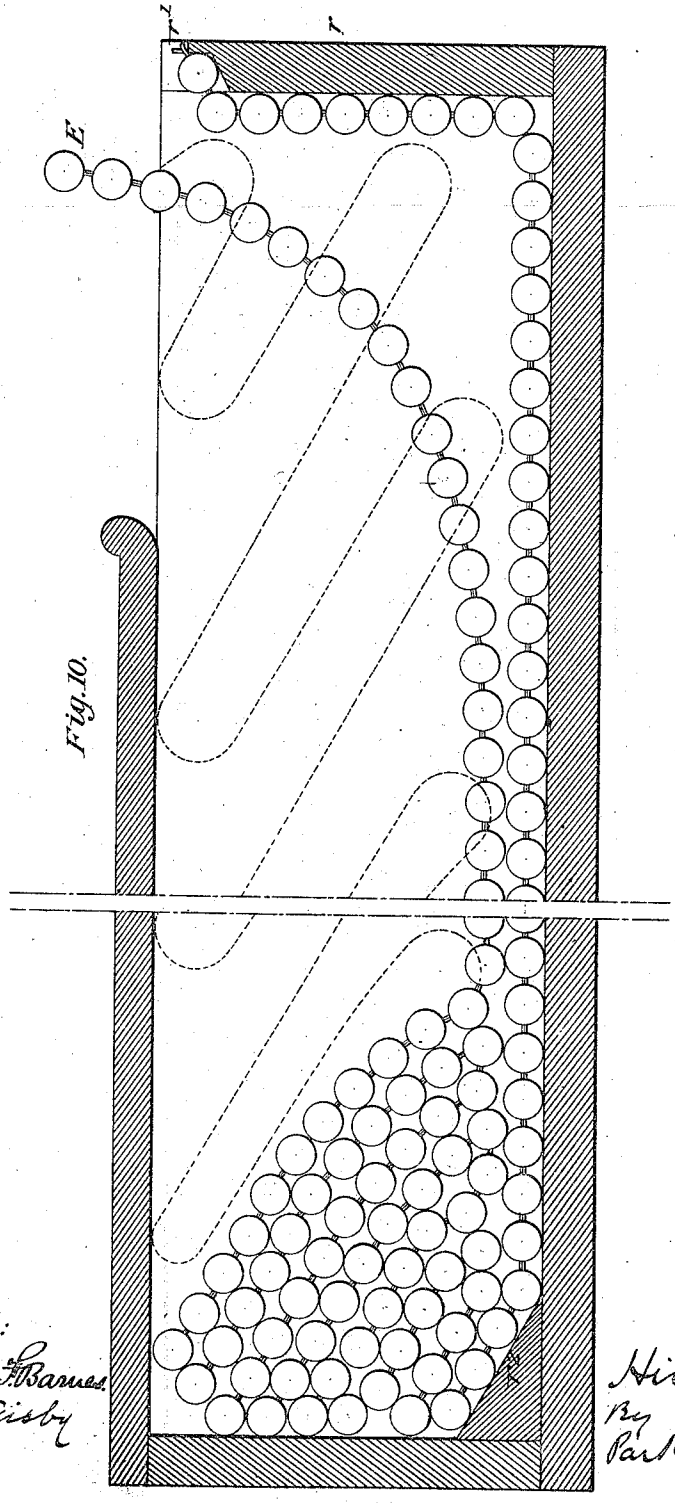


Fig. 10.

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UNITED STATES PATENT OFFICE.

HIRAM S. MAXIM, OF LONDON, COUNTY OF MIDDLESEX, ENGLAND.

SUPPORT FOR MACHINE-GUNS.

SPECIFICATION forming part of Letters Patent No. 329,471, dated November 3, 1885.

Application filed March 14, 1885. Serial No. 158,792. (No model.)

To all whom it may concern:

Be it known that I, HIRAM S. MAXIM, a citizen of the United States, residing at London, in the county of Middlesex, England, have invented certain new and useful Improvements in Stands or Supports for Magazine-Guns, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same, this application being a division of that filed by me May 27, 1884, No. 132,882.

In numerous applications filed by me, and notably in the application No. 132,882, I have shown and described improvements in magazine-guns, to which this my present invention more particularly relates, although the same is applicable generally to guns too heavy to be fired from the shoulder.

The invention consists in a stand or support for the said guns constructed with means for varying at the will of the operator the angle at which the gun is aligned.

