

No. 672,873.

Patented Apr. 23, 1901.

R. F. SEMPLE.
PINTLE FORMING DIE.

(Application filed Nov. 13, 1899.)

(No Model.)

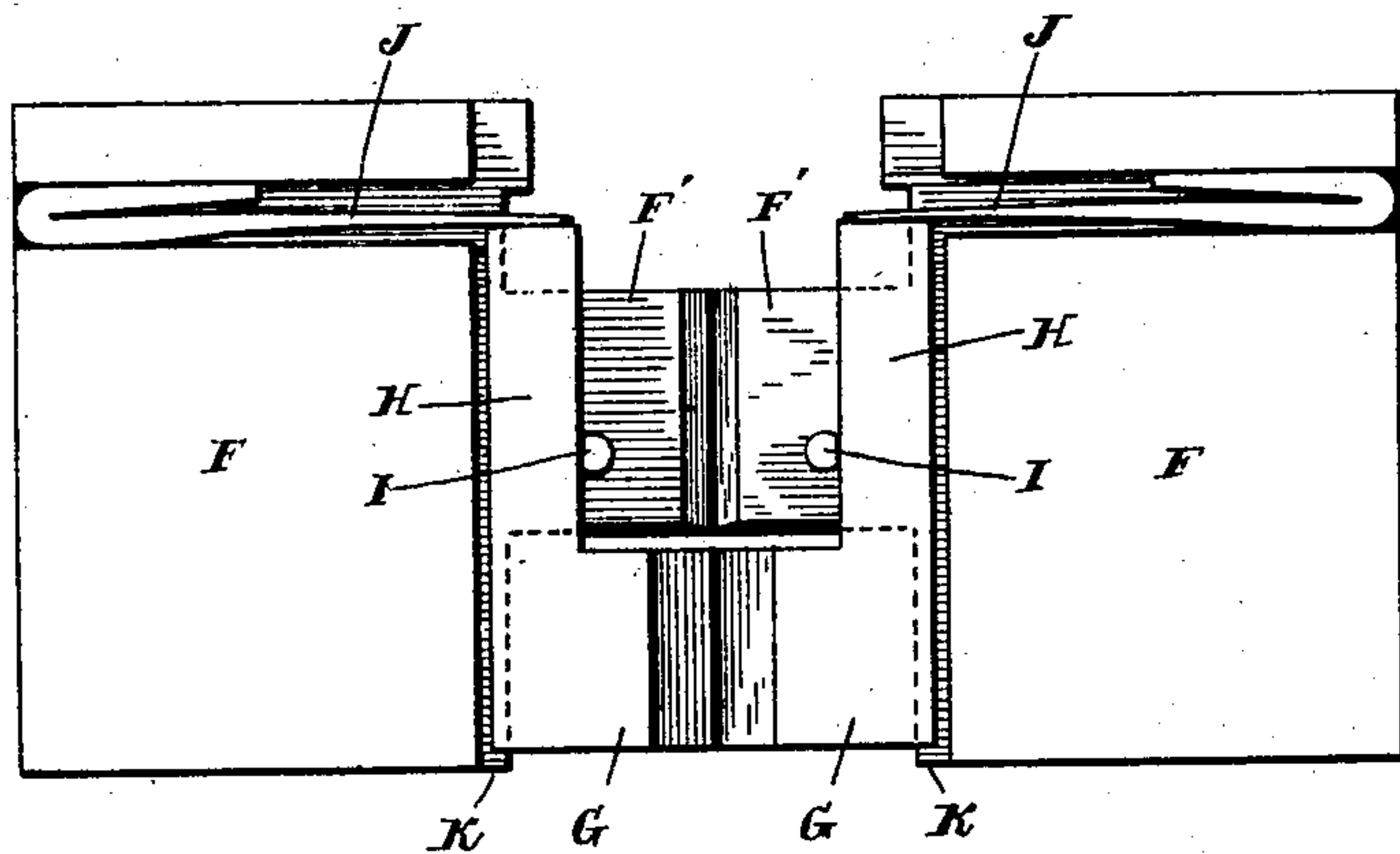


Fig. 1.

