

(No Model.)

2 Sheets—Sheet 1.

H. D. PERKY.

MACHINE FOR REDUCING CEREALS.

No. 571,285.

Patented Nov. 10, 1896.

Fig. 1.

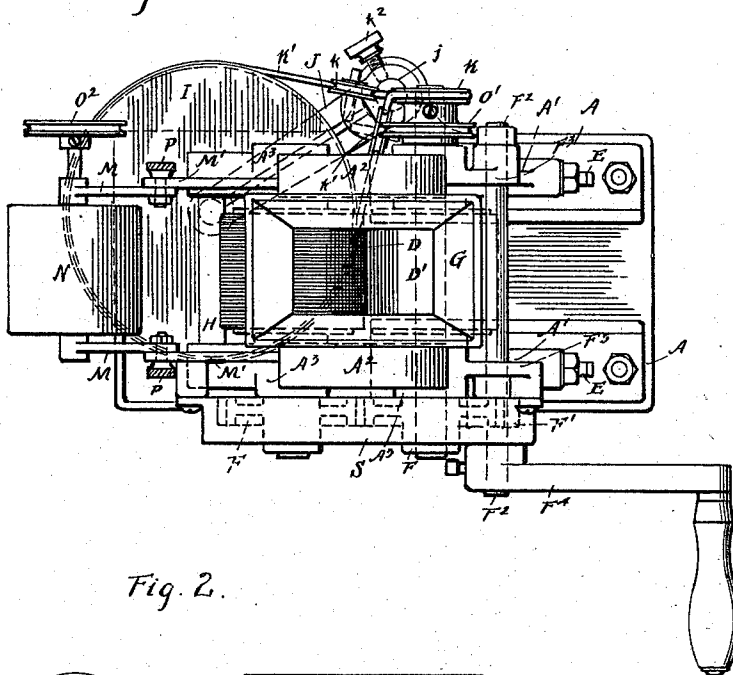
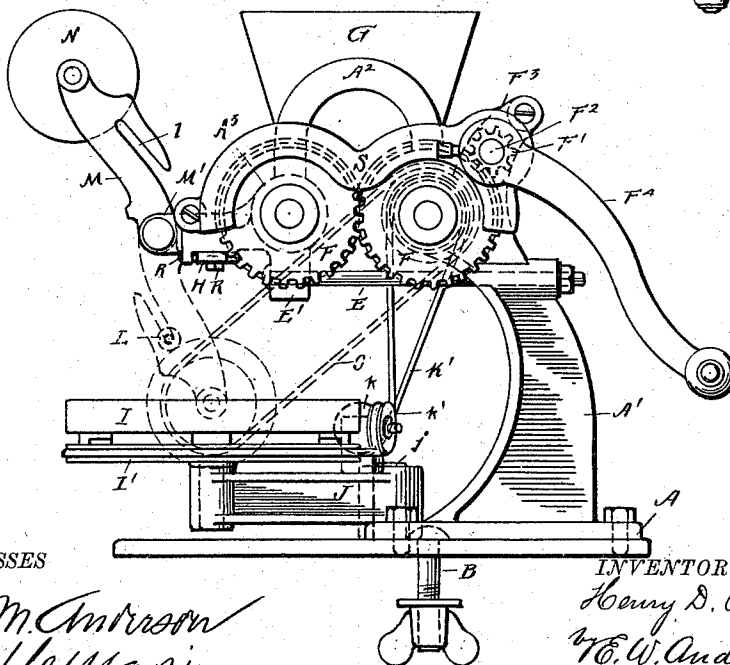


Fig. 2.



WITNESSES

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Fig. 3.

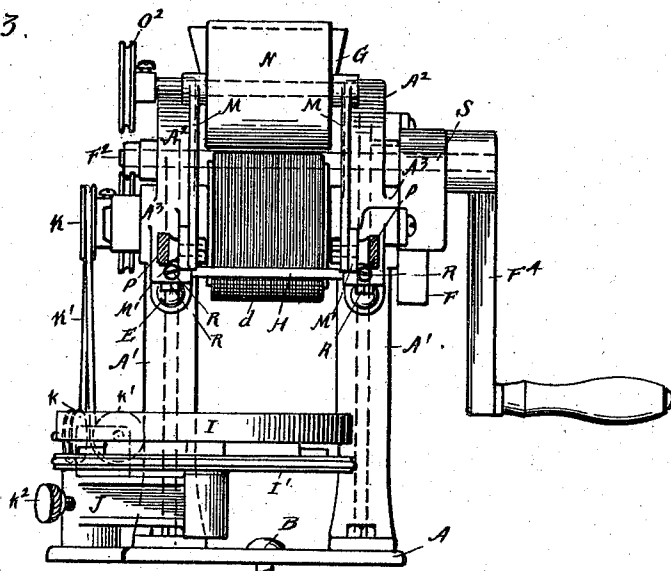


Fig. 4.

