(No Model.) 2 Sheets—Sheet 1.

R. MORRIS.

MACHINE GUN.

No. 353,231. Patented Nov. 23, 1886.

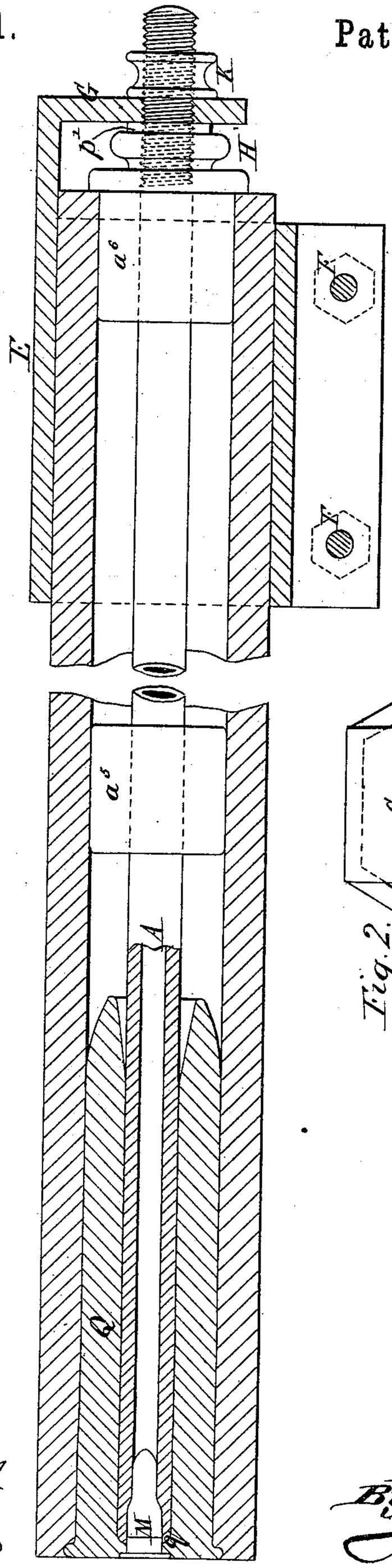

Fig. 1.

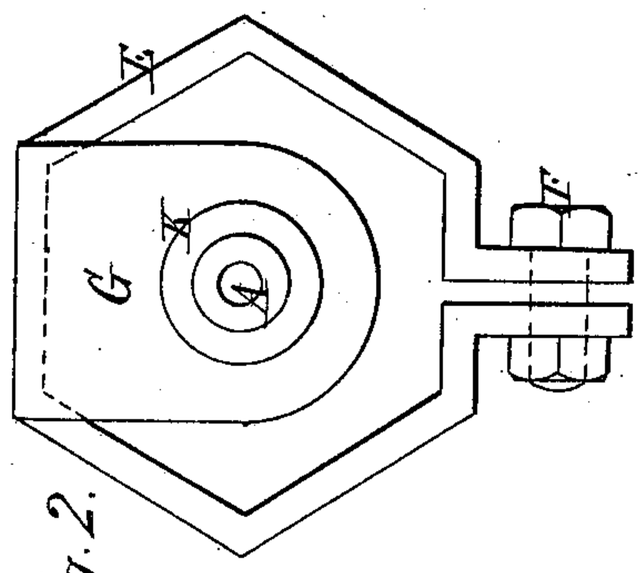

Fig. 2.

Witnesses.
J. A. Rutherford
Robert Everett.

Inventor.
Richard Morris.
By James L. Norris
Atty.

(No Model.)

