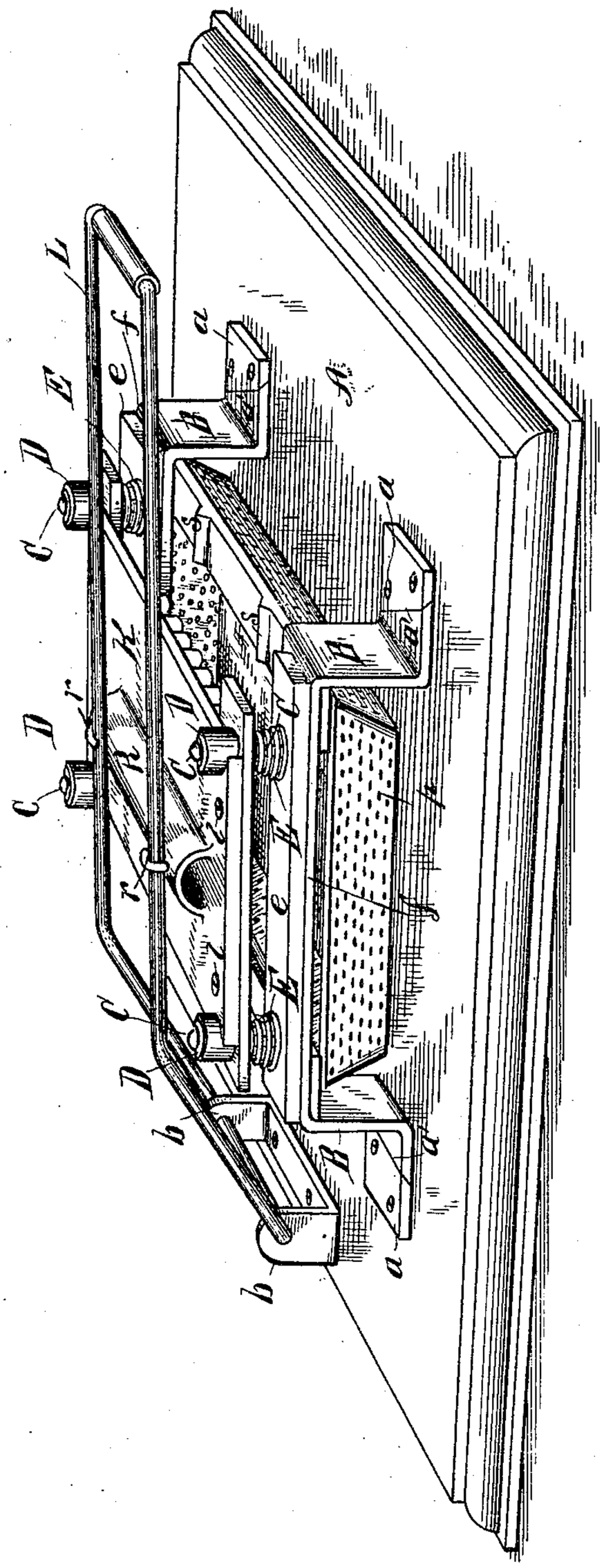
(No Model.) 2 Sheets—Sheet 1.

J. J. MITCHELL.

MACHINE FOR MAKING TABLETS FOR MEDICINAL PURPOSES.

No. 500,594. Patented July 4, 1893.

Fig. 1.



WITNESSES
W. B. Bradford
F. Clough.

INVENTOR
John J. Mitchell
by Parker & Burton
Attorneys.

(No Model.) 2 Sheets—Sheet 2.

J. J. MITCHELL.

MACHINE FOR MAKING TABLETS FOR MEDICINAL PURPOSES.

No. 500,594. Patented July 4, 1893.

Fig. 2.

