

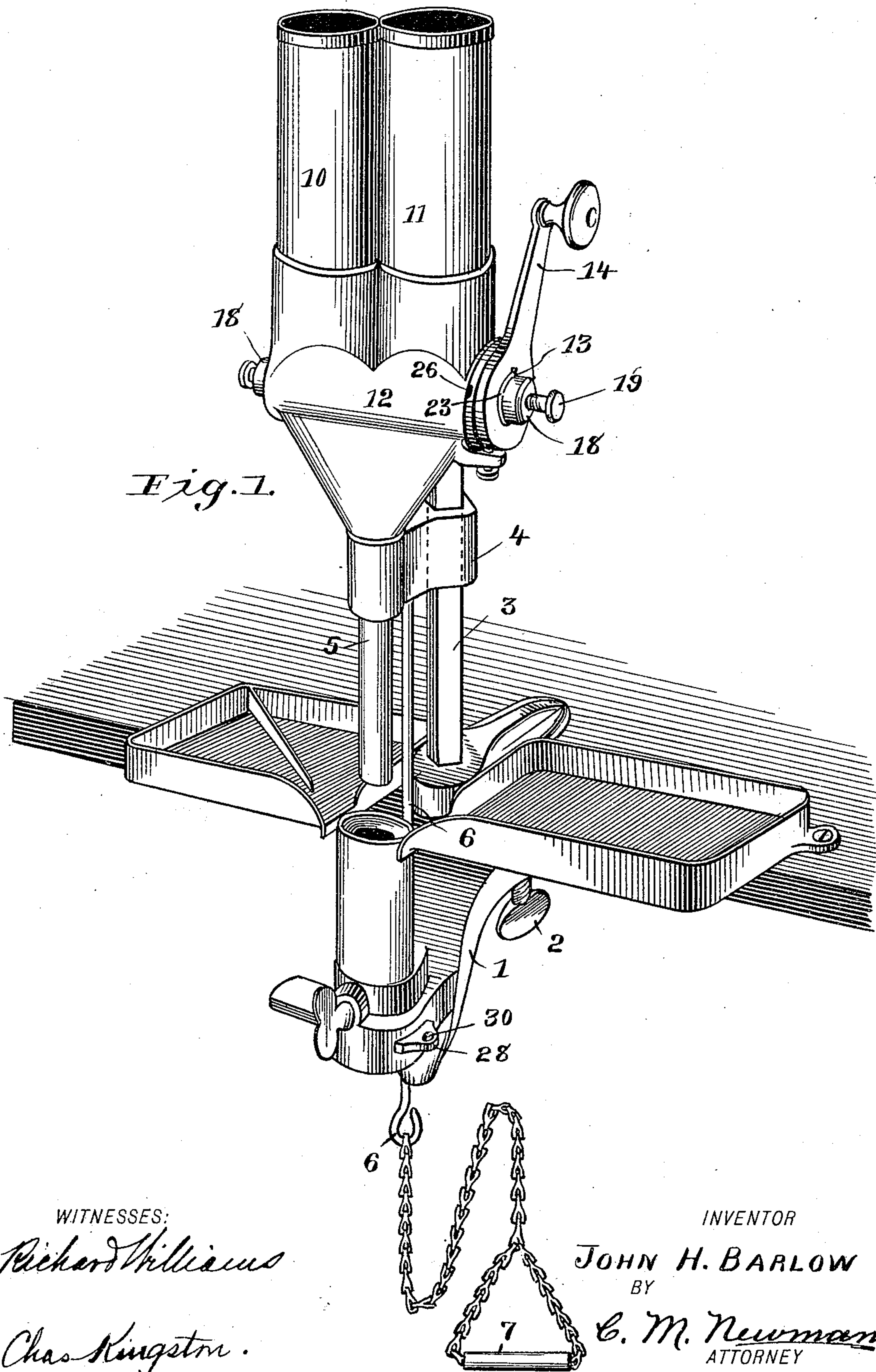
(No Model.)

3 Sheets—Sheet 1.

J. H. BARLOW.
CARTRIDGE LOADING MACHINE.

No. 547,058.

Patented Oct. 1, 1895.



