

CHARLES KOEHLER.

Improvement in Machines for Cutting Lead.

No. 125,462.

Patented April 9, 1872.

Fig. 1.

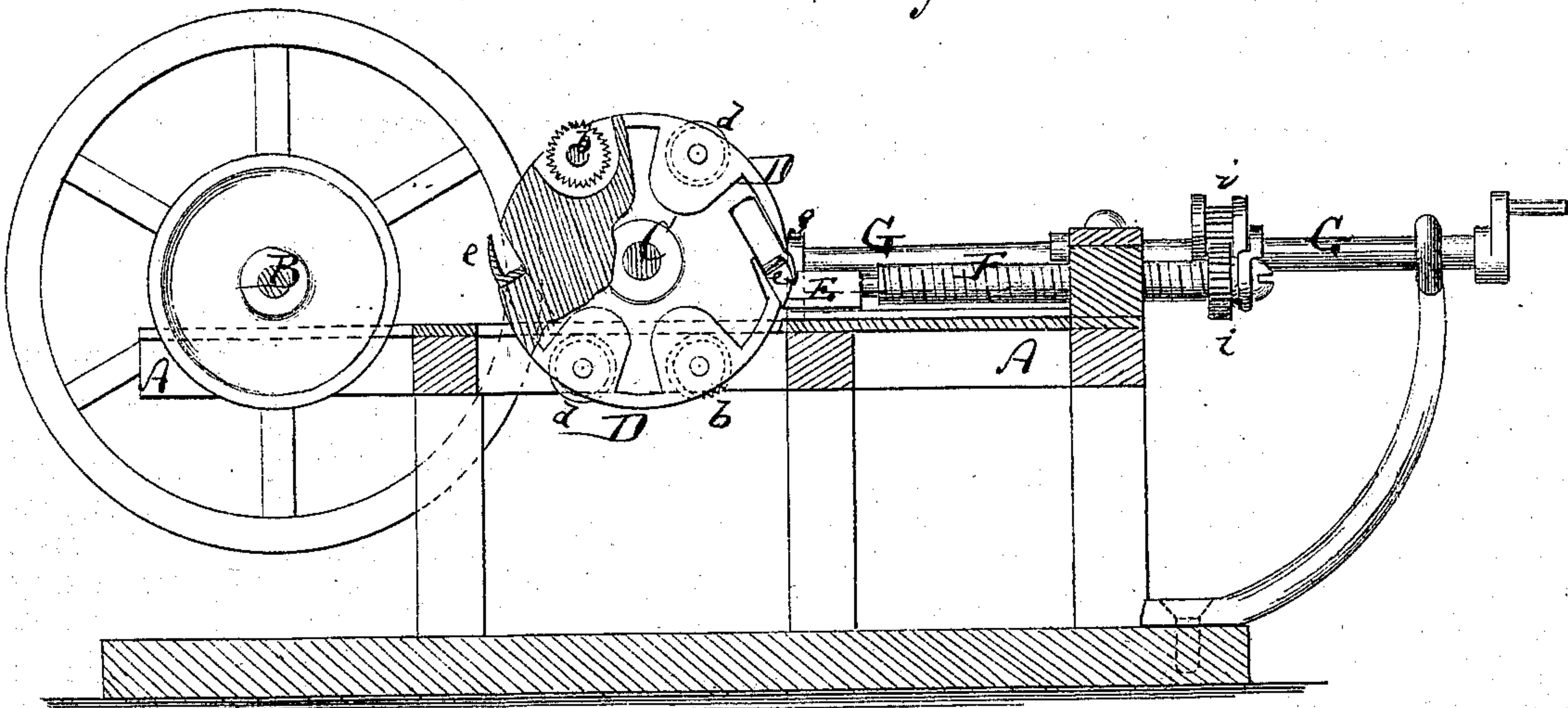


Fig. 3.

