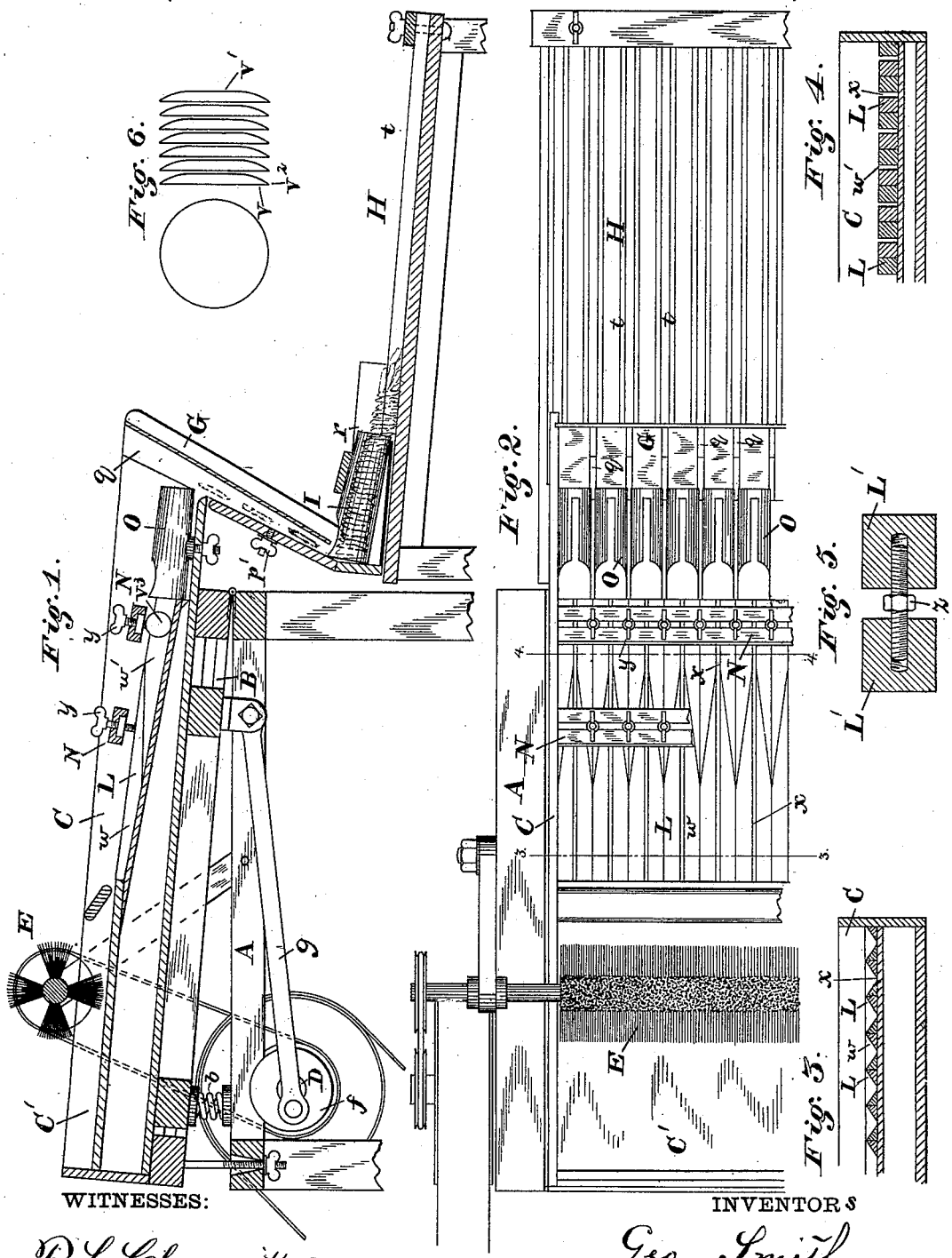
(No Model.)

G. SMITH & E. S. BRIGHT.

CRACKER FACING AND STACKING MACHINE.

No. 420,743. Patented Feb. 4, 1890.



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CRACKER FACING AND STACKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 420,743, dated February 4, 1890.

Application filed May 15, 1889. Serial No. 310,858. (No model.)

To all whom it may concern:

Be it known that we, GEORGE SMITH and EDWARD S. BRIGHT, citizens of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Cracker Facing and Stacking Machines, of which the following is a specification.

The object of this invention is to provide a machine for "stacking" or arranging cakes in rows, and at the same time facing the cakes—that is, placing them with their tops all facing the same way, as hereinafter set forth.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of the machine. Fig. 2 is a top plan view of same. Figs. 3 and 4 are cross-sections through the hopper on lines 3 3 and 4 4 of Fig. 2. Fig. 5 is a cross-section, larger scale, of one guide, showing how it may be expanded or contracted. Fig. 6 is a view illustrating the manner of "facing" the cakes.