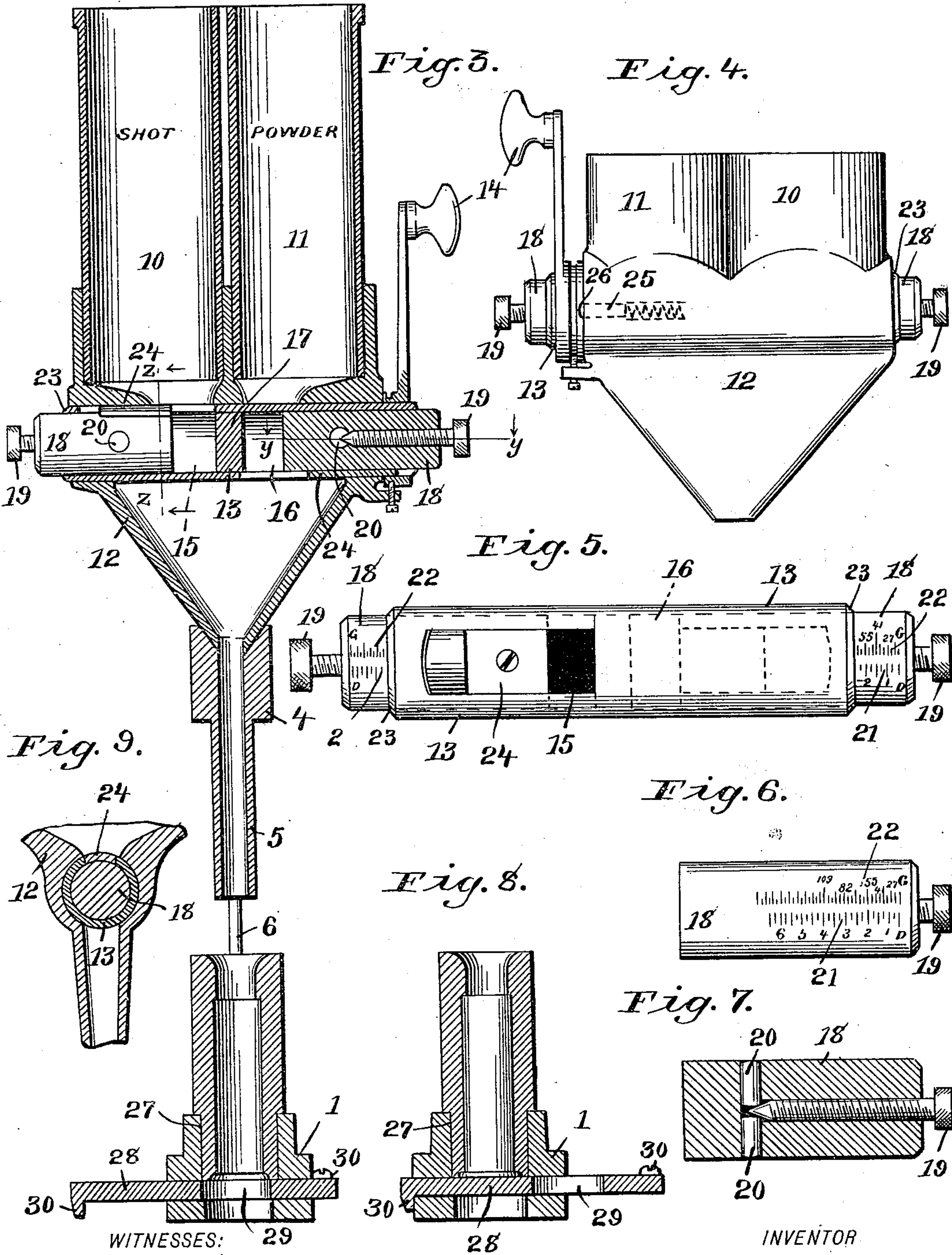
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No. 547,058.

Patented Oct. 1, 1895.



WITNESSES:
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(No Model.)