The apparatus is distinguished by certain novel features of construction, by which the requisite adjustment and manipulation of the gun are effected with ease, rapidity, and safety, the character of the apparatus being such that when an automatic gun is mounted on it all these operations may be carried on by a gunner below the piece and under a defensive cover.

Figure 1 is a side elevation and part section of a gun and its stand or support. Fig. 2 is a vertical central section of the casting constituting the body of the carriage. Fig. 3 is a plan view of the same with parts of the covered mechanism exposed, and other parts in section. Fig. 4 is a view, partly in section, of the supports for the gun. Fig. 5 is a plan view of the same. Fig. 6 is a section enlarged of the device for connecting the supports or bracket to the base of the carriage. Fig. 7 is an end view of the same. Fig. 8 is an elevation of the means for varying the angle of elevation of the gun. Fig. 9 is a section of the same with the parts in different relations. Fig. 10 is a longitudinal section of a cartridge box or receiver.

The letter A designates the casing inclosing the feeding and firing devices of a machine or similar gun, to which casing the barrel and other parts of the piece are suitably connected.

It may be here stated that no particular form of gun is here described, as many different forms may be used. That shown is one which I have elsewhere described in applications filed by me.

The stand or carriage is constructed in the following manner: *a* is a casting or piece, to which are pivoted three legs, *b*, so as to form a tripod. These legs are provided with stops *b'*, to limit their outward movement, and with feet b^2 to rest upon the ground or upon any suitable platform. A bracket, *c*, is pivoted upon the piece *a* in the following manner, viz: The bracket *c* is made with a recess, *c'*, and is provided with a correspondingly-recessed cap or piece, c^2, firmly secured to the said bracket. A worm-wheel, *d*, is inclosed between these recessed parts, as shown in Figs. 2 and 4. This worm-wheel is made with a square aperture, *d'*, which fits upon the square expanding stud *e'*. This stud is fixed in the upper end of a tube, *f*, and in the lower end of the said tube is inserted a screw-threaded rod, *g*, provided with a handle, *g'*. This rod extends upward in the said tube, and has a conical end, which enters an aperture, e^2, in the stud *e'*. The said stud is slit or divided crosswise, as shown in Figs. 6 and 7, so that it can be expanded by rotating the rod *g* in one direction, and will again contract when the said rod is turned in the other direction, the conical part of the rod acting like a wedge. The worm-wheel *d* can therefore be firmly secured to the piece *a*, and the bracket *c* will be free to rotate upon the said wheel, so that the gun can be adjusted in a horizontal plane. The hub d^2 of the worm-wheel *d* is circular on its exterior, and projects upward through a bearing in the horizontal part of the bracket *c*, and downward through a bearing in the cap c^2, as shown in Figs. 2 and 4, so that said hub forms a pivot, about which the bracket turns.

I provide the following means for effecting this adjustment, viz: An endless screw, *h*, is passed through an aperture in the bracket *c*, so as to gear with the worm-wheel *d*. The spindle *h'* of this endless screw extends through

a screw-threaded bush, *i*, and has a handle, h^2, and a fixed collar, h^3. The bush *i* is screwed into the said aperture in the bracket *c*, and is provided with a check-nut, *i'*. This bush can be adjusted and secured either so that the longitudinal movement of the spindle *h'* is prevented, and the gun can only be adjusted by rotating the said spindle, or so that the said spindle is free to move more or less longitudinally. In the latter case the projectiles discharged from the gun can be spread over a slight angle by adjusting the bush *i* so that the spindle *h'* will have a slight amount of play independently of adjustment by rotating the said spindle and then moving the gun in either direction upon its pivot, and the horizontal adjustment of the gun through a greater angle is effected by rotating the said spindle so as to cause the rotation of the bracket *c* on the worm-wheel *d*. The tube *f* is free to move up and down in the piece *a*, and is connected to the legs *b* by links *j*. When the tripod is expanded, the inner ends of these links are below their outer ends. The said tripod cannot therefore be folded or the legs moved inward without first raising the tube *f* in the piece *a*. Great rigidity of the tripod is thus insured.

