

No. 621,097.

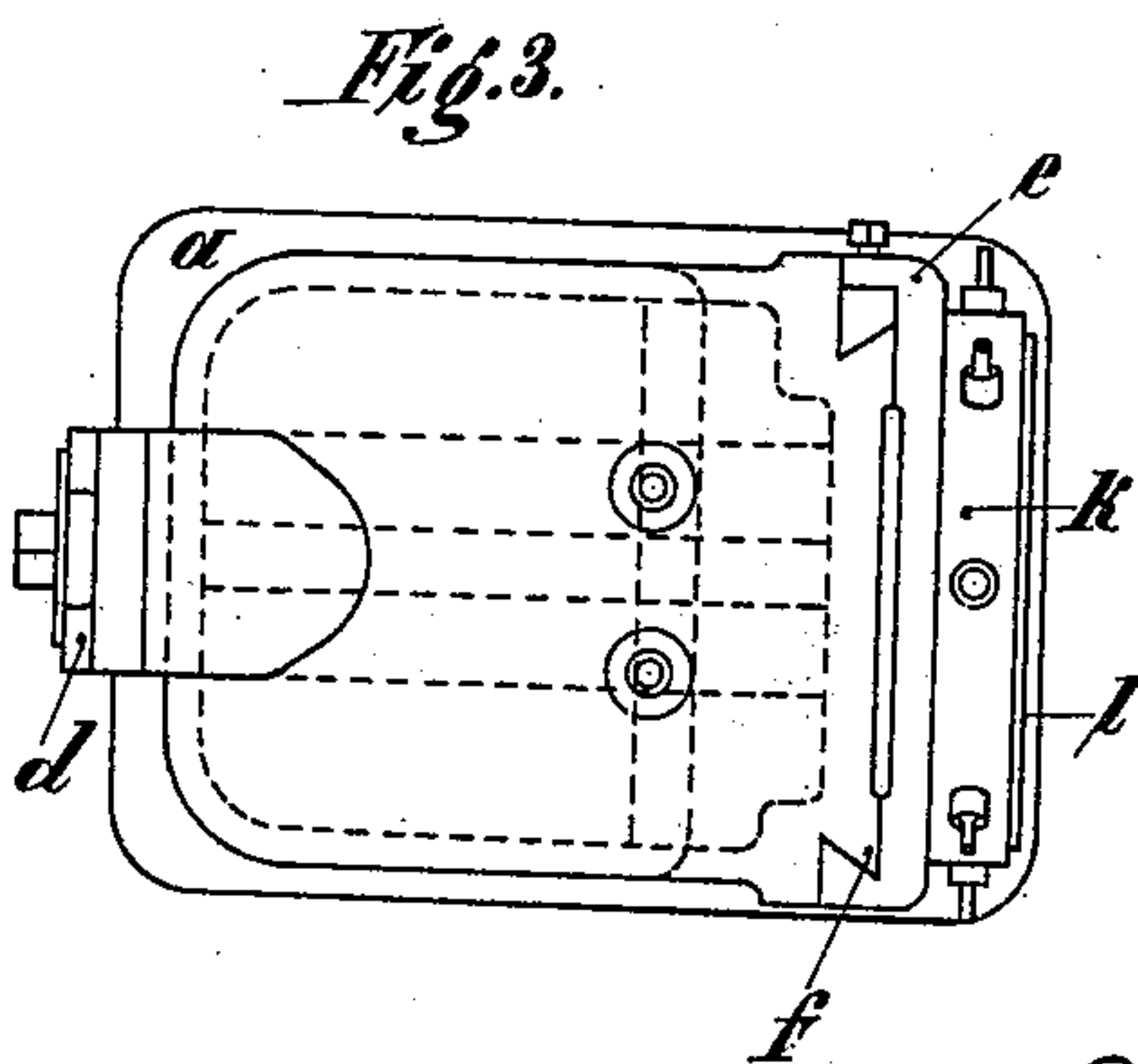
