

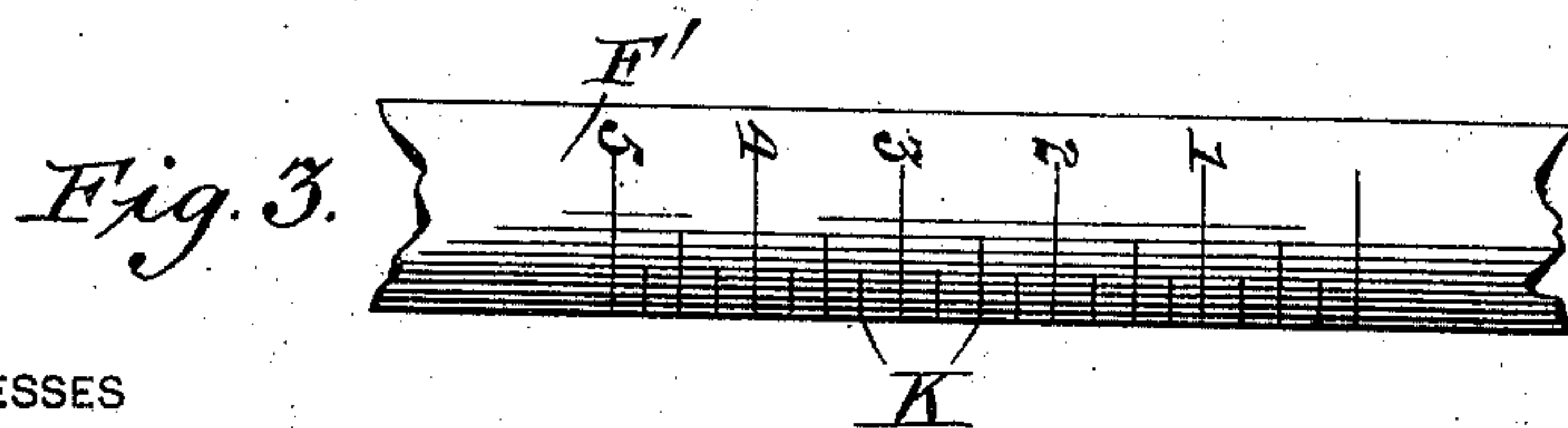
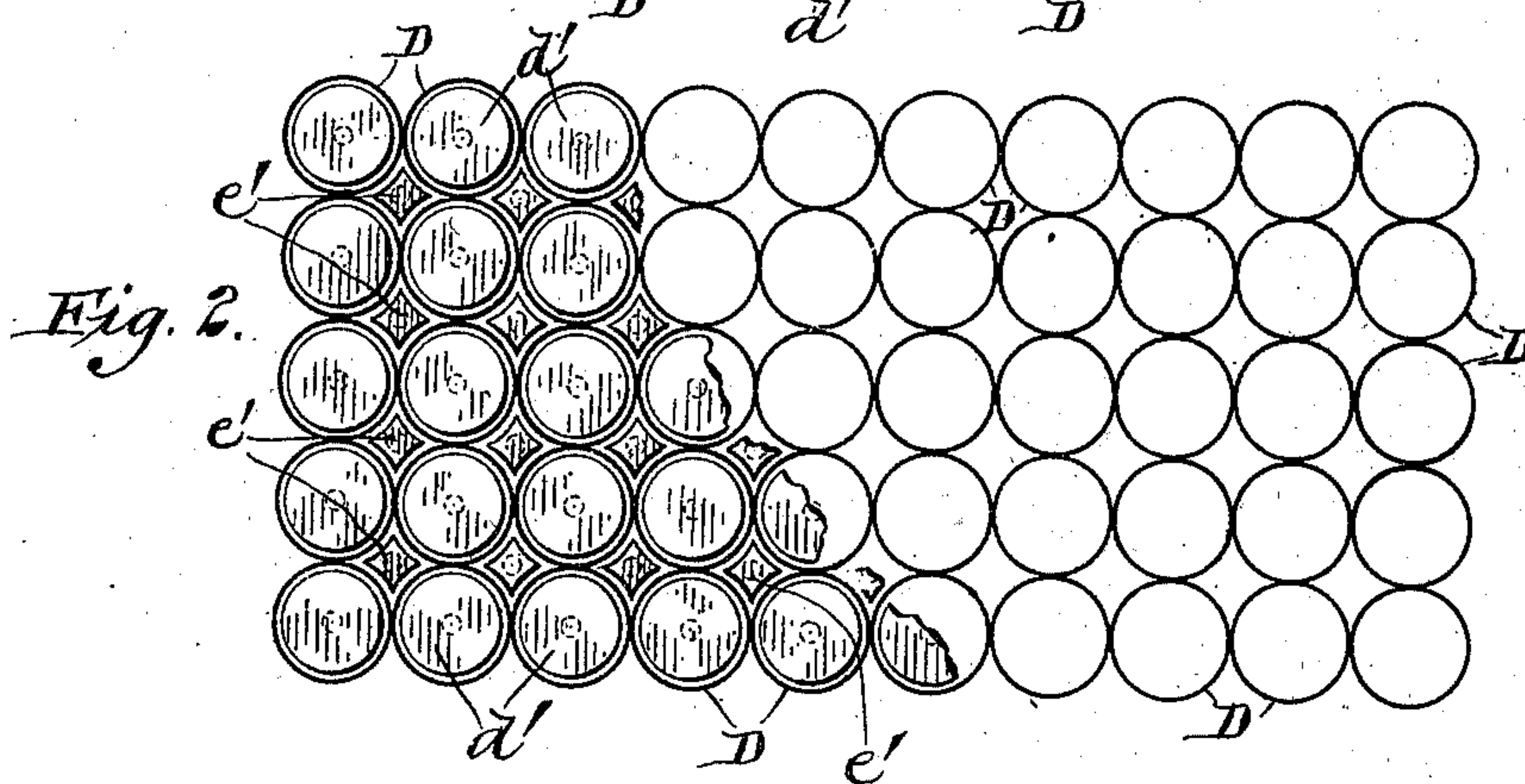