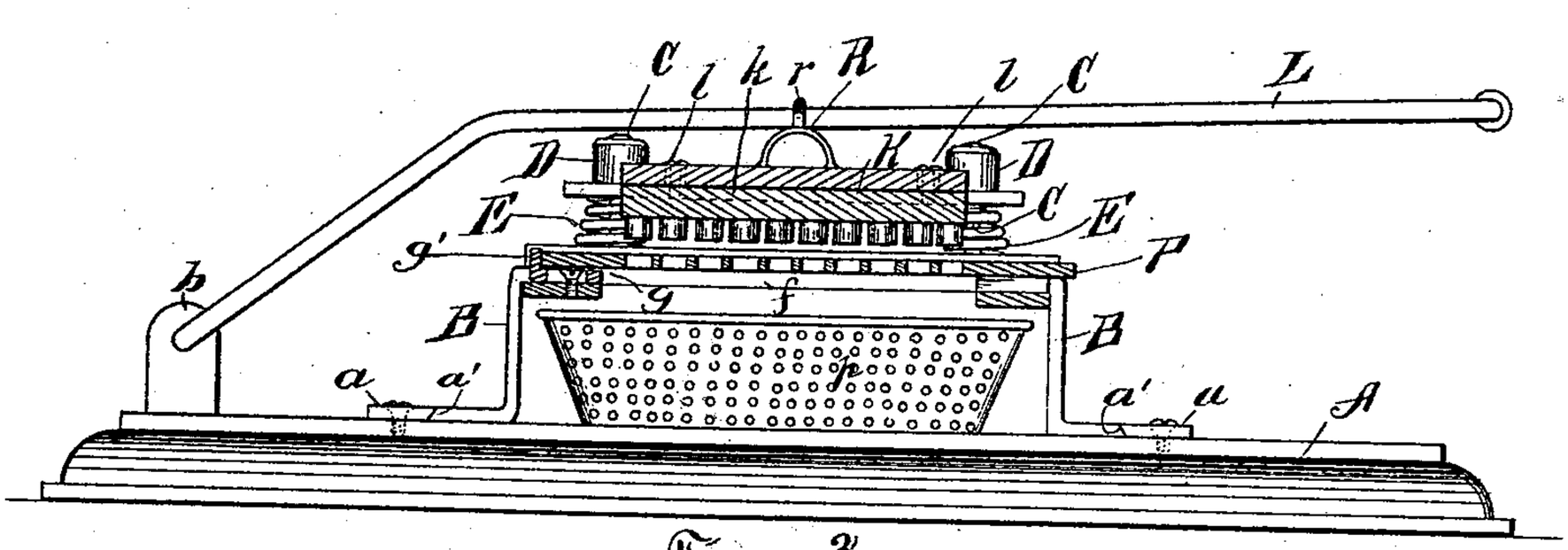
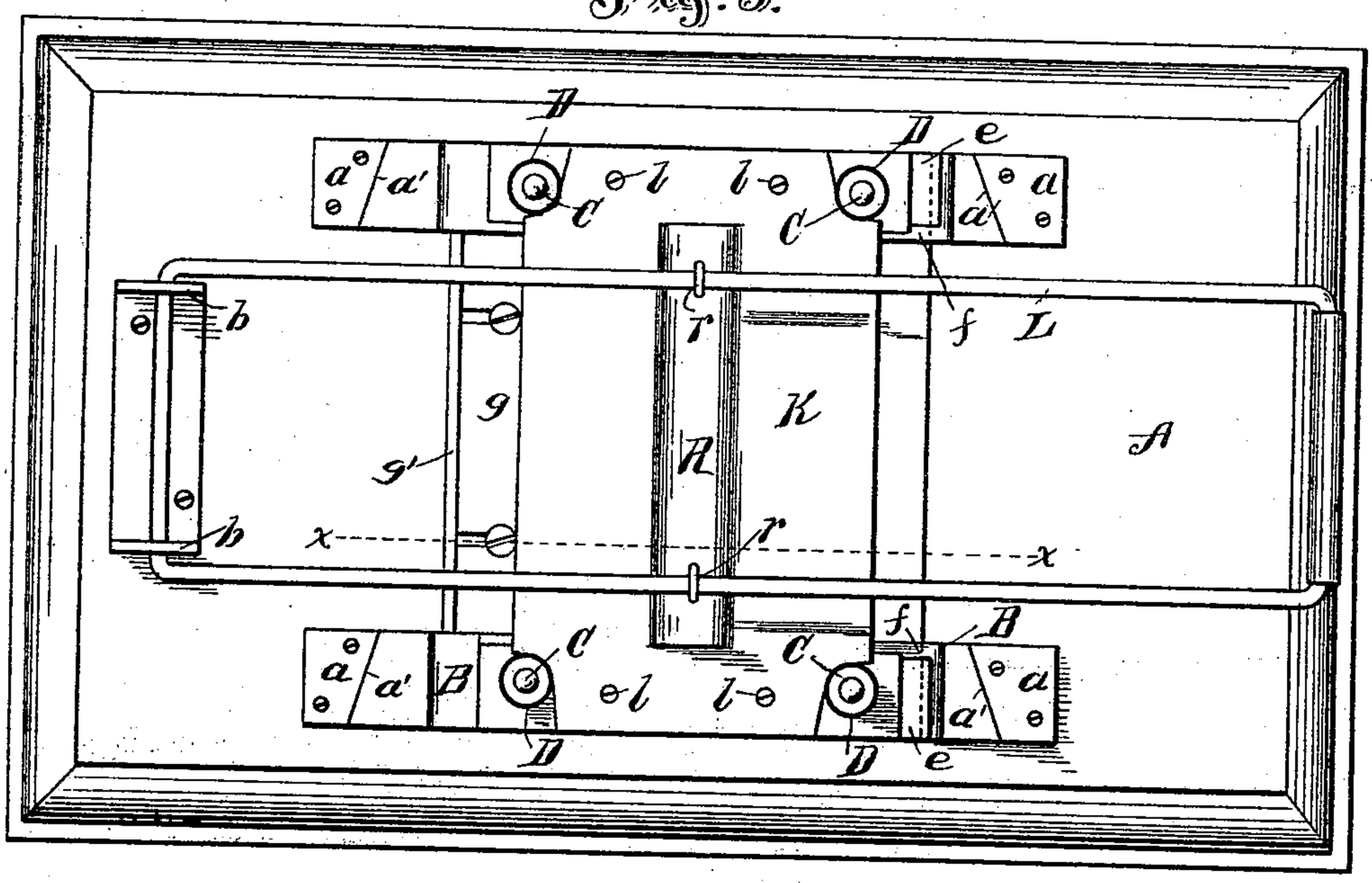


