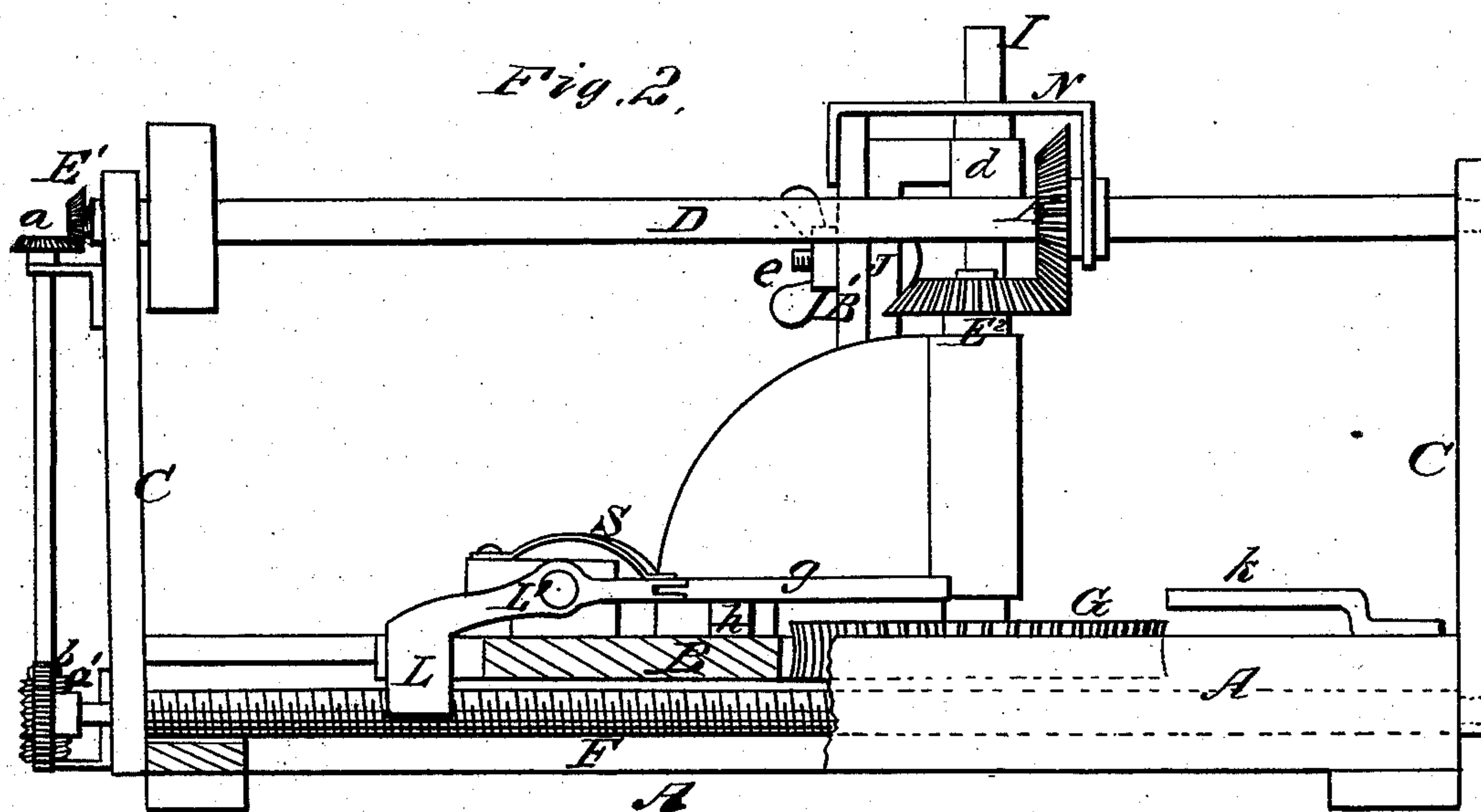
