(No Model.)

G. W. STREET.

MACHINE FOR CHARGING FIRE WORKS.

No. 450,982. Patented Apr. 21, 1891.

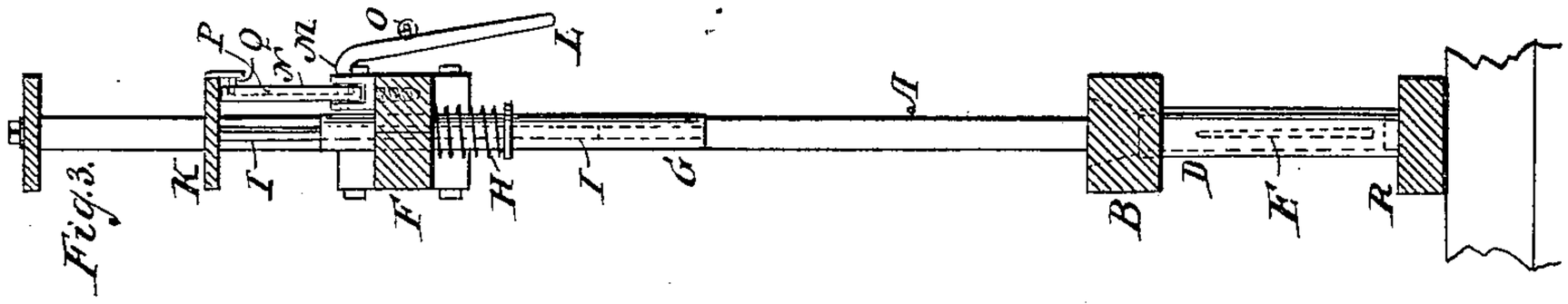

Fig. 3.