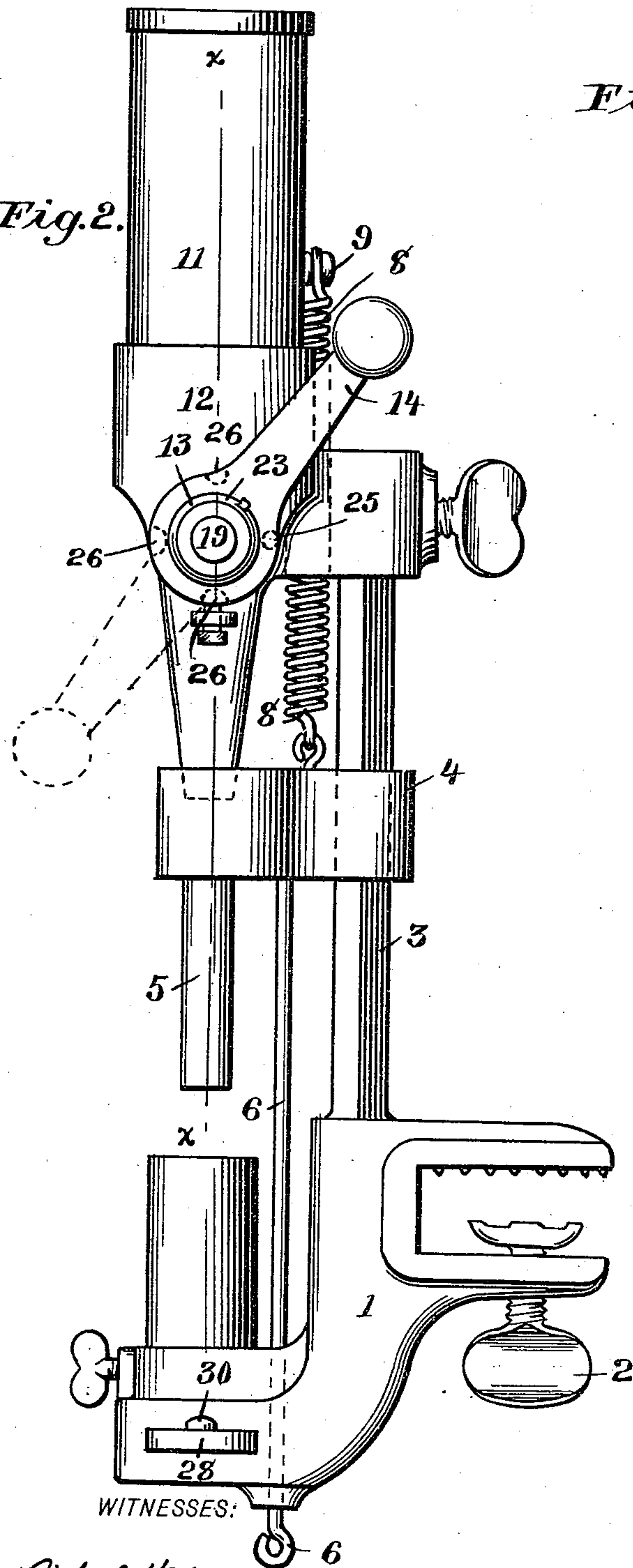
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Fig. 2.



Richard Williams

Chas. Knight

Fig. 10.

