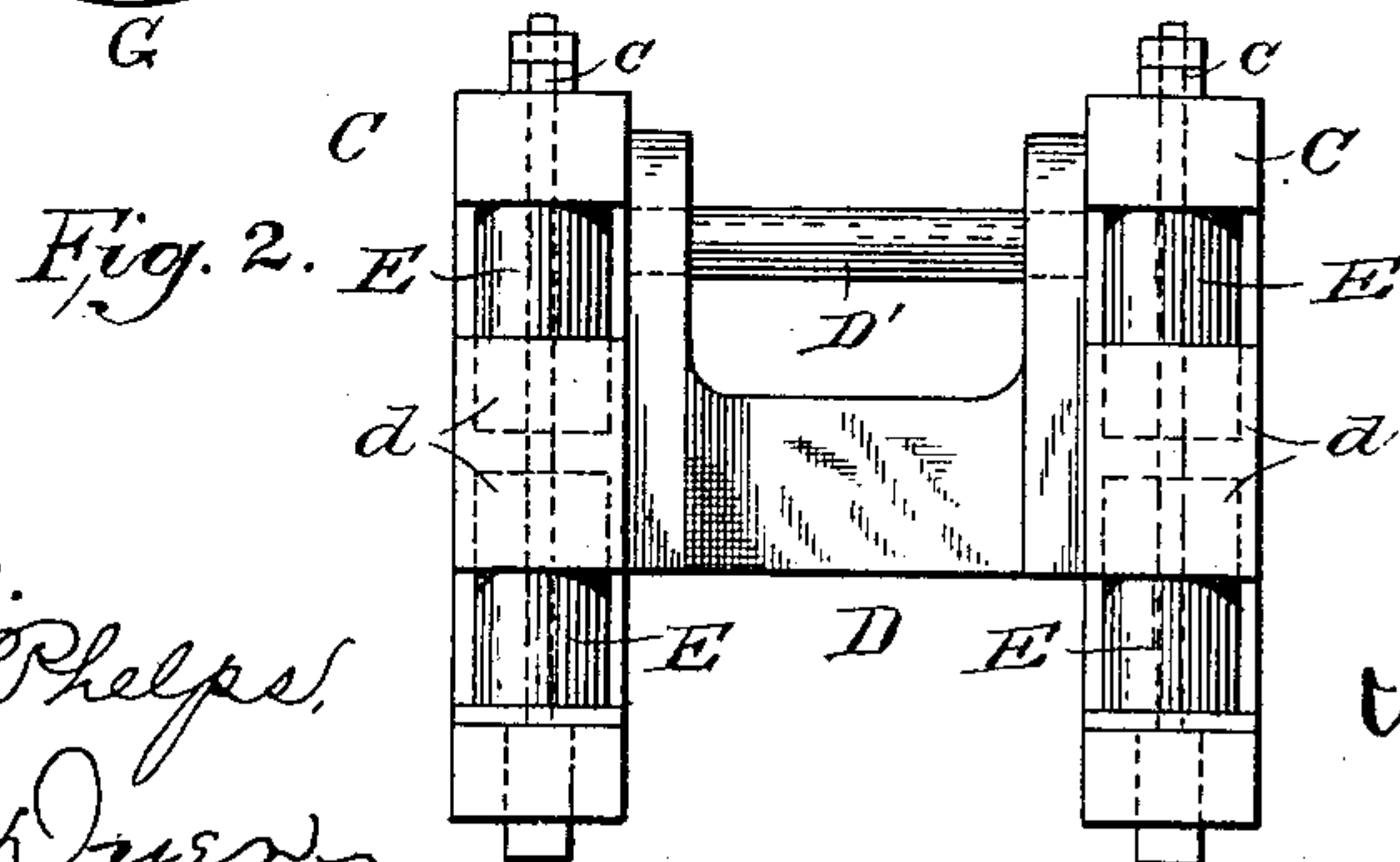
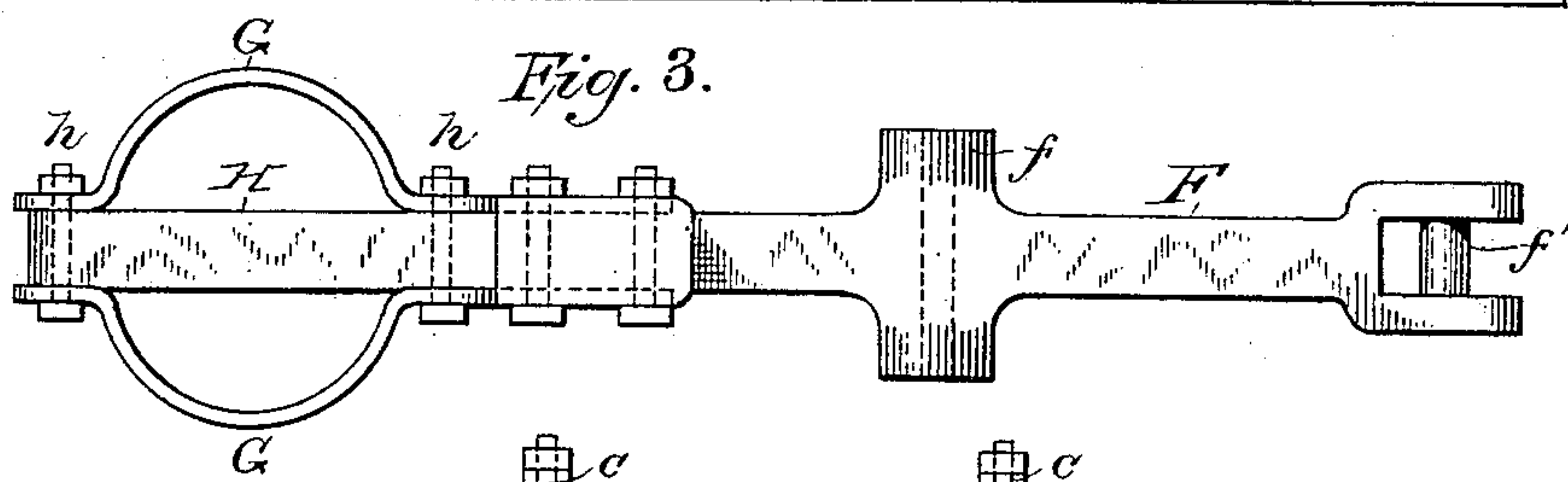