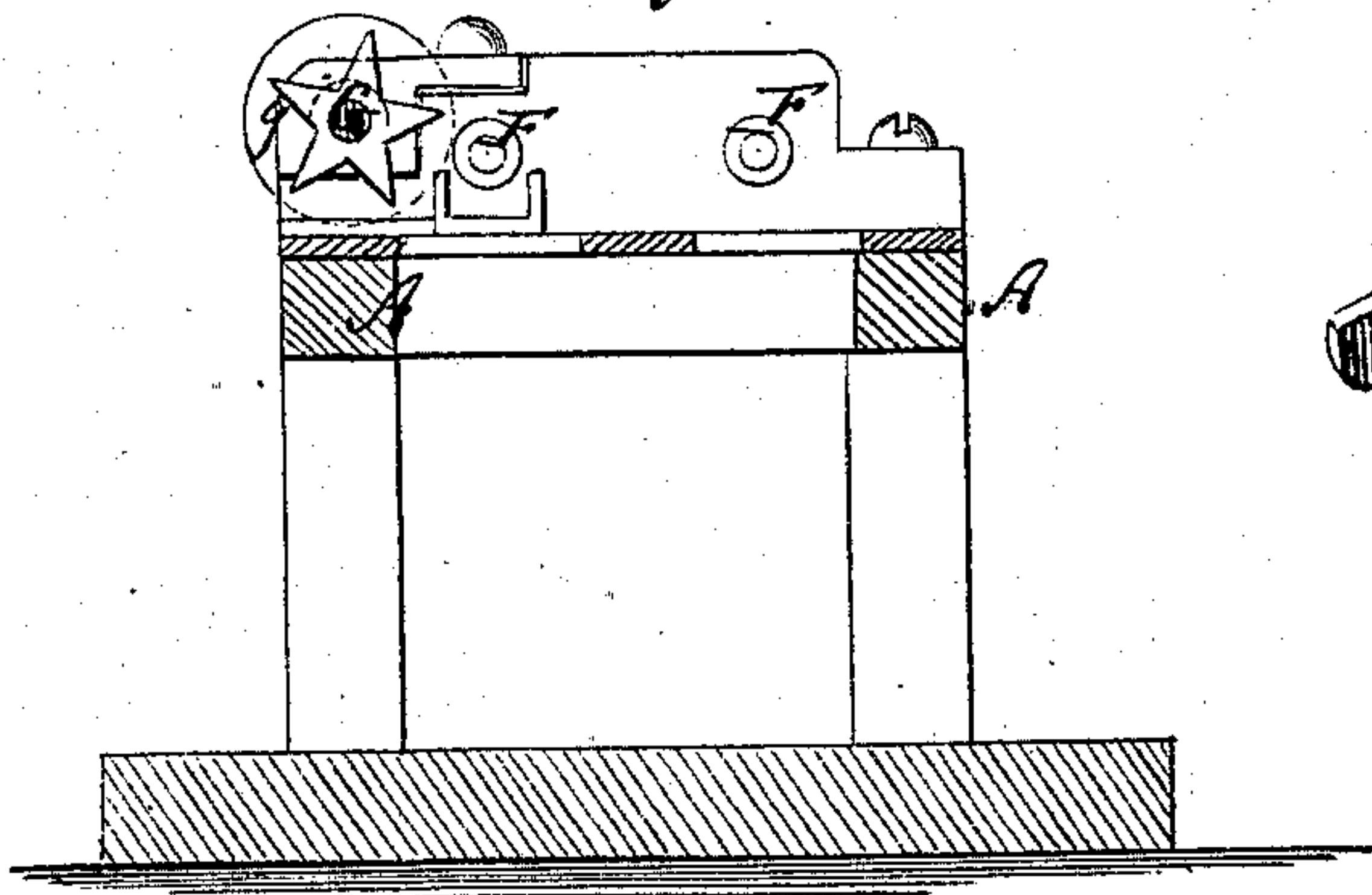


Fig. 4.

