L. KINSLEY.

TRIP HAMMER.

No. 37,628. Patented Feb. 10, 1863.

Fig. 1.

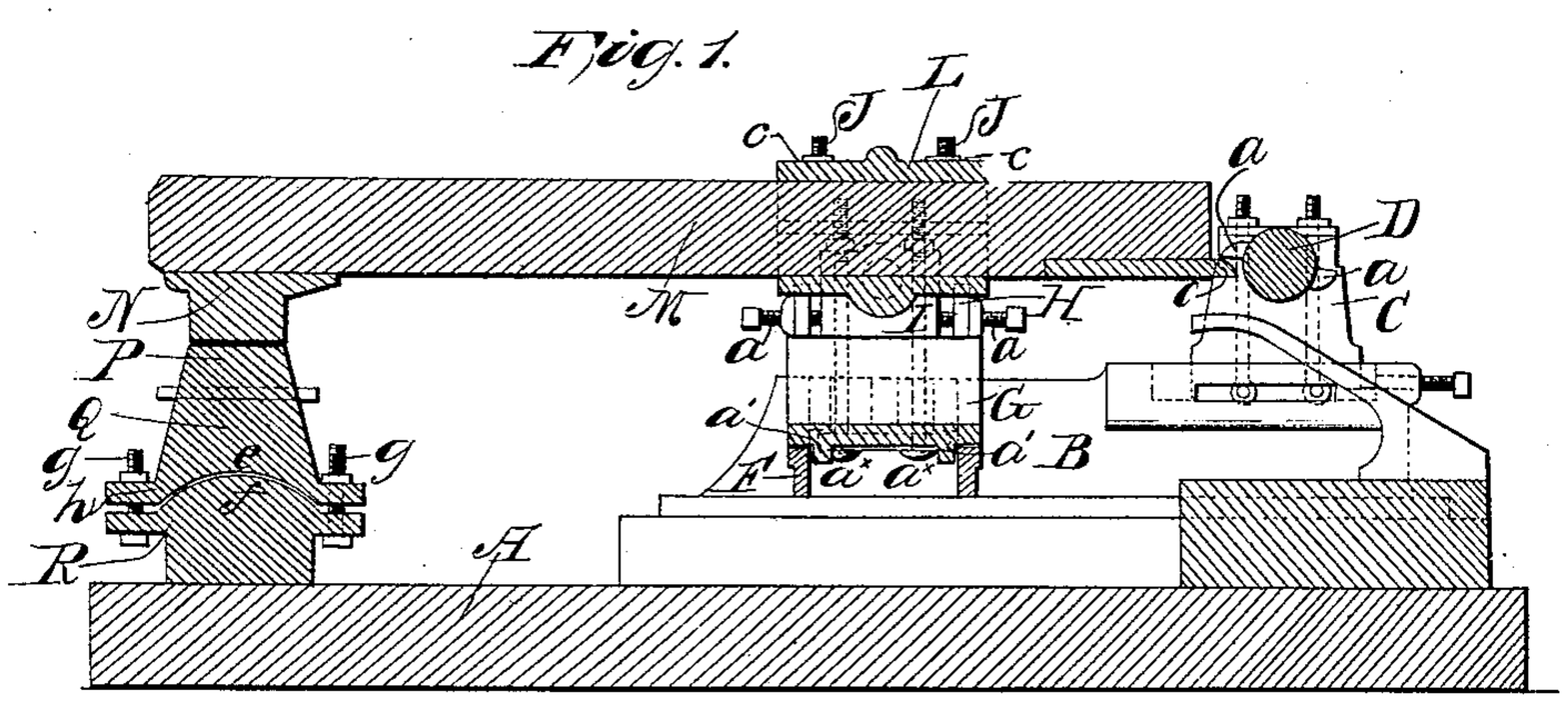

Fig. 2.