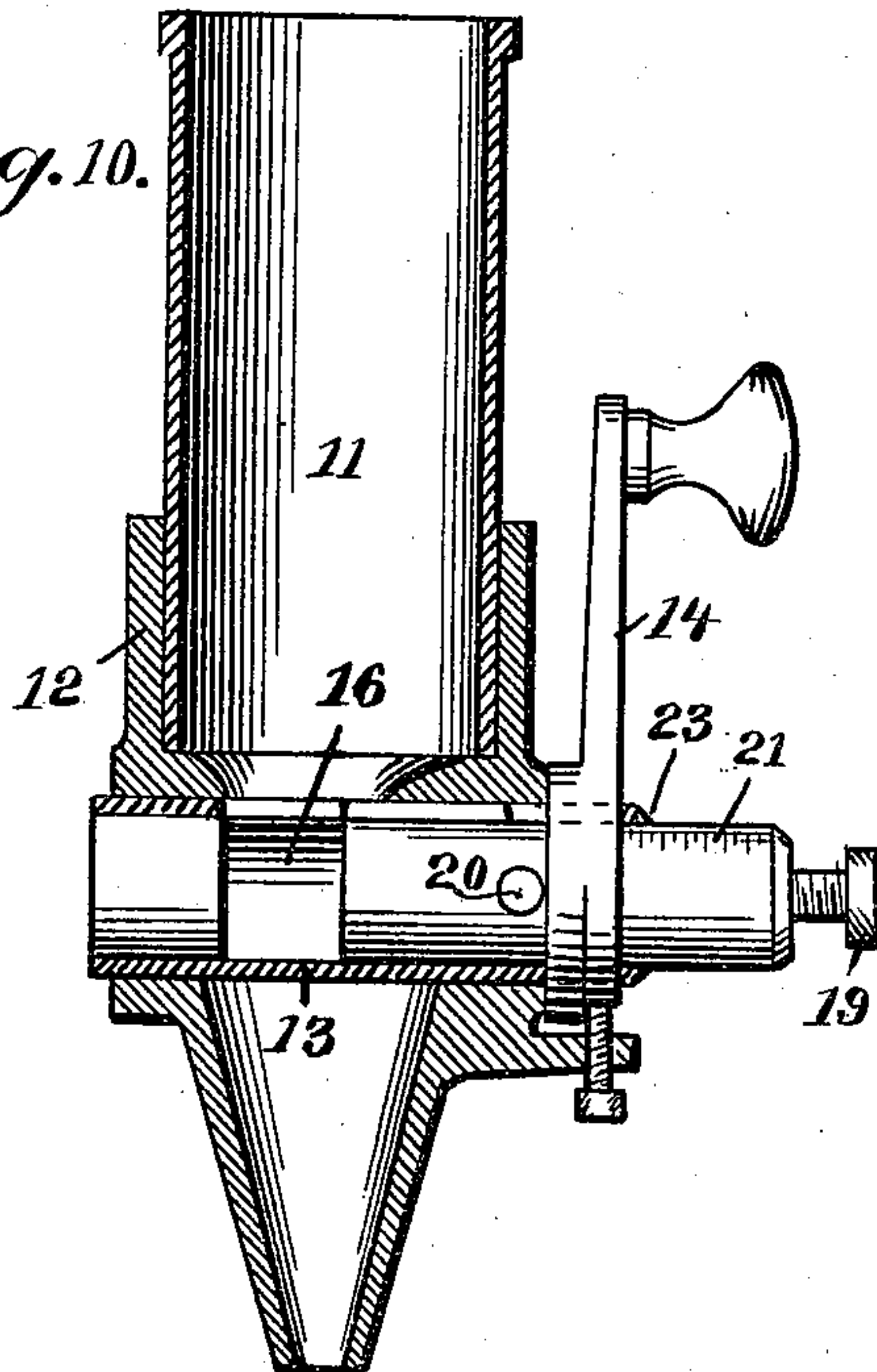
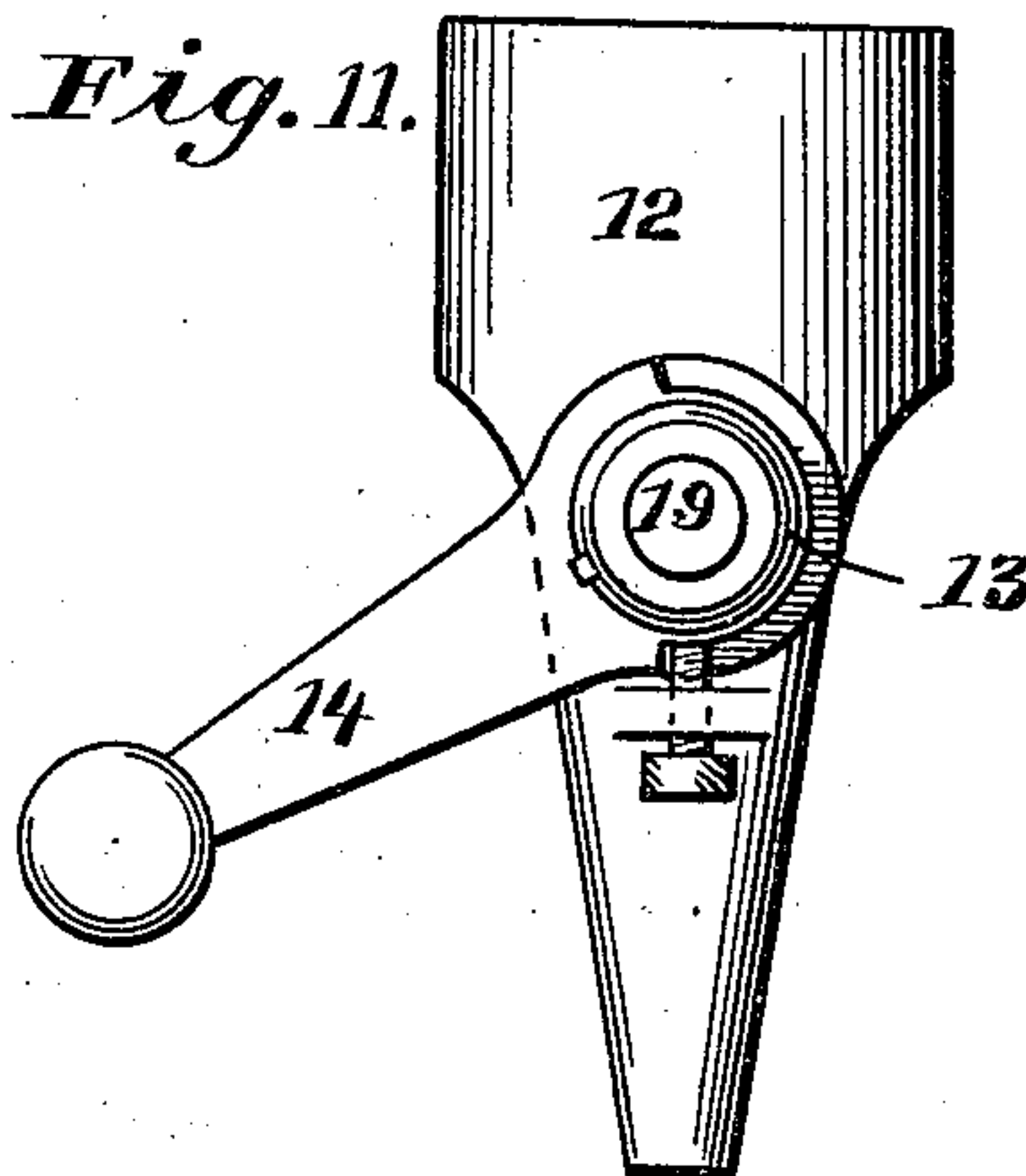


