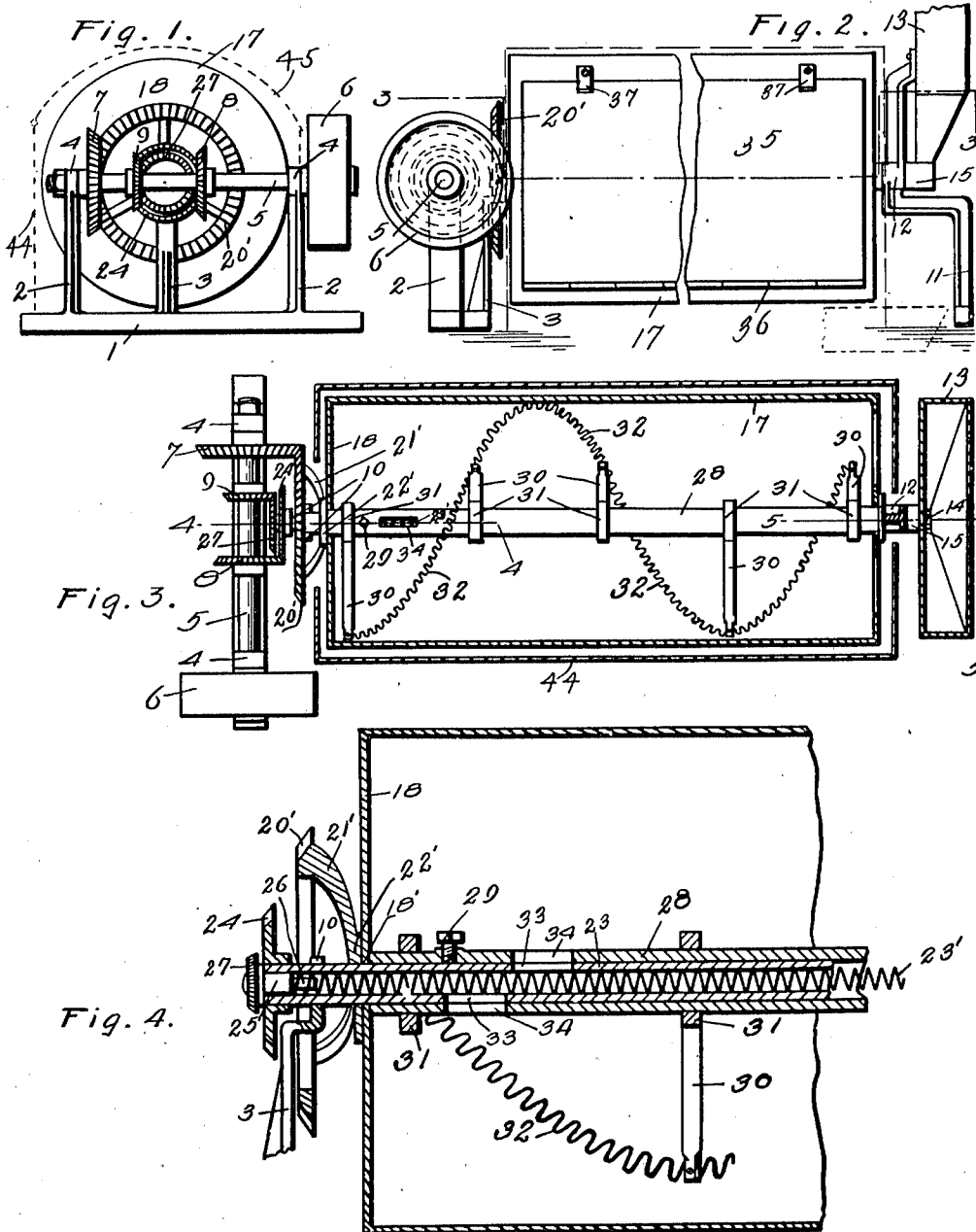


F. C. GROB.
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 APPLICATION FILED JUNE 9, 1911.

1,061,608.

Patented May 13, 1913.

2 SHEETS—SHEET 1.



WITNESSES.

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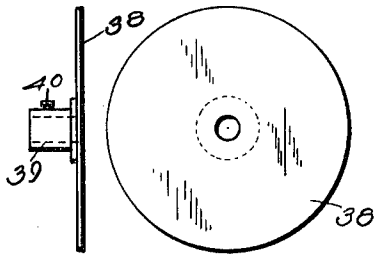
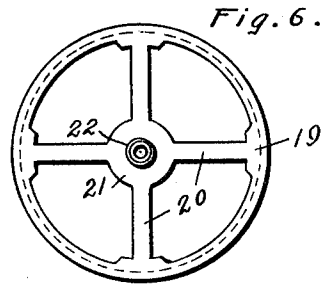


Fig. 8.

