No. 631,685. Patented Aug. 22, 1899.

A. E. WEINGARTNER.

OSCILLATING MOTOR.

(Application filed Sept. 27, 1898.)

(No Model.)

Fig. 1.

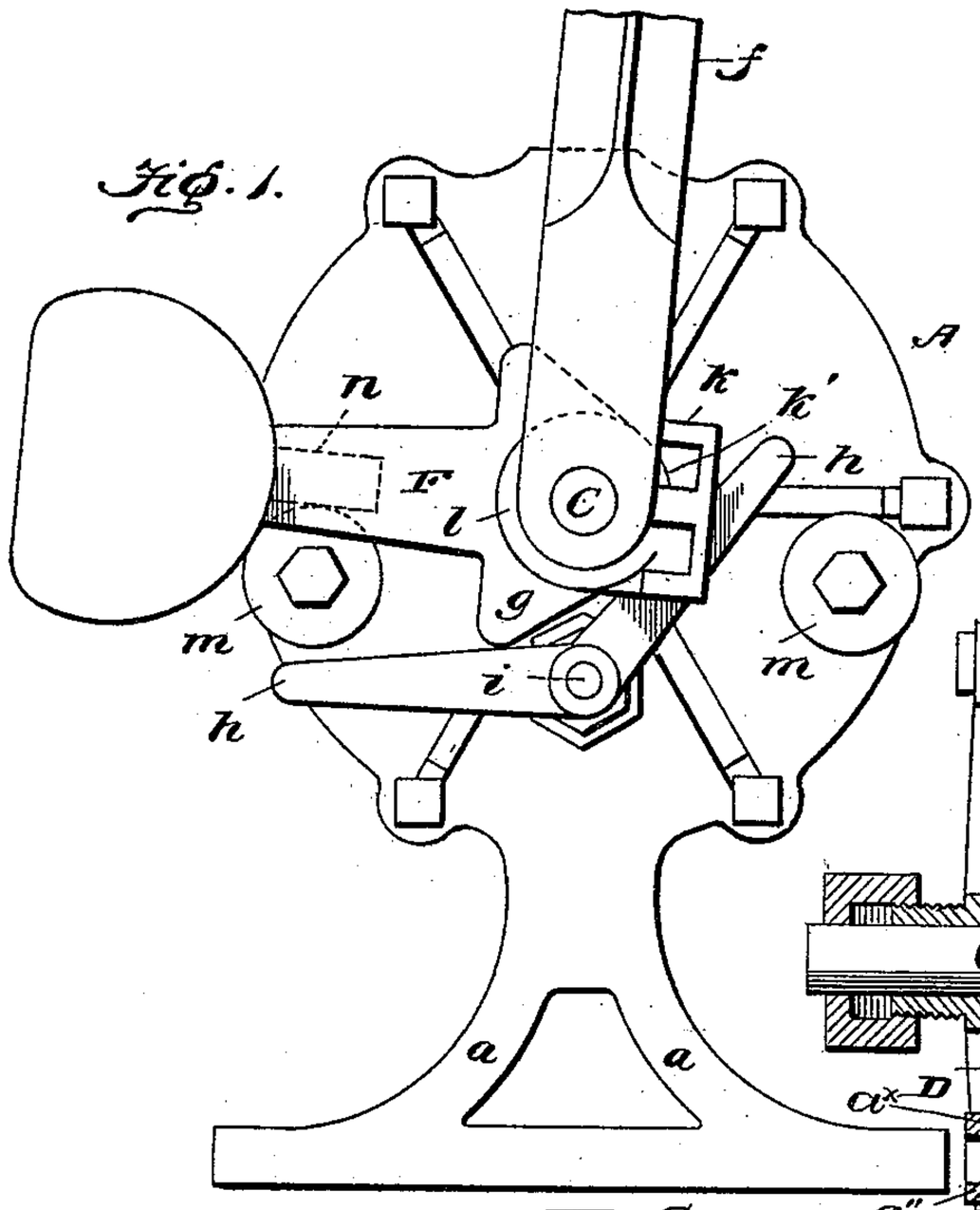


Fig. 2.