2 Sheets—Sheet 2.

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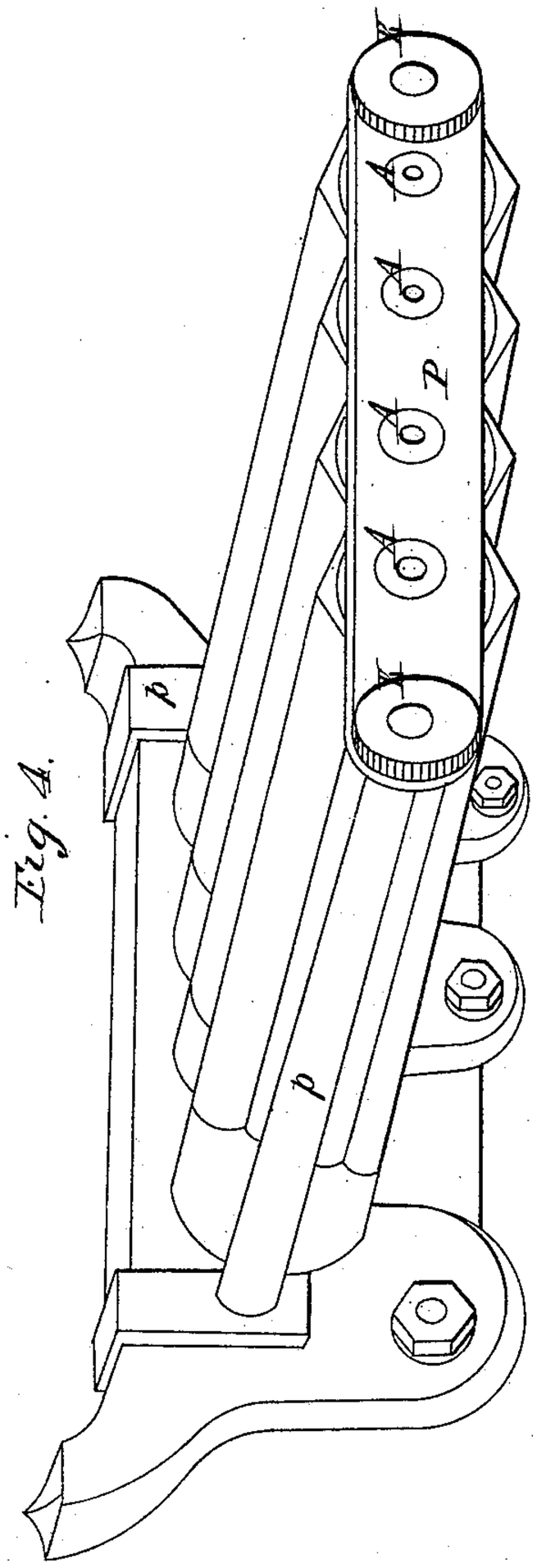

Fig. 4.

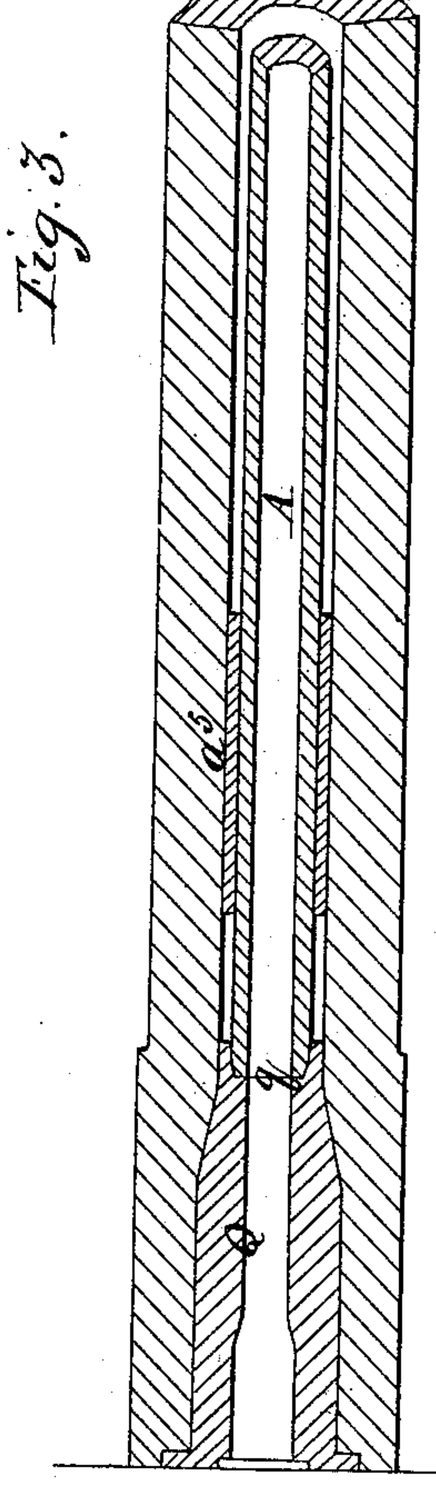

Fig. 3.

Witnesses.
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Robert Sorrett.

Inventor.
Richard Morris.
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Atty.

UNITED STATES PATENT OFFICE.

RICHARD MORRIS, OF BLACKHEATH, COUNTY OF KENT, ENGLAND.

MACHINE-GUN.

SPECIFICATION forming part of Letters Patent No. 353,231, dated November 23, 1886.

Application filed June 29, 1886. Serial No. 206,636. (No model.) Patented in England October 11, 1883, No. 4,846; in France January 26, 1884, No. 142,862; in Belgium January 29, 1884, No. 63,989, and in Germany January 31, 1884, No. 28,043.

To all whom it may concern:

Be it known that I, RICHARD MORRIS, a citizen of England, residing at Blackheath, in the county of Kent, England, have invented a new and useful Improvement in Machine-Guns to be Worked with Miniature Ammunition, (for which I have obtained patents in Great Britain October 11, 1883, No. 4,846; France, dated January 26, 1884, No. 142,862; Belgium, January 29, 1884, No. 63,989, and in Germany January 31, 1884, No. 28,043,) of which the following is a specification.