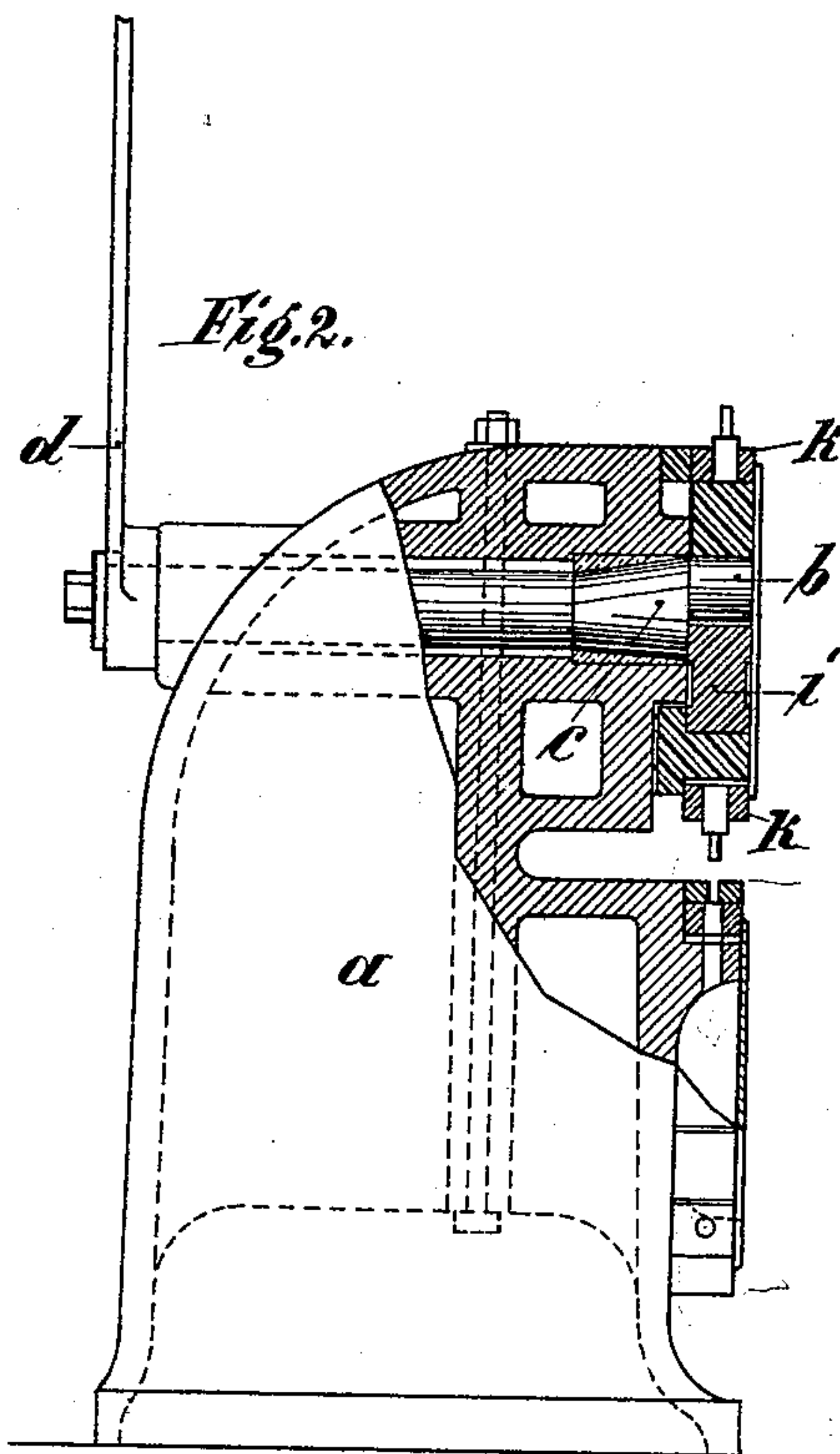
