(No Model.) 3 Sheets—Sheet 1.

S. TRETHEWEY.

POWER HAMMER.

No. 482,988. Patented Sept. 20, 1892.

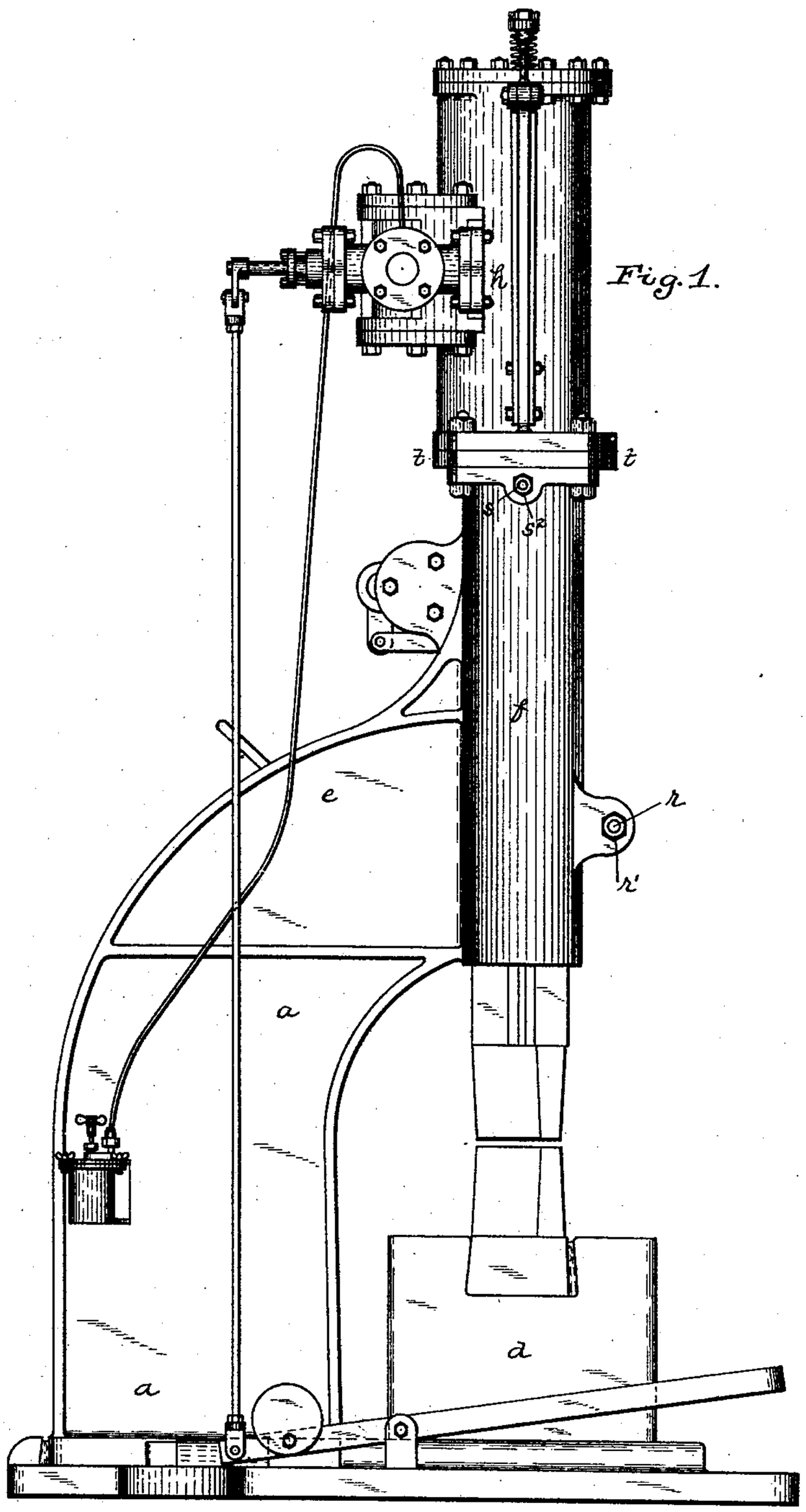

Fig. 1.