Fig. 3.



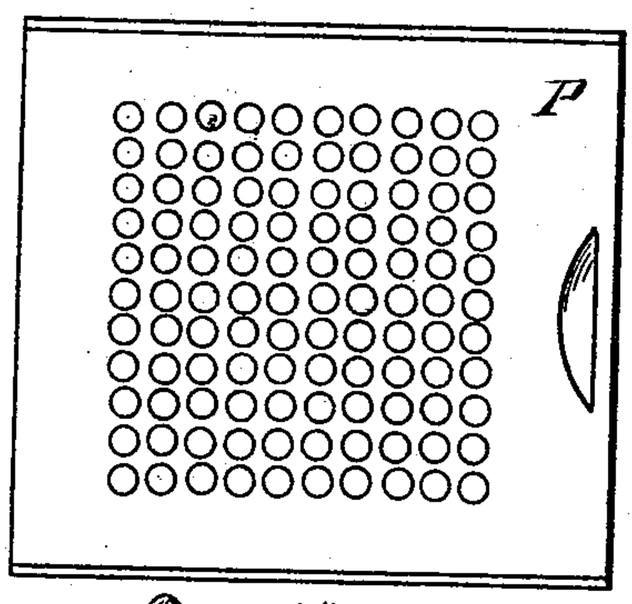


Fig. 4.

WITNESSES
W. W. Bradford
F. Clough.

INVENTOR
John J. Mitchell
by Parker & Burton
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN J. MITCHELL, OF DETROIT, MICHIGAN.

MACHINE FOR MAKING TABLETS FOR MEDICINAL PURPOSES.

SPECIFICATION forming part of Letters Patent No. 500,594, dated July 4, 1893.

Application filed September 16, 1892. Serial No. 446,056. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. MITCHELL, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Machines for Making Tablets for Medicinal Purposes; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to the manufacture of sugar tablets for medicinal purposes, and has for its object an improvement in machines for manufacturing small, round tablets of sugar of milk, such as are commonly used by physicians as a menstrum for absorbing and carrying homeopathic drugs, tinctures and dilutions of tinctures. It is often found desirable to employ these round, flat tablets, in place of the round sugar pill, or dry powders that have heretofore been largely used.

My invention is embodied in the machine shown in the accompanying drawings and hereinafter described.

Figure 1 is a perspective of the machine. Fig. 2 shows a section on line *x*, *x*, of Fig. 3. Fig. 3, is a plan thereof. Fig. 4, shows the perforated die plate.

