

C. G. W. NITZ,
 CANDY PULLER,
 APPLICATION FILED APR. 16, 1918.

1,278,197.

Patented Sept. 10, 1918.
 2 SHEETS—SHEET 1.

FIG. 1.

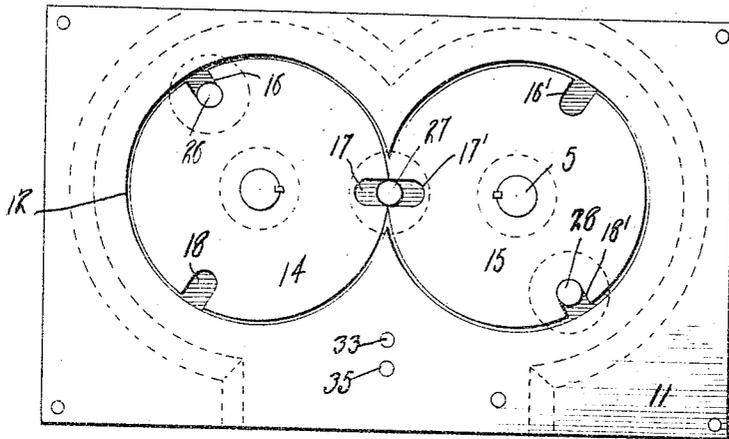
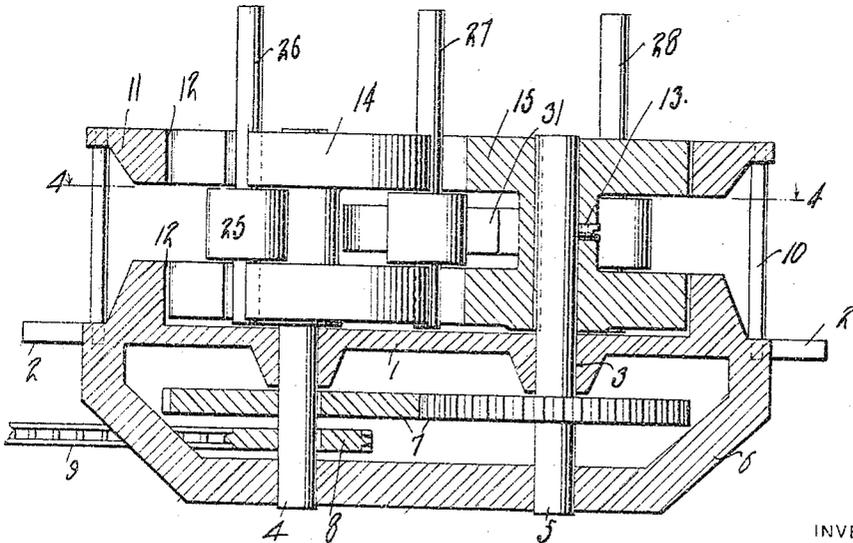


FIG. 2.



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WITNESSES

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2 SHEETS—SHEET 2.

FIG. 3.

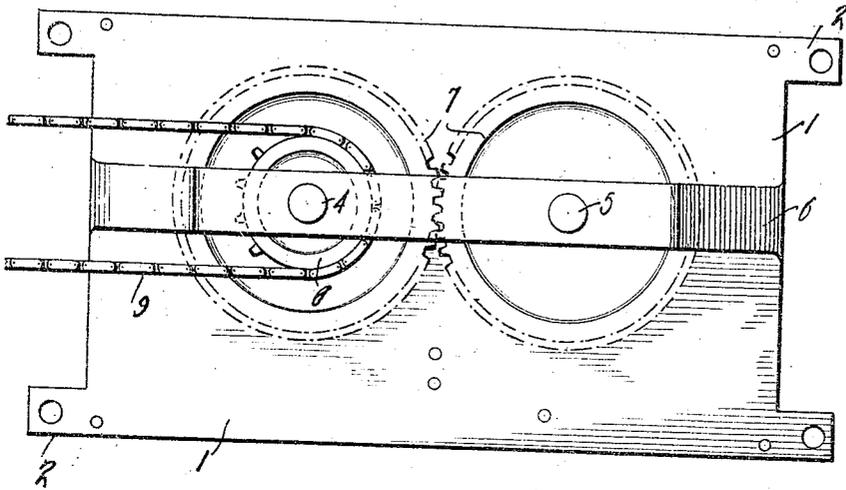


FIG. 4.