Witnesses:
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D. L. Dorsey.

Inventor:
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Attorney

(No Model.) 3 Sheets—Sheet 2.

S. TRETHEWEY.

POWER HAMMER.

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Fig. 2.

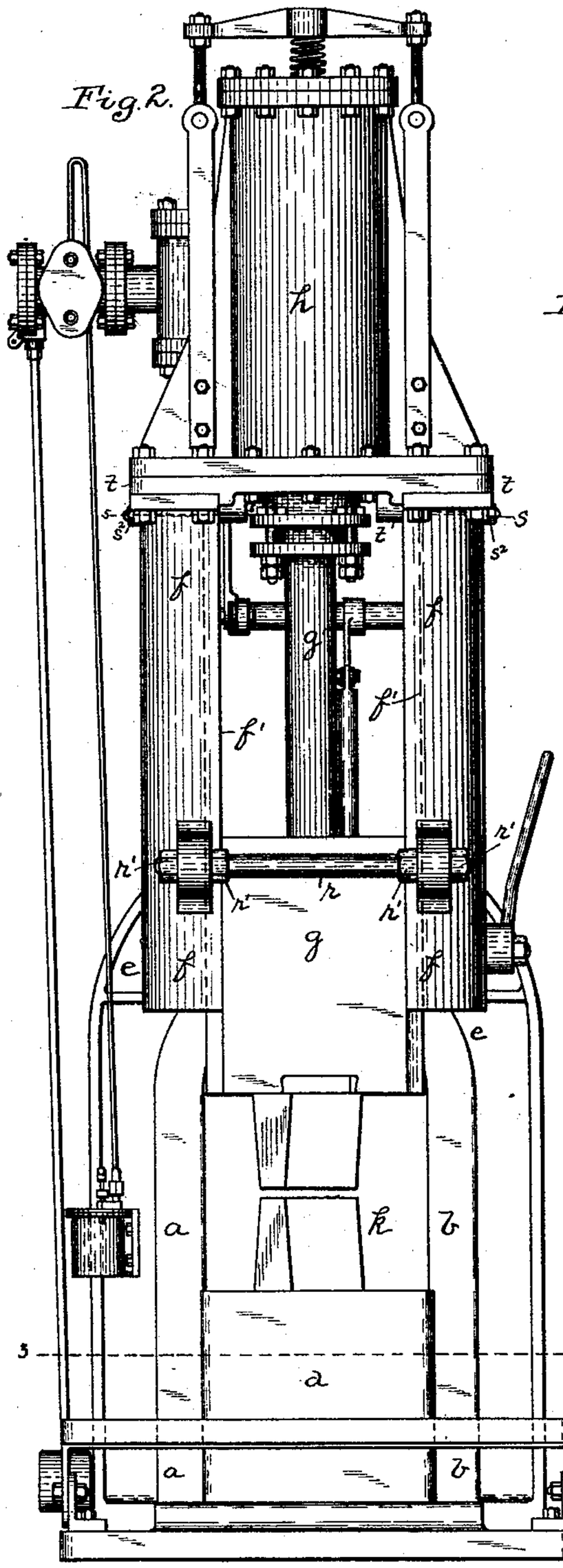

Fig. 5.

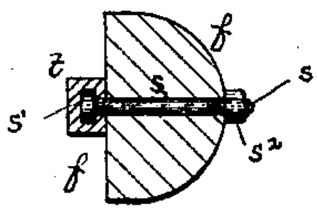

Fig. 3.

