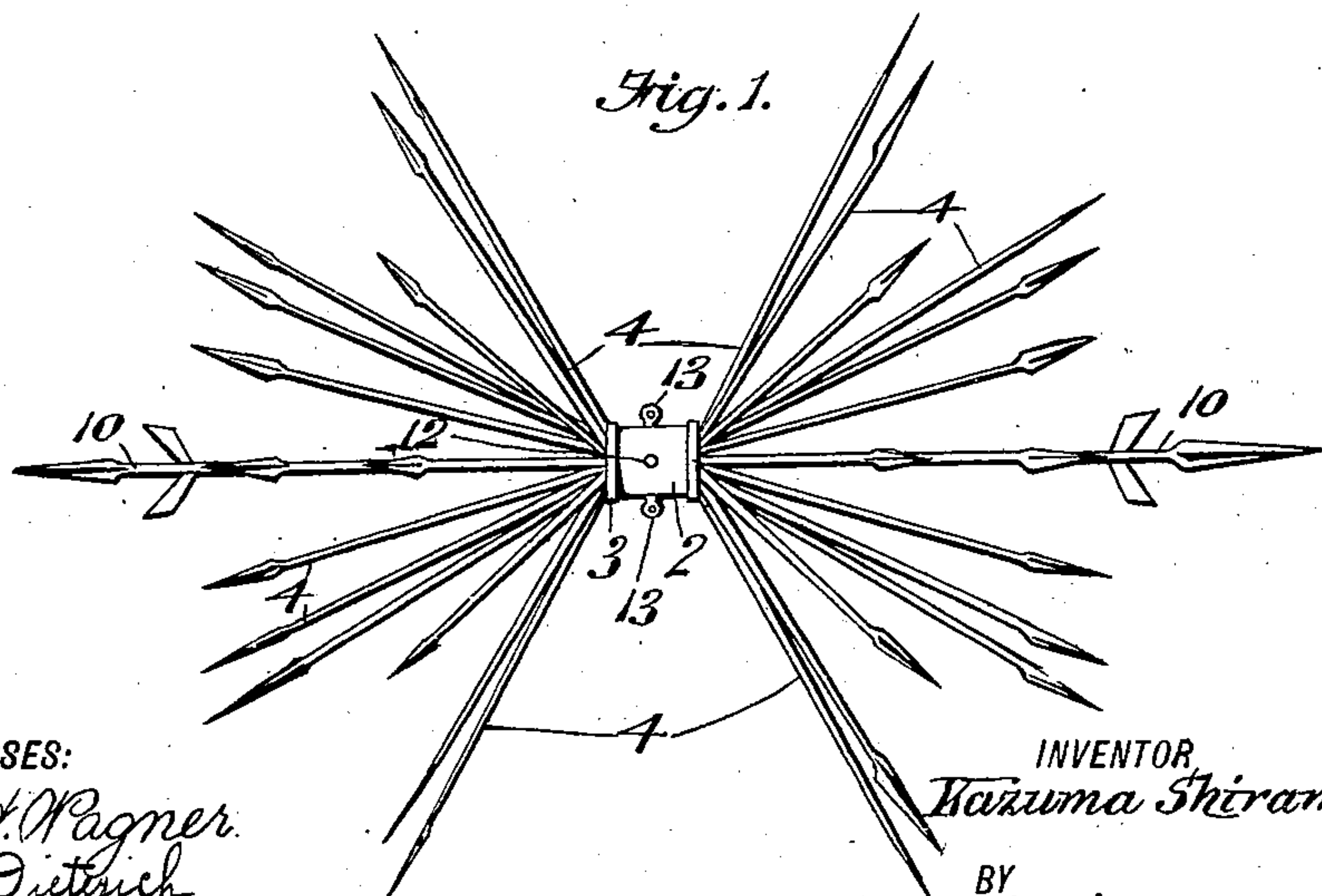