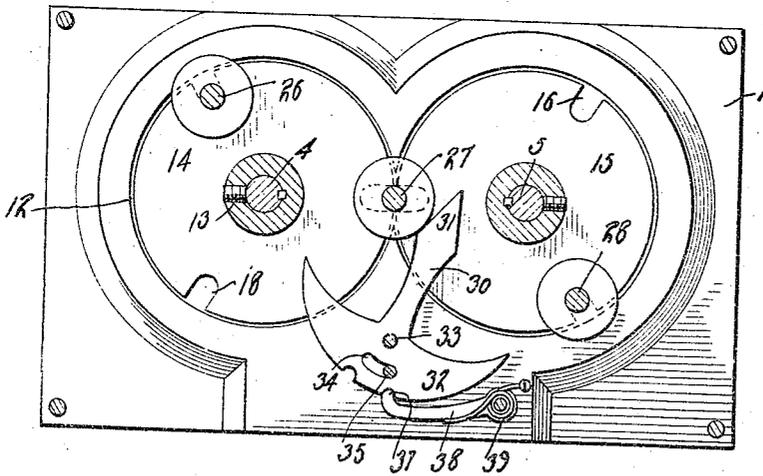


FIG. 5.

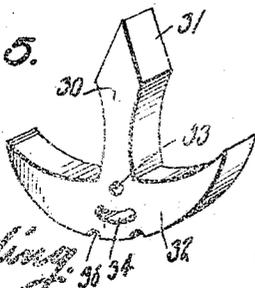
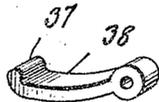


FIG. 6.



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CANDY-PULLER.

1,278,197.

Specification of Letters Patent. Patented Sept. 10, 1918.

Application filed April 16, 1918. Serial No. 228,925.

To all whom it may concern:

Be it known that I, CHARLES G. W. NITZ, a citizen of the United States, residing at Wauwatosa, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Candy-Pullers, of which the following is a specification.

This invention relates to confectionery, and more especially to mixing machines; and the main object is to produce a machine known as a candy puller by means of which candy in the process of manufacture and in considerable quantities may be kneaded, agitated, or mixed mechanically as it grows stiffer and stiffer during the process.

The primary object of the invention is to produce a machine of this kind having three pins moving through a course which approximates the shape of a figure eight, which movement I find to be most efficient for producing the end desired.

A secondary object of the invention is to provide mechanism for carrying these pins which consists of two spools simultaneously and oppositely rotated and each having three notches in its periphery, together with means for shifting the pins alternately from one spool to the other, whereby three pins may be simultaneously employed and yet no two successive pins will trace the figure eight in the same direction.

Other objects will be brought out in the following specification, and reference is made to the drawings, wherein:—

Figure 1 is a plan view of this device,

Fig. 2 a side elevation thereof with parts in section,

Fig. 3 a bottom plan view,

Fig. 4 a section on the line 4—4 of Fig. 2,

Fig. 5 a perspective detail of the shifter, and

Fig. 6 a perspective detail of the retainer.

What might be called the base plate 1 of the framework is shown in Figs. 2 and 3 as having ears 2 at its corners whereby the whole structure may be supported on legs if desired, or by hangers from overhead, or might be let into an opening in a table top. The base plate 1 is shown in Fig. 2 as having bosses containing bearings 3 for a pair of upright shafts 4 and 5, and a yoke 6 may hang from the plate and contain other bearings for the lower end of these shafts. The latter are connected by intermeshing gears

7, and the shaft 4 is shown as having a power wheel 8 driven by a belt 9, although rotary motion may be imparted to the shafts in any suitable way.