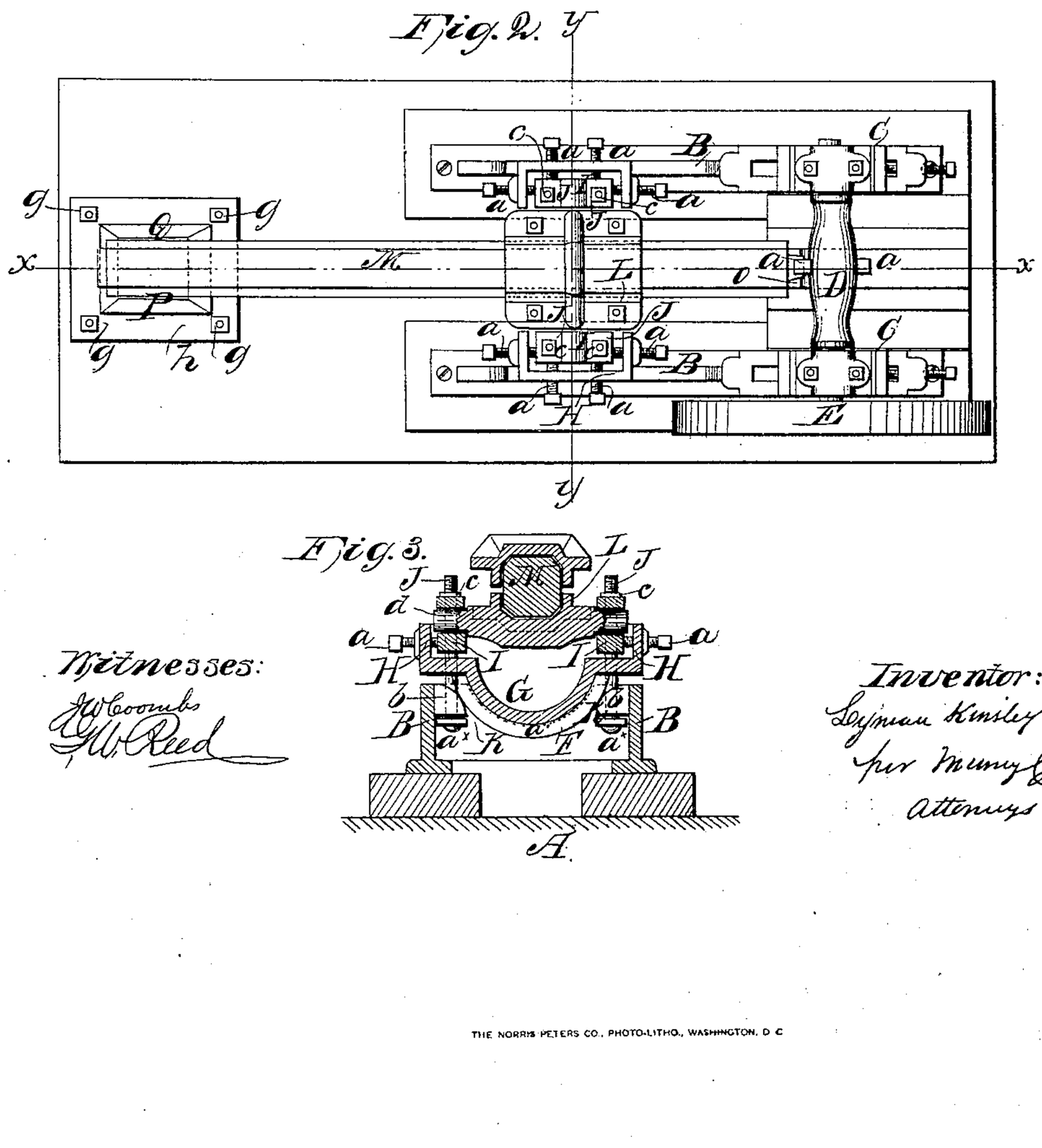

Fig. 3.

Witnesses:

J. W. Coombs

G. W. Reed

Inventor:

Lyman Kinsley

per Munn & Co

attorneys

UNITED STATES PATENT OFFICE.

LYMAN KINSLEY, OF CAMBRIDGEPORT, MASSACHUSETTS.