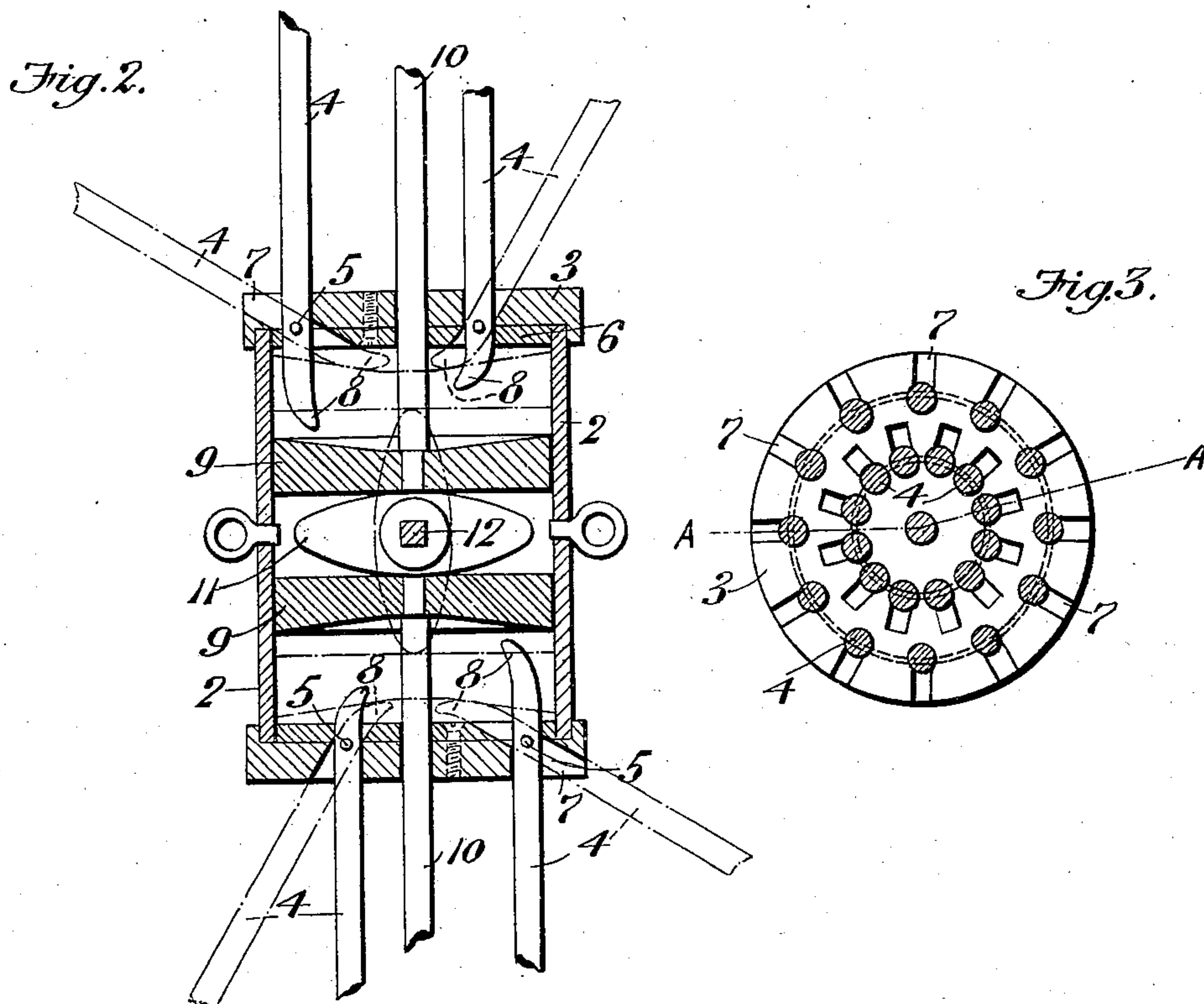