Posts 10 rising from the base plate 1 carry a top plate 11, and these two plates have ample circular openings 12 concentric with the shafts on both sides respectively and intersecting at the center of the device as best seen in Fig. 1. Fixed on the shafts by suitable means such as screws through their hubs at 13 are spools 14 and 15 respectively, the upper head of each spool traveling in the opening 12 in the top plate and the lower head in the corresponding opening in the base plate as best seen in Fig. 2, and each head is provided with three notches 16, 17 and 18 opening out its periphery. For convenience I have added prime marks to the notches in spool 15.

The mixing or candy pulling elements are herein shown as upright pins 26, 27, and 28, each of a size to enter any of the notches, and fast on each pin is a hub 25 of a size to fit loosely between the two heads of either spool as perhaps seen best at the left of Fig. 2. I do not wish to be limited as to the size or shape of the pins, as they might rise considerably higher than as shown in this view and their bodies above the structure already described might be given other configuration than that shown. Nor do I wish to be limited strictly to three pins, working in conjunction with three notches in each spool, as it is quite possible that in a larger machine a greater number of pins and notches could be used. It is the intention of my invention to provide means for causing these pins automatically to follow a course which will trace the outline of a figure eight, the most effectively to agitate, mix, or "pull" the candy as suggested above. Two pins are shown engaging the notches in the spool 14 in Fig. 1, and two engaging the notches in the spool 15, but one of each pair of pins stands in the registering notches 17 and 17' where it is about to be transferred from one spool to the other by means of the shifter yet to be described.

In Fig. 5 is shown a shifter which is of substantially T-shape. Its shank 30 is pointed at its extremity as at 31, and its head 32 is of crescent shape, its outer periphery being struck on an arc around the pivotal point 33, which point is in line with the intersection between the openings 12 as best

seen in Fig. 4. The head may also be provided with a slot 34 moving over a pin 35 to limit the rocking movement of the shifter. The outer periphery of the head is also by preference provided with notches 36 adapted to be engaged by the mounted tip 37 of a retainer 38 pivoted to the frame at a proper point and pressed normally toward said head by means of a spring 39.

With the above construction of parts, and on the assumption that the spools are rotating in the direction of the arrows indicated in Figs. 1 and 4, it is obvious that the pin 26 is passing over the top in these views and toward the center, whereas the pin 28 is passing along the bottom away from the center and will have to pass around the right side of the opening and over the top thereof before it approaches the center.

Meanwhile the intermediate pin 27 stands now at the juncture of the two notches 17 and 17' and is descending in Fig. 4. It strikes the left side of the point 31 of the shifter so that its hub pushes said point to the right while the pin is simultaneously pushed to the left into the notch 17. This rocks the shifter to the position shown and engages the pin 27 with the left spool. The latter now carries the pin downward until it strikes the left end of the head 32 of the shifter whereby the latter will of course be shifted to the left, or in other words to a position the reverse of that shown, the tip 37 of the retainer holding it in this new position and the contact of the left extremity of the slot 34 with the pin 35 preventing the shifter from swinging too far to the left. The pin 27 may now pass the left end of the head, and when it reaches the position indicated in Fig. 4 by the notch 18 the pin 28 has reached the position indicated by the notch 16' and the pin 26 has reached the position now shown as occupied by the pin 27; but the point 31 of the shifter now stands at the left, and therefore the hub of the pin 26 moves down the right side of this point and this pin is deflected or switched into the right spool, and into the notch 16' which is two notches behind the pin 28. Passing down within the right hand spool, hub of the pin 28 now rocks the shifter on its pivot 33 to restore it to the position shown in full lines in Fig. 4, and by the time the pin 26 reaches the position indicated at 28 in this view, the pin 28 itself has come around to the intersecting point here shown as occupied by the pin 27 and the operation is repeated. Thus it will be seen that the three pins acting in conjunction with the three notches are automatically shifted from one spool to the other and caused to travel through a tortuous path simulating the contour of a figure eight, and meanwhile each time a hub moves alongside the point 31 it will doubtless cause

