

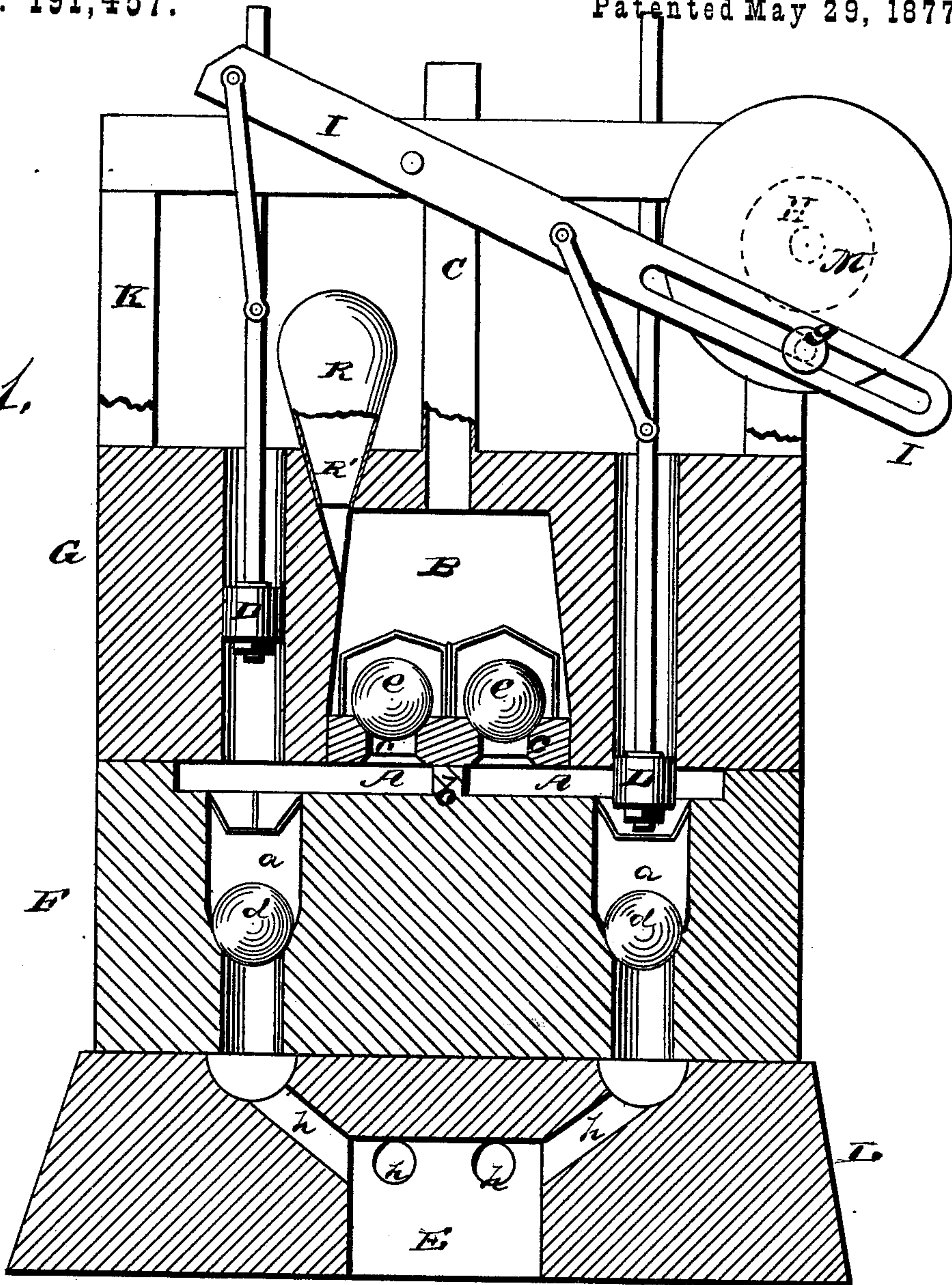
C. H. McKEEHAN.

FORCE-PUMP.

No. 191,457.

Patented May 29, 1877.

Fig. 1.



