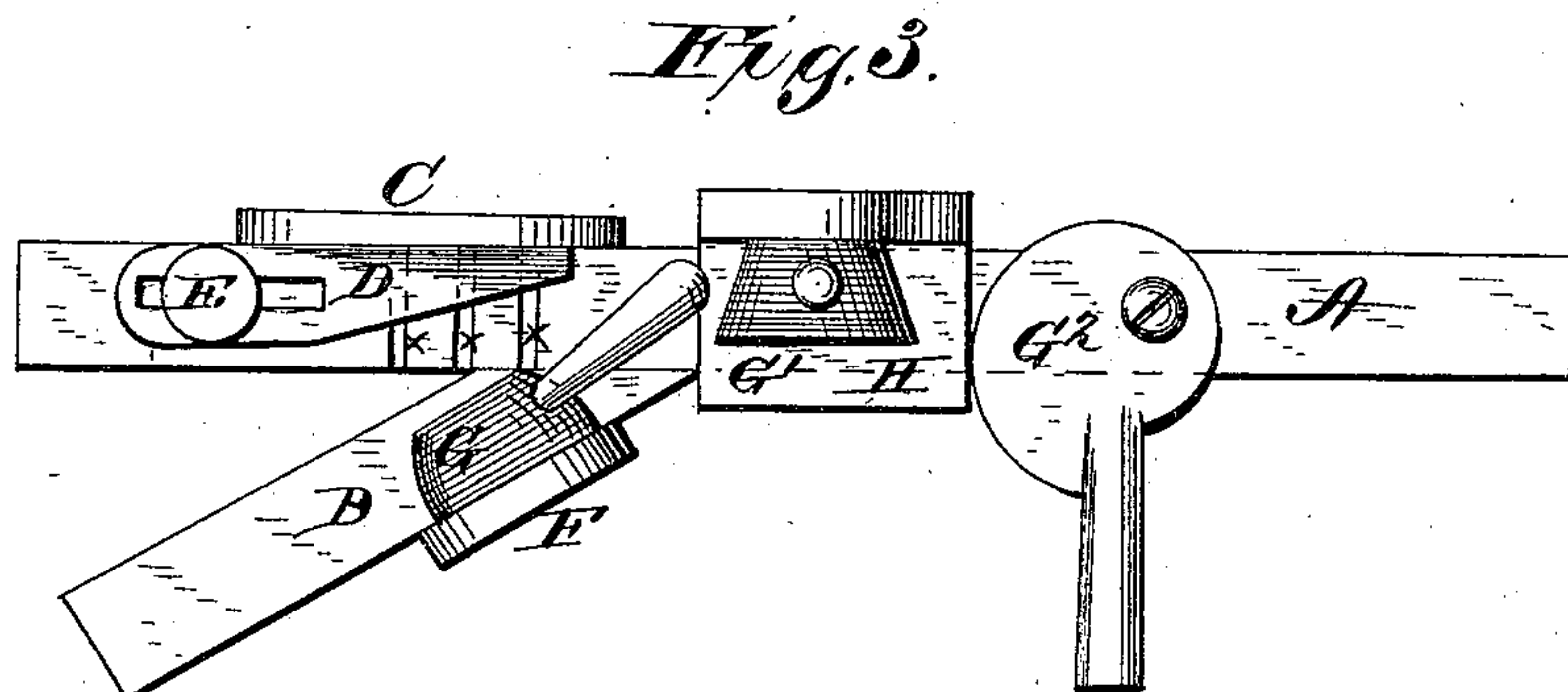
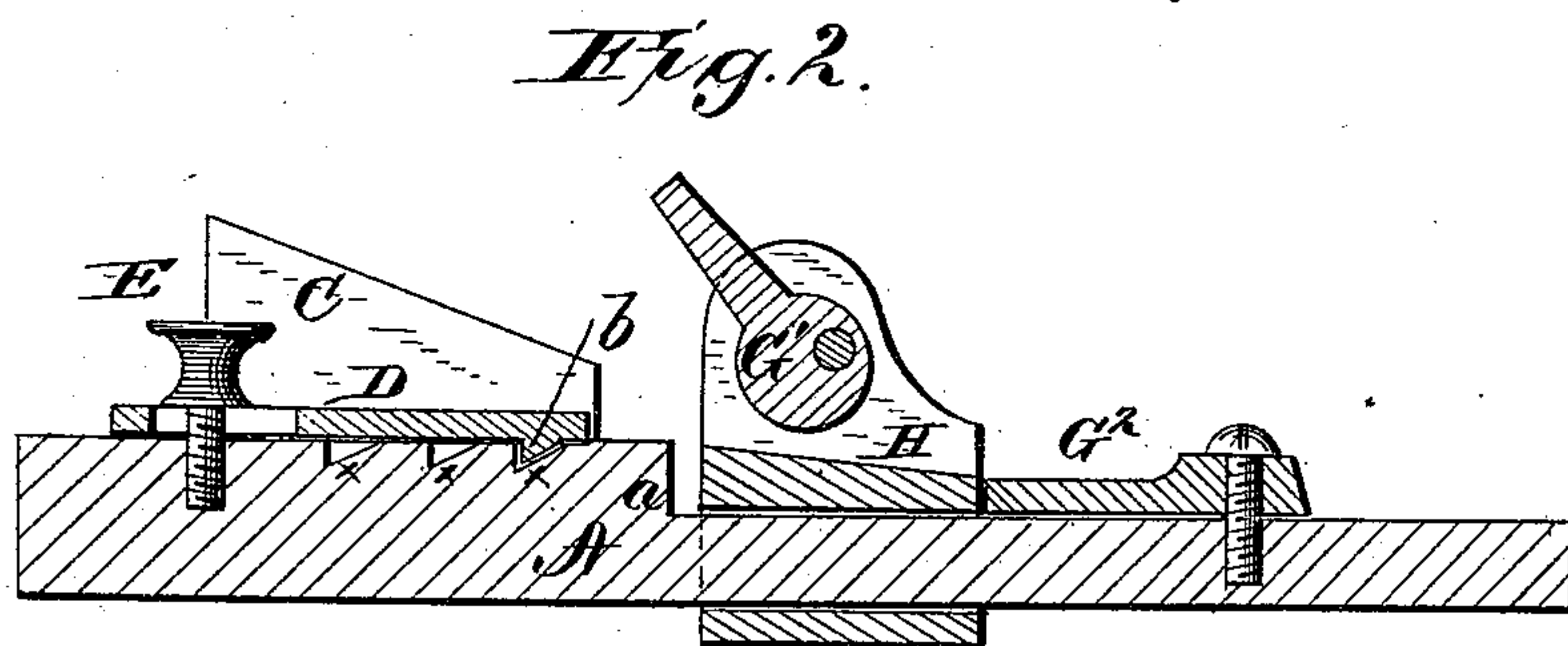