the pin to rotate within the notches of the spool in which it is loosely mounted. Excepting at a point midway between an axis of the two spools where the pin is automatically transferred from one spool to the other, the pin is pressed to the inner end of the notches it occupies in both heads of the spool by the contact of its hub 25 with one side of the point 31 or by the contact of the outer side of the pin with the walls of the openings 12, and therefore no pin can become displaced from either spool at any time, and the only time when shifting occurs is at the intermediate point as illustrated and described. I have found the movement imparted to the pins as just described to be extremely efficacious in mixing or "pulling" candy, although I do not wish to be limited to this specific use of the machine.

The foregoing description and the drawings have reference to what may be considered the preferred or approved form of my invention. It is to be understood that I may make such changes in construction and arrangement and combination of parts, materials, dimensions, et cetera, as may prove expedient and fall within the scope of the appended claims.

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

1. In an agitator of the class described, the combination with parallel shafts and means for rotating them simultaneously and oppositely, circular members each having a plurality of peripheral notches, and a plate having openings in which said members revolve; of pins disposed in certain of said notches and revolved by said members, and means between said shafts for automatically shifting the pins from one member to the other.

2. In an agitator of the class described, the combination with parallel shafts and means for rotating them simultaneously and oppositely, circular members thereon contacting at their edges at a point midway between the shafts and each having three peripheral notches, and a plate having openings in which said members revolve; of three pins disposed in certain of said notches and revolved by said members, and means between said shafts for automatically shifting the pins from one member to the other.

3. In an agitator of the class described, the combination with parallel shafts and means for rotating them simultaneously and oppositely, circular members thereon contacting at their edges at a point midway between the shafts and each having three peripheral notches, and a plate having openings in which said members revolve; of three pins disposed in certain of said notches and revolved by said members, and a rock-

ing shifter between said shafts for automatically moving a pin from the notch of one member to the other and the next succeeding pin in the opposite direction, and so on.

4. In an agitator of the class described, the combination with parallel shafts and means for rotating them simultaneously and oppositely, circular members thereon contacting at their edges at a point midway between the shafts and each having three peripheral notches, and a plate having openings in which said members revolve; of three pins disposed in certain of said notches and revolved by said members, a T-shaped shifter pivotally supported in position where its shank automatically shifts a pin from the notch in one member to the other and the next succeeding pin in the opposite direction, each pin so shifted contacting with the head of the shifter and moving it on its pivot for the next succeeding action.

5. In a machine of the type described, the combination with two carriers rotating simultaneously and oppositely and having notches in their peripheries adapted to register at an intermediate point between them, a series of pins movably mounted in certain of said notches, and a frame having openings inclosing the carriers and closing the outer ends of all notches except those at said point; of a T-shaped shifter pivoted in the frame with its shank adapted to move transversely across said point for shifting a pin from the notch of one carrier to that of the other, its head being automatically moved into the path of the shifted pin whereby it is reset for action on the next succeeding pin, and a retainer for holding the shifter frictionally in either extreme position.

6. In a machine of the type described, the combination with two carriers rotating simultaneously and oppositely and having notches in their peripheries adapted to register at an intermediate point between them, a series of pins movably mounted in certain of said notches, and a frame having openings inclosing the carriers and closing the outer ends of all notches except those at said point; of a T-shaped shifter pivoted in the frame with its shank adapted to move transversely across said point for shifting a pin from the notch of one carrier to that of the other, its head being automatically moved into the path of the shifted pin whereby it is reset for action on the next succeeding pin, said head having its periphery curved on an arc around the pivot of the shifter and provided with two notches, a pivoted retainer having a rounded tip for engaging said notches, and yielding means for pressing it into such engagement; for the purpose set forth.