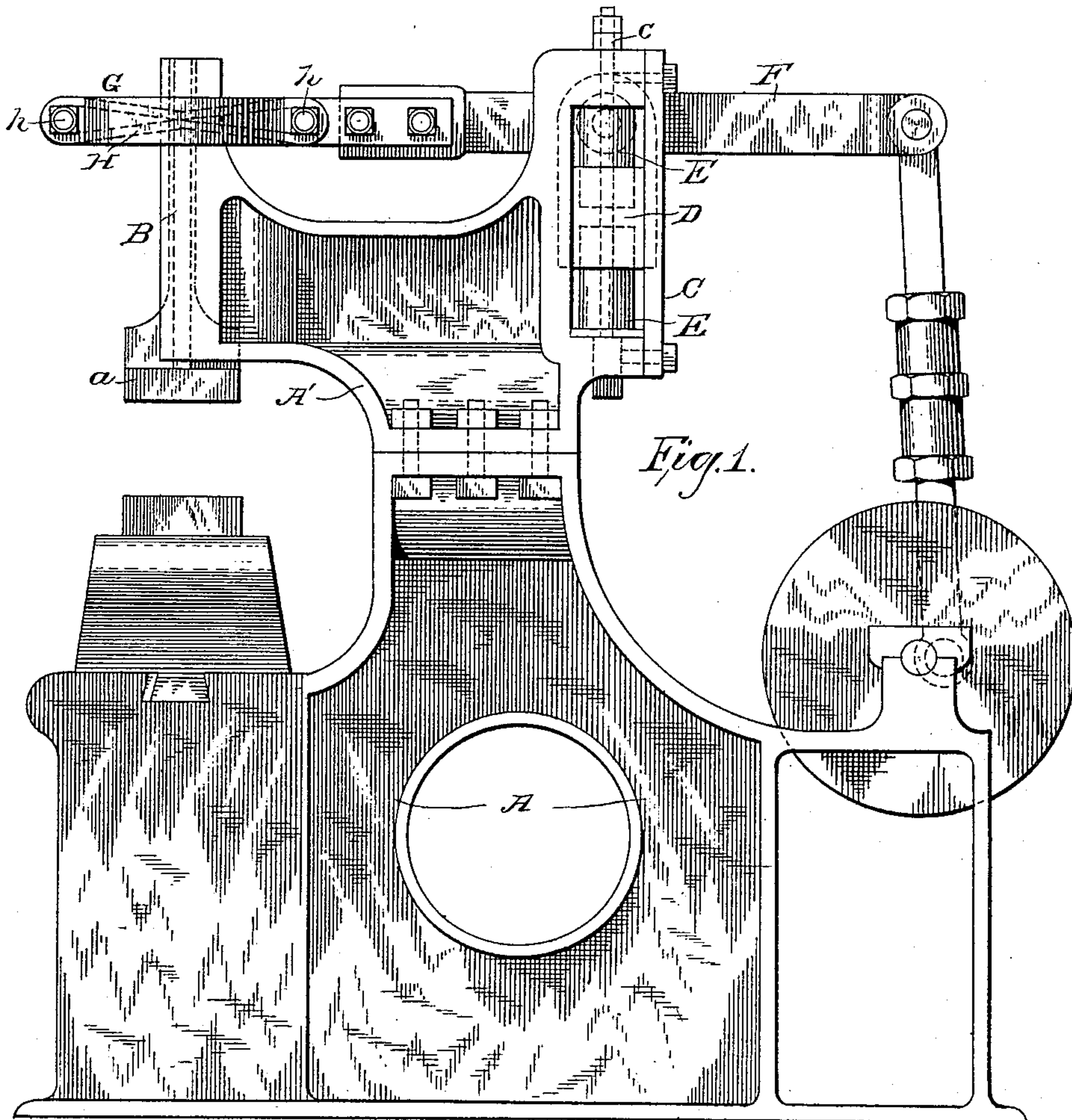