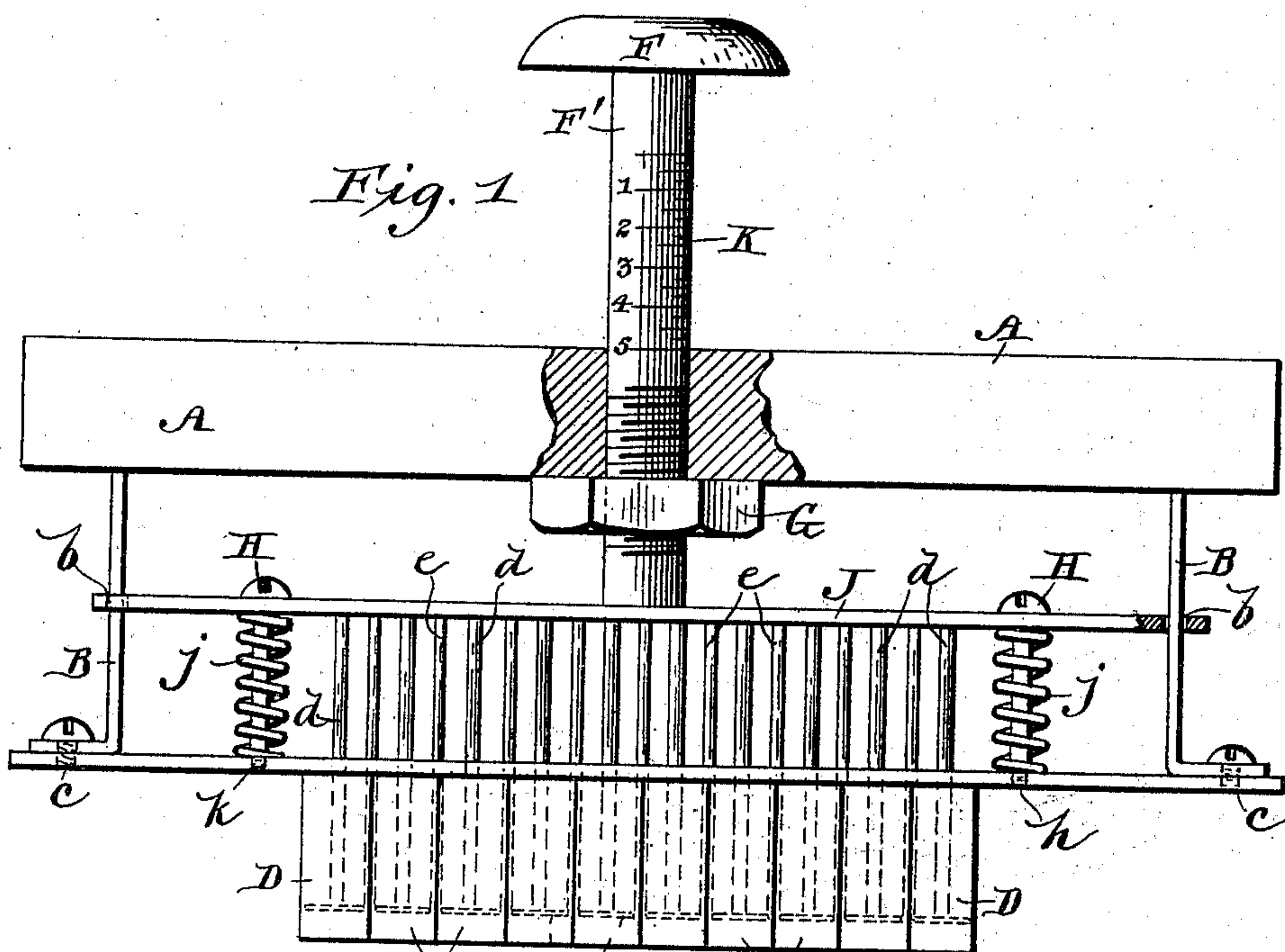
No. 625,636.