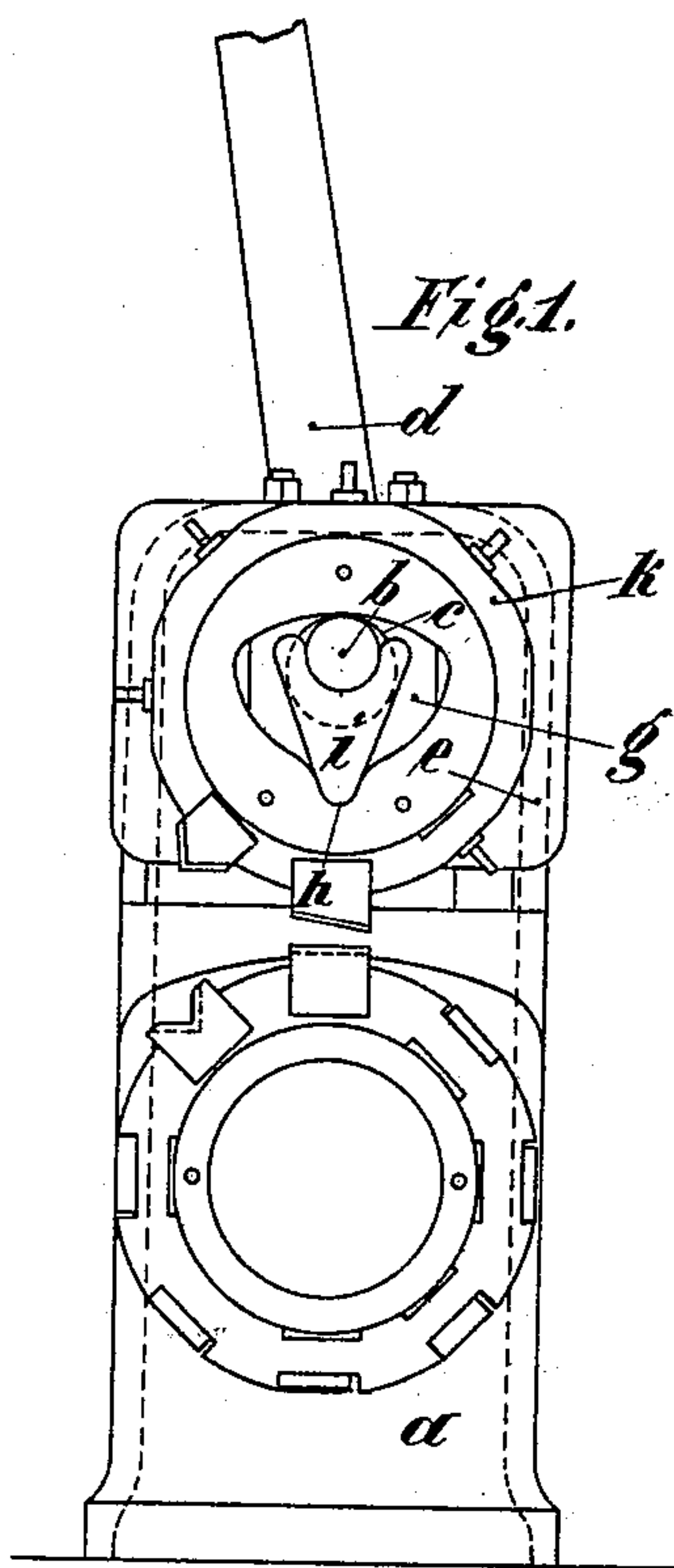
Patented Mar. 14, 1899.