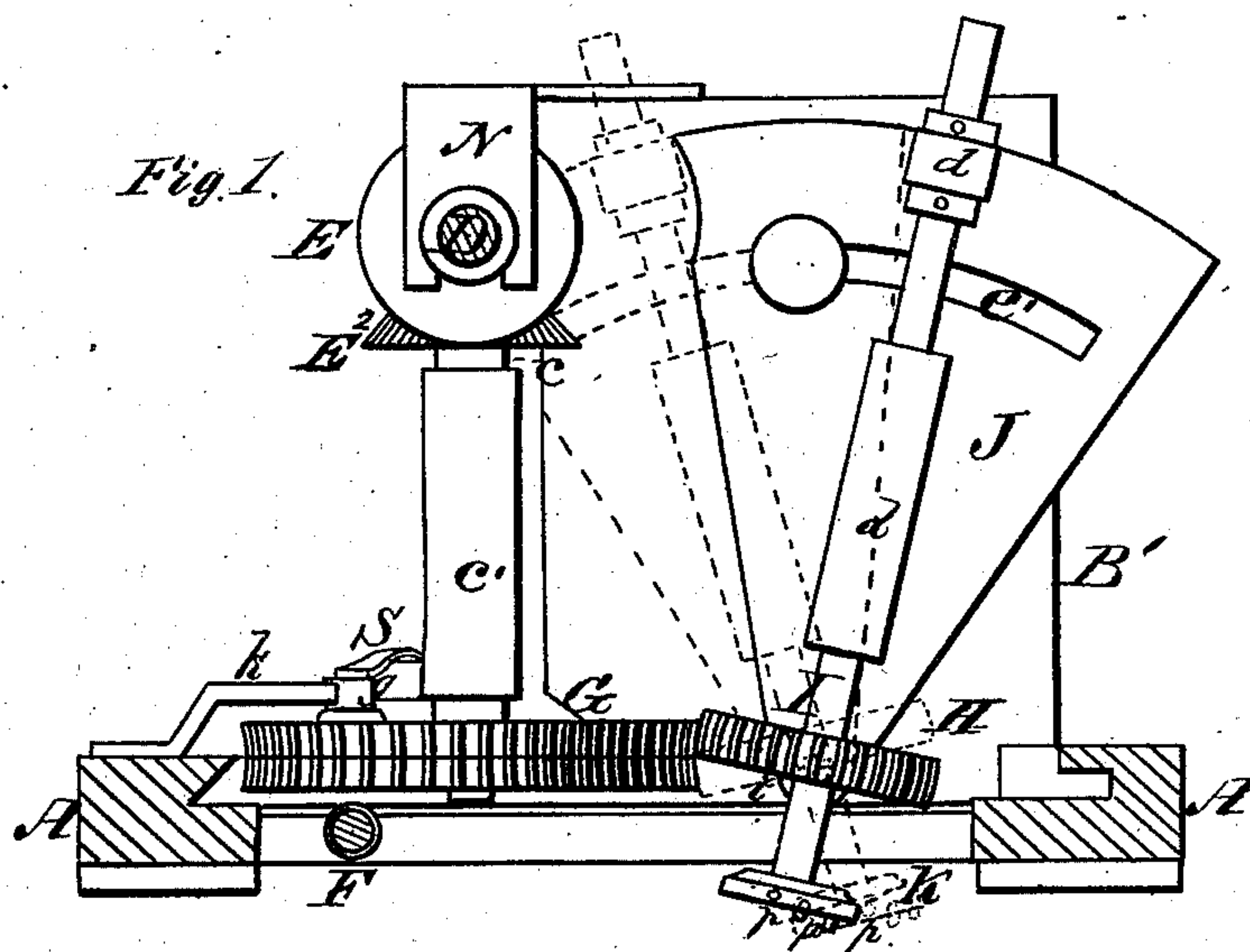