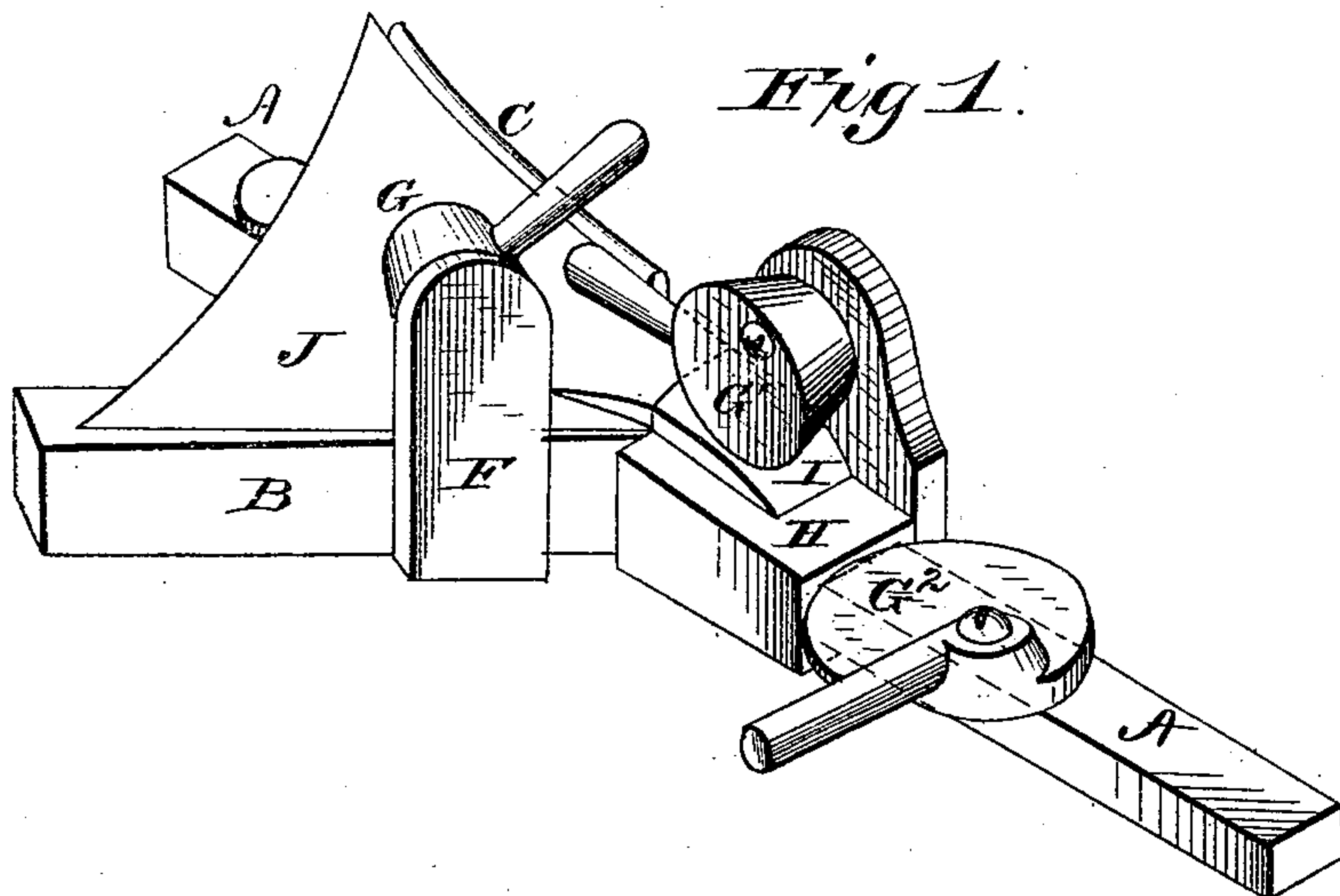