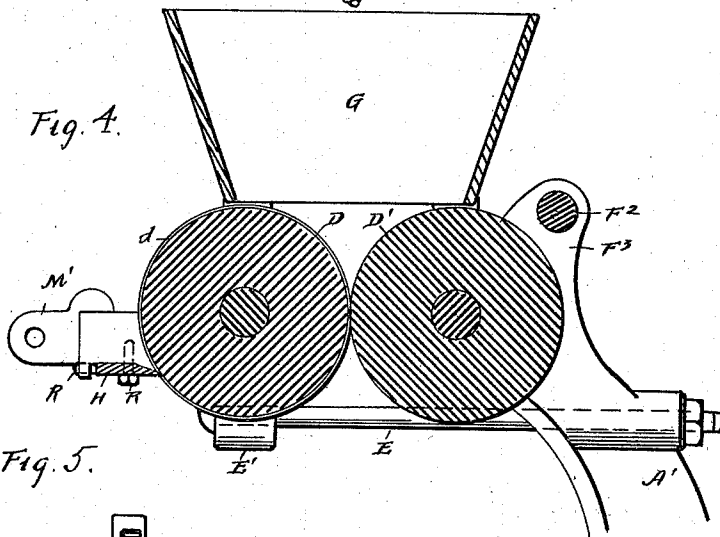
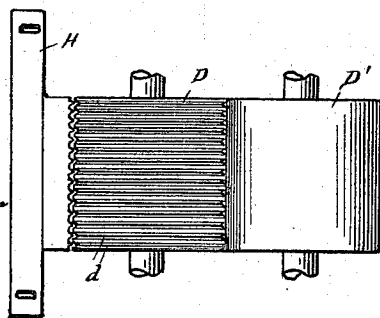


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY D. PERKY, OF WORCESTER, MASSACHUSETTS.

MACHINE FOR REDUCING CEREALS.

SPECIFICATION forming part of Letters Patent No. 571,285, dated November 10, 1896.

Application filed February 7, 1896. Serial No. 578,395. (No model.)

To all whom it may concern:

Be it known that I, HENRY D. PERKY, a citizen of the United States, and a resident of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Machines for Reducing Cereals; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a top view of a machine embodying the invention. Fig. 2 is a side view of the same. Fig. 3 is a front view. Fig. 4 is a partial section. Fig. 5 is a detail.

This invention has relation to machines for the reduction of cereals and other products to useful, artistic, and convenient forms for food.

In the Patent No. 502,378, dated August 1, 1893, and issued to the Cereal Machine Company, is described a machine wherein is employed a pair of reducing rolls or cylinders, one or both of which is formed with fine circumferential grooves into which the grain, duly softened by boiling or otherwise, is pressed by the action of the rolls or cylinders, and from which it is removed in the form of slender porous threads or filaments by the action of a suitable comb-like scraper. In other patents granted to me since the date of the patent hereinbefore mentioned I have described and claimed various modified and improved forms of mechanism for similar purposes, most of which were designed for use in the manufacture of the food product on a large scale and intended to be operated by other than manual power.

It is the object of the present invention to provide a machine of this character which is especially designed for family use and which may be operated by hand-power, such machine being also provided with means of improved character for shaping the threads or filaments as they are discharged from the rolls into convenient and attractive forms for use.

Referring to the accompanying drawings,

the letter A designates the frame of the machine, which is provided at B with a suitable clamp or fastening, by means of which it can be secured to a table or other desired supporting-bed. Said frame is provided with a pair of parallel standards A', each of which has at its upper end an inverted-U-shaped or bowed neck A², which carries the boxes A³ for the journals of the reducing rolls or cylinders D D'. These arches or bowed portions are sufficiently slender to permit them to spring somewhat in order to facilitate the adjustment of the rolls or cylinders D D' with respect to each other, such adjustment being accomplished by means of the tension-bolts E, one of which is provided at each side of the machine. These bolts are seated in the upper portions of the standards A' and extend longitudinally or chordwise with reference to the arches A², engaging downward extensions E' of the boxes or bearings of the front roll or cylinder D. Said rolls or cylinders, which are thus supported forward of the standards A' and over an interspace above the bed-plate of the frame, are journaled side by side and are adjusted to neat and accurate contact with each other, the roll D having the series of fine circumferential grooves *d*.

F F indicate the intermeshing gears of said rolls, and F' is the driving-pinion, which meshes with the gear of the rear roll and is carried by the main shaft F², which is journaled in bearings F³ of the frame and is fitted with a crank F⁴.

G indicates the feed-hopper, which is seated between the arches or necks A² and rests, by means of the concave edges of its side flanges, upon suitable bearings at the ends of the rolls.

H represents the comb or scraper which removes the product from the grooves of the roll D.

The machine is provided with means whereby the filaments delivered from the roll D may be put in neat and attractive forms for use.