(No Model.)

W. R. JENKINS, Jr.
POWER HAMMER.

No. 370,260.

Patented Sept. 20, 1887.



Witnesses.
Preston Phelps,
Frank L. Dyer

Inventor.
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by Geo W Dyer
att'y

UNITED STATES PATENT OFFICE.

WILLIAM R. JENKINS, JR., OF BELLEFONTE, PENNSYLVANIA.

POWER-HAMMER.

SPECIFICATION forming part of Letters Patent No. 370,260, dated September 20, 1887.

Application filed February 4, 1887. Serial No. 226,558. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. JENKINS, Jr., a citizen of the United States, residing at Bellefonte, in the county of Centre and State of Pennsylvania, have invented certain new and useful Improvements in Power-Hammers; and I do hereby declare the following to be 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.

The object of my present improvements in power-hammers is to provide a better fulcrum for the helve and a better connection between the helve and the ram, so that there shall be more elasticity and freedom of movement at these points, and consequently a more perfect action of the parts and a complete relief from the severe jar incident to the blow of the hammer. My invention therein consists, mainly, in the construction of the helve, in the manner of mounting the same, and in the manner of attaching it to the ram, together with other details of construction and arrangement, all as will be more fully hereinafter described and claimed.

For a better understanding of my improvements, attention is invited to the accompanying drawings, wherein like letters of reference denote corresponding parts, and in which—

Figure 1 is a side elevation of my improved power-hammer; Fig. 2, a front elevation of the parts comprising the fulcrum of the helve, and Fig. 3 a plan view of the helve.