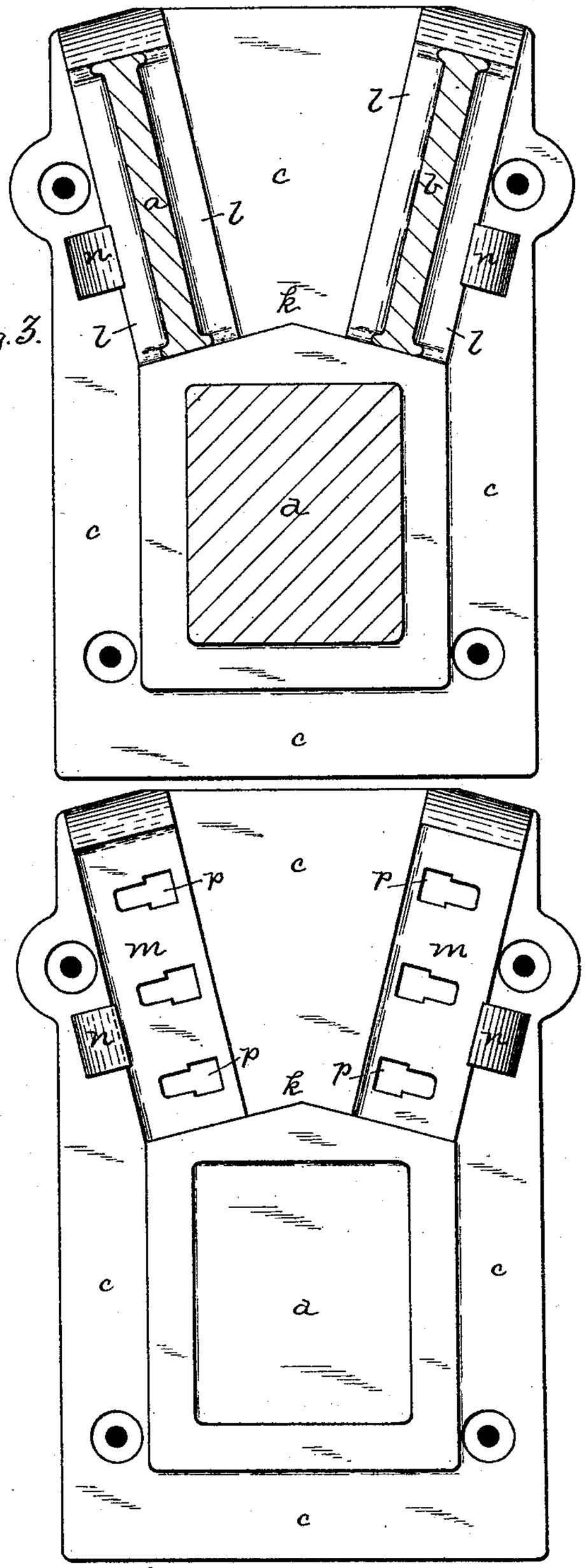

Fig. 4.

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(No Model.) 3 Sheets—Sheet 3.

S. TRETHEWEY.

POWER HAMMER.

No. 482,988. Patented Sept. 20, 1892.

Fig. 6.