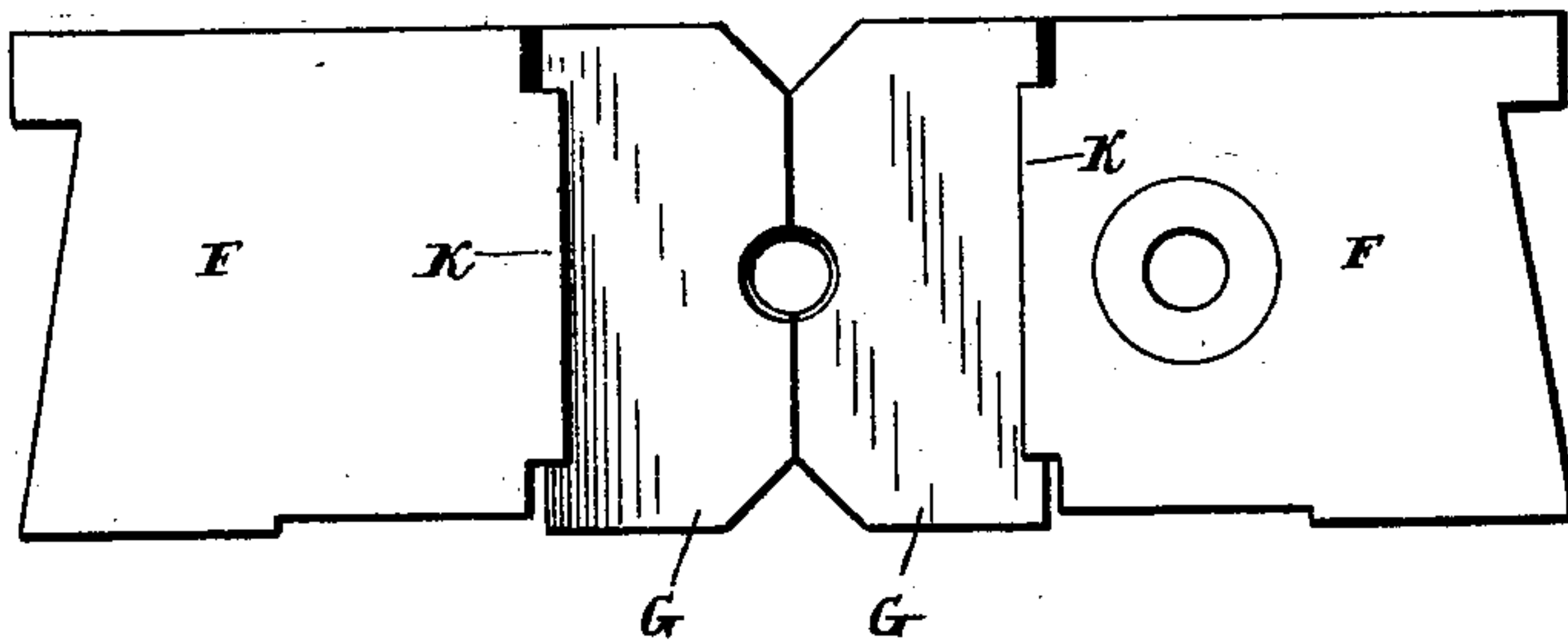


Fig. 2.

