

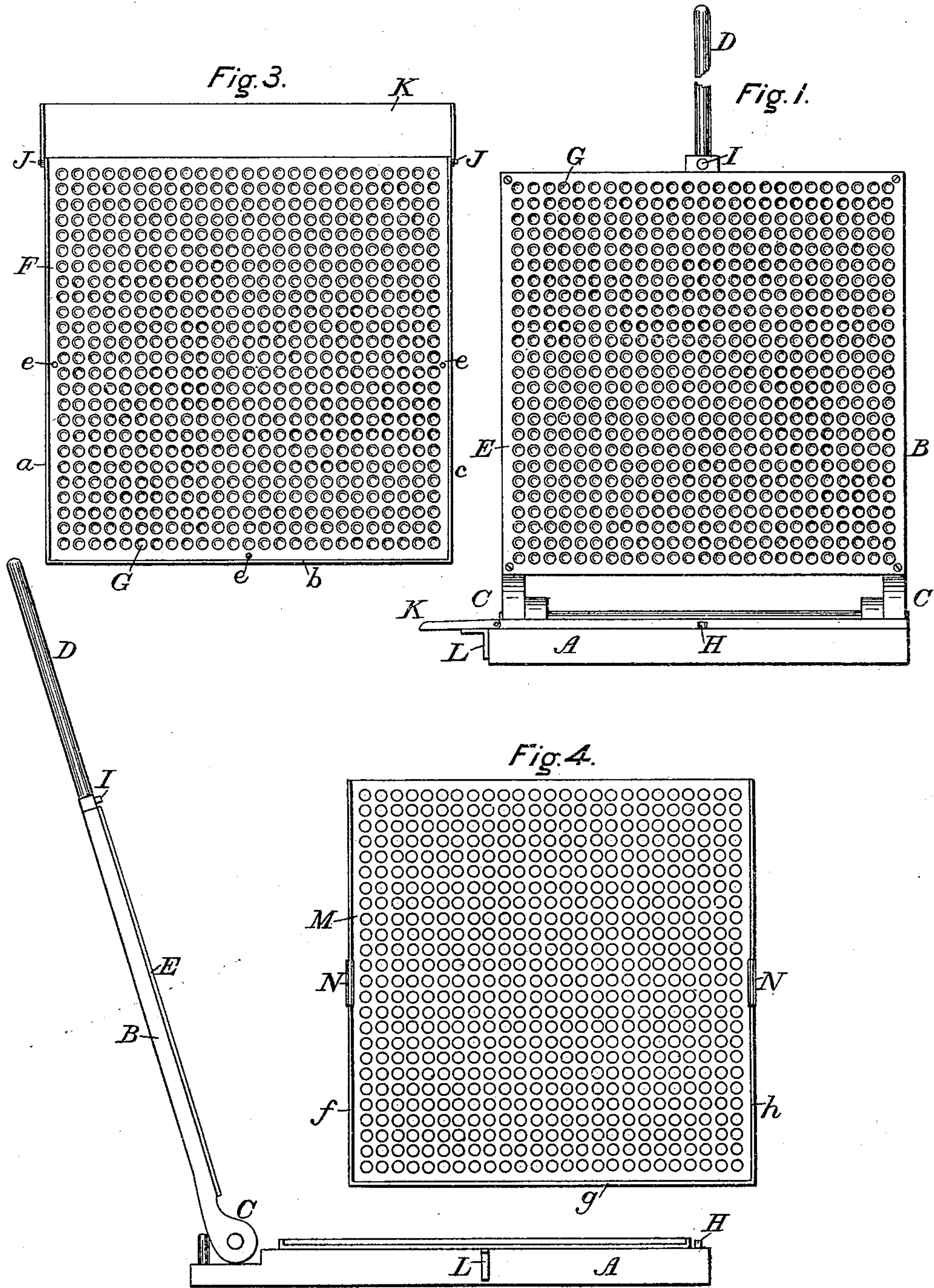
(No Model.)

T. DANIELS.

PROCESS OF AND APPARATUS FOR THE MANUFACTURE OF TABLETS.

No. 495,962.

Patented Apr. 25, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

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PROCESS OF AND APPARATUS FOR THE MANUFACTURE OF TABLETS.

SPECIFICATION forming part of Letters Patent No. 495,962, dated April 25, 1893.

Application filed November 17, 1892. Serial No. 452,260. (No model.)

To all whom it may concern:

Be it known that I, THOMAS DANIELS, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Process of and Apparatus for the Manufacture of Tablets, of which the following is a specification.

My invention relates to improvements in the process of and apparatus for the manufacture of medicated tablets; and the object of my improvements are, first, to provide a process by which the manufacturer will be able to produce compressed tablets in better form than those heretofore made; and second, to provide a machine by which they can be manufactured in large quantities more rapidly and expeditiously than by the machines now in common use. I attain these objects by the mechanism illustrated in the accompanying drawings which form a part of this specification and in which,

Figure 1 is a front elevation of the machine. Fig. 2 is a side elevation of the same. Fig. 3 is a plan view of one of the forming plates for the compressed tablets; and Fig. 4 is a plan view of a perforated diaphragm or plate to be used for locating the tablets on the bed plate of the machine.