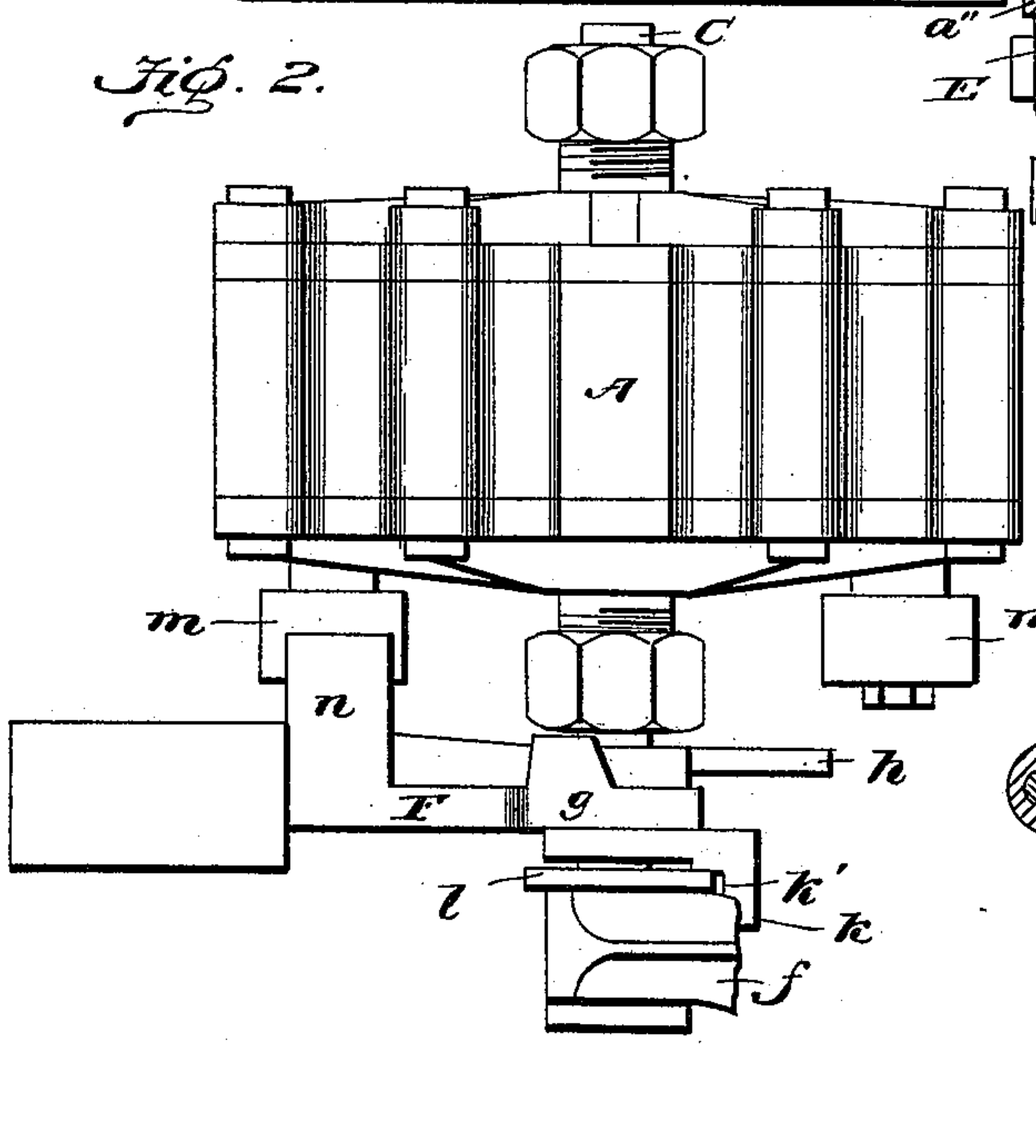


Fig. 3.