No. 883,494.

PATENTED MAR. 31, 1908.

K. SHIRAMINE
PORTABLE BARBED MACHINE FOR MILITARY DEFENSE.

APPLICATION FILED DEC. 6, 1907.



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KAZUMA SHIRAMINE, OF VANCOUVER, BRITISH COLUMBIA, CANADA.

PORTABLE BARBED MACHINE FOR MILITARY DEFENSE.

No. 883,494.

Specification of Letters Patent.

Patented March 31, 1908.

Application filed December 6, 1907. Serial No. 405,375.

To all whom it may concern:

Be it known that I, KAZUMA SHIRAMINE, citizen of the Empire of Japan, residing at Vancouver, in the Province of British Columbia, Canada, have invented a new and useful Improvement in Portable Barbed Machines for Military Defense, of which the following is a specification.

This invention relates to a portable machine designed to form an obstacle for military defense as an alternative or substitute for wire entanglements.

The device consists of double connected bundles of sharpened or spear pointed steel rods, the inner ends of which are pivotally connected in a cylindrical hub having means by which when required for use the pointed ends of the rods may be directed and held outward in lines radiating from the hub.

The invention is particularly described in the following specification, and illustrated in the drawings by which it is accompanied, in which:

Figure 1 is a side elevation of the device with its spear points extended as in use. Fig. 2, a vertical section through the hub on the line A A in Fig. 3, showing the means by which the spear pointed rods are outwardly spread and so held, and Fig. 3, an end view of the cap of the hub showing the arrangement of the spear pointed rods therein.

In these drawings 2 represents a hollow cylindrical body having secured on each end a cap 3 which is provided with apertures to receive a series of steel rods 4 having sharpened or spear pointed ends.

The rods 4 are spread to the limits of their radial movement and retained in such spread positions by pistons 9 endwise movable within the cylinder 2. The outer faces of these pistons 9 are dished conical as shown in Fig. 2 or in a concave curve, so that when they are pressed apart and into contact with the inwardly projecting ends 8 of the rods 4, these ends will be directed inward towards the axis of the cylinder; to facilitate which movement the ends 8 may be inwardly bent and curved toward the axis as shown.

The pistons 9 are forced apart to spread the rods 4 by an elliptical cam 11 secured on a short shaft 12 rotatable in the walls of the cylinder 2, which cam is turned through a quarter circle to effect this object by a key on the squared end of the shaft 12, the square of the key being in a recess in the outer wall of the cylinder.

Secured to the center of each piston 9 are axial rods 10 slidable through the cap and cap plates 3 and 6, which rods are spear pointed as barrier rods and serve also to retain the pistons in correct alinement.

The machines may be made of various sizes to suit the requirements of the service for which they are to be employed. For transport they will fold into a convenient and portable bundle or sheaf and when required for defense may be quickly extended by means of a key in the manner described, the pistons 9 being forced apart and against the inwardly projecting ends 8 of the rods 4 which sliding inward on the conical faces of the pistons will radially spread the outer ends to the varying limiting angles of the apertures 7 in the caps 3 and will form a formidable if not impenetrable barrier. Where necessary a number of them may be connected together by steel wire rope or chain through rings 13 secured to the cylinder 2 and staked or otherwise secured to the ground. They may thus be used to form a rapidly constructed barrier for the protection of an outpost, to obstruct or delay advance on a position; or to protect a flank. An important advantage in their use is, that they may be as quickly folded up and carried away when a change of position is ordered.

Having now particularly described my invention and the manner of its operation and use, I hereby declare that what I claim as new and desire to be protected in by Letters Patent, is:

1. As a machine for military defense, a hollow cylindrical body in the ends of which a series of pointed rods are pivotally mounted, means for radially spreading such rods, said means comprising pistons the faces of which toward the inwardly projecting ends of the rods are inwardly conical or concave and means for forcing such pistons apart and into contact with the inwardly projecting ends of the rods.

2. As a machine for military defense, a hollow cylindrical body in the ends of which a series of pointed rods are pivotally mounted and means for radially extending such rods.

3. In a device of the class described, a hollow cylindrical body in the ends of which pointed rods are pivotally mounted the inner ends of such rods being curved toward the axis of the cylinder, pistons endwise movable within the hollow cylinder the faces of which

pistons toward the inwardly projecting end of the rods are concave or inwardly conical, and means for forcing such pistons into contact with the ends of the rods.

- 5 4. In a device of the class described, a hollow cylindrical body, ends to this cylinder having apertures radially angled outward, a series of pointed rods pivotally mounted in these apertures and susceptible of being
10 radially spread therefrom the inner ends of these rods being inwardly curved towards the axis of the cylinder, pistons endwise movable within the cylinder the faces of which

pistons toward the ends of the cylinder are inclined inward toward the center, a rod or 15 rods secured to each piston and projecting through the ends of the cylinder parallel to the axis of it, and an elliptic cam rotatable between the pistons.

In testimony whereof I have signed my 20 name to this specification in the presence of two subscribing witnesses.

KAZUMA SHIRAMINE.

Witnesses:

ROWLAND BRITTAIN,
CLIVE S. CARMAN.