This machine for the most part is shown and described in another application for Letters Patent of even date, Serial No. 310,859, wherein are described and claimed a vibrating hopper and inclined chute-frame and guides for the cakes, and as such devices form no part of the present invention they will not be particularly described herein.

The letter A designates a stand on which an inclined frame B is hinged, springs *b* supporting the frame. The hopper C vibrates longitudinally on the said frame, and is moved by the drive-shaft D, crank-head *f*, and pitmen-rods *g*. A brush E revolves above the hopper. At the front end of the hopper is a depending chute-frame G, having vertical partitions *q*, which are laterally adjustable and held by means of set-screws *p'*. A foot *r* projects from the chute-frame forward over the delivery-table H. Tubes I are on the foot of the chute-frame.

All of the parts above named are shown in the other application for Letters Patent already referred to.

Fig. 6 shows the cakes which this machine is adapted to face. It will be seen the cakes have a flat bottom *v* and a slightly-rounded or convex top *v'*. A cake of this design standing upright on its edge v^2 will fall over with its top side down. It will do this because its gravity inclines it that way. We take advantage of this fact to improvise means for facing these cakes.

We place in the front part of the hopper C a series of parallel guides L, which have at their upper ends beveled sides *w* and at their lower ends vertical sides *w'*. It is immaterial as to how these guides are constructed or shaped, if their upper ends next to the rear part of the hopper have beveled sides, which terminate gradually into the vertical sides at their lower ends next to the chute which discharges from the hopper. In the present instance the lower end of the guide L is thickest and the upper end thinnest, and gradually increases in thickness from said upper to the lower end. The guides L are spaced apart so as to leave between each two passages *x* broad enough for a cake when upright on its edge. Cross-bars N are above the parallel guides L, and set-screws *y* in said bars serve to hold the guides down to their position. At the lower end of the guides we have shown tubes O.

The cakes are to be placed in bulk or mass upon the uppermost or rear part C' of the inclined hopper. The motion of the hopper will cause the cakes to slide down to the upper end of the guides, which has beveled sides *w*. When a cake reaches these, it will rest upon one of the said beveled sides and thereby assume an inclined position; its lowest side will be in one of the passages *x*. As the cake continues to slide along the beveled side *w* the angle of its inclination will gradually change, and it will assume more and more nearly an upright position until it reaches the vertical sides *w'*, whereupon it will rest on its edge v^2 and be perfectly upright, as shown in Fig. 1, at v^3, which designates a cake in the described position. The cake will, upon leaving said passage *x*, fall or turn over with its top side *v'* downward. We prefer to use the tubes O, in which the cakes may fall or turn over. When the cakes reach the front end of the tubes O, or, in case these tubes are not used, when they reach the top edge of the chute, they will tilt and drop

edgewise down the passages of the chute-frame G into the tubes I. As each cake drops into the tube I it will take position on its edge behind the cake that dropped previous. The cakes with their tops all facing one way will gradually move forward out of the tube I and onto the delivery-table H and form rows between the guide-bars *t*, the crackers first dropped into the tube I holding those dropped subsequently in vertical or nearly vertical position. From this table the cakes may be lifted by manual labor.

It will thus be seen our invention, broadly considered, consists of means whereby cakes which lay in a confused mass may be arranged in rows, and with the tops of all the cakes facing the same direction. To do this work by a machine is new and useful, as it expedites the operation and effects important economies.

The guides L may be said to comprise an attachment which may be placed at any time in the machine referred to, for which we have this day executed another application for Letters Patent.

In Fig. 5 we show by a cross-section how each guide may be made adjustable in width, so as to form passages *x* of any desired breadth, and thereby suit cakes of any thickness. This adjustability may be effected by making each guide in two longitudinal pieces L′, and providing a screw *z* to connect them. By turning the screw the said two pieces may be expanded or spread apart or may be brought closer together.

Having described our invention we claim—

1. In a machine for arranging crackers or cakes, the combination, with the hopper C, of a series of parallel guides L, having their upper portions inclined and their lower ends vertical, the said guides gradually converging from such incline to vertical form, whereby the cakes or crackers are turned in their descent so as to present the tops of the cakes facing all in one direction, substantially as specified.

2. In a machine for arranging crackers, &c., the combination, with the hopper, the guides gradually converging from an inclined angle to a right angle at the other end of the tube O, in which the crackers or cakes are turned with their top sides down, the inclined chute G, and the tube I, by means of which the cakes or crackers are delivered with their narrow faces all in one direction, as shown and described.

In testimony whereof we affix our signatures in the presence of two witnesses.

GEORGE SMITH.
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Witnesses:
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