Fig. 11.



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UNITED STATES PATENT OFFICE.

JOHN H. BARLOW, OF NEW HAVEN, CONNECTICUT.

CARTRIDGE-LOADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 547,058, dated October 1, 1895.

Application filed March 29, 1894. Serial No. 505,556. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. BARLOW, a citizen of the United States, and a resident of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Cartridge-Loading Machines, of which the following is a specification.

This invention relates to cartridge-loading machines. It is especially designed for private use and would be operated by hand and foot power.

The special objects of this invention are to improve upon machines of this class and to provide a machine which will be more accurate in its operation, and to provide mechanism by which the quantity of powder and shot may be accurately measured as to weight and bulk, and one that may be relied upon as to regularity and uniformity of charges.

It further resides in improvements upon Patent No. 481,127, dated August 16, 1892; and it consists in improvements upon the measuring and depositing chambers, together with other details, as set forth in the accompanying specification here to follow.

Upon the accompanying drawings, which form a part of this specification, Figure 1 shows a perspective view of a loading-machine complete and embodying my improvements. Fig. 2 shows a side elevation of the same. Fig. 3 is a central section on the line *xx* of Fig. 2, showing the internal construction. Fig. 4 is a detail opposite side elevation of the upper portion of the machine. Fig. 5 is a detached plan view of the revolving cylinder, which receives, measures, and deposits the charges. Fig. 6 is a detached detail view of one of the chamber adjustments, illustrating the graduations thereon. Fig. 7 is a section of the same, taken on line *yy* of Fig. 3. Fig. 8 is a cross-section of the shell-chamber, the same being closed and containing a shell therein. Fig. 9 is a cross-section on line *zz* of Fig. 3. Fig. 10 is a cross-section of a single machine for either powder or shot, showing the adjustment of the stop attached thereto. Fig. 11 is a side elevation of Fig. 10.