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No. 155,052.

Patented Sept. 15, 1874.



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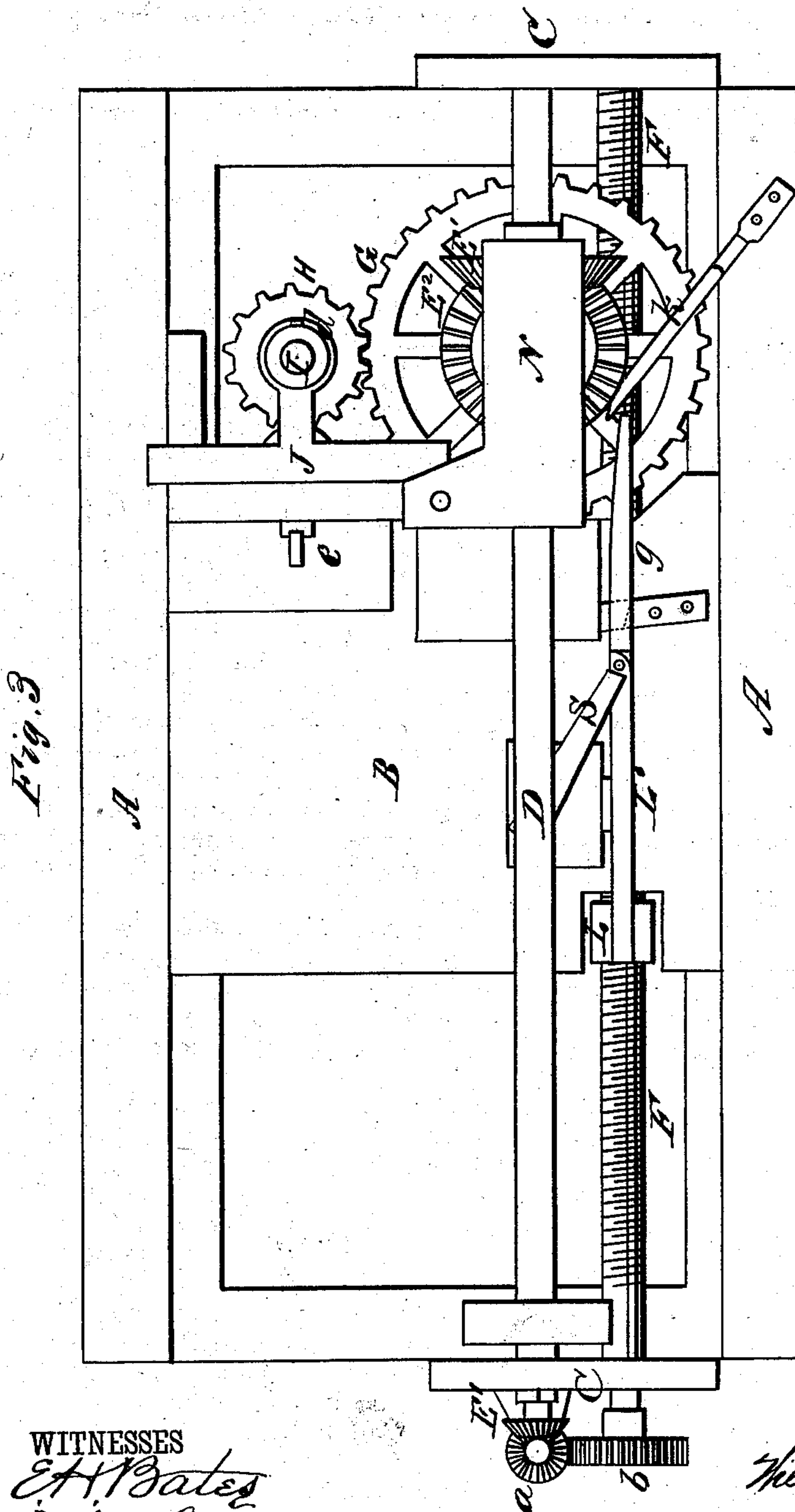
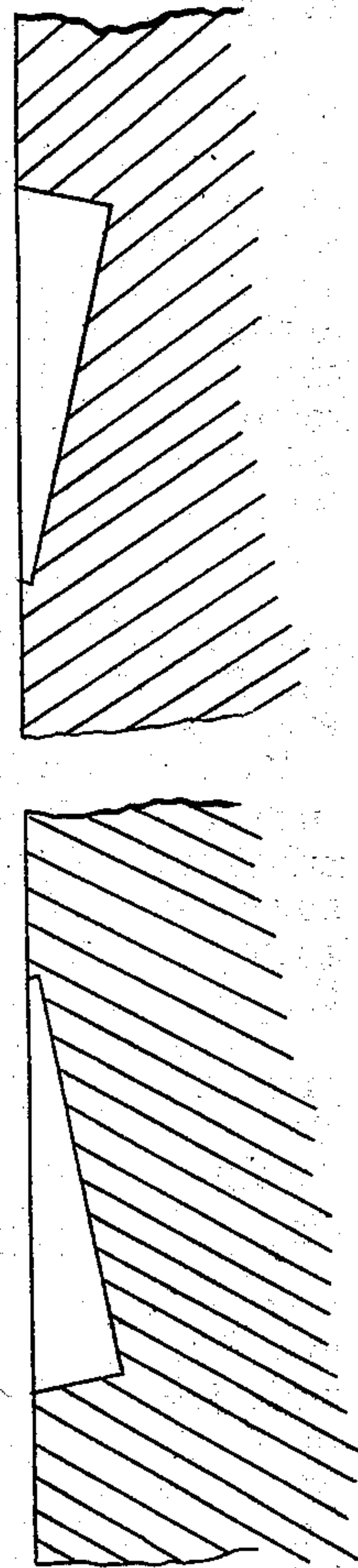


Fig. 3

Fig. 4



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UNITED STATES PATENT OFFICE.