J. KILLEFER.  
Machine for Uniting Plow Shares and Points.  
No. 226,326.                      Patented April 6, 1880.



WITNESSES  
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C. L. Evert.

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# UNITED STATES PATENT OFFICE.

JOHN KILLEFER, OF BLOOMINGDALE, MICHIGAN.

## MACHINE FOR UNITING PLOW SHARES AND POINTS.

SPECIFICATION forming part of Letters Patent No. 226,326, dated April 6, 1880.

Application filed November 29, 1879.

*To all whom it may concern:*

Be it known that I, JOHN KILLEFER, of Bloomingdale, in the county of Van Buren, and in the State of Michigan, have invented certain new and useful Improvements in Apparatus for Uniting Plow Shares and Points; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a device for uniting plow shares and points under pressure, as will be hereinafter more fully set forth.

In the annexed drawings, Figure 1 is a perspective view of my device. Fig. 2 is a longitudinal section, and Fig. 3 a plan view, of the same.

A represents the bed of the machine, made in the form of a square bar, with a shoulder or offset at *a*, and an arm, B, extending at about an angle of forty-five degrees, said arm uniting with the bed A at the shoulder. To the side of the bed A is attached an inclined guide, C, and on top of the bed is placed a bar, D, which latter is adjustable lengthwise and laterally, and fastened by means of a set-screw, E. The bar D has on its under side a tooth, *b*, to take into any one of a series of notches, *x x*, on the bed, and this bar forms a stop for the plowshare to prevent its backward movement. The point of the bar is to fit against the usual shoulder found on the under side of the plowshare, and by its adjustability lengthwise and laterally it can fit any share. To the arm B is attached a post, F, to the side of which is pivoted an eccentric, G, by means of which the share is clamped and held in place. Upon that part of the bed A beyond the shoulder *a* is a slide, H, which has its upper face inclined, as shown, and to a side projection on said slide is pivoted an eccentric, G', for clamping and holding the plow-point. The slide H is forced forward by means of a pivoted eccentric, G<sup>2</sup>.

Instead of the eccentrics G G' G<sup>2</sup>, I may in some cases use other equivalent mechanical means for accomplishing the same objects.

I is the wrought-iron plow-point, which, after being formed, is turned upside down and placed in the forge with small fragments or chippings of cast-iron or equivalent hardening-metal laid upon the surface. The heat is then raised sufficiently to fuse the cast or hardening metal, when it is united to the wrought-iron perfectly on the surface only, not penetrating the wrought-iron farther than to form a perfect joint or adhesion of the two. The point is then, at proper heat, immersed in cooling material, which hardens the thin layer of hardening-metal intensely hard, leaving the body of the point soft and malleable.

By this process I obtain a plow-point which will not break, but can be bent cold, if necessary, also causing it to wear much more rapidly on the upper surface than on the under one, thus wearing sharp instead of dull. The point I thus make is then heated to a welding-heat at the larger end at the same time that the cast-iron share J is heated to a state of fusion on the end. Both are then placed in proper position in the machine, as shown, and forced quickly together, forming a perfect union of the two, and making a combined metal share that will break anywhere else than at the point of union.

I am aware that two kinds of metal heated to a welding-heat have been united by pressure, and I therefore do not claim such, broadly, as my invention.

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

The improved device for welding plow-irons, consisting of the bed A and arm B, adjustable guide C, sleeve H, and cams G G' G<sup>2</sup>, constructed and arranged substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of November, 1879.

JOHN KILLEFER.

Witnesses:

C. L. EVERT,  
H. J. ENNIS.