A designates a bed-plate to which are secured four holding plates, *a*, *a*, *a*, *a*, and a pair of hinge knuckles *b*. The holding plates *a*, are trapezoidal in shape, and are placed at the four corners of a quadrilateral figure. The oblique sides of the trapezoidal plates, are undercut so as to present overhanging upper edges. These plates serve to hold the main framework of the tablet press to the bed-plate A. The main framework is elevated above the bed-plate by four legs B, the lower ends of which are turned outward, and terminate in feet cut to a shape to fit between the corner plates *a*, and under the overhanging upper edges of the corner plates. The oblique or diagonal inner sides *a'* of the corner plates, and the corresponding diagonal or oblique outer sides of the feet of the leg B, enable the user to draw the entire framework of the press in one direction sidewise from its engagement with the corner plates, and also prevents the frame from passing too far when it is pushed sidewise into engagement with the corner plates.

The standards or legs B, support at their upper ends a rectangular framework from each corner of which rises a post C. A second framework provided with tubular guide posts D, at its corners rests above the first and between the two frames surrounding the post C, are four helical springs E.

The side bars *e*, *f*, *e*, *f*, furnish supporting and guiding ways to the die plate P. At the rear or hinge end of the lower framework between the side bars *e*, *e*, is an angle plate *g*, made adjustable by means of screws passing through slots so that it may be adjusted to act as a stop to the plate P; the stop being furnished by the upturned flange *g'*, of the angle plate.

The upper frame work carries a top or cover plate K, to which is secured a follower plate *k*, which is made adjustable sidewise by means of four adjusting screws *l*, *l*, that hold the follower plate to the cover plate. To secure this adjustment the holes in the cover plate through which the screws *l*, pass are made slightly larger than the shank of the screw. To the cover plate K, is secured a fulcrum bearing R, over which passes the lever handle L, from the hinge *b*. I prefer to make the lever handle L, of a bent rod that passes twice across the fulcrum, and is held at each point of contact to the fulcrum by hooks *r*, *r*, under which the two branches of the handle may be sprung; the ends of the rod forming the lever handle are turned toward each other at right angles to the main branches of the handle and form hinge pins to engage the knuckles *b*.

The die plate P, is formed with perforations of a size proper to contain tablets of the desired size. The follower plate *k*, is provided with follower punches adapted to fit accurately into the perforations of the die plate P. The adjustments that have been described enable the operator to assemble the parts in such a way that the die and follower will register accurately. The die plate P, is supported at its forward edge upon ribs *s*, *s*, at its rear edge on the angle plate *g*, or on the heads of the adjusting screws that secure the plate *g*, to the frame. As the die plate is quite thin

it is desirable that it be supported, either completely around its edge or with only slight intermissions.

Underneath the frame work I employ, to catch the tablets as they are pushed down from the die plate, a pan *p*, perforated throughout its bottom and sides by small holes through which the air can freely circulate.

This machine made in the manner described is arranged to be quickly removed from its supporting bed-plate and quickly and easily taken apart sufficiently, so that all parts of it can be cleansed readily and quickly.

In operation, the die plate P, is placed upon a marble or glass slab, and the material of which the tablets are made is forced into the holes with a spatula or other device. The loaded die plate is then placed in the press and the tablets forced out of the die plate by bringing the follower plate down against them. The operation is repeated until the pan has been filled, or as many tablets prepared as desired. The upper or follower framework being supported at its corners by the spiral springs and guided at its corners by the posts C, and the tubular guides D, retains its position of parallelism to the die plate at all times, causing the follower punches to strike squarely against the tablet material in the holes of the die plate, and not only effects the removal of all of the tablets at the same time, but prevents any one of them from being injured or distorted by the action of the follower punch, and the instant the pressure of the hand of the operator on the handle L, is removed the follower plate rises and withdraws the follower punches from engagement with the die plate. In the event of the plates clogging or partially clogging with tablet material, the hooks *r*, *r*, engaging the lever rods, enable the operator to assist the spring in lifting the follower plate to place.

What I claim is—

1. In a tablet forming machine, the combination with a die supporting framework, and a die plate, of a follower supporting framework a follower plate provided with follower punches, means for pressing the punches of the follower plate into the die openings and means for lifting the follower plate away from the die plate, substantially as and for the purpose described.

2. In a machine for producing medicinal tablets, the combination with a die holding framework, of a follower holding framework slidingly secured thereto means for adjusting and securing the die plate in its framework, means for adjusting the follower plate with respect to its framework, whereby the die openings and the follower punches register, substantially as and for the purpose described.

In testimony whereof I sign this specification in the presence of two witnesses.

JOHN J. MITCHELL.

Witnesses:
EFFIE I. CROFT,
CHARLES F. BURTON.