WITNESSES
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George E. Upham

INVENTOR.
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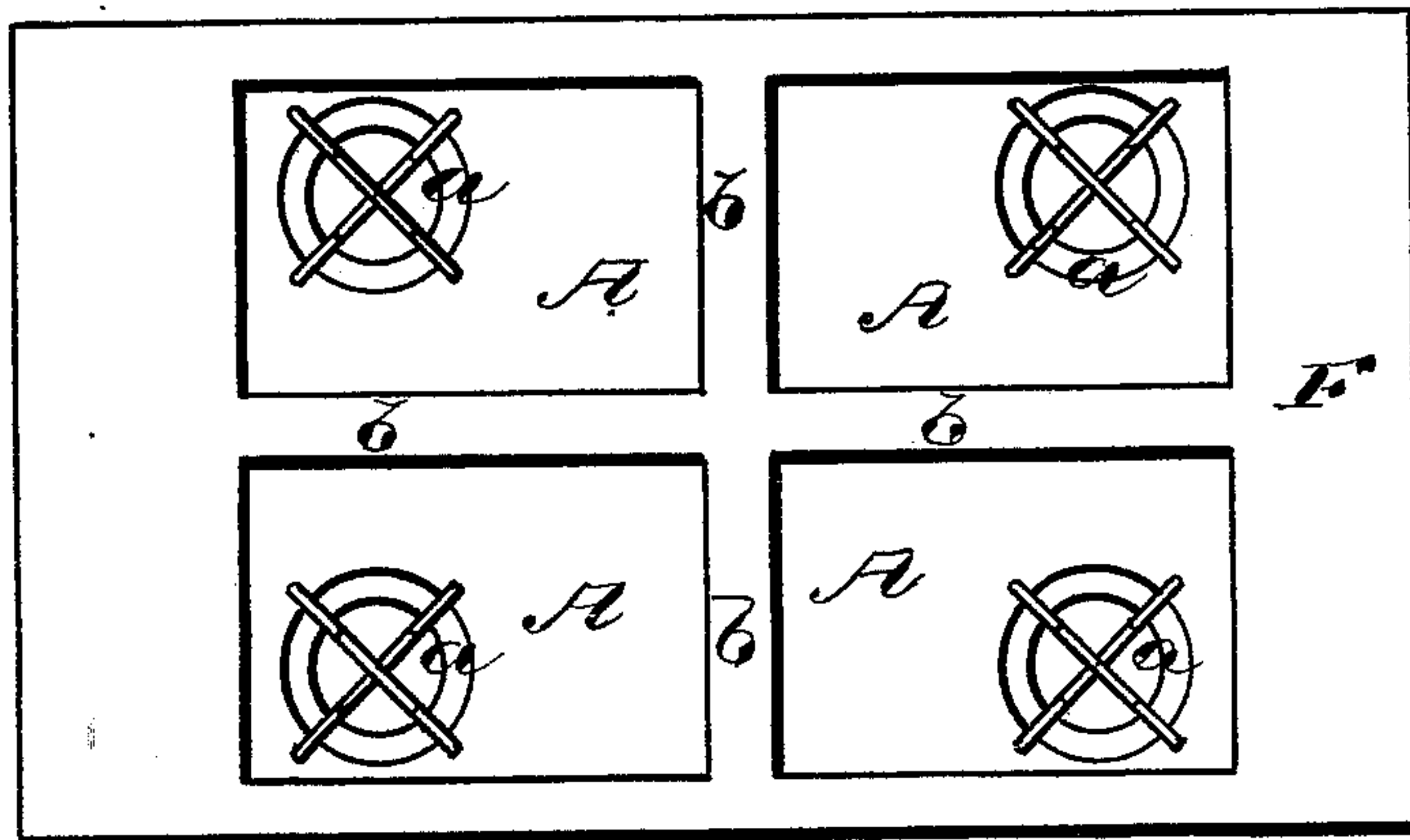


Fig. 2.