Fig. 7.

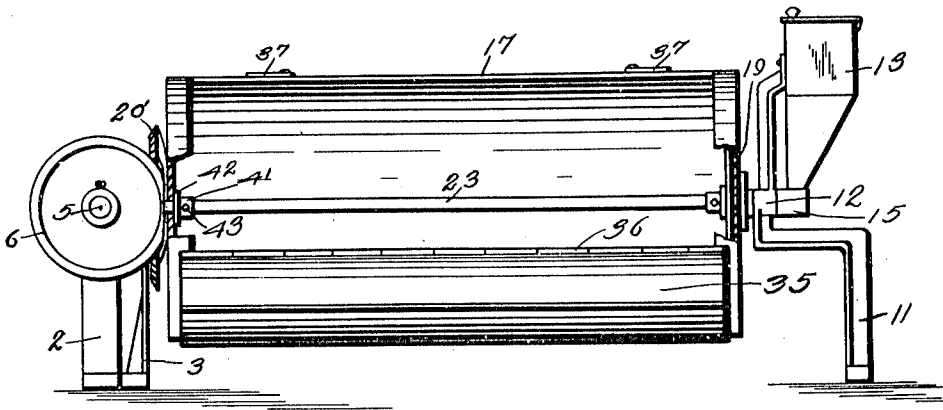
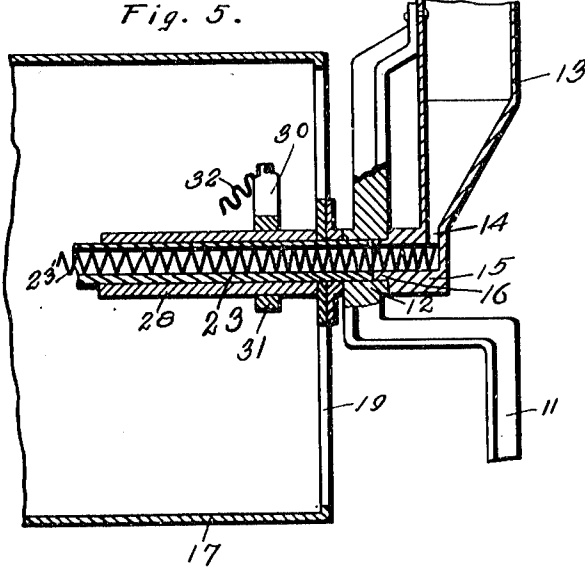


Fig. 9.

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UNITED STATES PATENT OFFICE.

FRED C. GROB, OF METAMORA, ILLINOIS.

COMBINED CORN-POPPER AND PEANUT-ROASTER.

1,061,608.

Specification of Letters Patent.

Patented May 13, 1913.

Application filed June 9, 1911. Serial No. 632,284.

To all whom it may concern:

Be it known that I, FRED C. GROB, a citizen of the United States, residing at Metamora, in the county of Woodford and State of Illinois, have invented certain new and useful Improvements in Combined Corn-Poppers and Peanut-Roasters, of which the following is a specification.

My invention relates to machines which may be utilized for popping corn and for roasting peanuts.

This invention relates particularly to that class of popping machines in which the corn is placed or fed into a rotary cylinder provided with means for separating and delivering the popped corn.

An object of this invention is the provision of a corn popping machine which may also be utilized as a peanut roaster.

Another object of this invention is the provision of a continuously operating machine, that is, one in which the corn is continuously fed into the machine and the popped corn continuously discharged therefrom.

Another object of the invention is the provision of a machine in which the corn is fed into and the popped corn discharged from the same end of the machine.

A further object is the provision of a machine of the character described which is simple in construction, easy to operate and cheap to manufacture.

To the accomplishment of the foregoing and such other objects as may hereinafter appear my invention consists in the construction, combination and arrangement of parts hereinafter set forth, illustrated in the accompanying drawings which disclose a preferred embodiment of my invention, and then more particularly pointed out in the appended claims.

In the drawings, Figure 1 is an end view of the driven end of the machine and the driving connections. Fig. 2 is a front elevation of the machine. Fig. 3 is a horizontal section taken substantially on line 3-3 of Fig. 2. Fig. 4 is a section taken substantially on line 4-4 of Fig. 3. Fig. 5 is a section taken substantially on line 5-5 of Fig. 3. Fig. 6 is an end view of the cylinder. Fig. 7 is a front view of a detail. Fig. 8 is a side view thereof and, Fig. 9

is a front view of the device being utilized as a peanut roaster, portions thereof being broken away.