The same letters refer to identical parts throughout the several views.

A is a cast iron base about fourteen inches square, more or less, and of any desired thickness; to which a corresponding plate B, is attached by means of hinges C. A lever D is attached to the plate B, for raising and lowering the same and for compressing the tablets. To the faces of the cast iron plates, A and B, are attached plates F and E, respectively, which may be made of brass or any suitable material. The plate E may be fastened to the upper cast iron plate B by screws or any suitable means. The plate F is flanged on three sides, *a*, *b*, and *c*, and is movable; and it may be held in operative position on the cast iron base A by means of two or more pins on said base which register with corresponding holes, *e*, on the plate F. In the plates E and F, are numerous indentations, *G*, of about one half an inch, more or less, in diameter, and about one thirty second of an inch in depth in the center, and are rounded

into an oval form in vertical section. The indentations in the two plates exactly register with each other when they are brought together in operating the device. When the two plates E and F are in position, on their respective bases, B and A, and the upper plate is lowered into operative position, the faces of the plates are about three sixteenths of an inch apart, and are held in that position by means of stops or lugs H and I on the bases A and B respectively. The plates at this distance apart are adapted to compress the largest tablets which the machine is capable of producing. If smaller sizes are desired the movable plate F is raised to the desired height by means of card board, or similar material, placed underneath said plate; and it is obvious that compressed tablets of any desired thickness can be made by so regulating the distance between the two plates between which they are compressed.

To the movable plate F, is attached, by means of pivots J, a thin piece of brass, K, flanged at its ends, to correspond with the flanges on the plate F. This may be raised or lowered as required, and serves as an apron to convey the compressed tablets from their position upon the movable plate F, and for another purpose hereinafter to be mentioned. The apron K, when the plate F is in position on the base A, is held at a slight incline by means of a bracket L, projecting from the base A.

M is a diaphragm plate of wood or other suitable material with raised edges *f*, *g* and *h*, and projections N to serve as handles. This plate is of a size to fit within the flanges *a*, *b*, *c* of the plate F, and is perforated with holes corresponding in number to the indentations G in the plates E and F and registering therewith. For each machine three or more of these diaphragm plates are provided, corresponding in thickness, and size of perforations to the size of the compressed tablets required to be made.

The operation of the machine, and the process of forming the compressed tablets, may be stated as follows:—The upper plate B is thrown up, the movable plate F is placed on its base A, and the diaphragm plate is placed on the plate F. A quantity of soft, freshly

made pills, gelatine coated or otherwise, preferably made by the machine described in Letters Patent No. 236,214, granted to me January 4, 1881, is then placed upon the perforated plate. The pills are of such a size that but one pill can go into each hole. A few strokes of a brush will quickly fill the holes and the surplus pills can then be brushed off into a suitable receptacle placed underneath the apron K. The perforated plate is then removed, leaving one pill in the center of each of the indentations G on the plate F. The upper plate E is then brought down by means of lever D, and pressed down with sufficient force to compress the pills into the form of tablets. When sufficiently compressed the tablets are brushed off over the apron K into any suitable receptacle. It is obvious that, the number of holes in the perforated plate being known, the tablets are easily and accurately counted by that means.

The advantages gained by the employment of my process and the use of my machine are, first, great ease and rapidity of manipulation; and, second, the form of the tablets when finished is much more symmetrical than when they are molded by the old processes. Each tablet presents a smooth, rounded edge and is devoid of the harsh, sharp outlines which characterize the molded tablet. This is particularly true of the tablets which are coated with gelatine, although those made from the plastic, uncoated pill are equally symmetrical and are in every way preferable to the molded tablet.

I do not confine myself to the details of construction herein set forth, for it is obvious that many variations may be made in the construction of the apparatus without departing from the spirit of my invention.

Having now fully described my invention,

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

1. In a compressed tablet forming machine, the combination of the lower plate with its indentations, with the perforated plate and the corresponding upper plate with its indentations, substantially as and for the purpose set forth.

2. In a compressed tablet forming machine the combination of the lower plate with its indentations, with the upper plate with corresponding indentations and means for operating the same, the apron and means for holding the same in operative position as and for the purpose set forth.

3. In a compressed tablet forming machine the combination of the cast iron base, the cast iron upper plate with its lever attachment, the plates with their indentations, and means for adjusting said plates to tablets of different sizes, substantially as and for the purpose described.

4. The process of making compressed tablets which consists in, first, forming the mass into spherical shape, and, second, compressing the same into the desired form, substantially as and for the purpose set forth.

5. The process of making compressed tablets which consists in first forming the mass into spherical form, second, coating the same with gelatine or other suitable flexible material, and, third, compressing the same into tablet form, substantially as and for the purpose described.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses, this 14th day of November, 1892.

THOMAS DANIELS.

Witnesses:

O. B. SNIDER,
J. M. GLOYD.