The frame is made, preferably, of two parts bolted together, A representing the base, which supports the anvil and driving mechanism, and A' the top, which supports the helve and ram.

This upper portion, A', of the frame is provided at its front end with the usual vertical guide, B, for the ram *a* to move in, and has on its back end two open uprights, C C, which support a cross-head, D, between four elastic cushions, E E, arranged in pairs, one above and one below each end of said cross-head.

This cross-head is provided with pockets *d d* at each end to receive the cushions, and has a fulcrum-pin, D', which passes through a tubular hub, *f*, of the oscillating helve F. This cross-head is held in place by the elastic cushions; but they allow it to have vertical play and enough of that to properly cushion the

blow of the hammer. The tension of these cushions can be regulated and adjusted by means of the bolts *c c* passing up through them and the ends of the cross-head.

The helve is composed of the main body F, provided with the central hub, *f*, for the fulcrum-pin, and with the forked rear end and pin *f'* for connection with the driving-rod from the crank-shaft. To the forward end of this helve are secured two flat bars of spring-steel, G G, each bent outward in the form of a semicircle, and both together forming a complete circle. The ends of these springs, together with the ends of a flexible strap, H, between them, are secured together by ferruled bolts *h h*. This strap H is composed, preferably, of several plies or thicknesses of leather or rawhide, and passes through a slot or opening, *a'*, in the upper end of the ram *a*. In practice this connection of the helve with the ram relieves the machine from the severe jar incident to its work—that is, the springs G G yielding slightly, in conjunction with the action of the cushions at the fulcrum of the helve, adds greatly to its elasticity, and the strap fitting loosely in the slot or opening in the ram permits of its vertical movement, so that no provision is necessary at the fulcrum. The fulcrum-pin being a part of the cross-head, it partakes of any movement that the latter receives. The vertical movement of the cross-head is limited by the elasticity of the cushions (between which it is held) and the speed at which the hammer is driven, and the helve, being pivoted thereto, partakes of the same movement, (at this point,) which is multiplied many times at the ram.

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

1. A helve for power-hammers, adapted at one end to be connected to the driving mechanism, and provided at the opposite end with two semicircular springs, and with a flexible strap secured between the ends of said springs by means of ferruled bolts, substantially as described.

2. An oscillating helve for power-hammers, provided with a central hub for mounting it, with a pin at one end for connecting it with the rod from the crank-shaft, and with a flexible strap at the other secured by ferruled bolts

between the ends of two semicircular springs, substantially as described and shown.

3. A power-hammer having an oscillating helve pivoted in a cross-head mounted between 5 and held in place by elastic cushions, substantially as described.

4. A power-hammer having an oscillating helve pivoted in a cross-head mounted between and held in place by elastic cushions, and pro- 10 vided with a flexible strap passing through a slot in the upper end of the ram and secured between the ends of two semicircular springs, substantially as described and shown.

5. In a power-hammer, an oscillating helve 15 connected at one end to the ram by a flexible strap secured between two semicircular springs of the helve, and connected at the other end to the rod from the crank-shaft, and pivoted intermediate these points in a cross-head mounted 20 between elastic cushions, substantially as described.

6. In a power-hammer, the combination, with the frame, of the two uprights C C, the elastic cushions E E, the cross-head D, mounted between said cushions and provided with pock- 25 ets *d d* to receive the same, and the oscillating helve F, pivoted in said cross-head, substantially as described.

7. In a power-hammer, the combination, with the frame, of the two uprights C C, the 30 four elastic cushions E E, the cross-head D, provided with the pin D' and pockets *d d*, the helve F, mounted upon said pin, and the bolts *c c*, substantially as described.

In testimony whereof I affix my signature in 35 presence of two witnesses.

WILLIAM R. JENKINS, JR.

Witnesses:

J. H. LINGLE,

J. L. MONTGOMERY.