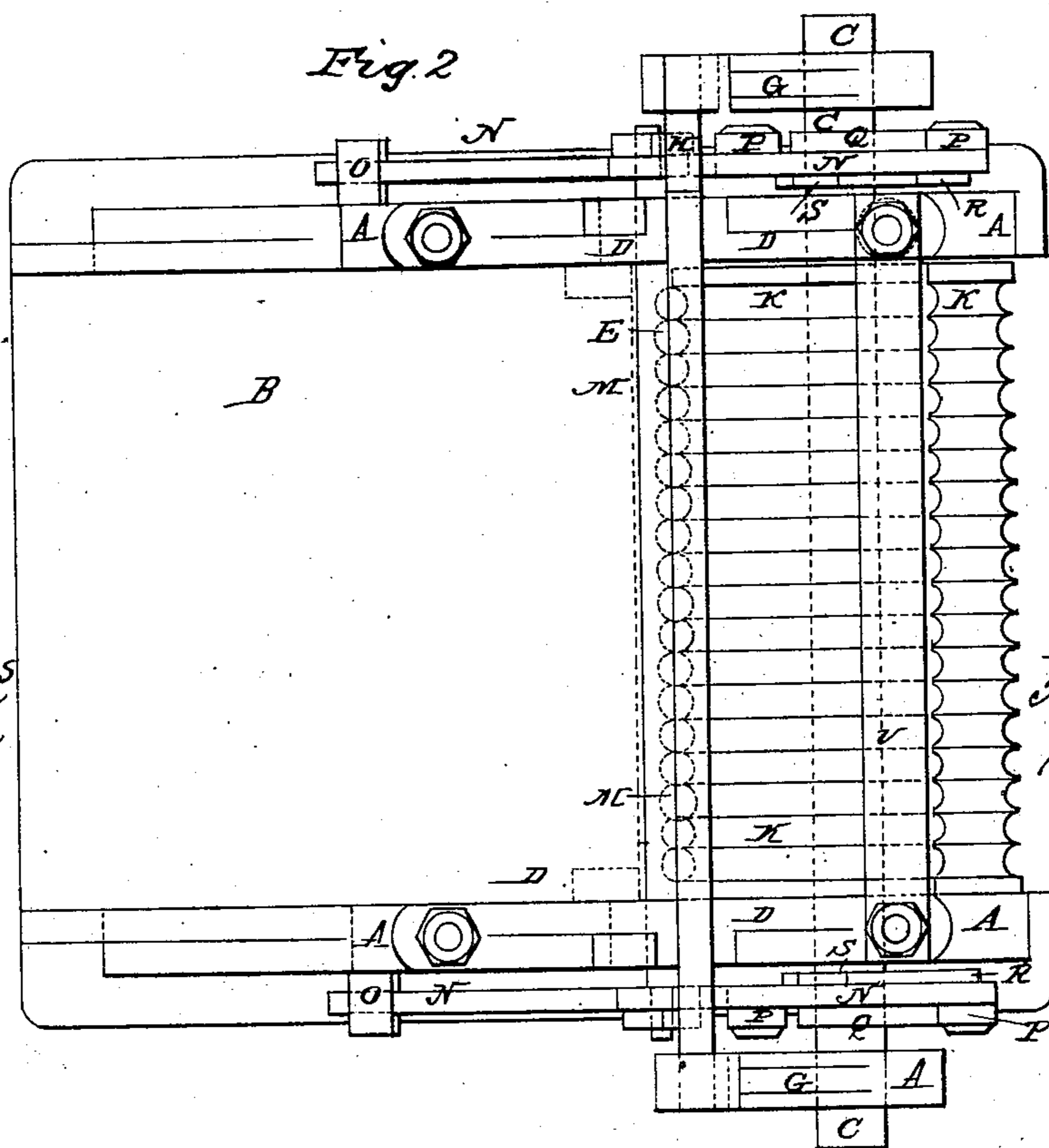