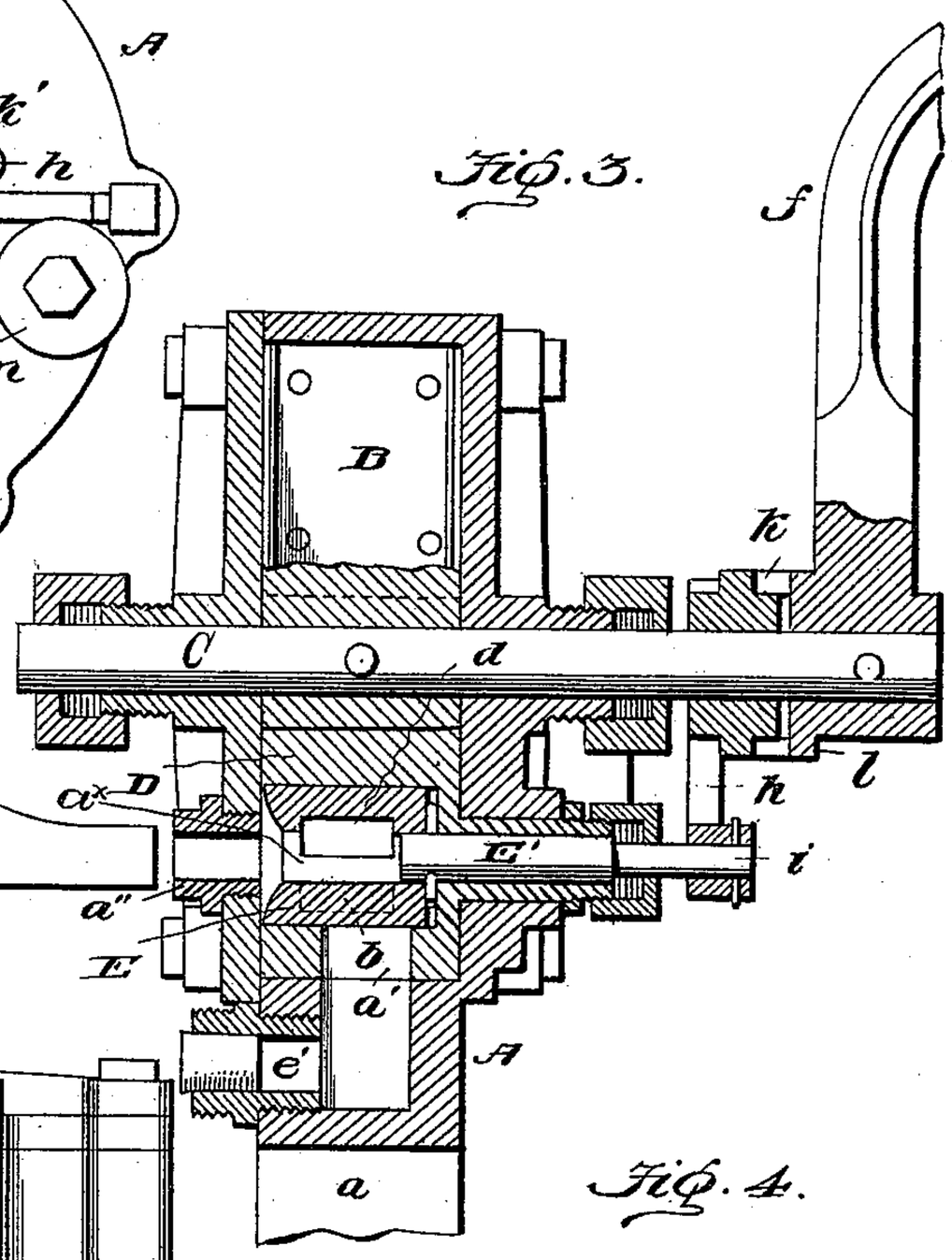
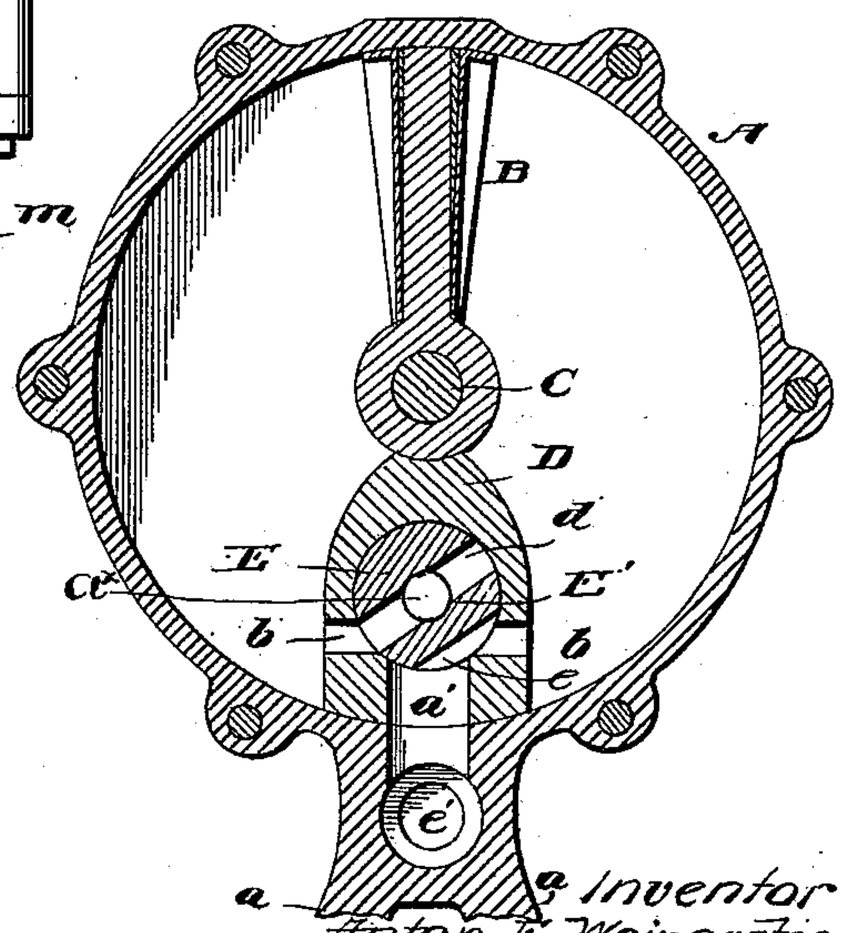


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

ANTON E. WEINGARTNER, OF SOUTH BETHLEHEM, PENNSYLVANIA.

