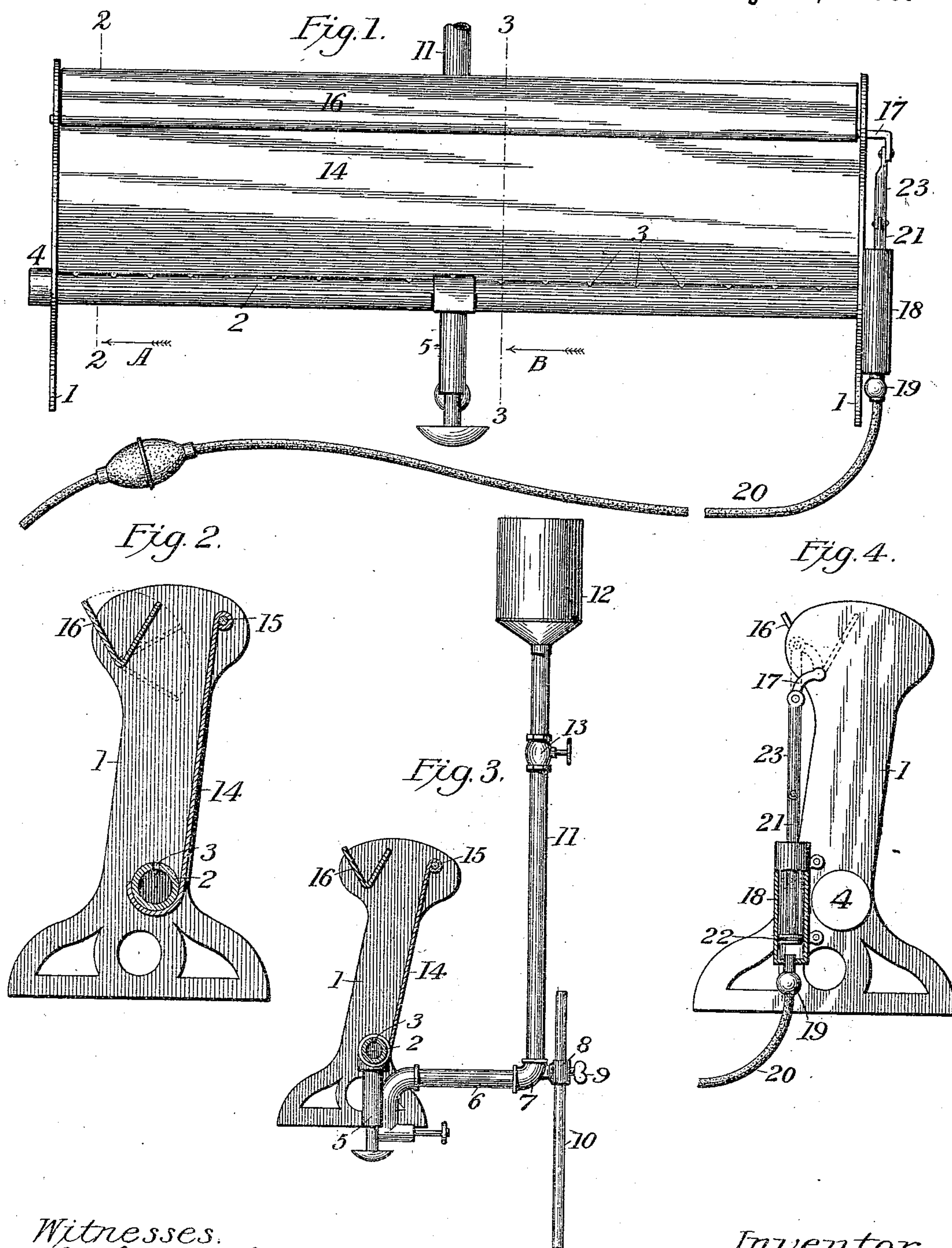


(No Model.)

L. G. BIGELOW.
FLASH LIGHT MACHINE.

No. 543,639.

Patented July 30, 1895.



Witnesses.
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LYMAN G. BIGELOW, OF ST. JOSEPH, MISSOURI.

FLASH-LIGHT MACHINE.

SPECIFICATION forming part of Letters Patent No. 543,639, dated July 30, 1895.

Application filed March 4, 1895. Serial No. 540,541. (No model.)

To all whom it may concern:

Be it known that I, LYMAN G. BIGELOW, a citizen of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Photographic Flash-Light Machines; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Heretofore the only machines which have proven successful for portraiture have consisted of a cluster or combination of separate lights arranged to be flashed simultaneously, an arrangement bulky to handle and transport, besides requiring complicated mechanical devices to secure simultaneous flashes when used.

By my invention the requisite power of light is secured by a much simpler mechanical construction, absolutely certain in operation, cheaper to construct, and more convenient to use.

By reference to the accompanying drawings, Figure 1 is a front elevation of the device. Fig. 2 is a cross-section taken on the indicated line 2 2 of Fig. 1 and looking in the direction indicated by the arrow A. Fig. 3 is a cross-sectional view taken on the line 3 3 of Fig. 1 and looking in the direction indicated by the arrow B. Fig. 4 is an end elevation of the device.

1 1 are the end frames or standards; 2, the burner-tube, having the perforations 3 and closed at the ends by the caps 4.

5 is a gasoline gas-generator; 6, a tube; 7, an elbow; 8, a collar; 9, a set-screw, and 10 a supporting rod or standard.

11 is a vertical tube leading from the tank 12 and provided with a cut-off valve 13.

14 is a perpendicular metal plate used as a flash-pan; 15, a wire rod to which it is secured; 16, a V-shaped trough; 17, a bell-crank at-

tached to one end of said trough; 18, a cylinder; 19, the inlet-pipe thereto, and 20 a flexible tube leading to the operating-bulb.

21 is the piston or plunger having on its lower end the piston-head 22.

23 is the connecting-rod from the bell-crank 17 to the piston-rod 21.

To operate the machine the requisite amount of flash-powder is placed in the trough 16, being laid in a train its whole length. The valve 13 is now opened and the gasoline allowed to flow to the generator 5. The gasoline is now lighted at the generator, and in a few seconds the tube-burner may be lighted at the perforations 3, which extend the whole length of the machine. To cause a flash give a quick strong pressure on the bulb, which will cause the air to pass through the flexible tube 20 to the air-cylinder 18, which with its piston and crank connection with the powder-trough 16 will cause the trough to make a quarter-turn toward the flash-pan 14. The powder is thrown from the trough violently against the flash-pan, thus causing its grains to be thoroughly separated before falling to the exploding-jets 3.

Having now fully described my invention, I desire to secure by Letters Patent—

1. A perpendicular, continuous flash-pan and reflector combined and in conjunction with a continuous powder trough which in its operation acts as a disperser or separator of the grains of powder before allowing the powder to come in contact with the exploding fire.

2. The combination of a continuous perpendicular flash-pan; a continuous powder trough and a series of flame jets immediately beneath the powder trough, all substantially as described.

LYMAN G. BIGELOW.

Witnesses:

ABRAHAM E. GUY,
HARRY W. MANNING.