7. In a machine of the type described, the combination with two carriers rotating si-

multaneously and oppositely and having notches in their peripheries adapted to register at an intermediate point between them, a series of pins movably mounted in certain of said notches, and a frame having openings inclosing the carriers and closing the outer ends of all notches except those at said point; of a T-shaped shifter pivoted in the frame with its shank adapted to move transversely across said point for shifting a pin from the notch of one carrier to that of the other, its head being automatically moved into the path of the shifted pin whereby it is reset for action on the next succeeding pin, said shifter having its head provided with a slot struck on a curve around its pivot and the outer edge of its head notched, and spring-pressed retaining means engaging said notches at either extreme of movement of the shifter, for the purpose set forth.

8. In a candy puller, the combination with parallel spaced plates having alined circular openings intersecting at a common central point, shafts mounted through the centers of said openings, means for rotating them simultaneously and oppositely, and spools fast on the shafts and each having three notches in the periphery of each of its heads closed by the walls of said openings excepting at the central point where the notches in the heads of the two spools register; of three mixing pins mounted in certain of said notches and each having a hub moving between the heads of the spool supporting it, a swinging shifter mounted on a pivot between said plates and having its free end pointed for contact with said hubs at said common point for shifting the pins successively from one spool to the other, and means whereby each shifted pin swings the shifter to reset it in the opposite position for action on the next succeeding pin.

9. In a candy puller, the combination with parallel spaced plates having alined circular openings intersecting at a common central point, shafts mounted through the centers of said openings, means for rotating them simultaneously and oppositely, and spools fast on the shafts and each having three notches in the periphery of each of its heads closed by the walls of said openings excepting at said point where the notches in the heads of the two spools register; of three mixing pins mounted in certain of said notches and each having a hub moving between the heads of the spool supporting it, a swinging shifter mounted on a pivot between said plates and having its tip pointed for contact with said hubs at said point for shifting the pins successively from one spool to the other, said shifter also having a head whose extremes are alternately projected between the heads of said spools during the shifting operation and struck by

the hub of the shifted pin to swing the shifter and set its tip for opposite action on the hub of the next succeeding pin.

10. In a candy puller, the combination
 5 with spaced plates having alined circular openings intersecting at a common central point, shafts mounted through said openings, means for rotating them simultaneously and oppositely, and spools fast on the
 10 shafts and each having three notches in the periphery of each of its heads closed by the walls of said openings excepting at said point where the notches in the heads of the two spools register; of three mixing pins
 15 mounted in certain of said notches and each having a hub moving between the heads of the spool supporting it, a shifter of T-shape pivoted at the angle between its shank and head with the tip of its shank pointed and
 20 adapted to contact with the hub of a pin at said point and shift the pin from one spool to the other while the extremities of its head are projected alternately between the heads of said spools and struck by the
 25 hub of the shifted pin to swing its tip in position for opposite movement on the next succeeding pin, and a retainer frictionally holding said shifter in either extreme position, as described.
- 30 11. In a candy puller, the combination

with spaced plates having alined circular openings intersecting at a common central point, spools mounted in said openings, and means for rotating them simultaneously and oppositely, each spool having three
 35 notches in the periphery of each of its heads closed by the walls of said openings excepting at the central point where the notches in the heads of the two spools register; of three mixing pins mounted in certain of
 40 said notches and each having a hub moving between the heads of the spool supporting it, a pivoted shifter having a tip adapted to contact with the hub of a pin at said point and shift the pin from one spool to
 45 the other, the shifter also having lateral arms projected alternately between the heads of said spools and struck by the hub of the shifted pin to swing its tip into position for opposite movement on the next succeeding pin, and a retainer frictionally holding
 50 said shifter in either extreme position, as described.

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

CHARLES G. W. NITZ.

Witnesses:

HARRY M. SILBER,
 WM. NITZ.