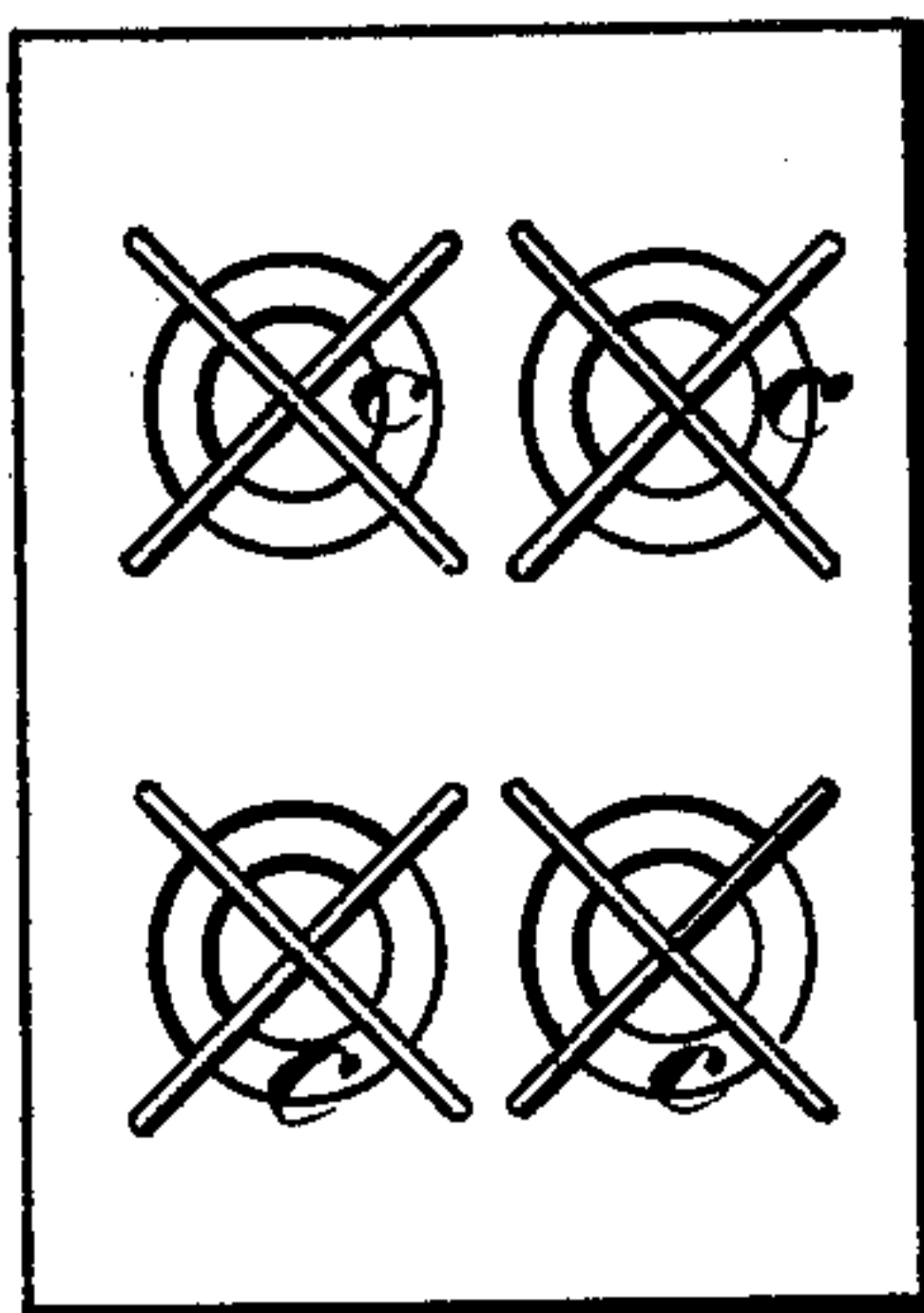


Fig. 3.