In the embodiment of my invention illustrated in the drawings, 1 designates a support having vertical supporting arms or brackets 2 and 3. In the upper ends of brackets 2 are formed the circular bearing sleeves 4 in which is mounted the driving shaft 5 having the driving pulley 6 secured thereto. On this shaft is mounted the large beveled gear 7, the intermediate beveled gear 8 and the small beveled gear 9. These gears are arranged and spaced apart as shown. The bracket 3 is provided at its upper end with the forked or bifurcated portion 10, in which is mounted the shaft hereinafter described.

At the other end of the machine is provided the support 11 which is formed with a central bearing sleeve 12 for the shaft hereinafter to be described, and having secured thereto the feed hopper 13 which terminates in a contracted discharge opening 14, connecting with the sleeve 15 which has a reduced portion 16 which bears in the sleeve or bearing 12.

Mounted between the driving end of the machine and the hopper end thereof is the rotatable cylinder 17 which is provided with a closed end 18 which is provided with a central opening 18' and the end 19 which is of open formation having merely the radiating arms 20 which are joined together by a central disk or sleeve 21 having an opening 22 therethrough. Mounted on the closed end is the beveled gear 20' which is secured to said closed end by the radiating arms 21' which are connected in a central sleeve 22'; this gear 20' meshes with the large gear wheel 7 on shaft 5. Extending through the cylinder 17 is the hollow shaft 23 which at the hopper end projects into the bearing sleeve 12 and at the other end projects through the opening 18', sleeve 22' and rests in the bifurcated portion 10 of bracket 3. To the extremity of this shaft is secured the beveled gear 24 which meshes with the intermediate beveled gear 8 on shaft 5. Mounted in the end of this hollow shaft 23 is the stud 25 having a square end 26 to which is secured the beveled pinion 27 which meshes with the small beveled gear 9 on

shaft 5. Connected to the squared end 26 of the stud 25 is the spiral wire conveyer 23' which extends entirely from one end of the hollow shaft 23 through the other end into the sleeve 15 on the end of the hopper 13 under the discharge opening 14 of said hopper. Mounted about the hollow shaft 23 is the extended sleeve 28 which extends the entire interior length of the cylinder. This sleeve is detachably connected with the hollow shaft 23 by means of set screw 29. Mounted on said sleeve are the radiating arms 30 which are provided with the central sleeves 31 which are secured to said sleeve 28. To these arms 30 is secured the crimped or bent wire conveyer 32, the arms being so disposed as to hold said conveyer in the form of a spiral. In the hollow shaft 23 is provided a plurality of openings 33 which register with a plurality of openings 34 which are provided with the sleeve 28. The cylinder is provided with a door 35 which is hinged at 36 and provided with the fastening means 37.

The operation of the device when used as a corn popper is as follows: The corn is fed into the hopper 13 and delivered into the sleeve 15 through the discharge opening 14. It being understood that the pulley 6 is connected to power, the conveyer 23' will be driven in one direction to feed the material from the hopper end of the machine toward the driving end of the machine until it leaves one of the openings 33 when it will drop into the cylinder 17. The hollow shaft 23 is being rotated by means of the gear connections 24 and 8 oppositely to the direction of rotation of the conveyer 23' and the cylinder 17 is being rotated in the same direction as the conveyer 23' by means of the gear connections 20' and 7. When the material drops out into the cylinder 17 the cylinder is rotating in one direction and the conveyer 32 in the opposite direction. As this conveyer 32 is formed of crimped or bent wire it is obvious that it will only act on larger particles, that is, the popped corn and will have no action on the unpopped corn. It is understood that heat is applied to the outside of this cylinder 17. By the arrangement of the conveyer 32 the popped corn will be fed toward the hopper end of the cylinder and will be discharged from the open end 19 of said cylinder, the unpopped corn remaining in the cylinder for a longer heating.

When it is desired to utilize the machine as a peanut roaster it is only necessary to loosen the set screw 29 and withdraw the hollow shaft 23 from the driving end of the device. The sleeve 28 and the conveyer connected thereto may then be removed through the open door 35. Then the plate or disk 38 which is of the same diameter as the interior of the cylinder 17 and which has the sleeve

or boss 39 provided with a set screw 30 may be inserted through the open door and placed over the open end 19 of the cylinder closing the openings therein. The hollow shaft 23 is inserted from the driving end and is passed through the sleeve 39 and the sleeve 12, the set screw 40 being fastened on said shaft to hold the plate or disk 38 in position, a sleeve 41 provided with a flange 42 being provided with a set screw 43 to prevent the shaft 23 from accidentally moving out through the closed end 19 of the machine. Peanuts may be inserted through the door and the cylinder rotated, heat being applied thereto to properly roast the contents thereof. I also provide a cover or casing 44 covering the entire structure, except the gearing and having the hinged lid 45.