IMPROVEMENT IN TRIP-HAMMERS.

Specification forming part of Letters Patent No. 37,628, dated February 10, 1863.

To all whom it may concern:

Be it known that I, LYMAN KINSLEY, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Trip-Hammers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2. Fig. 2 is a plan or top view of the same; Fig. 3, a transverse vertical section of the same, taken in the line *y y*, Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

The invention consists in a novel arrangement of the anvil-block, whereby the anvil may be readily adjusted to compensate for wear, and also to suit the taper designed to be given to the work.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a bed-plate, on which the trip-hammer is placed, and B B are two parallel bars secured to the bed-plate and having bearings C C on them, in which a driving-shaft, D, is fitted. This shaft D is provided at one end with a fly-wheel, E, and with projections or tappets *a* at its center. The bearings C C are so arranged that they may be adjusted longitudinally on the bars B B. Between the inner parts of the bars B B there are secured transversely two parallel plates, F F, the upper surfaces of which are hollowed out in semicircular form, as shown clearly in Fig. 3, and G is a semicircular plate which is fitted on the plates F F, and is provided with pendent flanges *a'*, to serve as guides, said flanges extending down at the inner sides of the plates F, as shown clearly in Fig. 1. At each end of the semicircular plate G there is a box, H, in which bearings I are placed and adjusted by set-screws *a*. Through each bearing I there passes two screw-rods, J J. These rods pass down through the bottoms of the boxes H H, and also pass through metal plates K, which bear against the under sides of lips or projections *b* at the inner sides of the bars B B, as shown in Fig. 3, the lower ends of the screw-rods J being provided with heads $a^{\times}$. On the upper ends of the screw-rods J there are placed nuts *c*, as shown in all the figures.

In the bearings I I there are fitted the trunnions or journals *d d* of a clamp, L, in which a bar, M, is secured. This bar M has the hammer N attached to its under surface, near its outer end, and the inner end of the bar has a projecting lip or plate, O, against which the projections or tappets *a* strike as the shaft D rotates and elevate the hammer N.

P represents an anvil, which is fitted on the top of a block, Q, in the usual or in any proper way. This block Q has a concave recess, *e*, made in its under surface, and this recess is fitted on a corresponding convex surface, *f*, on a plate, R, which is raised a trifle above the bed-plate A, as shown in Fig. 1. The anvil-block Q is secured in position by screw-bolts *g*, which pass through the plate R and a flange, *h*, at the lower part of the anvil-block, one near each corner or angle, as shown in Fig. 2.

From the above description it will be seen that the anvil-block Q may, by adjusting the screw-bolts *g*, be placed either in a vertical position or in an inclined position either forward or backward, so as to give the anvil P a horizontal position or a more or less inclined one; and it will also be seen that the semicircular plate G may, by turning the nuts *c*, be adjusted on the plates F F, so that the hammer-bar M will be turned to give the face of the hammer N a more or less oblique position. By this adjustment of the hammer and anvil the bar to be operated upon may be drawn out in taper form and with a greater or less degree of taper, as desired, without the trouble of wedging either the anvil or hammer, and one hammer is made to answer for all the different tapers.

This invention also admits of the anvil being adjusted to compensate for wear, for if one part of the face gets lower than another part the block Q may be adjusted so as to bring the face of the anvil in a horizontal position.

I would remark that I do not confine myself to the precise arrangement of the parts herein described for adjusting the anvil-block Q. The recess *e*, for instance, may be made in the plate R, instead of being made in the under surface of the block Q, and the convex surface *f* may be on the bottom of the block Q and be a sec-

tion of a sphere, the recess *e* corresponding to the same.

I do not claim the manner of adjusting the hammer-bar M, as herein described, for that has been previously done; but,

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The anvil-block Q, arranged, substantially as shown, on a plate, R, to admit of the adjustment of the anvil P, as described.

LYMAN KINSLEY.

Witnesses:
BENJ. F. SWEET,
SAMUEL H. RANDALL.