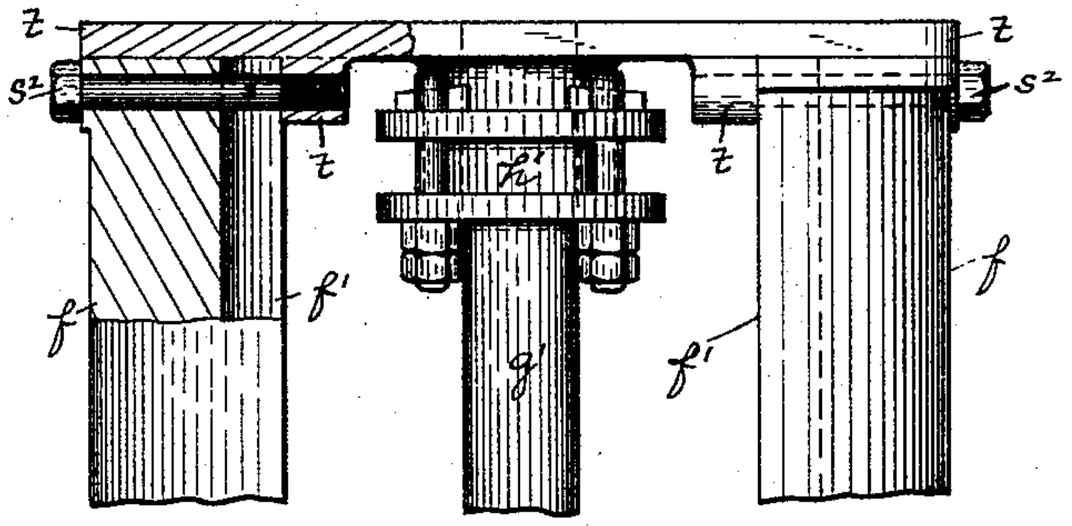


Fig. 7.

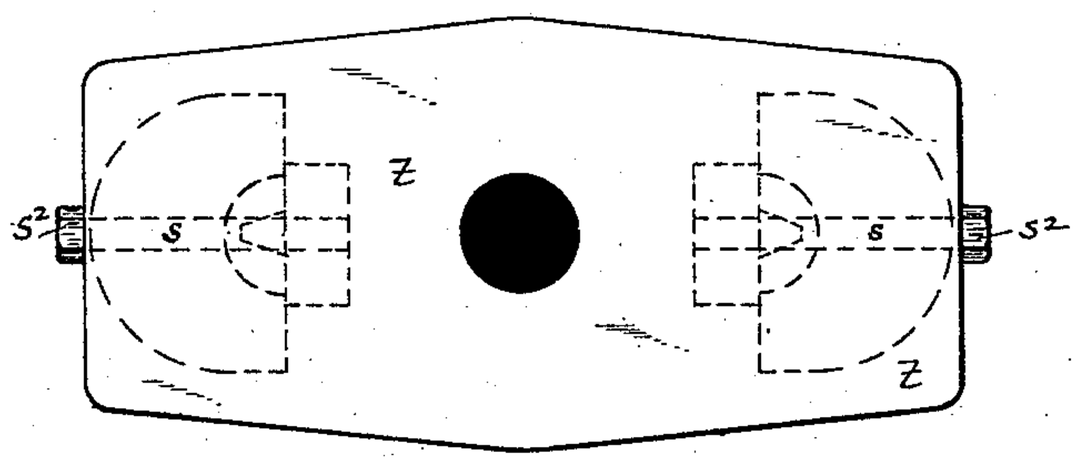


Fig. 8.