OSCILLATING MOTOR.

SPECIFICATION forming part of Letters Patent No. 631,685, dated August 22, 1899.

Application filed September 27, 1898. Serial No. 692,000. (No model.)

To all whom it may concern:

Be it known that I, ANTON E. WEINGARTNER, a citizen of the United States, residing at South Bethlehem, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Oscillating Motors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain improvements in engines of that class employing an oscillating piston.

It has for its object to provide a convenient and simple water or steam motor adapted to be readily applied for domestic or other purposes.

It consists of the combination and arrangement of the parts, including their construction, substantially as hereinafter more fully disclosed, and specifically pointed out by the claims.

In the accompanying drawings, illustrating the preferred form of carrying out my invention, Figures 1 and 2 are a side and a plan view of the same, respectively. Fig. 3 is a vertical transverse section thereof. Fig. 4 is a section taken at right angles thereto.

It will be observed that I do not limit myself to matters of detail, as these may be varied without departing from the spirit or principles of my invention and the same yet remain intact and be protected.

In the embodiment of the invention I employ a suitable cylinder or casing A, mounted with its heads in a vertical plane upon a proper casting or legs *a*, secured to the support therefor, one of its heads being preferably integral and the other removable.

Within the cylinder or casing A is arranged a piston B, of suitable construction, packed and carried by a central shaft C, suitably bushed and bearing in the heads of said cylinder with its ends projecting therefrom. Also within said cylinder or casing is the piston-abutment D, and within said abutment is rotatively hung the steam or water valve E, whose shaft E′ is suitably bushed in one of the heads of said cylinder. Said cylinder or casing has screwed into its opposite head a water or steam inlet pipe a'', communicating with a longitudinal passage $a^{\times}$ in said valve, in turn crossed by a passage *d* therein. Said abutment or piston has opposite ports *b*, alternately communicating with said inlet-passage $a^{\times}$ and the chamber of said cylinder or casing through the passage *d* of said valve. This valve also has an exhaust passage or port *e* in its circumference oppositely from the port *d*, adapted to communicate with the cylinder-chamber and the exhaust-chamber a', having connected thereto a drain or waste pipe e'.

The piston-carrying shaft C has affixed to one end a crank *f*, preferably curved instead of angular and adapted by suitable coupling or connection to transmit the power or motion to the machinery or contrivance to be actuated or operated. In lieu of the crank gearing, including ratchet, &c., may be used as a power-transmitting medium. Mounted loosely upon said shaft is a swinging weighted arm or governor F, having preferably integral therewith at its inner or lower end a cam *g*, of substantially V shape, adapted to alternately engage projections or studs *h*, standing out from the inlet-valve shaft *i* at obtuse angles therefrom.

The governor or weighted arm F has cast therewith, also at its inner end, a lateral extension or offset *k*, reaching somewhat beyond said end and having an arcuate or curved groove k' to receive an annular flange or ring *l* on the inner end of the crank *f* to provide for the true movement of the parts. Said offset is adapted to be engaged by the crank *f* and carry one of the horns or projections of the cam *g* into engagement with one of the projections or studs *h* of the inlet-valve shaft *i*, and thus effect the reversal of the inlet-valve as the piston reaches the maximum limit of its stroke or oscillation, accordingly reversing the movement of the piston and that of the motion-transmitting crank. The governor or arm F is limited in its throw or movement by suitable rubber-cushioned buffers or stops *m*, suitably disposed upon one side or head of the casing or cylinder A in the plane of its movement, said arm having a lug *n* projecting from its inner side and adapted to engage said stops or buffers at the proper time, as will be readily appreciated.

Having thus fully described my invention,

what I claim, and desire to secure by Letters Patent, is—

1. The combination of the cylinder having the abutment provided with suitable inlet-passages, the inlet-valve and its shaft having outstanding studs or projections, the piston and its shaft having a crank, the governor having a substantially V-shaped cam at its lower end and an offset at the same end having an arcuate groove, said crank having a circular or annular flange playing in said arcuate groove, substantially as specified.

2. The combination of the cylinder having the abutment provided with inlet-passages, the inlet-valve and its shaft having outstanding projections or studs, the piston and its shaft having a crank, and the weighted arm or governor having a substantially V-shaped cam at its lower end, also an arcuate grooved offset at the same end, said crank having a circular flange entering said groove, said arm or governor also having a projection or lug adapted to engage buffers or stops and said inlet-valve having an exhaust-passage in communication with the cylinder-chamber and the outlet-chamber, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ANTON E. WEINGARTNER.

Witnesses:

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J. K. BRODHEAD.