It is, therefore, obvious that I have provided a new and useful device which may be used as a corn popper and very readily transformed into a peanut roaster. This device is simple in construction, operated with facility and is cheap to manufacture. It is readily assembled and taken apart and very easily repaired if necessary.

While I have described and disclosed the preferred embodiment of my invention it is to be understood that I may make changes in the construction thereof and am only to be limited as to the scope of my invention by the terms of the appended claims and that I may make any changes within the scope of said claims without digressing from my inventive idea.

What I claim is:—

1. In a device of the character described, a cylinder, a hollow shaft supporting said cylinder and having openings therein, a conveyer loosely mounted within said hollow shaft, means to rotate said cylinder, and means to operate said conveyer.

2. In a device of the character described, a cylinder, a hollow shaft supporting said cylinder and having openings therein, a conveyer loosely mounted within said hollow shaft, an additional conveyer in said cylinder and connected to rotate with said hollow shaft, means to rotate said cylinder, means to rotate said first mentioned conveyer, and means to rotate said second mentioned conveyer.

3. In a device of the character described, a cylinder, a hollow shaft supporting said cylinder and having openings therein near one extremity thereof, a hopper connected to the other end of said hollow shaft, a conveyer loosely mounted in said hollow shaft to feed material from said hopper to the other end of the shaft, and another conveyer to feed the material through the cylinder back to the end thereof adjacent the hopper.

4. In a device of the character described, a cylinder, a hollow shaft supporting said cylinder, said hollow shaft having openings

therein, a conveyer in said hollow shaft, a sleeve surrounding said hollow shaft having openings therein corresponding and registering with the openings in said hollow shaft, said sleeve having a conveyer secured thereto and means to rotate said cylinder and conveyers in different directions.

5. In a device of the character described, a cylinder having a closed end and an open end, a hollow shaft supporting said cylinder having an inlet at the open end of said cylinder, said shaft having openings therein adjacent the closed end of the cylinder, a conveyer in said hollow shaft to feed the material through the hollow shaft toward the closed end of said cylinder and another conveyer in said cylinder to feed the material through the cylinder to the open end thereof.

6. In a device of the character described, a cylinder having a closed end and an open end, a hollow shaft supporting said cylinder having an inlet at the open end of said cylinder, said shaft having openings therein adjacent the closed end of the cylinder, a conveyer in said hollow shaft to feed the material through the hollow shaft toward the closed end of said cylinder and another conveyer in said cylinder to feed the material to the open end of said cylinder, said second mentioned conveyer being formed of crimped or bent wire to form suitably spaced loops therein whereby it will operate only on larger particles.

7. In a device of the character described, a cylinder, a hollow shaft supporting said cylinder and having an inlet and also outlet openings, a sleeve secured to said hollow shaft having arms radiating therefrom, a conveyer connected to said arms, a conveyer loosely mounted within said shaft,

means to rotate each conveyer and means to rotate said cylinder.

8. In a device of the character described, a support having brackets secured thereto, a shaft mounted in said brackets having gear wheels thereon, another support having a bearing formed therein and a hopper secured thereon which terminates in a horizontally disposed sleeve fitting in said bearing, a cylinder, a hollow shaft mounted in one of said first mentioned brackets and in said bearing on said second mentioned support, a conveyer in said hollow shaft, another conveyer in said cylinder, a gear on said cylinder connected to one of said first mentioned gears, a gear connected to said hollow shaft and meshing with one of said first mentioned gears and another gear connected to said first mentioned conveyer and meshing with one of said first mentioned gears.

9. In a device of the character described, a plurality of supports, a hopper secured to one of said supports and terminating in a horizontally disposed sleeve, a bearing in said support with which said sleeve registers, a cylinder, a hollow shaft supporting said cylinder and mounted on said supports, the inlet end thereof entering said bearing in alinement with said sleeve, said hollow shaft having discharge openings near its other end, a conveyer in said hollow shaft, a conveyer in said cylinder outside of said hollow shaft, means to rotate each conveyer and means to rotate the cylinder.

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

FRED C. GROB.

Witnesses:

J. C. SNYDER,
S. M. SNYDER.