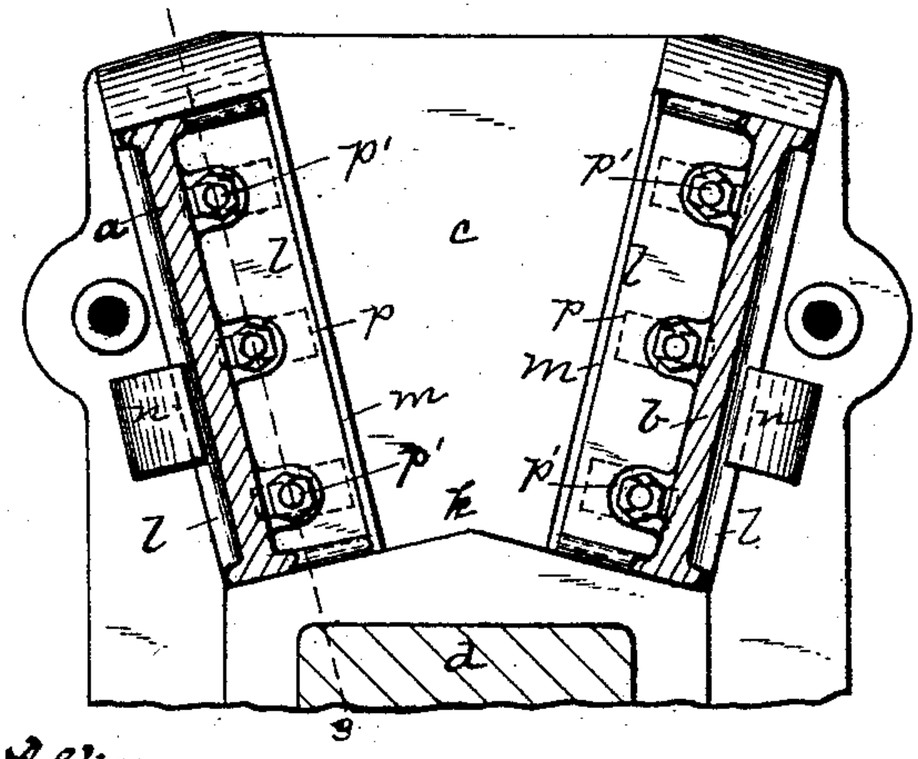
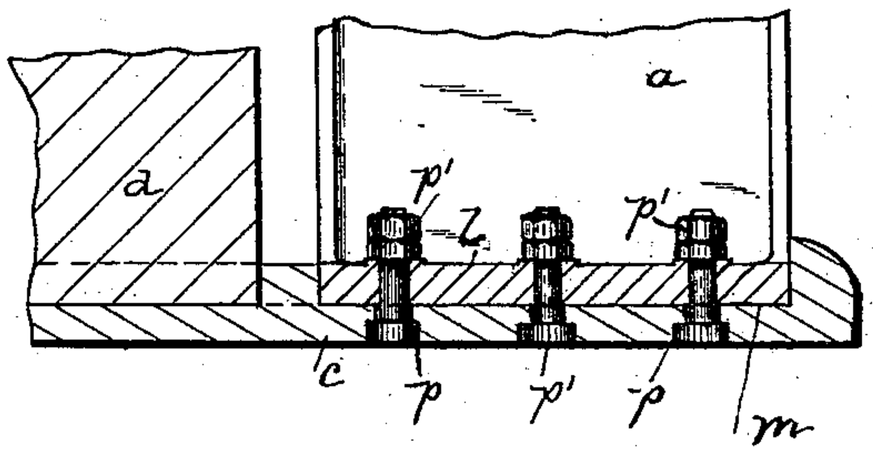


Fig. 9.



Witnesses:
J. R. Cooley.
D. L. Dorsey.

Inventor:
Samuel Trethewey
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attorneys

UNITED STATES PATENT OFFICE.

SAMUEL TRETHEWEY, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO THE TRETHEWEY MANUFACTURING COMPANY, OF SAME PLACE.

POWER-HAMMER.

SPECIFICATION forming part of Letters Patent No. 482,988, dated September 20, 1892.

Application filed October 23, 1891. Serial No. 409,596. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL TRETHEWEY, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Steam-Hammers; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to steam-hammers, the objects of the invention being to provide for the proper adjustment in the hammer to take up wear, &c., so that the sliding head of the hammer may be properly mounted in the stand or frame, which can be adjusted according to the wear of the guideway and the sliding head, and to mount the valve-gearing in such way that all of its parts are exposed for adjustment and repair.

To these ends my invention consists, generally stated, in making said stands adjustable toward and from each other and connecting the upper portions thereof, which form the slides or guideways, by transverse bolts, whereby the stands may be so adjusted as to take up wear of the head and maintain the proper adjustment between said head and the supporting-frame.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a side view of the hammer, illustrating my invention. Fig. 2 is a face view of the same. Fig. 3 is a cross-section on the line 3 3, Fig. 2. Fig. 4 is a top view of the bed-plate supporting the hammer; and Fig. 5 is a sectional detail view on the line 5 5, Fig. 2. Figs. 6 and 7 are views showing the upper part of the hammer and the manner of adjusting parts to and from each other. Fig. 8 is a view of the bottom of the hammer, showing the manner of adjusting the two stands; and Fig. 9 is a sectional view on the line 9 9, Fig. 8.

Like letters of reference indicate like parts in each of the views.