For making biscuit forms such as I have described in my Design Patent No. 24,688, of September 17, 1895, and also for making many other shapes, such as would be suitable for pie-crust, Washington pies, strawberry shortcake, or other layer forms where it is designed

to place fruit, meat, &c., upon or between layers of the cereal product, I provide the following mechanism:

A horizontal circular rotary table I, situated below the level of the comb or scraper H of the machine, is carried by a peripherally-grooved belt-wheel I', which is journaled to the free end portion of a horizontal arm J, which is pivoted to a pin *j* of the bed portions 10 of the frame A, said pin being below the inner edge of the pulley K on the end of the shaft of the roll D', which drives the wheel I' by means of a belt K', passing over said pulley and downward around two idlers *k k'*, whereby the belt is deflected horizontally 15 around the wheel. These idlers are mounted upon bearings of the arm J, almost directly over the pin *j*, in order that, without interfering with the belt engagement, said arm 20 may be swung to carry the table I into the interspace below the rolls of the machine for use, or to move it out of the way. When swung below the rolls for use, it can be adjusted in different positions, so that the food 25 product delivered by the comb or scraper from the rolls may be deposited upon any desired zone thereof. The rotations of the table cause the filamentous product to be deposited thereon in the form of superposed 30 layers of more or less uniform character, and by moving the arm J the entire surface of the table may be uniformly covered to the desired depth. The table may then be removed from the machine and the mass cut into biscuit or other form; or, after the layer of the 35 cereal is deposited upon the table, a layer of meat or chicken may be placed thereon, this being run through the machines in a similar manner.

I do not desire to limit myself to any particular means for rotating the table I, since this may be accomplished in various ways.

Another form in which the machine is adapted to deliver the product is that of a 45 cylindrical roll or loaf. This roll or loaf is formed by winding the filamentous deposit upon a small smooth-surfaced spindle L. When the roll or loaf is wound to the proper size, the spindle L, with the roll or loaf thereon, is removed from its slotted bearings. 50 The spindle is then withdrawn from the roll or loaf by an endwise movement. This spindle is journaled transversely of the machine in open slot *l* of arms M, which are respectively 55 hinged or pivoted to forward extensions M' of the bows or necks A² at the sides of the machine. Journaled in the free end portions of these arms is a rough-surfaced roller N of comparatively large diameter, with 60 which the spindle L is designed to engage by gravity, so that it will be revolved by the frictional contact. When in operation, said roller is rotated by means of a belt O, extending from a pulley O' on the shaft of the roll 65 D' to a pulley O² on its own shaft.

The product, as it is discharged from the

rolls by the comb or scraper, falls upon this roller N and is removed therefrom upon the spindle L, which rises in the slots *l* as the roll thereon increases in diameter.

Where it is desired to shape the product into cup form, the same mechanism is employed, with the exception that a spindle of larger diameter is used. In this manner the product-roll is formed with a layer hole or 70 cavity, and may be used in such form, or it may be cut in half, forming two sections. In either case the bottom of the product-roll or those of its sections may be filled in with a small quantity of the shredded or filamentous 75 product, forming a cup in which, either before or after baking, may be placed any edible substance, such as tomatoes, eggs, fruit, meats, oysters, &c.

I prefer to employ for this purpose a spindle or receiver of the character described and 85 claimed in Letters Patent No. 533,553, dated February 5, 1895.

When not in use, the arms M, with the roll N, may be turned upward into position, as 90 shown in full lines in Fig. 1 of the drawings, being held in such position by means of set-screws P out of the way, so that the table I may be swung into position below the compressing-rolls.

R R designate screws by means of which the comb or scraper H may be adjusted relatively to the grooved roll D.

S designates a cap-plate or guard which is placed over the driving parts of the machine. 100 The standard-supports A' A² of the frame extend forward in an overhanging manner over the front of the bed-plate and are made of suitable strength.

Having described this invention, what I 105 claim, and desire to secure by Letters Patent, is—

1. In a machine for the reduction of cereals and other products, the frame having the spring-arches, the arms of which are provided 110 with boxes or bearings, the parallel reducing-rolls journaled in said boxes or bearings, the tension-bolts engaging said arches, the hopper arranged to feed between said rolls, the discharging comb or scraper, and driving 115 mechanism, substantially as specified.

2. In a machine for the reduction of cereals and other products, the combination with the frame, its parallel standards and spring-arches, the tension-bolts therefor, the parallel 120 reducing-rolls journaled to the arms of said arches, the discharging-comb, the hopper, and means for receiving and shaping the product discharged from said rolls, substantially as specified.

3. In a machine for the reduction of cereals and other products, the combination with the frame having a suitable clamp by means of which it may be secured to a table or the like, 125 the parallel standards, the spring-arches, and the tension-bolts therefor, of the parallel reducing-rolls journaled to the arms of said 130

arches, the discharging-comb, and the rotary table below the said comb, substantially as specified.

4. In a machine for the reduction of cereals
5 and other products, the combination with the frame, the reducing-rolls journaled therein, and the reducing comb or scraper, of the arm pivoted to the bed portion of said frame, and arranged to swing in a horizontal plane be-
10 low the said rolls and comb, into different positions with respect thereto, a horizontal table beneath the comb and journaled to the

said arm, and adapted thereby to receive the product discharged from the said rolls upon different zones of its surface and gear for 15 rotating said table, said gear being adapted to accommodate itself to different positions of the table, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY D. PERKY.

Witnesses:

S. N. ROGERS,
J. M. STANLEY.