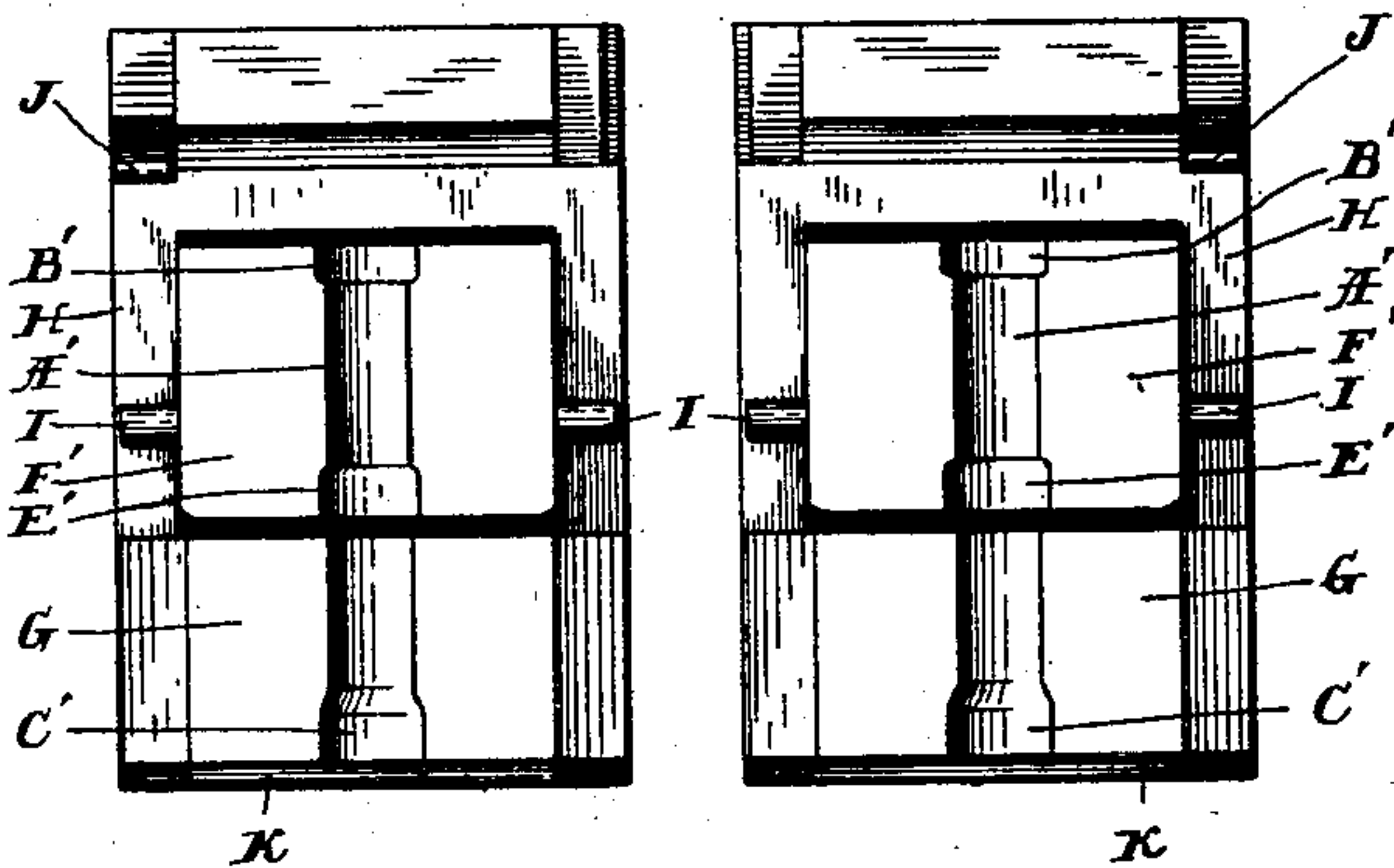


Fig. 3.

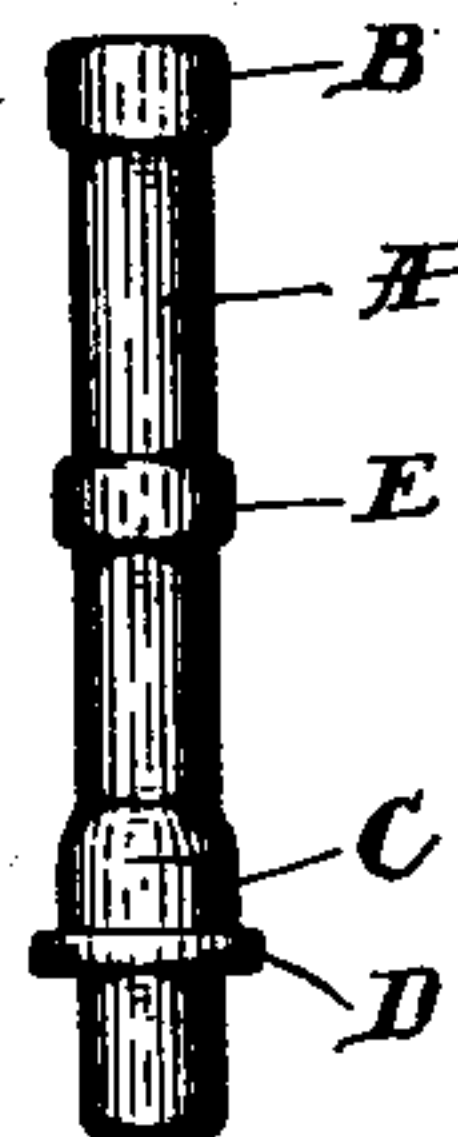


Fig. 4.

