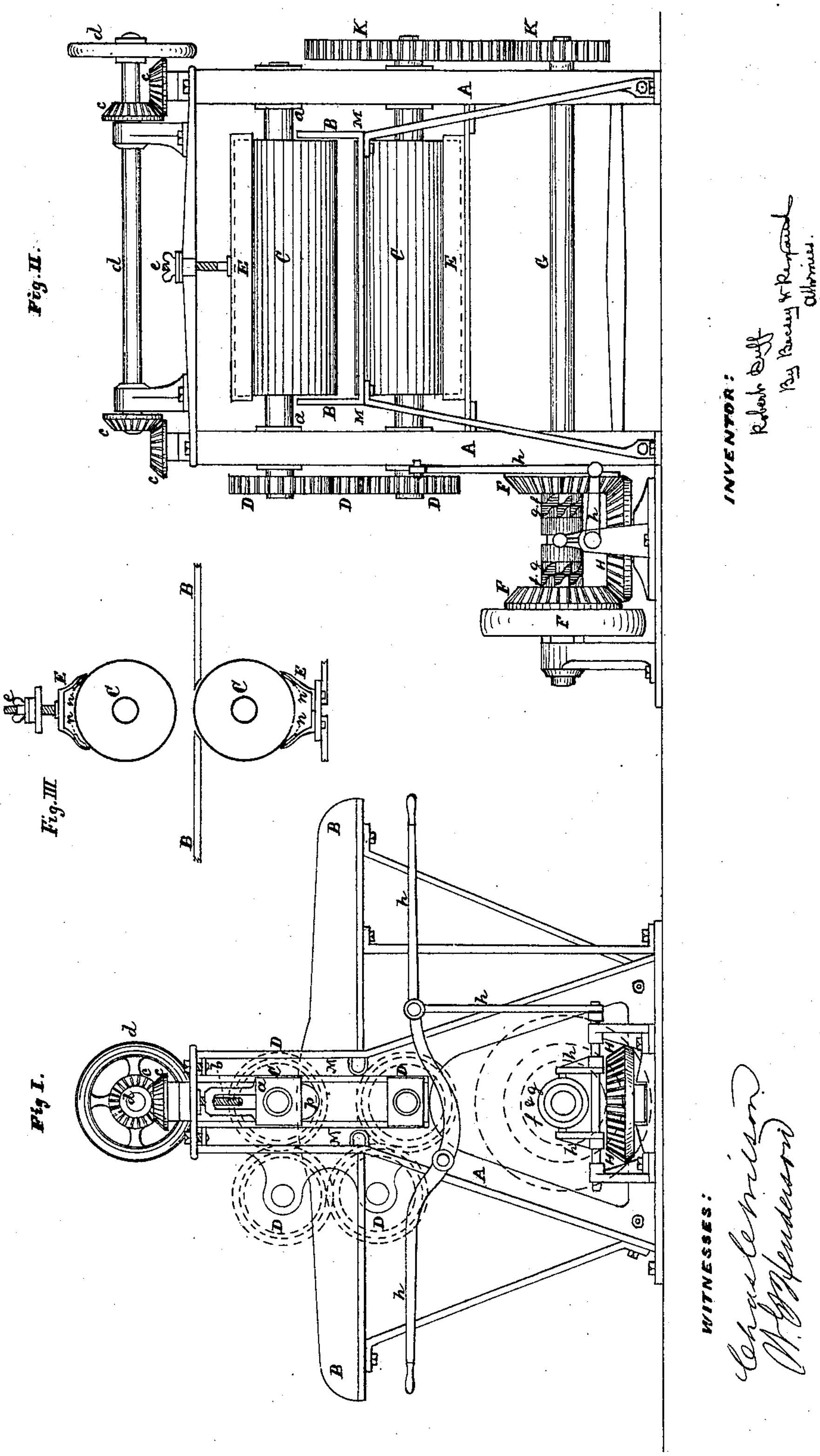
ROBERT DUFF.

Improvement in Machines for Making and Breaking Confectioners' Paste and other Materials.

No. 115,039. Patented May 23, 1871.



UNITED STATES PATENT OFFICE.

ROBERT DUFF, OF NEW YORK, N. Y., ASSIGNOR TO ERNEST GREENFIELD AND PHILIP STRAUSS, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR MAKING AND BREAKING CONFECTIONERS' PASTE AND OTHER MATERIALS.

Specification forming part of Letters Patent No. 115,039, dated May 23, 1871.