WILLIAM P. UHLINGER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN MILLSTONE-DRESSING MACHINES.

Specification forming part of Letters Patent No. **155,052**, dated September 15, 1874; application filed August 22, 1874.

CASE B.

To all whom it may concern:

Be it known that I, WM. P. UHLINGER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and valuable Improvement in Machine for Cutting and Dressing Furrows in Millstones; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a cross-sectional view of my machine for cutting and dressing furrows in millstones. Fig. 2 is a side view, Fig. 3 is a top view, and Fig. 4 is a detail view, of the same.

My invention has relation to mechanism for cutting and dressing the angular furrows of millstones; and consists in certain novel mechanism hereinafter explained, and which is designed to serve as an effective apparatus for the purpose mentioned.

Heretofore the deep angular furrows of grinding-millstones have been formed by the slow and laborious process of hammering with "picks" or chisels held in the hand or actuated by machinery.

The object of my invention is to cut those furrows by means of a rotating cutting-disk, mounted in a suitable frame, and provided with diamonds, for cutting smoothly the furrows, and leaving their edges or furrows sharp and finished, as I will now proceed to explain.

In the annexed drawings, A A designate two parallel guideways, grooved into which is a carriage, B, which is allowed to receive a rectilinear reciprocating motion. The ways A A are connected together at their ends by cross-pieces, constituting a rectangular bed-frame. D designates the main driving-shaft, which may be driven by a belt or by a hand-crank, and which is supported by two standards, C C. This shaft carries two bevel spur-wheels, E E¹, one of which, E, communicates a slow rotary motion to a long master-screw, F, through the medium of spur-wheels *a b* and a worm, *a'*. The other wheel, E¹, engages

with a bevel-wheel, E², on the upper end of a vertical shaft, *c*, turning in a bearing, *c'*, and carrying a spur-wheel, G, on its lower end. The wheel G, which should have a concave periphery, engages with a wheel, H, which should have a convex periphery, and which is keyed on a cutter-carrying shaft, I. This shaft I is supported by bearings *d d* on the face of a segment, J, which is pivoted at *i* to a standard, B', on the carriage B, and made adjustable about said pivot by means of a clamp, *e*, and slot *e'*. The peripheries of the wheels G and H and the slot *e'* are concentric to the pivot *i*, so that shaft I can be inclined either to the right or the left without disengaging the teeth of said wheels. The shaft I is vertically adjustable, to properly adapt the cutter K to the depth of furrow to be dressed; and this shaft is adjustable about the pivot *i*, for the purpose of adapting the cutter K to the different inclinations of the bottoms of the furrows.

The cutter K is represented in the form of a disk, but it may be a segment or an arm; and into the periphery and bottom of this cutter-head I secure a suitable number of cutting-diamonds, *p*, which perform the dressing operation.

L designates a half-nut, which is formed on one arm of a lever, L', and adapted to engage with the threads on the master-screw F. The other arm of the lever L' is acted on by a spring, S, and has pivoted to it a trip, *g*.

When this trip *g* is supported upon a rest, *h*, the half-nut L will be engaged with the master-screw, and the rotation of this screw will move the carriage B, and feed the cutter up to its work. When the cutter reaches the eye of the millstone, or end of furrow, a finger, *k*, on one of the ways A will strike the trip *g*, throw it off of its rest *h*, and allow the spring S to disengage the half-nut L from the master-screw F, thus stopping the further progress of the carriage, and allowing the same to be quickly moved back by hand, to commence another operation of cutting.

I should have previously stated that the wheel E slides on the shaft D, but turns with

it; and this wheel is connected, by its grooved hub, to the standard B' on carriage B by means of a bracket, N.

Figs. 4 show right and left furrows, produced by adjusting the cutter-shaft about the pivot *i*.

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

1. In a machine for cutting and dressing furrows in millstones, the rotary cutting-disk, segment, or arm K, provided with diamonds, and applied to adjustable rotating shaft I on a reciprocating carriage, substantially as described.

2. The cutter-carrying shaft I, applied to a

laterally-adjustable segment, J, which is pivoted to the carriage, said shaft being rotated substantially as described.

3. The lever L', carrying half-nut L and a trip, *g*, in combination with rest *h*, finger *k*, spring S, and the master-screw F, for the purpose of moving carriage B, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM P. UHLINGER.

Witnesses:

D. D. KANE,

H. C. HOLLINGSHEAD.