Patented May 23, 1899.

H. BASS & J. M. WELCH.
TABLET MACHINE.

(Application filed July 15, 1898.)

(No Model.)



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TABLET-MACHINE.

SPECIFICATION forming part of Letters Patent No. 625,636, dated May 23, 1899.

Application filed July 15, 1898. Serial No. 686,071. (No model.)

To all whom it may concern:

Be it known that we, HENRY BASS and JAMES M. WELCH, citizens of the United States, residing at Oshkosh, in the county of Winnebago and State of Wisconsin, have invented new and useful Improvements in Tablet-Machines, of which the following is a specification.

Our invention relates to improvements in tablet-machines, and especially to machines for making non-compressed tablets as distinguished from those formed by means of pressure.

It consists in a pressure-frame formed of a pressure-plate and a cutter-plate suitably secured together, cutters mounted upon the cutter-plate and a plunger-plate mounted in and moving upon the said pressure-frame, plungers carried by the said plate for ejecting the material cut by the cutters, and means for operating the said plunger-plate in the pressure-frame.

It also consists in a tablet-cutting machine comprising a pressure-frame, cutters secured upon the said frame, a plunger-plate movably mounted in the said pressure-frame, plungers working in the cutters and secured to the said plunger-plate, and an operating-handle secured to the plunger-plate and extending through the upper bar of the pressure-frame, the said operating-handle having a gage marked thereon, and a gage-nut also engaging the said handle for regulating the position of the plungers according to the gage-marks.

It also consists in certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter more fully described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 represents a side elevation of our improved tablet-cutting machine. Fig. 2 represents a bottom plan view of the cutters, some of the plungers being shown in place; and Fig. 3 represents an enlarged detail view of the operating-handle with the graduated gage marked thereon.

A in the drawings represents a pressure-bar forming the top of a pressure-frame, of which B B are the side posts connecting the said pressure-bar A with the bottom or cutter plate C. A series of cutters, as D D, are secured to the under side of the cutter-plate C, the said cutters being cylindrical in shape and

having their sharp or cutting edges at the lower ends. Any desired number of cutters may be arranged upon the cutter-plate, so that a large or small number of tablets may be produced at one operation.

Mounted in the pressure-frame is a plunger-plate, as J, the said plate having guide-passages *b* formed in its ends, which surround and slide upon the end posts B B of the pressure-frame. A series of piston-rods, as *d d*, are secured upon the under side of the plunger-plate J, the lower free ends of the said piston-rods extending into the cylindrical cutters D D. Suitable pistons or plungers, as *d' d'*, are secured upon the lower ends of the piston-rods *d d*, the said plungers being sufficiently large to expel all material entering the cutters. In order to eject the waste, which is necessarily left between the cutters, I employ another set of piston-rods, as *e e*, also secured to the said plunger-plate J. The piston-rods *e e* extend through the cutter C and into the spaces between the cutters D D. These piston-rods are also provided with pistons or plungers, as *e' e'*, which are made of the same general contour as that of the spaces between the cutters. The upward movement of the plunger-plate J is limited by means of the bolts or rods H H. The bolts are preferably screwed into the cutter-plate C at their lower ends and extend through suitable openings formed in the plunger-plate J, the heads of the said bolts limiting the movement of the latter plate. By this means the bolts are removably secured in place, so that the parts may be separated when desired. For this purpose also the cutter-plate C is attached to the posts B B by means of screws, as *c c*, the cutter-plate thus being capable of removal when it is desired to take the machine apart. In order to hold the plunger-plate normally in its proper position, springs, as *j j*, are interposed between the cutter-plate and the plunger-plate, being preferably coiled about the bolts H H.