I, ROBERT DUFF, of the city, county, and State of New York, have invented certain Improvements in Machines for Breaking Paste or other Plastic Materials; and I do hereby declare the following to be a full and exact description of the same, reference being had to the drawing which is annexed to and forms a portion of this specification.

The rolling out of plastic materials into a sheet from which portions are to be cut—for instance, the preparation of paste for the manufacture of lozenges—is, when done by hand, a tedious and difficult operation. It is to do away with this hand-labor, and thus greatly cheapen and facilitate the rapidity of the operation, that I have invented my paste-breaking machine, which consists of a series of devices to roll back and forth under a regulated pressure the plastic materials which it is designed to manufacture by the subsequent use of other machinery.

For the better comprehension of my invention, reference is hereby made to the patent No. 99,947, dated February 15, 1870, granted to Charles A. Oehl, of which my invention is an adjunct or accessory.

Having thus explained in general terms the nature of my invention, I will now proceed to describe it more in detail.

Of the accompanying drawing, Figure 1 is a side elevation. Fig. 2 is a front or end view of the machine. Fig. 3 is a view in cross-section of the rollers and tables, with upper and lower scrapers.

The lettering upon each figure is identical.

A A represent a frame-work for holding the machinery *in situ*. To this frame-work are attached, by suitable screws and braces, the projecting tables B B. These tables are made either of wood or metal, and are provided with a raised edge to keep the rolled paste upon them, but having both their ends free. These two tables project from both sides of the frame at right angles to it, and their inner ends, though approximated, do not meet, there being a small space, M M, through which rises the top or crown of the lower roller C. C C represent a pair of horizontal rollers, one upper and one lower, with their axes upon the same plane, revolving on their proper journals fixed in the frame A. These rollers are designed for pressing and kneading out the mass of paste upon the tables B B, and they have a reversible reciprocal motion. They are connected and operated by the cog-wheels D D. The distance between these rollers may be graduated at will by means of the sliding boxes *a*, screws *b*, and bevel-wheels *c c c c*, operated by the hand-wheel and shaft *d*. Above the crown of the upper roller C is fixed a double-edged scraper, E E. This scraper extends the whole length of the roller, and has two lips or edges which embrace the roller upon either side. The cutting or scraping edges of said scraper are free, and act upon the roller during its revolutions, but it carries upon its inner edges a strip of felt, (shown at *n*, Fig. 3,) which it is designed to moisten. This felt is held pressed upon the roller, and thus not only are the adherent portions of the paste scraped off, but the roller is also moistened and washed perfectly clean during its revolutions. The pressure of this scraper is regulated by means of thumb-screws *e e*. Upon either side of the lower roller C, and beneath the tables, are fixed two single-edged scrapers, F F, of similar construction to the upper one, and extending along the whole length of the roller. The ends of these scrapers rest upon and are fastened to the frame A, and their pressure upon the roller is regulated by any suitable device. At F F are shown a pulley and bevel-wheels running loose upon shaft G and attached to the clutches *f f*. These (F F) drive the lower bevel-wheel H, and the clutches *f f* work in and out of the reciprocating clutches *g g*, which slide on a feather in shaft G. The whole of this gearing is operated at will by means of the cranks and levers *h h* imparting a back-and-forth motion, through the cog-wheels K K, to cog-wheels D D and rollers C C.

The motor or power is applied at pulley F.

The various portions of my machine are so plainly described and set forth that any lengthy description of the process of rolling

and breaking the paste by means of it is unnecessary. Suffice it to say that the mass of paste is introduced upon the tables B B, when, the rollers C C seizing it, it is rolled backward and forward by means of the devices already described until it is deemed sufficiently rolled or broken, when it is removed, the upper roller during the operation being raised or lowered according to the thickness of the paste, and the scrapers operating upon the rollers as described.

My invention may be used in all manufactures or processes where the rolling out of plastic materials is required; and its simplicity and great utility are too obvious to need further comment or dissertation.

Claims.

I claim as new—

1. The adjustable reversible rollers C C' working through the tables B B, in a machine for breaking paste or plastic materials, substantially as described.

2. In a machine for breaking or rolling paste, the double and single edged adjustable scrapers F F, lined with felt *n*, substantially as described.

3. In a machine for breaking paste or plastic materials, the combination of the adjustable reversible rollers C C and approximated tables B B with the double and single edged adjustable scrapers F F, lined with felt *n*, substantially as described.

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Witnesses:
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