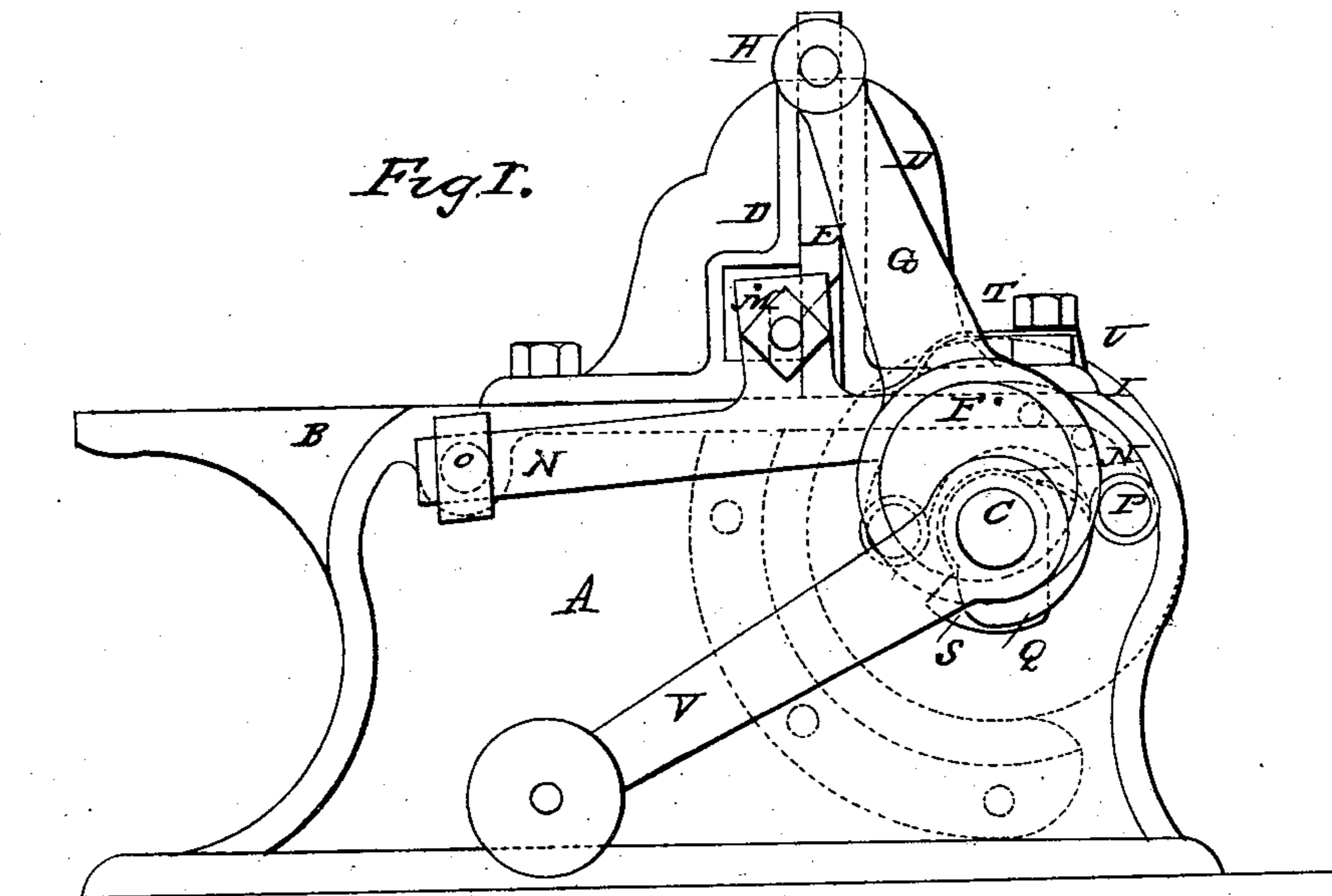