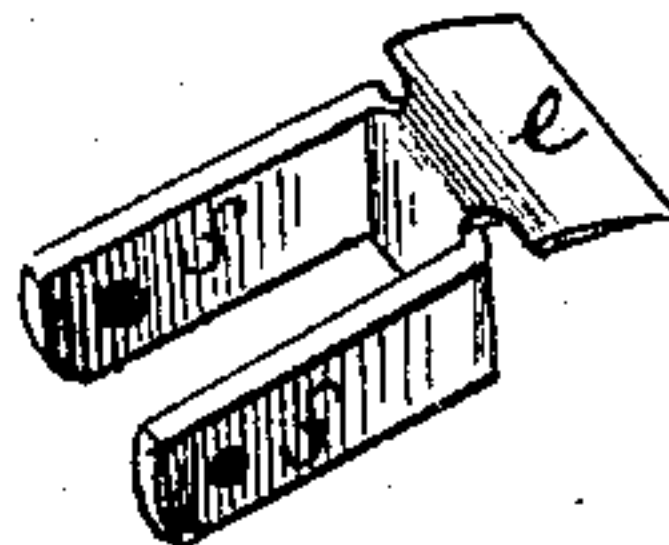
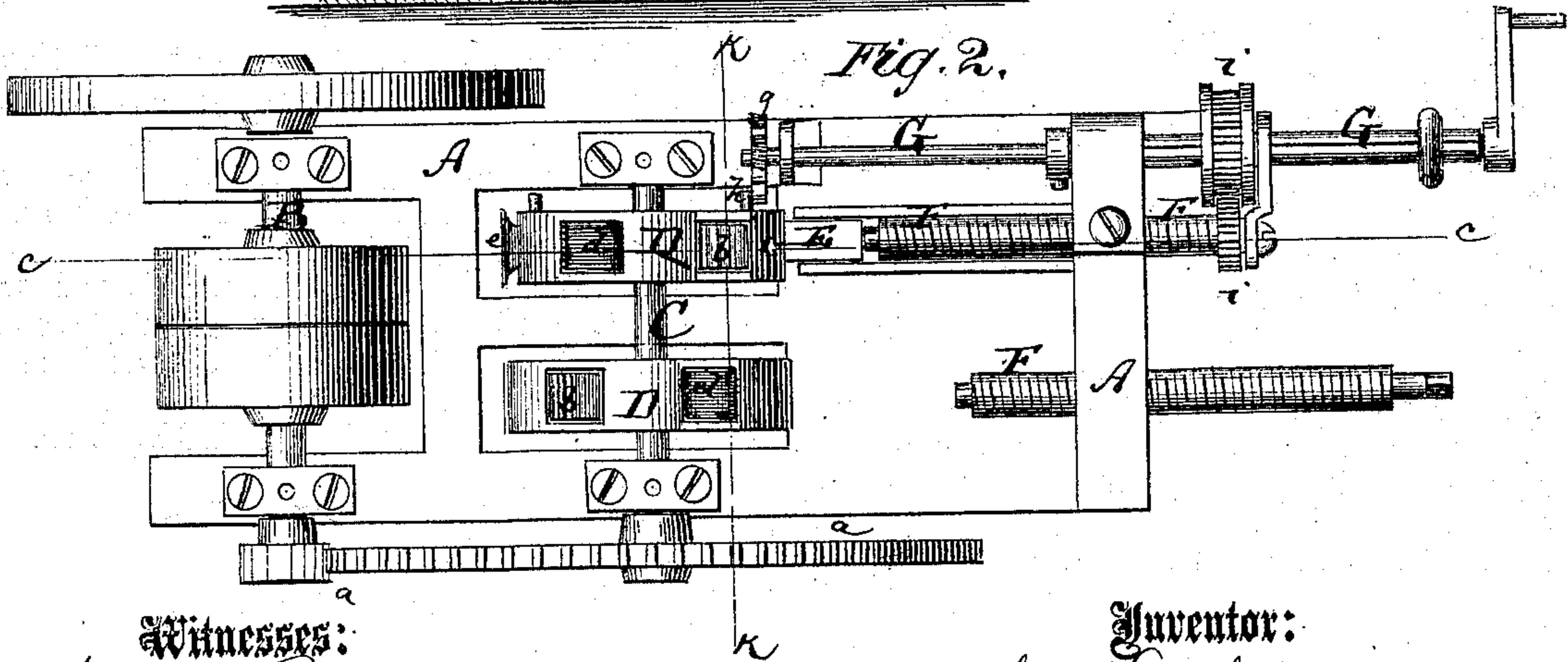


Fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES KOEHLER, OF EVANSVILLE, INDIANA, ASSIGNOR TO HIMSELF,
CHARLES BABCOCK, AND EDGAR SHARPE, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR CUTTING LEAD.

Specification forming part of Letters Patent No. 125,462, dated April 9, 1872.

Specification describing a new and Improved Machine for Cutting Lead, invented by CHARLES KOEHLER, of Evansville, in the county of Vanderburgh and State of Indiana.

Figure 1 represents a vertical longitudinal section of my improved lead-cutting machine, the line *c c*, Fig. 2, indicating the plane of section. Fig. 2 is a plan or top view of the same. Fig. 3 is a vertical transverse section of the same on the line *k k*, Fig. 2; and Fig. 4 is a detail perspective view of the chopping-knife.

Similar letters of reference indicate corresponding parts.

This invention relates to a new machine for cutting blocks of lead into cubic or other four-sided prismatic pieces to be used in the manufacture of shot, according to the plan for which Letters Patent No. 99,209 were granted to me on the 25th day of January, 1870, or on any other plan, or for cutting other material for suitable purpose. The invention consists, first, in the arrangement of rotary cutter-heads, carrying three kinds of cutting-tools—for ribbing horizontally, cutting vertically, and, finally, chopping or slicing the pieces from the end of a block of lead or equivalent material. The invention also consists in the combination of the above with an automatic feed device for moving the lead ahead whenever a series of cubes have been cut therefrom.

A in the drawing represents the frame of the machine, carrying the transverse horizontal driving-shaft B, to which rotary motion is imparted by suitable mechanism, and which, by gearing *a* or otherwise, causes the revolution of the cutter-shaft C. The latter has its bearings in the frame A, as shown. The shaft C carries one or more cutter-heads or disks D, two being shown in the drawing. Each cutter-head carries one or more sets of three kinds

of cutters, *b*, *d*, and *e*. The cutter *b* is a cylinder, provided with longitudinal cutting-ribs along its periphery, and hung at the ends in flanges of the head or disk B. The cutter *d* is a cylinder of equal diameter to *b*, but provided with parallel annular cutters, while *e* is a plain cutting-blade, fastened by projecting arms *f f* to the sides of the disk, and shown in Fig. 4. The piece E of lead or other material to be cut is fed against the edge of the disk D by a screw, F, which receives intermittent rotary motion by gearing-connection *i* from a shaft, G. The shaft G is provided with a star, *g*, at one end, which is struck by a pin, *h*, projecting from the side of the disk D whenever a set of cutters, *b d e*, has acted on the block E. Every such motion imparted to the shaft G is sufficient to turn the screw and feed the block E far enough forward to furnish material for action by the next set of knives. The cylinder B, when carried against the end of E, cuts the same horizontally at proper distances apart. The cylinder D, following, cuts it vertically, thus forming cubic projections at the end of E, which are finally cut or sliced off by the chopper *e*.

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

1. The combination, on one cutter-head, of the knives *b*, *d*, and *e*, substantially as herein shown and described.

2. The disk D, having the pin *h*, and arranged, in combination with the shaft G, star *g*, and feed-screw F, substantially as herein shown and described.

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