Upon the accompanying drawings the same numerals of reference denote like parts throughout the specification.

1 designates the main framework of the ma-

chine, and it is provided with a thumb-screw 2, by means of which it may be securely attached to any suitable table.

3 represents a square guide-post attached to the frame, and upon which the slide 4 operates and is guided. Said slide is provided with an ammunition-conveyer 5, which also serves as a plunger to force the wad into the shell. To this slide 4 is attached a rod 6, which passes down and through the main framework, and to the lower extremity of this rod is attached a chain having a suitable foot-piece 7. It will thus be seen from the parts just described that a downward movement is imparted to the slide by the application of foot-power upon the part 7, and said slide is retracted to its normal position by means of the resistance of a spiral spring 8, one end of which is attached to said slide, the opposite end being attached to a stud 9 upon the upper portion of the machine.

10 and 11 represent shot and powder receptacles, respectively, and are supported in the upper portion of a framework 12, which in turn is secured to the upper end of part 3. Immediately beneath these receptacles is a cylindrical tube 13, closely fitted into a corresponding opening of the frame 12. Said tube is provided with a handle 14, by means of which it is revolved in either direction for the purpose of receiving, measuring, and depositing the charges. In this connection I have provided special means for accurately adjusting the amount of charges; also the special movement which this revolving cylinder should have to insure accuracy in its operation.

Heretofore in machines of this class it has been practically impossible to measure the charges for a shell to the proper degree of accuracy. Where high explosives are employed, as are now commonly used in various branches of shooting, it will be readily appreciated that a reliable scale of measurements is highly essential. In this connection, first, the ammunition should have a full, free, and unobstructed flow into the chamber which receives and measures the charge and which deposits it into the shell; second, the adjustment of the size of this chamber should be such that it could be adjusted within a grain for the different shells, thus loading all shells alike,

or of any predetermined charge. As before stated, this revolving tube receives, measures, and deposits the charges, one end serving to receive and convey the shot, the other the powder, both being alike in their construction and consisting of chambers 15 and 16, said chambers being separated by a wall 17 and each provided with a cylindrical plug 18. Said plug is adjustable inwardly or outwardly for the purpose of varying the sizes of the chambers 15 and 16, and is locked in such adjustment by means of a thumb-screw 19, having a tapering end engaging loose friction-pins 20 within the plug. The action of said thumb-screw when forced in is to spread the pins and force them against the inner walls of the tube, thereby securing the plug firmly in place. Upon the outer surface of this plug I provide a series of graduations 21 and 22, one indicating drams, (avoirdupois,) the other grains (apothecary's weight). These are read from the top (see Fig. 5) in connection with the beveled surface 23 of the tube 13, said bevel surface serving as an indicator. By this fine and accurate adjustment the charges of this machine, as before stated, can be measured as accurately as can be done upon a scale, considering, of course, the weights with relative bulk of the various powders. In this connection I have settled upon one powder as a standard, and all other powders are measured in comparison with it as per the following table: One dram measure of F. F. G. Hazard equals eleven grains of S. S., twelve grains of Schultz, and eighteen grains of Walsrode, &c. By the two lines of graduations I practically reduce, in connection with a device of the class described, avoirdupois to apothecary's weight. For instance, I would say, and as can be read upon the drawings, one dram of avoirdupois is equal to twenty-seven grains apothecary's weight; one and one-half drams avoirdupois equals forty-one grains, and two drams equals fifty-five grains, &c. In connection with the rotation of this tube it is important that the chamber should have a smooth and even cut-off from the ammunition-reservoir. This I provide by securing to the plug an extension, which may be in the form of a plate 24, which conforms in shape to the outer surface of the tube and fills in width the elongated opening of the tube, thus preventing the clogging of powder or shot between the elongated opening of the tube and the opening from the reservoir when said tube is rotated, which prevents the free operation and varies the charge in the measures. (See detail Figs. 3 and 9.)

