

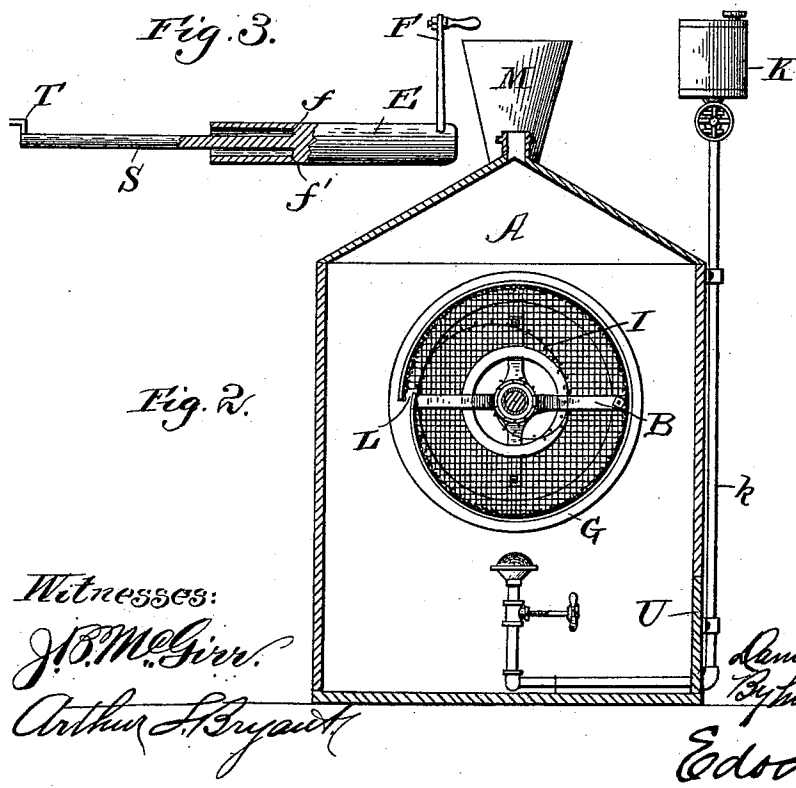
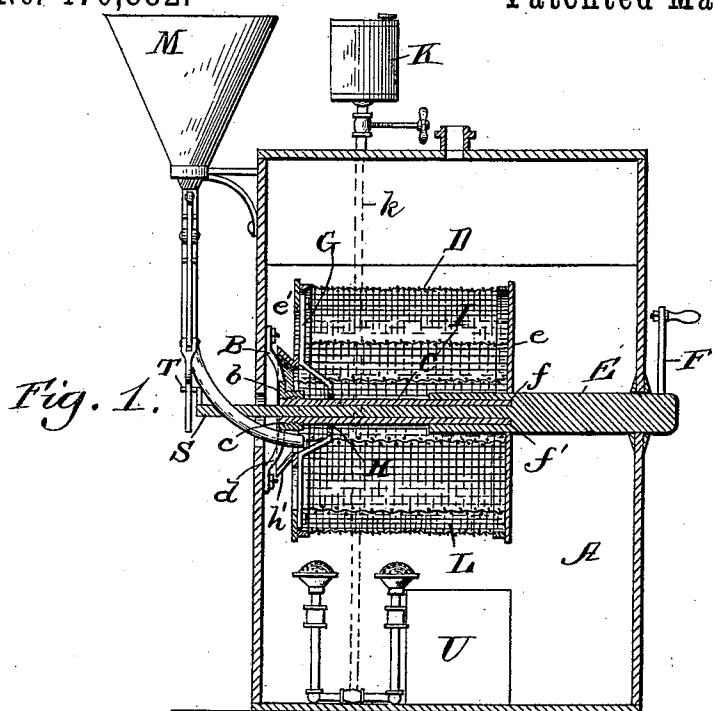
(No Model.)

2 Sheets—Sheet 1.

D. SWENSON.
CORN POPPER.

No. 470,882.

Patented Mar. 15, 1892.



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Fig. 4.

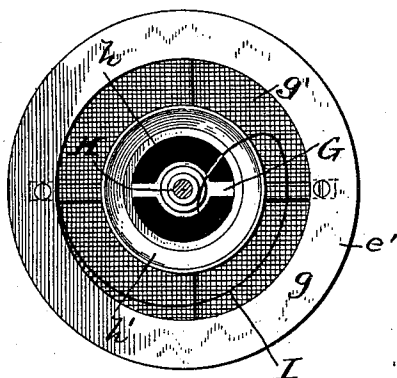


Fig. 5.

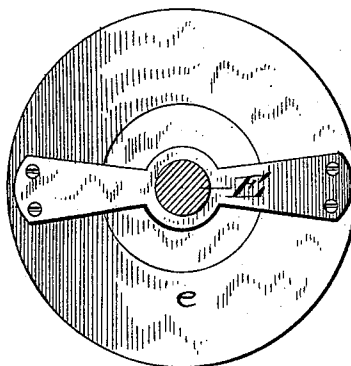


Fig. 7.