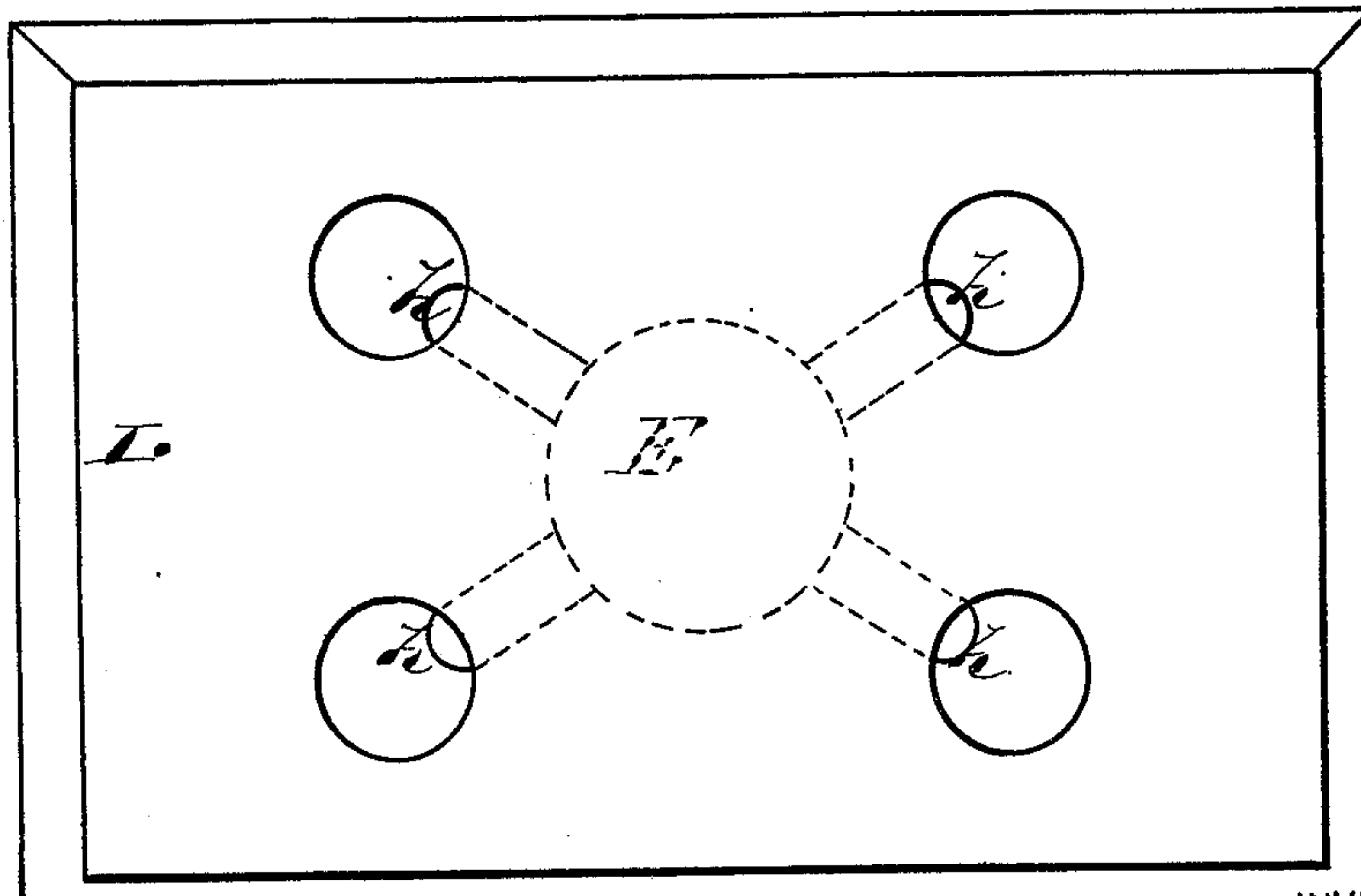


Fig. 4.

WITNESSES

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UNITED STATES PATENT OFFICE

CHARLES H. McKEEHAN, OF TEXARKANA, ARKANSAS, ASSIGNOR OF ONE-HALF HIS RIGHT TO VIRGIL T. HANNON, OF SAME PLACE.

IMPROVEMENT IN FORCE-PUMPS.

Specification forming part of Letters Patent No. **191,457**, dated May 29, 1877; application filed April 21, 1877.

To all whom it may concern:

Be it known that I, CHARLES H. McKEEHAN, of Texarkana, in the county of Miller and State of Arkansas, have invented a new and valuable Improvement in Force-Pumps; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical sectional view of my pump; and Figs. 2, 3, 4 are details of the same.

The nature of my invention consists in certain improvements upon the force-pump for which Letters Patent No. 186,594 were granted to me, January 23, 1877, as will be hereinafter more fully set forth.

In the annexed drawings, which fully illustrate my invention, F represents the block having the suction or receiving chamber A in its upper surface, with the passages *a* leading through the block into said receiving-chamber. On top of the block F is the block G, in which are the exhaust or forcing chamber B, passages *c* *c*, and discharge C. D D are the pistons; I I, the slotted operating-levers; K, the frame-work, and M the circular plates, with wrist-pins *g* attached to the ends of the drum or shaft H.

These parts are all arranged substantially as shown and described in my former patent, above referred to.

In this case I provide the receiving-chamber A with central longitudinal and transverse partitions *b* *b*, which divide said chamber into four apartments or sub-chambers, which are very shallow, and each of these apartments has a passage, *a*, and a passage, *c*, opening into it, as well as one piston, D, communicating with it.

In each passage *a* is a ball-valve, *d*, and in each passage *c* is a ball-valve, *e*, said valves

operating for the same purpose as the flap-valves shown in my former patent.

By the division of the receiving-chamber A into four compartments the return of the water through the two open valves is prevented, while it adds nothing to the expense or intricacy of the pump. In other words, instead of one common receiving-chamber for all four pistons, there is one receiving-chamber for each piston.

Where it is not desirable to submerge the pump, or use the four-armed valve, as shown in my former patent, I attach a base-block, L, to the bottom of the block F, and in said base-block is one common induction-port, E, connected, by passages *h*, with the four passages *a*; or the block F itself may be formed with the single induction-port E and diverging passages *h*.

R represents an air-chamber, formed with a neck, R', which is inserted through the top of the block G into the exhaust-chamber B, which greatly increases the force of the pump, and converts a jutting into a steady stream.

I am well aware that the attachment of air-chambers to force-pumps is not new, and I do not wish to be understood as claiming such, broadly, as my invention.

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

The combination of the block G, containing the exhaust-chamber B, discharge C, and passages *c*, the block F, with divided receiving-chambers A and passages *a*, the air-chamber R, valves, and pistons, all substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHARLES HOUSTON McKEEHAN.

Witnesses:

F. BILLINGSLEA,
JOHN OCKLES.