J. F. MEIGS & R. P. STOUT,
CHAIN RAMMER FOR GUNS.
APPLICATION FILED SEPT. 11, 1907.

Inventors
John F. Meigs
Robert P. Stout

By F. W. Scott
Attorneys

Fig. 1

Fig. 5.
To all whom it may concern:

Be it known that we, JOHN F. MEIGS and ROBERT P. STOUT, citizens of the United States, and residents of South Bethlehem, Northampton county, State of Pennsylvania, have invented certain new and useful Improvements in Chain Rammers for Guns, of which the following is a specification.

This invention comprises improvements in chain rammer for guns and is in the nature of an improvement upon or simplification of the chain rammer patented to us by Letters-Patent 804,243 issued November 14, 1905.

The object of the invention is to provide a rammer which shall occupy a minimum space, and which is therefore desirable for use in turrets and other contracted places.

Another object of the invention is to simplify the construction of chain rammer and to lessen their cost while, at the same time, maintaining the requisite strength and rigidity.

The invention will be described in connection with the accompanying drawings, in which,

Figure 1 is a side view of a chain rammer partly projected toward the gun; Fig. 2 is a sectional view of a portion of Fig. 1 on an enlarged scale; Fig. 3 is a plan view of part of the chain shown in Fig. 1; Fig. 4 is a section on the line 4—4 of Fig. 1; and Fig. 5 is a perspective view of one of the links.

Referring to the drawings, 10 indicates the breech of the gun and 11 the supporting bracket or frame for the rammer which bracket or frame should move with the gun or gun mount and may be connected to if in any suitable manner. The bracket 11 is in the nature of a tube or trunk having a longitudinal opening 12 to receive and guide the chain. The guide opening in the bracket 11 extends from a point in line with the axis of the gun rearward and then downward and forward, running under the gun, if necessary, to accommodate the rammer chain. A portion of the guide opening is in line with the axis of the gun and directs the rammer accurately into the gun.

The rammer proper comprises the head 13, a main chain X and a truss or guy chain Y. The main chain X consists in a series of links 14 which are connected by pivot pins 15 arranged near one side of the chain and which have abutting faces at or near the opposite side of the chain. The links 14 are preferably U-shaped in section, as shown in Figs. 4 and 5 and may be constructed of stamped sheet metal or of suitable castings or forgings. Each link is provided with perforated wings 16 through which the pivot pins 15 pass and with faces 17 adapted to bear upon the like faces of the adjacent links. The perforated wings 16 of adjacent links overlap, as shown in the drawing. The chain X flexes freely in one direction but becomes a rigid straight member when the tendency to flex is in the opposite direction. This chain is suitably driven to reciprocate the rammer by means of a sprocket wheel 18 which may be turned by any suitable motor. As shown, the 19 sprocket wheel is driven by means of an electric motor 19 and suitable gearing.

To sustain the rammer in a horizontal position and to prevent the chain X from flexing, we provide a guy chain Y, which may be much lighter and of any ordinary construction. We prefer to use what is commonly termed a sprocket chain and to control it by means of a sprocket wheel 20 which is also driven by suitable gearing connecting it with the motor 19. The gearing is so proportioned that the chains X and Y run synchronously, the chain Y being preferably permitted to travel slightly slower on account of its inclination to the chain X. The chains X and Y are so nearly parallel however that they travel substantially at the same speed. As shown the shafts of the sprocket wheels 18 and 20 are connected by a train of gearing 21 which preserves the proper relation of the chains X and Y. A tubular opening 22 is also provided in the bracket 11 to receive the slack part of the chain Y, which opening is substantially parallel with the opening 12 for the chain X. The chains X and Y may therefore be said to be normally stowed away in these guide openings and protected from dirt and the elements and at the same time they occupy a minimum of space. The main chain X is preferably connected centrally with the rammer head and the guy chain is connected with the rammer head at or near its periphery. The operative portion of the guy chain, that is, the portion between the 20 sprocket wheel 20 and the rammer head, is arranged on that side of the main chain on which are the abutting faces 17. Ordinarily
the abutting faces of the links of the main chain will be at the upper side of the chain on the operative portion thereof and the guy chain will be above the main chain and preferably at a slight angle to it, the chains converging toward the rammer.

It will be noted that the guy does not interlock with the main chain, as in our Patent No. 804,243, but is independent of the main chain throughout its length. The foregoing description of the invention will be readily understood by those skilled in the art without further description. It will also be understood that various changes in details of construction and arrangement may be made without departing from the spirit and scope of the invention.

What we claim and desire to secure by Letters-Patent is,

1. A rammer for guns comprising a rammer head, a main chain, and a suitable guy independent of and arranged to travel with the main chain.

2. A rammer for guns comprising a rammer head, a main chain, a guy independent of the main chain and arranged to prevent the main chain from flexing, and means for moving said guy and chain simultaneously.

3. A rammer for guns comprising a rammer head, a main chain, a guy arranged to prevent the main chain from flexing, and means for moving said guy and chain simultaneously, the main chain being connected centrally to the rammer head and the guy being connected to the rammer head above the main chain.

4. A rammer for guns comprising a rammer head, a main chain adapted to flex in one direction only, a guy chain to prevent flexing of the projecting portion of the rammer, sprocket wheels over which said chains pass, and means for driving said sprocket wheels simultaneously at properly related speeds.

5. A rammer for guns comprising a rammer head, a main chain connected with the rammer head and consisting in a series of pivotally connected non-interlocking links provided with abutting faces, and a guy connected with the rammer head, the operative portions of the said main chain and guy being at an angle to each other.

6. A rammer for guns comprising a rammer head, a main chain connected with the rammer head and consisting in a series of pivotally connected non-interlocking links provided with abutting faces, a guy connected with the rammer head, the operative portions of the said main chain and guy being at an angle to each other, and the guy being arranged on the same side of the main chain as the abutting faces.

7. A rammer for guns comprising a rammer head, a main chain consisting in a series of U-shaped links having perforated wings and abutting faces, a guy consisting in a series of said wings, a sprocket wheel for driving said chain, and a guy connected with the rammer head and adapted to hold the abutting faces of the links in contact in the operative part of the chain.

8. In a rammer for guns, the combination with a gun, and a bracket or frame in the rear of the gun, of a chain rammer comprising a rammer head, a main chain and an independent guy chain, the said bracket or frame having tubular openings in which the inoperative portions of said main chain and guy chain run, and means for moving said chains simultaneously to reciprocate the rammer head to and from the gun.

9. In a rammer for guns, the combination with a gun, of a frame or bracket extending rearwardly from the gun and terminating in a portion which is in line with the axis of the gun, the said frame or bracket being provided with longitudinal openings, a main chain and an independent guy chain traveling in said openings, sprocket wheels mounted on said frame or bracket for driving said chains, and a rammer head to which said chains are connected.

10. A rammer for guns comprising a rammer head, a main chain centrally connected with the rammer head and consisting in pivotally connected non-interlocking links, and a guy chain connected with the rammer head near its periphery, and means for moving said chains simultaneously.

11. A rammer for guns, comprising a rammer head, a main chain adapted to flex in one direction only, and a guy chain to prevent flexing of the projecting portion of the rammer, the guy chain being independent of the main chain.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN F. MEIGS.
ROBERT P. STOUT.

Witnesses:
EDWIN A. MILLER,
FRANK I. GRIM.