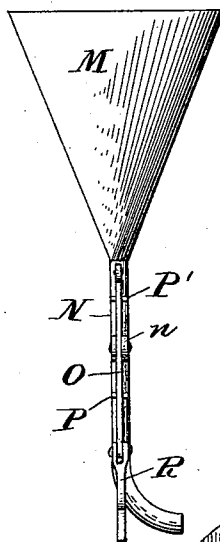


Fig. 8.

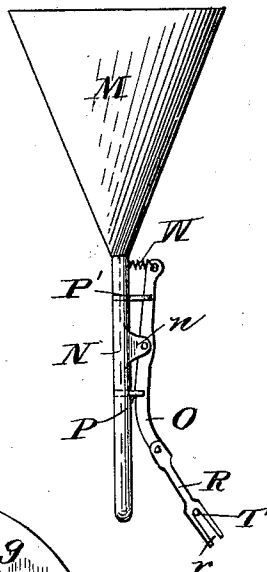
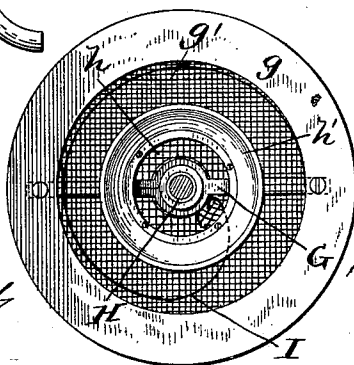


Fig. 6.



Witnesses:
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Arthur L. Bryant.

Inventor:
Daniel Swenson.
By his Attorneys,
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UNITED STATES PATENT OFFICE.

DANIEL SWENSON, OF KANSAS CITY, MISSOURI.

CORN-POPPER.

SPECIFICATION forming part of Letters Patent No. 470,882, dated March 15, 1892.

Application filed December 9, 1891. Serial No. 414,528. (No model.)

To all whom it may concern:

Be it known that I, DANIEL SWENSON, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Corn-Poppers; and I do hereby 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.

My invention relates to improvements in corn-poppers; and the objects are, first, to provide a simple and easily-operated popper which will automatically deliver the corn as fast as popped and will not burn the same, and, secondly, to provide means for automatically feeding a certain quantity of unpopped corn to the popper.

With these ends in view my invention consists in the peculiar construction and arrangement of parts, as will be hereinafter fully pointed out and claimed.

In the accompanying drawings, Figure 1 is a vertical longitudinal sectional view of a popper constructed in accordance with my invention. Fig. 2 is a transverse sectional view on the line *xx* of Fig. 1. Fig. 3 is a detail view of the operating crank or shaft. Figs. 4 and 5 are plan views of one end of the popping-drum. Fig. 6 is an elevation of one end of the popping-drum. Figs. 7 and 8 are side views of the hopper and feed-valves.

Like letters of reference denote corresponding parts in all the figures of the drawings, referring to which—

A designates an inclosing case or shell of any desired size and shape.

B designates a spider or supporting-frame, which consists of a plate or member *b*, provided with a central threaded aperture *c* and a series of outwardly-extending curved arms *d*. The arms *d* are connected near their outer ends to one of the end walls of the casing or shell A.

In the threaded aperture *c*, in the spider or frame B, is screwed one end of a sleeve C, which extends longitudinally of the casing A

and has its other end supported in a manner to be hereinafter described.

D designates a drum or cylinder, which is arranged within the casing A around the sleeve C. A shaft E extends through and is connected to one end *e* of the drum D, and to the outer end of this shaft beyond the casing A is connected a crank or handle F. The shaft E extends inside of the drum a short distance, and the inner end thereof is slotted at *f f'* to provide a tongue S, which extends continuously through the sleeve C and extends beyond the casing or shell A. One end of the sleeve C is secured in the spider or frame B and the other end fits in the slots *f f'* in the inner end of the shaft E.

The drum D is provided with two heads *e e'*, one of which *e* is made solid, and it is to this solid end that the shaft E is connected. The other end *e'* of the drum consists of an annular metallic rim or ring *g*, and the remainder of said head is formed of wire-netting *g*. A central opening or aperture *h* is left in the head *e'*, and around this central opening is arranged a flaring rim *h'*. The end *e'* is braced by means of a brace G, which is fastened at its ends to the metallic rim *g* and extends across the opening or aperture *h*. This brace may extend straight across the aperture *h*, as shown in Fig. 4, or the brace may be bent to extend into the interior of the drum, where it crosses such aperture, as shown in Figs. 1 and 5. In both cases the brace G is provided with an aperture H, through which the sleeve C passes.

I designates a spirally-shaped conduit, which extends from the central aperture *h* in the head *e'* to the other head *e* of the drum. This conduit I is preferably made of wire-netting or other suitable material, and the portion of such conduit which forms the side walls of the drum D is made finer than the other portions of said conduit.