J. KEIM.

MACHINE FOR PUNCHING, CUTTING, SHEARING, &c.

(Application filed May 16, 1898.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

JULIUS KEIM, OF WEISSENFELS, GERMANY.

MACHINE FOR PUNCHING, CUTTING, SHEARING, &c.

SPECIFICATION forming part of Letters Patent No. 621,097, dated March 14, 1899.

Application filed May 16, 1898. Serial No. 680,862. (No model.)

To all whom it may concern:

Be it known that I, JULIUS KEIM, manufacturer, a subject of the King of Prussia, Emperor of Germany, residing at Weissenfels, Prussia, German Empire, have invented certain new and useful Improvements in Machines for Punching, Cutting, Shearing, and the Like, of which the following is a full, clear, and exact description.

The present invention relates to a press in which the pressing-stamp has not merely a single tool or die, matrix, or the like, but by special construction of the head of the press any desirable number of tools entirely different in dimensions or in their operations may be introduced.

The invention is shown in the annexed drawings, in which—

Figure 1 is a front view of a press constructed according to this invention; Fig. 2, a part sectional side elevation, and Fig. 3 a plan of the same.

In the suitably-constructed machine-frame *a* the eccentric-shaft *c*, furnished with the eccentric *b* and the handle *d*, is seated. In place of the handle *d* a pulley of suitable dimensions may be employed equally well, or the whole driving apparatus may be entirely replaced by one of those hitherto in use and suitable for the purpose.

The press-head *e* of the machine is not massive in construction, as hitherto, but in its outward appearance more resembles a frame. It is furnished at the back, as ordinarily, with dovetails, which, exactly as in other apparatus of the kind, can be forced by means of screws and adjusting-blocks to slide properly and surely on the prismatic guide *f*. In the middle of the press-head *e* is an opening *g*, bounded by arcs of different radii and acting as a cam. In the lower slide of the opening *g* is a small semicircular groove *h*, which serves for guiding the pressure-block *i*. The eccentric *b*, in the present instance the press-driving pin, runs between the upper-limit curve of the opening *g* and the block *i*, and therefore raises the whole apparatus, while when the eccentric-pin descends the whole press-head is pressed down with the assistance of the pressure-piece *i*.

The revolving ring *k* is a characteristic feature of this press. It is exactly fitted onto

the part *l* of the press-head *e* and is rotatably movable thereon.

On the circumference of the revolving ring *k* is a suitable number of tools, which may be of different dimensions or of entirely different kinds. For example, a set of four, six, eight, or more hole-punches may be placed on the ring, these punches varying from each other in regular degrees, or angle-iron cutters, shears, punches, or other implements may be placed on the revolving ring in any desired order. The fixing of the ring to the piece *l* for the purpose of exact adjustment of the tools is effected in a suitable manner by means of a set-stud, a block, or in any other suitable way. The motion of the eccentric-shaft *c* or of the eccentric *b* is followed by that of the whole revolving ring, as well as that of the instrument which has been adjusted for cutting, the motion of the ring and head *e* being regularly up and down.

At a suitable distance below the revolving ring or the press-head a similar support to the one *l*, hereinbefore referred to for receiving the revolving ring, is fixed onto the machine-frame *a*. This support also carries a revolving ring, which can be fixed by means of blocks or any other suitable means, such ring conveying in the same graduation the matrices or counter implements corresponding to the punches or the like.

As will be seen from Fig. 1, the rings in the machine represented carry an angle-iron cutter, shears, and six perforating or hole punches. The tools can, as a matter of course, be put together in any desired manner, however different the driving apparatus for the machine may be and whatever may be the fitting out of the several parts without in any way affecting the scope of the invention.

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

1. In a machine for punching, cutting &c. the combination with a supporting-frame, of a vertically-movable head, a tool-holder carried by and adapted to be adjusted circumferentially upon said head, and a holder adapted for annular adjustment and also adapted to carry devices for cooperating with the tools carried by the first holder.

2. In a machine for punching, cutting, &c. the combination with a supporting-frame, of

a vertically-movable head having an annular supporting portion, a ring-shaped tool-holder mounted and adapted for circumferential adjustment upon said annular supporting portion, and a ring-shaped holder adapted for annular adjustment and also adapted to carry devices for cooperating with the tools carried by the first holder.

3. In a machine for punching, cutting &c. the combination with a supporting-frame, of a horizontally-arranged shaft mounted in an opening in the frame, an eccentric-pin on one end of the shaft, a vertically-movable head carried by the frame, a tool-holder carried by

and circumferentially adjustable upon said head, and having a slot through which the eccentric-pin projects and bears upon the upper wall of the slot, the opposite wall of the latter being provided with a groove, and a piece having one end bearing in said groove and shaped at the opposite end to form a bearing for the eccentric-pin.

In witness whereof I subscribe my signature in presence of two witnesses.

JULIUS KEIM.

Witnesses:

RUDOLPH FRICKE,
OSWALD HÖRMER.