For the purpose of preventing any uneven settlement of the powder and shot in the measuring-chamber and insuring equal charges for all shells, I have divided the rotation of the tube into sections or stations—that is to say, the position of the tube when receiving powder being one station and a quarter-rotation of the tube a second station, which will cut off its connection from the reservoir. At this

point the wad for the shot is usually driven into the shell, it being important that the powder of the reservoir should not be in communication with its measuring-tube at the time of ramming the shot, as the jar from such ramming will invariably cause the powder to settle more or less. Therefore, I carry my charge to a point of safety until deposited. A further quarter-rotation of the tube will bring the shot-chamber 15 in communication with its reservoir, at the same instant depositing the powder. A further quarter-rotation will disconnect the shot-cylinder from its reservoir, and at this instant the powder will be wadded in the shell. These several stations consist, practically, of a detent-pin 25, (see Fig. 4,) which serves to engage notches 26 upon the inner face of a hand-lever 14. The action of this spring is such that the pin will drop into several notches during its rotation, but may readily be forced back again by a slight additional pressure applied to the handle. In this connection I do not limit myself to the construction shown for accomplishing this result, as it may be accomplished in various ways.

The shell-cylinder proper I have constructed, as shown in Figs. 3 and 8, and consists of a cylinder having a reduced end designed to snugly fit into a bore 27 of the main framework 1. Immediately beneath this cylinder, and within the framework 1, I provide a lateral slide 28, which is in turn provided with an opening 29, and is further provided at opposite ends with a stop 30. The purpose of this construction is to permit of the shell being placed into the chamber from beneath, and is slipped in up through the opening 29, after which the slide 28 may be shoved to the right, as in Fig. 8. The shell is then ready to be loaded, the slide 28 serving to receive the force of the blow. The importance and convenience of this construction may be appreciated, in view of the fact that paper or thin metallic shells almost invariably stick to the cylinder after being loaded and are liable to cause much inconvenience, whereas in this device the operator would simply need to shove the slide to the left, as seen in Fig. 3, operate the plunger, and the shell would drop out.

In Figs. 10 and 11 I have shown my improved measuring device in connection with a single tool, which may be used for either powder or shot, and serves only to measure uniformly the charges for a shell. In this device I have illustrated the tube as being oscillatory instead of rotary. There being but one chamber, it is only necessary to throw the handle back and forth.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a cartridge loading machine of the class described the combination with a rotary measuring chamber, of recesses in the periphery and upon the quarters thereof, a spring

actuated stop mechanism to engage said recesses whereby the measuring chamber is stopped upon its quarters and is not in communication with the reservoir at the time the wadding takes place.

2. In a cartridge loading machine of the class specified the combination with ammunition receptacles, and a movable measuring and depositing tube, of cylindrical plugs in the ends thereof, two specific forms of graduations upon said plugs, mechanism substantially as shown for adjusting said plugs, recesses upon the quarters in the periphery of the tube, and a spring actuated pin to engage the recess whereby the measuring chambers are stopped upon the quarters while in and out of register with the measuring tube.

3. In a device of the class described, the combination with the ammunition receptacles, and a rotary measuring and depositing tube, of a cylindrical plug, and adjustable thumb-screw central with said plug and having an inner tapering end, friction pins adapted to be engaged by said thumb-screw, for the purpose of spreading the pins and locking the plug in any desired position.

4. In a cartridge loading machine of the class described, the combination with an ammunition receptacle, receiving and deposit-

ing tube fitted with annular walls, having an elongated opening therein an adjustable plug fitted within the tube and provided with a plate or extension adapted to fit in said opening in the tube and extending to and conforming with, the outer periphery thereof; the same being fastened to the adjustable plug and is moved therewith, the whole preventing any variation in the charge of ammunition and permitting the even adjustment of the plug, and to insure the free operation of the tube.

5. The combination with the framework of a cartridge-loading machine, of a shell chamber open at top and bottom, having a reduced lower end adapted to fit into a base of the framework, and permitting the insertion of a shell from beneath, a slide plate fitted within said framework and adapted to be moved beneath the shell and whereby the shell is supported.

Signed at New Haven, in the county of New Haven and State of Connecticut, this 21st day of March, A. D. 1894.

JOHN H. BARLOW.

Witnesses:

LOUIS A. BABCOCK,
GEO. EDMONDSON.