L designates the outlet or discharge opening in the side of the drum D.

K designates a gasoline-tank, which is supported in a suitable elevated position and is connected, by means of a supply-pipe *k* with

one or more (preferably two) burners arranged within the casing A below the drum D.

M designates a hopper suitably attached to or supported from the casing A, and N designates a pipe or conduit which extends from the lower side of said hopper through the wall of the casing A and terminates within the flaring rim *h'* on the head *e'* of the drum D.

To one side of the conduit or pipe N is attached a bracket or stud *n*, on which is fulcrumed a lever O.

P P' designate two valves, which are arranged in the pipe or conduit N and connected to the lever O on opposite sides of its fulcrum. To the lower end of the lever O is pivotally attached a crank-arm R, which is provided with a longitudinal slot *r*, which opens through the lower end thereof. On the end of the tongue S is fixed a pin T, adapted to fit in the slot *r* in the crank-arm R.

W designates a spring, which is arranged between the pipe N and the lever O at one side of the fulcrum thereof to normally keep the lower part in position within the pipe N.

U designates a door arranged in the wall of the casing A near the bottom thereof, through which access can be had to the interior of the casing.

The operation of my invention is as follows: The hopper M is filled with corn and the burner or burners within the casing lighted. The shaft E and the drum D attached thereto are rapidly revolved about the sleeve C by means of the handle F. The pin T fits in the slot *r* in the crank-arm R, and at each revolution of the tongue S the lever O is turned on its fulcrum and the valve P' withdrawn from the pipe N to allow corn from the hopper M to pass through the pipe N into the drum D. As the valve P is withdrawn the other valve P' is forced into and across the passage in the pipe N, so that only the corn which was between such valves passes into the drum. As the tongue S turns further around, the spring W forces the lever S back into its normal position and allows corn to pass from the hopper M into and fill the space in the pipe or conduit N between the valves P P' therein. As the corn leaves the pipe N it passes into the spiral conduit, and as the drum is revolved the popped corn is delivered through the outlet L of such conduit into a suitable receptacle. Should it be desired to cool the contents of the drum D, the shaft E and the drum attached thereto are moved longitudinally on the sleeve C to take the drum out of the path of the burners. This longitudinal movement of the shaft disengages the pin T from the slot *r*, and the drum can be revolved without causing any corn to pass from the hopper through the pipe N.

I am aware that changes in the form and proportion of parts of the devices herein shown and described as an embodiment of my invention can be made without departing

from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes and alterations as fairly fall within the scope of my invention.

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

1. The combination, with an inclosing case or shell, of a sleeve attached to the case or shell, a drum fitted around said sleeve and movable longitudinally thereon, a source of heat arranged within the inclosing shell, and means for revolving the drum, substantially as described, for the purpose specified.

2. The combination, with an inclosing case or shell, of a sleeve secured to one of the walls of the shell, a drum fitted around said sleeve and movable longitudinally thereon, a shaft passing through and attached to one of the heads of the drum and supporting the free end of the sleeve, a source of heat arranged with the case or shell below the drum, and means for revolving the shaft and attached drum about the stationary sleeve, substantially as described, for the purpose specified.

3. The combination, with an inclosing case or shell, of a stationary sleeve arranged within said shell, a drum fitted around said sleeve and having one of its ends closed and the other provided with a central opening and a spiral-shaped conductor leading from such opening and forming the sides of the drum, a source of heat arranged within the inclosing shell below the drum therein, and means for rotating said drum, substantially as described, for the purpose specified.

4. The combination, with an inclosing case or shell, of a sleeve secured to one wall of the case or shell, a drum fitted around said sleeve, a shaft passing through and secured to one end of the drum and supporting one end of the fixed sleeve, a tongue attached to said shaft and extending through the sleeve, a source of heat arranged within the case below the drum, a hopper, a pipe connecting the hopper with the drum, valves arranged in said pipe, connections between the tongue and said valves, and means for revolving the drum and its attached shaft, substantially as described, for the purpose specified.

5. The combination, with an inclosing case or shell, of a sleeve attached at one end to one of the walls of the shell, a drum fitted around said sleeve, a shaft passing through and secured to one end of said drum, the inner end of said shaft being slotted to receive the free end of the sleeve, a tongue connected with the shaft at one end and extending through the sleeve, a hopper, a pipe connecting the hopper with the drum, a lever fulcrumed on the pipe, a spring arranged between the pipe and one end of the lever, valves arranged in the pipe and connected to the lever on opposite sides of the fulcrum thereof, a slotted crank-arm attached to the

lower end of said lever, a pin attached to the
outer end of the tongue and adapted to be
fitted in the slot in the crank-arm, a source
of heat arranged within the shell or case, and
5 means for revolving the drum and its at-
tached shaft, substantially as described, for
the purpose specified.

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

DANIEL SWENSON.

Witnesses:

JOHAN CARLSON,
P. J. NILSSON.