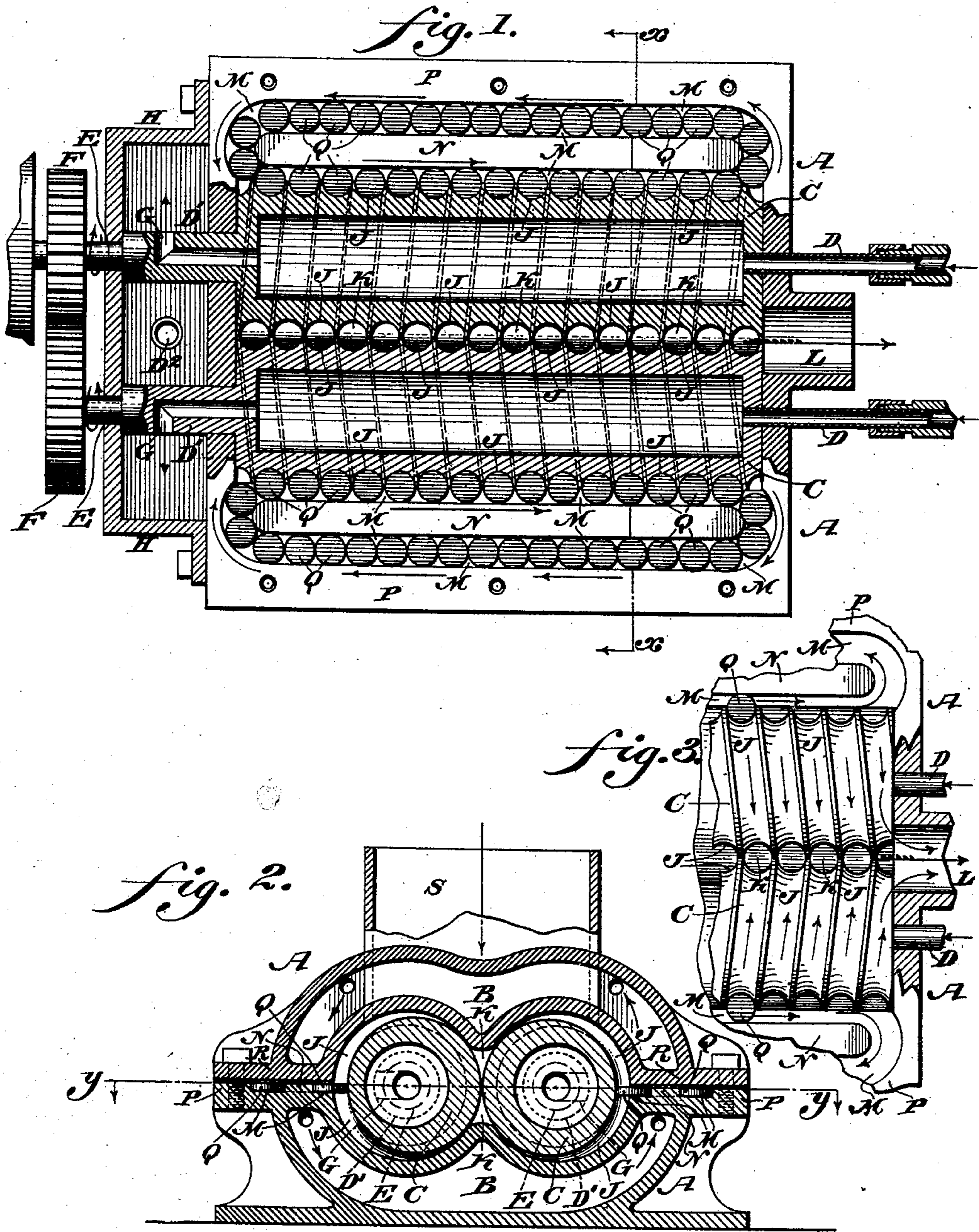


(No Model.)

F. S. RUTSCHMAN.  
MACHINE FOR PLOTTING SOAP.

No. 603,411.

Patented May 3, 1898.



WITNESSES

*L. Rouville.*  
*P. F. Taylor.*

INVENTOR  
*Francis S. Rutschman*  
BY  
*Oriedersheim & Fairbanks*  
ATTORNEYS

# UNITED STATES PATENT OFFICE.

FRANCIS S. RUTSCHMAN, OF PHILADELPHIA, PENNSYLVANIA.

## MACHINE FOR PLOTTING SOAP.

SPECIFICATION forming part of Letters Patent No. 603,411, dated May 3, 1898.