T. BUSHBY.

Machine for Making Pills.

No. 85,277.

Patented Dec. 29, 1868.



Witnesses
H. A. Morgan
G. C. Cotton

Inventor
Thos. Bushby
per Munn & Co
attorneys

United States Patent Office.

THOMAS BUSHBY, OF MANCHESTER, ENGLAND

Letters Patent No. 85,277, dated December 29, 1868; antedated December 17, 1868.

IMPROVED PILL-MAKING MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS BUSHBY, of Manchester, in England, have invented a new and improved Pill-Making Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view,

Figure 2 is a plan view,

Figure 3 is a side sectional view, and

Figure 4 is a front view of my improved pill-making machine.

Similar letters of reference indicate corresponding parts.

This invention consists in constructing a machine, to which the mass or substance from which the pills are to be made is supplied, in the form of a layer or sheet of the proper thickness, and placed upon a table forming part of such machine, and, by self-acting mechanism hereinafter described, made to advance beneath a vertical-reciprocating knife, which cuts such sheet into strips or bars of the right width to be formed into pills. These bars or strips immediately fall down between a stationary segmental-grooved plate and a grooved revolving roller. The grooves of such stationary segmental plate and revolving roller being immediately opposite and in close contact with one another, and being of an exactly semicircular shape, together form a series of perfectly parallel circular grooves, so that immediately the strips or bars fall, they are caught by the revolving grooved roller, and cut into pieces of the proper size, which, in passing and being rolled between the groove of the roller and stationary segmental plate, are shaped into pills.

A represents the frame-work of the machine, consisting of two sides bolted together, and supporting between them the table B, and forming bearings for the shaft C.

Two housings, D D, rise from the top of such frame-work, to serve as guides for the reciprocating knife E, which is connected to and actuated direct from the shaft C, by means of eccentrics F and connecting-rods G working upon the pins or studs H, projecting from the ends of such reciprocating knife.

I is a roller keyed upon the shaft C, having a series of annular semicircular grooves, K, formed round it, which are arranged as close together as possible, and brought to a feather-edge, as illustrated.

L is a segmental metallic plate, secured, at either side, to the inner sides of the frame-work, and such segmental plate forms a shell or covering for a portion of the roller, and is constructed with a similar number of semicircular grooves to the roller, which grooves are opposite to and in close contact with one another.

M is a feeding-bar, secured to and actuated by the rocking levers N, mounted on the outer sides of the

frame-work, in swivels O, in which they are also arranged to slide backward and forward.

The other ends of such rocking levers have bowls, P, mounted upon studs projecting from two segmental arms, which bowls rest upon cams, Q, keyed to the shaft C.

Projections, R, shown in dotted lines in fig. 1, are formed at the back of each of such levers, which are raised by the cams S during a certain portion of the revolution of the shaft C, upon which such cams are also keyed.

T is a spring impinging upon the top of the rocking levers N, to keep them down on to the cams.

U is a stripper affixed across the roller I, to remove any pills which may stick to it while revolving, and

V is a winch-handle for actuating the machine.

The manner of making pills by this machine may be thus described:

The mass from which the pills are to be made is placed upon the table B, and motion being communicated to the machine by the winch-handle V, the feeding-bar M immediately draws the mass forward beneath the reciprocating knife E, which cuts off a strip or bar of the right width. Meanwhile the cams S, coming in contact with the projections R, have caused the feeding-bar M to rise and disengage itself from the mass, when the cams Q, by impinging against the bowls P, cause such feeding-bar to recede in order to take a fresh gripe of the mass, the strip or bar cut off by the reciprocating knife having fallen between the segmental-grooved plate L and the revolving grooved roller I, is cut into small pieces, which, in passing and being rolled between the stationary grooves of the segmental plate L and the revolving grooves of the roller I, are shaped into perfectly spherical pills, which fall out at the bottom of the segmental-grooved plate L, and if any pills stick to the roller, they are instantly removed by the stripper-plate U.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

1. The combination, with the grooved roller I, of the segmental-grooved plate L, substantially as and for the purpose described.

2. The combination of the grooved rollers, segmental plate, and the reciprocating knife, substantially as and for the purpose described.

3. The feeding-mechanism, constructed as described, in combination with a pill-forming mechanism, substantially as and for the purpose set forth.

The above specification of my invention signed by me, this 7th day of April, 1868.

THOMAS BUSHBY.

Witnesses:

JOHN GUY WILSON,

WILLIAM HENRY BAILEY.