I provide the following means for elevating or depressing the gun and for accurately adjusting it vertically—that is to say, a tubular rod, *k*, is pivoted to the bracket *c* by means of the trunnions *k'*, which fit into the bearings c^3. This tubular rod is slotted or cut at its upper end and provided with lugs k^2, in which is inserted the clamping-screw *l*. Another tubular rod, *m*, is fitted into the rod *k*, so as to be free to slide to and fro therein. Into the upper end of the rod *m* is screwed the spindle *n*, which is provided with a hand-wheel, *n'*, and has fixed to its upper end a piece, n^2, through which is passed the pivot *o*, for attaching the said spindle to the frame A of the gun. This device is shown expanded in Fig. 8 and contracted in Fig. 9. The gun is elevated or depressed to any considerable extent by slackening the clamping-screw *l* and sliding the rod *m* up or down in the rod *k*, and the accurate adjustment of the gun vertically is effected by rotating the screw-spindle *n* in one direction or the other. The bracket *c* is attached to the frame A of the gun by the pivot *p*, and is provided with the ribs or projections c^4 and the screw *q*, for holding the box or magazine *r*, containing the belt or band of cartridges. The bracket *c* is, moreover, formed with grooves c^5 c^6, to receive the shields or plates *s*. These shields are pivoted to the bracket *c* in such a manner that they can be raised in order to transfer them from the grooves c^5 to the grooves c^6. The said shields are ordinarily carried in the grooves c^5; but when the gun is in use in war they are fitted in the grooves c^6, so that they project outward upon each side of the gun, and serve to protect the operator from the fire of the enemy. The bottom of the magazine or box *r* for the cartridges is made inclined, as shown in Fig. 1, so that the upper rows of cartridges will lie horizontally in the said magazine or box.

In Fig. 10 I have shown a longitudinal section of the box or magazine for containing the belt E of cartridges. This belt of cartridges is preferably laid in the box or magazine in the manner shown—that is to say, one end of the said belt is placed upon one or more pins, *r'*, fixed to the box or magazine at its upper edge. The said belt is then laid along the bottom of the box, at one end of which there is an inclined part, r^2. The belt is laid or folded upon this inclined part, layer upon layer, as shown in full and by dotted lines, so that the other end of the belt lies at the top of the opening of the box or magazine. By these means the drawing of the cartridges from the magazine by the feed-wheel is facilitated, and before one belt of cartridges is drawn from the magazine a fresh belt can be attached to the end thereof. The supply of cartridges to the gun can therefore be made continuous.

What I claim is—

1. The combination, with a magazine or machine gun, of a carriage or support consisting of the casting or piece *a*, the pivoted tripod-legs *b*, the tube *f*, entering the casting *a*, and links *j*, pivotally connected with the tube and with the legs, as and for the purpose specified.

2. In the gun support or carriage, the combination, with the suitably-supported casting *a*, of the bracket *c*, pivoted to said casting by a pivot which is secured to the casting by an expanding stud, *e'*, and screw-rod *g*, having a wedge-like end, which enters said stud, substantially as set forth.

3. The combination, with the suitably-supported casting *a*, of the worm-wheel *d*, fixed to said casting, the gun-supporting bracket *c*, pivoted to the casting concentrically with said worm-wheel, and the endless screw or worm mounted on said bracket and engaging with the fixed worm-wheel, substantially as described.

4. The combination, with a stand or support, of a bracket carrying a gun and pivoted thereto, a worm-wheel, *d*, fixed to the stand or support, a screw, *h*, for turning the same, and a screw-threaded bush, *i*, and check-nut *i'*, arranged in conjunction with the spindle of screw *h* in such manner as to permit a play or movement of the bracket or gun, as set forth.

5. The combination, with a gun and a support or carriage therefor, of a device for elevating and depressing the gun, consisting of the tubular telescoping rods *k m* and clamping-screw *l*, the screw-threaded spindle *n*, and adjusting-screw for turning it into or out of the rod *m*, as set forth.

6. The combination, with a tripod stand or support for machine-guns, of a horizontally-revolving gun-supporting bracket mounted upon said stand or support and provided with ribs c^4, and a suitably-mounted clamp-

ing-screw, *q*, arranged upon the bracket for holding in place a cartridge-receptacle, as set forth.

7. The combination, with a tripod stand or support, of a revolving bracket carrying a gun and mounted on said stand and shields or plates *s*, inserted in suitable grooves in the bracket to form a defensive armor or covering, as herein described.

In testimony whereof I have hereunto set my hand this 16th day of December, 1884.

HIRAM S. MAXIM.

Witnesses:
J. R. CLARK, Jr.,
H. M. TAYLOR.