Application filed May 27, 1897. Serial No. 638,343. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS S. RUTSCHMAN, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Plotting or Treating Soap or other Plastic Material, of which the following is a specification.

My invention consists of an apparatus for plotting or otherwise treating soap or other plastic material, the same embodying means for preventing the adhesion and backing up of the material in the cylinders employed within the case of the same and clogging of the apparatus.

Figure 1 represents a partial horizontal section on line *y y*, Fig. 1, and a partial plan view of a plotting apparatus embodying my invention. Fig. 2 represents a transverse section thereof on line *x x*, Fig. 1. Fig. 3 represents a partial horizontal section and partial top view of a detached portion of the apparatus.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a case or chamber having jacketed coverings B for the sections thereof and containing the hollow drums or cylinders C, whose journals D and D' are hollow and mounted on the case, so as to be in communication with the interiors of said cylinders, whereby water or other cooling medium may be admitted thereinto.

Connected with the journals D', which constitute the outlets of the cylinders, are shafts E, to which are keyed or otherwise secured the gear-wheels F, whereby rotation may be imparted to said cylinders in directions toward each other. In said journals D' are discharge-ports G, which communicate with the box H, the same inclosing the outlet portions of said journals D' and is provided with an opening or pipe D<sup>2</sup> for the discharge of said medium.

On the peripheries of the cylinders C are spiral grooves J, the grooves of one cylinder being pitched in the direction in reverse of the other, it being seen that the cylinders are arranged parallel and have the rises of the thread closely together, while the grooves of the threads form the pitched passage K between the cylinders, which passage is in com-

munication with the discharge-pipe L of the case.

M designates endless passages or recesses formed on the wall of the joint between the two sections which constitute the case aside of the cylinders C, each of said passages having between the sides of the same the wall N and outside of the same the wall P, which walls constitute in the present case portions of the upper side of the lower sections of the case. Occupying said passages M are the traveling disks or rollers Q, it being noticed that one length of each set of rollers partly occupies the grooves J, on which may be termed the "outer" sides of the cylinders. The other portions of said lengths of rollers are covered by walls of the sections of the case, as seen at R, Fig. 2, the rollers of said lengths thus acting as cut-offs on the inner sides of the case, as will be hereinafter more fully explained. The other lengths of the sets of rollers are inclosed by the walls of the sections of the case and the wall N and portions P of said sections.

The casing is provided with the hopper S, whereby the material to be plotted or worked may be directed into the same.

It will be seen that when rotary motion is communicated to the cylinders and the case supplied with soap or other material in proper condition the latter is carried into the pitched passage K and forced by the same, as by the action of a screw, throughout the case into the pipe L, from which it is discharged. Should particles of the material adhere to the cylinders, the disks Q in the grooves J act as scrapers or wipers therefor and cut-offs between the cylinders and case, so that the material is prevented from backing up on the cylinders, improperly turning over the same, and clogging the case. As the cylinders rotate, owing to the groove J engaging with the disks, traveling motion is imparted to said disks. The latter are carried around continuously in the passage M and return successively to the grooves J, so that the latter will always be freely filled or occupied by the disks, while the traveling is uninterrupted, it being noticed that the disks are guided in the passages M and prevented from displacement and interference with each other owing to the walls N and the adjacent portions of

the case. As water is introduced into the jackets B and also into the cylinders C, the latter, and consequently the material, will be cooled, in which condition the matter is effectively worked and solidified and so discharged.

Of course the material may be in liquid condition in order to be worked or treated in the apparatus, and so I do not limit myself to the use of the apparatus to plastic material.

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

1. An apparatus for the purpose described consisting of a case and hollow cylinders therein, said cylinders having spiral grooves thereon and provided with hollow journals, said case having traveling wiping and cut-off devices which are adapted to successively enter said spiral grooves and freely close the same.

2. An apparatus for the purpose described

having cylinders and wiping and cut-off devices adapted to travel in spiral grooves in said cylinders.

3. A case provided with endless passages and traveling wiping and cut-off devices occupying said passages, in combination with cylinders having spirally-grooved peripheries, portion of said wiping and cut-off devices freely entering said grooves and another portion entering the portions of the passages between the cylinders and walls of the case.

4. A case having endless passages in the walls thereof, movable wiping and cut-off devices adapted to travel in said passages and cylinders having peripheries with spiral grooves thereon, into which latter said devices successively enter to close the same at the adjacent part of the case.

FRANCIS S. RUTSCHMAN.

Witnesses:

JOHN A. WIEDERSHEIM,  
WM. C. WIEDERSHEIM.