WITNESSES:

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ROBERT F. SEMPLE, OF GRAND RAPIDS, MICHIGAN.

PINTLE-FORMING DIE.

SPECIFICATION forming part of Letters Patent No. 672,873, dated April 23, 1901.

Application filed November 13, 1899. Serial No. 736,754. (No model.)

To all whom it may concern:

Be it known that I, ROBERT F. SEMPLE, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Caster-Pintle Dies; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in dies for forming pintles for furniture-casters; and its object is to provide the same with certain new and useful features hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of dies embodying my invention; Fig. 2, an end elevation of the same; Fig. 3, a plan of the adjacent sides of the dies, and Fig. 4 a detail of the pintle formed by my improved dies.

Like letters refer to like parts in all of the figures.

A represents the body of the pintle, which is of the size of the rod from which it is formed.

B is the enlargement at the upper end, C the enlargement at the lower end, and D the flange, these enlargements and flange being usually formed by means of solid dies.

E is an enlargement near the middle of the pintle, for the formation of which my device is especially adapted.

F F are the main or body portions of the dies adapted to be used in a pintle-machine of the usual construction, which machine is not shown herein, as it forms no part of my invention.

The dies consist of the blocks F F, adapted to be secured in the usual manner in the usual pintle-forming machine. The adjacent parts of the dies are divided into relatively-fixed parts F' F', integral with the blocks F F, and the relatively movable parts G G, mounted on ways K K on the blocks F F and slidable thereon. The parts G G of the dies are also provided with loops H, embracing the parts F' F', and are slidably held in place by pins I, engaging the said loops and passing through the parts F' F'. The adjacent faces of these parts F' F' and G G of the dies are suitably channeled at A' to closely engage the body A

of the pintle and prevent its lateral expansion and also provided with end enlargements B' and C' of the channels, the same as the usual solid dies, to form the end enlargements B and C on the pintle and also with an intermediate enlargement E', adjacent to the division between the parts F and G to form the middle enlargement E on the pintle. Springs J, embedded in the blocks F, engage the loops H and tend to separate the parts F' F' and G G a suitable distance.

Operating in conjunction with these dies, it is to be understood, is the usual mechanism to cut off the sections of rod, place the same in the dies, operate the dies, and apply end pressure to the section of rod sufficient to upset and expand the same to fill the enlargements B' C' E' and form the flange D. The peculiar feature of the operation of my device is that as such pressure is applied the respective parts F' F' and G G of the dies, while firmly gripping the body of the pintle, will approach each other and upset the middle portion of the pintle, and thus form the enlargement E by expanding the metal of the pintle.

The loops H serve to limit the movement of the parts G to just sufficient to properly upset the middle portion of the pintle and form the enlargement E. They also, in conjunction with the pins I, serve as ways or guides to determine such movement and also to detachably connect the parts G and F' of the dies.

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

1. In combination with dies having relatively fixed and movable parts having channels to receive and grip a rod, and enlargements in the channels to form an enlargement in the rod by the approach of the said relatively fixed and movable parts, loops on the movable parts surrounding the fixed parts, and limiting the movement of the movable parts, and pins slidably engaging the loops, substantially as described.

2. In pintle-forming dies, blocks having integral portions and ways, relatively movable portions mounted on the ways and having loops engaging the sides of the integral portion pins to retain the same in place, springs

engaging the loops to separate said portions,
channels in the adjacent faces of the integral
and movable portions, said channels having
enlargements to form enlargements on each
5 end of said pintle, and also having enlarge-
ments to form an enlargement near the mid-
dle of said pintle, substantially as described.

In testimony whereof I affix my signature
in presence of two witnesses.

ROBERT F. SEMPLE.

Witnesses:

LUTHER V. MOULTON,
FRANK A. STONE.