An important feature of our invention consists in an operating-handle and a gage placed thereon, whereby the depths of the plungers in the cutters may be indicated with exactness and an adjusting-nut upon said handle by which the position of the plungers may be regulated in accordance with the gage for pro-

ducing tablets of a desired size. The operating-handle comprises a stem, as F', and a hand-engaging knob, as F. The stem F' extends through a guide-bearing formed in the pressure-bar A and is rigidly secured at its lower end to the plunger-plate J. The lower portion of the stem is screw-threaded and carries a gage-nut G, which regulates the height to which the stem rises. Upon the upper portion of the same a graduated gage or scale K is formed, the said scale extending above the pressure-bar A, so that when taken in connection with the upper surface of the said bar it will indicate the size of tablet to be cut. The gage-nut G can be easily turned by hand upon the stem F', so as to bring the proper graduated mark of the scale to the upper surface of the pressure-bar.

In using the machine the gage-nut is set so as to place the plungers in the cutters for a certain size of tablet, when it is ready for the cutting operation. The material from which the tablets are to be cut is rolled into a cake of approximately the right thickness. The pressure-frame is then lifted and the cutters brought to bear upon the cake and pressed downwardly, so as to cut the tablets from the said cake. The pressure-frame is then lifted and the operating-handle of the plunger-plate is forced downwardly, whereby the plungers *d'* in the cutters and the plungers *e'* between them will simultaneously force the tablets and the waste material from the cutters. When the handle is released, the springs *j, j* will return the plungers to their former positions.

It will be noted that our improved tablet-cutting machine is particularly well adapted for its purpose, especially in the arrangement of the movable plunger-plate within the pressure-frame, so that it is guided in its movement therein and is held in correct position thereby. The use of a gage also prevents the necessity of examining the plungers and ascertaining their precise depth by means of some measuring instrument in order to obtain tablets of proper size.

Having now described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A tablet-cutting machine comprising a pressure-frame formed of a pressure-bar and a cutter-plate suitably secured together, cutters mounted upon the cutter-plate and a plunger-plate mounted in and moving upon the said pressure-frame, plungers carried by

the latter plate for ejecting the material cut by the cutters, and means for operating said plunger-plate in the pressure-frame, substantially as described.

2. A tablet-cutting machine comprising a pressure-frame, cutters secured upon said frame, a plunger-plate movably mounted in the said pressure-frame, plungers working in the cutters and secured to the said plunger-plate and an operating-handle secured to the plunger-plate and extending through the upper bar of the pressure-frame, the said operating-handle having a gage marked thereon for indicating the positions of the plungers in the cutters and a gage-nut also engaging the said handle for regulating the position of the plungers according to the gage-marks, substantially as described.

3. A tablet-cutting machine comprising a pressure-frame consisting of a pressure-bar, a cutter-plate and connecting-posts, cutters carried by the cutter-plate, a plunger-plate movably mounted in the said pressure-frame and having guide-apertures formed therein for engaging the connecting-posts of the pressure-frame whereby the said plate is guided in its movement within the pressure-frame and is held accurately in position, plungers carried by the plunger-plate and means for operating the said plunger-plate, substantially as described.

4. A tablet-machine comprising a pressure-frame, cutters secured thereto, a plunger-plate movably mounted in said pressure-frame, means for guiding it in its movement, plungers secured to the said plate and extending into and between the said cutters, bolts limiting the movement of the plunger-plate springs interposed between the said plate and the cutter-plate for normally holding them apart and an operating-handle secured to the said plunger-plate and extending through the pressure-bar for moving the plunger-plate in the said frame whereby all the material cut by the said cutters may be ejected therefrom, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

HENRY BASS.
JAMES M. WELCH.

Witnesses:
F. J. MCKENNEY,
W. H. WYMAN.