My invention relates to multiple-barrel guns in which the charging, firing, and extracting operations are performed by machinery; and it consists in apparatus and appliances whereby such guns can be worked for practice with miniature ammunition, thus saving much of the expense involved in the use of full-size ammunition, avoiding the necessity for extensive ranges, and at the same time giving gunners the same drill and practice in sighting, aiming, and serving the weapon as when full-size ammunition is used. For this purpose I fix centrally within the bore of one of the barrels, or of each of the barrels, a small barrel, and I provide a number of tubular blocks having the internal surface of the inner end portion continuously smooth and each externally of the size and shape of the ordinary cartridge, but internally smooth surfaces, and fitted to slide in a right line over the breech of the small barrel and to contain a miniature cartridge. These blocks are dealt with by the mechanism of the gun in the same way as the ordinary cartridges, but only the miniature charge is fired—that is to say, each tube is inserted into and extracted from the gun at every discharge in the same manner that ordinary cartridges are inserted and extracted, for which purpose the inner end portion of each tubular block must be smooth-surfaced internally, so as to slide freely upon the external smooth surface of the breech end of the small barrel.

Figure 1 of the accompanying drawings is a longitudinal section of a barrel of the weapon with the small barrel in it and with one of the tubular blocks and its miniature cartridge in position. Fig. 2 is an end view showing the means of fixing the small barrel at the muzzle. Fig. 3 is a longitudinal section of a smaller barrel with the miniature barrel within it, and Fig. 4 is a perspective view showing means of fixing the miniature barrels in the several barrels of the gun.

Referring first to Figs. 1 and 2, A is the miniature barrel, having fixed on it a collar, a^5, which fits the bore, and also on it, but not fixed, another collar, a^6, which fits the muzzle of the bore. On the muzzle is fixed by bolts F a clamp, E, from which projects downward a bracket, G, through which passes the front end of the barrel A. This is screw-threaded to receive two nuts, H and K, by turning which the barrel A is adjusted and secured in position. A caoutchouc washer, p', is introduced between the nut H and the bracket G. The tubular block Q is externally of the same size and shape as the ordinary cartridge. Internally it is made to pass over the breech of A and to hold at its breech a miniature cartridge, M, which should be made with a thick base, so that the solid metal of its base covers the joint at q, where the end of the miniature barrel A meets the internal shoulder of the block Q.

Only one barrel of the weapon may be provided with the miniature barrel A, the blocks Q being charged with miniature cartridges M for this barrel only. The other barrels may in that case be served with blocks Q that contain no cartridges M, or with ordinary cartridge-cases containing sand, coal-dust, or other inexplosive material.

When the barrels of the weapon are fitted with miniature barrels, as shown in Figs. 3 and 4, a bar, P, through which the muzzles of these barrels pass, is held by two hook-bolts, p, which hook onto the frame of the weapon, each of the small barrels being secured by a nut, K, and a caoutchouc washer being introduced between a^6 and P. The tubular block Q, which receives the small cartridge, presents at its mouth a socket, q, into which enters the breech of the miniature barrel A. The caoutchouc washers p' (shown in Figs. 1 and 3) give a little elasticity, allowing for a little misfit at the junctions q of the tubular blocks to the miniature barrels.

Having thus described the nature of my invention and the best way I know of carrying it out in practice, I claim—

1. The combination, with a small barrel, A, fixed centrally within the barrel of a machine-gun and having an external smooth-surfaced breech end, of the tubular block Q, for containing a miniature cartridge, having its inner end portion smooth internally to freely slide upon the smooth breech end of the small barrel, so that the block can be inserted into and extracted from the breech end of the main barrel at every discharge, and when inserted surround the breech end of the small barrel, substantially as and for the purpose described.

2. The combination, with the barrels of a machine-gun, of the small barrels A, fixed centrally therein, the tubes Q, inserted in the bores of said guns and surrounding the breech ends of the small barrels, the bar P, through which the muzzles of the small barrels pass, and nuts K, clamping the bar to the muzzles of the machine-gun, substantially as described.

3. The combination, with the barrel of a machine-gun, of the small barrel A, centrally fixed in the bore of said gun-barrel, the block Q, having the shoulder *q*, and fitted in the machine-gun barrel to surround the small internal barrel, the clamp E, having a pendent bracket, G, through which the small barrel passes, bolts F, securing the clamp, and nuts H and K, applied to the muzzle of the small barrel on opposite sides of the bracket, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 15th day of June, A. D. 1886.

RICHARD MORRIS.

Witnesses:

OLIVER IMRAY,

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