The hammer-stands *a b* are secured to the bed-plate *c* back of the anvil *d*, said stands extending upward at an angle to each other and to the anvil, and then having the curved portions *e* extending over the anvil *d*, and having the vertical portions *f*, which have formed on their inner faces the guideways or slides *f'* for the sliding head *g* of the hammer, this sliding head being connected to the piston *g'*, which passes through the stuffing-box *h'* and is operated by the steam-cylinder *h*, which rests upon and is supported by the vertical portions *f* of the stand. As so constructed, it is evident that in the ordinary hammering operations the hammer has what is termed the "open front"—that is, free space across the anvil *d* for the ordinary hammering operations—on which the bars, &c., to be hammered may be placed, and has, in addition to this open front, a right of way or passage between the stands, so that where it is necessary the bars operated upon may be passed between the two stands, such as in the space *k*, the hammer in this way having a right of way between the stands back of the anvil. This is of great importance in many hammering operations, as it permits the work to be passed directly back from the hammer, and especially in welding and other operations provides for certain manipulations which the ordinary open-front hammer, having a single stand, as heretofore constructed, would not permit the performance of. In addition to this, all of the different operative parts of the hammer—such as the valves and valve-gearing and other like parts—are freely exposed to view and are easy of access, so that they may be quickly repaired or changed, instead of being inclosed within the box of the stand, as has been usual in these open-front hammers.

In order to adjust the hammer so as to take up any wear, either of the head *g* or of the faces forming the slides for said head in the vertical portions *f* of the stand, the stands are connected to the base-plate *c* and to each other in the following way: At the base of each stand are the flanges *l*, which form a broad base, fitting within the seats *m* of the bed-plate, said seats having at the outer edge thereof the lugs *n* to sustain any heavy strain upon the stands, and the seats *m* are made slightly wider than the stands of the hammer, so that said stands may be adjusted from and toward each other by means of the bolts *p'*, passing through the bolt-holes *p* for securing the stand in place, being made of suitable

length to permit of such adjustment. At the same time the upper portions *f* of the hammer-stands, which extend over the anvil, are connected by suitable adjusting-bolts, such as by the transverse bolt *r* near the base of said vertical portions, which extends between the same out of line with the movement of the sliding head, preferably in front of said head, and is provided with suitable adjusting-nuts *r'*, and by the bolts *s*, the heads *s'* of which fit within seats of the top plate *t* of the frame, while the bodies thereof extend through the stands, are provided with adjusting-nuts s^2, and so provide for the lateral adjustment of the upper ends of the stands, so that a very delicate adjustment of the two stands from and toward each other to take up any wear of the head *g* or of the guideways *f'*, formed on the stand, is provided, the necessity of the employment of guideways separate from the stand being overcome and a much more rigid and perfect hammer obtained. In order to adjust the stands, it is only necessary to loosen or tighten the nuts of the transverse bolts *r* and *s* and to adjust the bases of the stands from and toward each other on the base-plate *c*, this being easily accomplished, even in a large and weighty hammer.

I am thus enabled to provide an open-front steam-hammer in which the stands are capable of adjustment from and toward each other, so that the slides or guideways for the sliding head may be formed directly in the stands instead of requiring such slides to be separate from the stands, as in the ordinary open-front hammer, and so providing for more perfect adjustment, doing away with the necessity of extra parts, and giving free access to all operative parts of the hammer.

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

An open-front steam-hammer having a base-plate carrying the anvil, and a hammer-frame formed of two separate stands extending up behind the anvil and at an angle thereto, then extending over the anvil, and together forming the guideway for the sliding head of the hammer and supporting the steam-cylinder above the same, said stands being each adjustably secured to the base-plate and adjustably connected at the upper end, where the stands may be adjusted to take up wear of the hammer-head or guideway, substantially as and for the purposes set forth.

In testimony whereof I, the said SAMUEL TRETHEWEY, have hereunto set my hand.

SAMUEL TRETHEWEY.

Witnesses:

J. N. COOKE,

ROBT. D. TOTTEN.