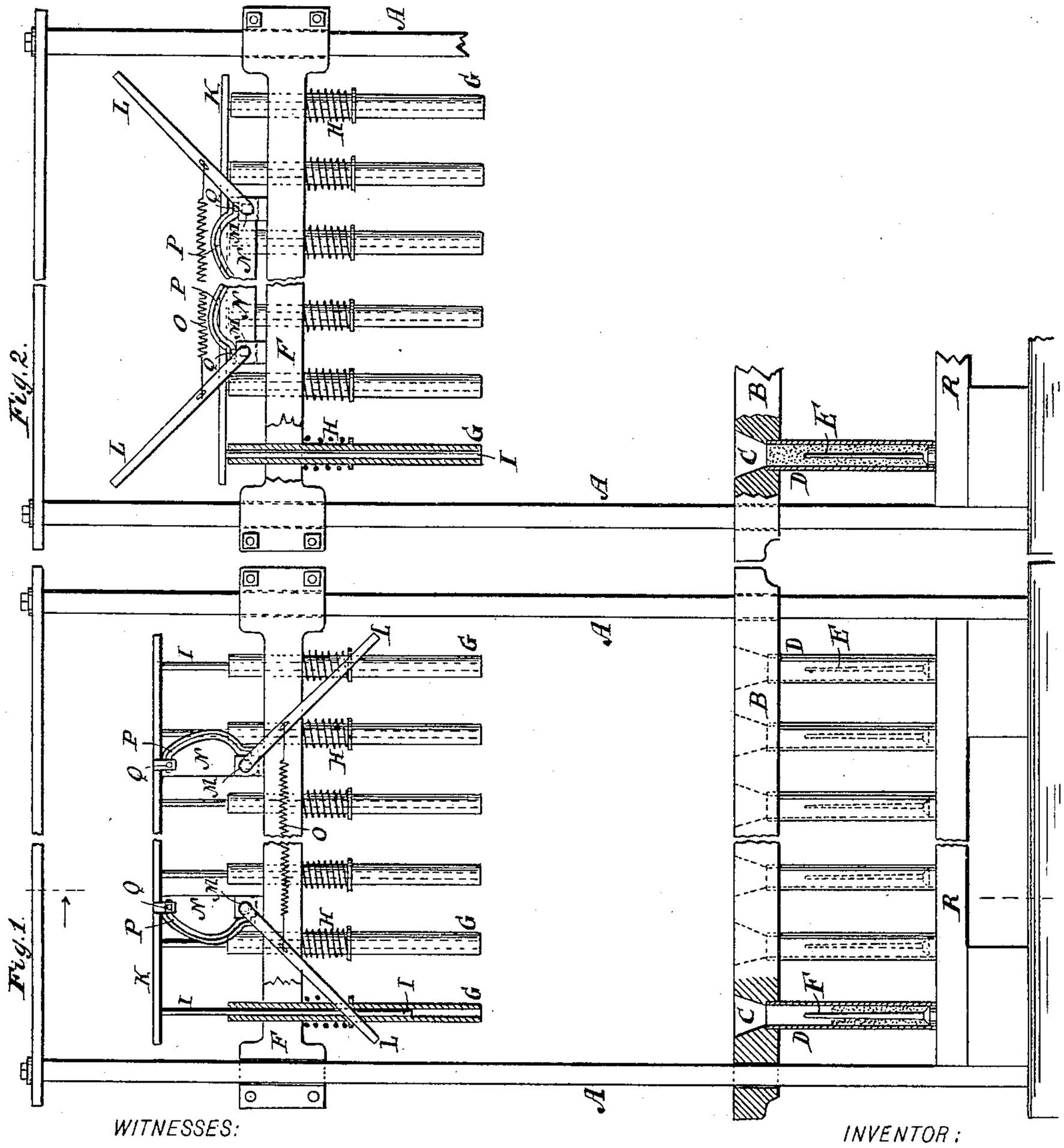

Fig. 2.

Fig. 1.

WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE W. STREET, OF NEW YORK, N. Y., ASSIGNOR TO THE UNEXCELLED FIREWORKS COMPANY, OF SAME PLACE.

MACHINE FOR CHARGING FIRE-WORKS.

SPECIFICATION forming part of Letters Patent No. 450,982, dated April 21, 1891.

Application filed November 28, 1890. Serial No. 372,911. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. STREET, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Machines for Charging Fire-Works, of which the following is a specification.

This invention relates to a machine by which rockets or other fire-works are filled; and the invention consists in the details of construction set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a side elevation of a charging-machine with the cores in their inoperative position. Fig. 2 is a view similar to Fig. 1 with the cores in their operative position. Fig. 3 is a sectional end elevation of Fig. 1.

In the drawings, the letter A indicates a frame or support having a vertical movable block B, having filling-openings C. The cases D are placed under the block B, and the charge is passed through the openings C into the cases. The cases are placed over the spindles E, which are fixed in the stationary base R. A ramming-bar F is provided with hollow rammers G, and as said hollow rammers can pass over the spindles E the charge in the shell can be thoroughly rammed by said hollow rammers to the extent of the spindle. The rammers G have springs H, which prevent the rammers from exerting excessive force. Above the spindle E the charge must be rammed by a solid rammer. For this purpose the rammers G have cores I. When the cores are in their operative position, as shown in Fig. 2, said cores fill the rammers G so as to make a practically solid rammer. The cores are secured to a bar K, and a lock or locking device serves to secure the bar K, with the cores I, either in their inoperative position, as shown in Fig. 1, or in their operative position, as shown in Fig. 2. The locking device, as shown, consists of levers or arms L, fulcrumed at M to the rammer-bar F, and having cams or blocks N. A spring O holds the levers in the position shown in Fig. 1, as also in that shown in Fig. 2. The cams N have grooves P, into which enter pins Q on the bar K, and when the cams N are in the position shown in Fig. 1 they hold the bar K and cores I in their inoperative position. By moving the cams N to the position shown in Fig. 2 the bar K and cores I are moved to their operative position, and are held there by said cams.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a supporting-base R, the spindle E resting thereupon, and the block B, having a filling-opening C, of a reciprocating ramming-bar F, a spring yielding hollow rammer G, movable on the reciprocating ramming-bar, a core I, movable in the hollow rammer, a bar K, connected with the core, and lever mechanism for holding the core-carrying bar in an elevated position, substantially as described.

2. The combination, with a supporting-base R, the frame A, the spindles E, resting on the supporting-base, and a vertically-movable block B, having filling-openings C, of a ramming-bar F, rising and falling on the frame, a series of spring yielding hollow rammers moving on the ramming-bar, a series of cores I, movable in the hollow rammers, and a bar K, connecting the upper ends of the cores for simultaneously lifting the latter, substantially as described.

3. A machine for charging fire-works, provided with hollow rammers, with cores for said rammers, locking-levers for locking the cores in their operative and inoperative positions, and a spring connected to said levers for holding the latter in position either up or down, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEORGE W. STREET.

Witnesses:
WM. C. HAUFF,
E. F. KASTENHUBER.