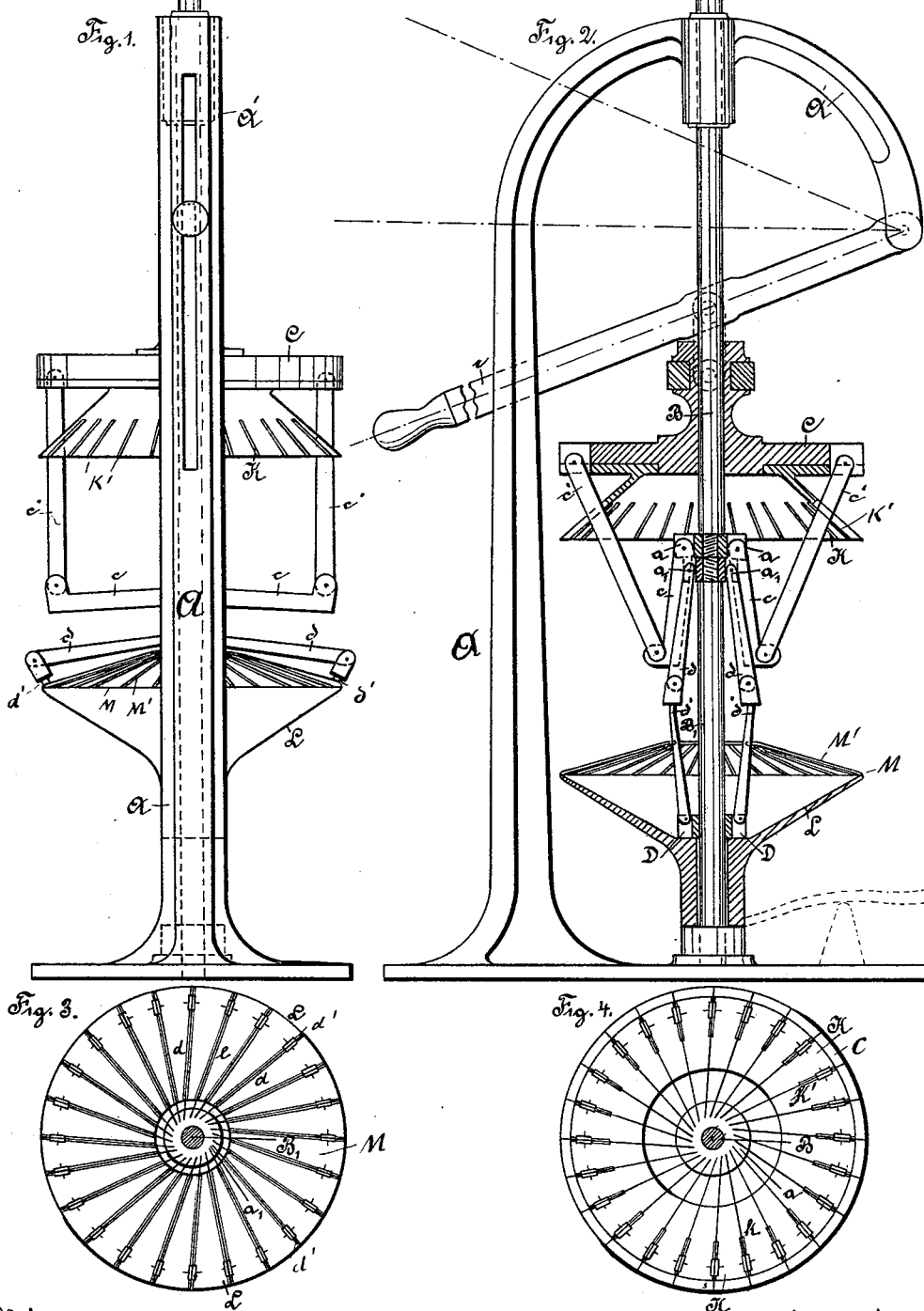


(No Model.)

E. SALTZKORN & L. J. F. NICOLAI.  
WRAPPER PLAITING MACHINE.

No. 386,932

Patented July 31, 1888.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

EMIL SALTZKORN AND LUDWIG JOHANN FRIEDRICH NICOLAI, OF DRESDEN,  
GERMANY.

## WRAPPER-PLAITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 386,932, dated July 31, 1888.

Application filed December 20, 1887. Serial No. 258,454. (No model.)

*To all whom it may concern:*

Be it known that we, EMIL SALTZKORN and LUDWIG JOHANN FRIEDRICH NICOLAI, of the city of Dresden, in the Empire of Germany, have invented certain new and useful Improvements in Wrapper-Plaiting Machines, of which the following is a specification.

This invention relates to an improved machine for plaiting or creasing paper wrappers such as are used on bottles, &c.

The invention consists in the combination of two plates mounted toward each other, each plate being provided with a series of hinged blades which are pressed against the paper at opposite sides, thereby producing radial creases or plaits in said paper.

The invention also consists in the construction and combination of parts and details, as will be fully described and set forth hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is an end elevation of my improved machine for plaiting or creasing paper wrappers, some of the blades being omitted. Fig. 2 is a longitudinal vertical sectional elevation of the same, some of the blades being omitted. Fig. 3 is a top view of the bottom blades in raised position. Fig. 4 is a bottom view of the upper blades in the extended position.

Similar letters of reference indicate corresponding parts.

The standard A is provided with a semicircular arm, A', at its upper end. B B' is a spindle having its lower end secured in the base of the standard A and the upper end secured at the middle of the curved arm A'. A plate, C, mounted to slide on the spindle B B', is connected by links (shown in dotted lines) with a lever, e, pivoted to the end of the arm A' and passed through a vertical slot in the standard A.

An inverted funnel-shaped plate, K, is secured to the under side of the plate C, and is provided in its rim with a series of slots, K'. The plate C is also provided in its rim with notches, between which the upper ends of links c' are pivoted, the lower ends of said rods being pivoted to the swinging ends of blades c, pivoted in slots of the hub a, secured on the spindle B B', at or near the center of the same, said links c' passing through the

slots K' in the inverted funnel-shaped plate K. A funnel-shaped plate, L, having a central hub, is mounted to slide on the lower part of the spindle B B', and to its center are pivoted a series of links, d', the swinging ends of which are pivoted to the lower or outer ends of a series of blades, d, having their opposite ends pivoted in notches of the hub a' on the spindle B B', and adjacent to the hub a. The funnel-shaped plate L is provided with a top, M, having the shape of an inverted funnel and provided with a series of slots, M', extending from the center toward the rim, and serving as guides for the upper ends of the links d. The slots K' in the plate K and the slots M' in the plate M are not arranged radially, but in such a manner as to be tangential to the spindle B B', so that the creases or plaits formed by the blades are not radial, but slightly inclined.

The plate C is raised by means of the lever e, and the plate L is raised by means of a foot-lever (shown in dotted lines) or by any other suitable contrivance. When said plates L C are raised, their blades c and d are in the positions shown in Fig. 1. A sheet of paper having the proper shape is then placed upon the blades d and the said plates C and D lowered, whereby the blades are brought into the positions shown in Fig. 2, as are also the blades c, and the latter forced in between the blades d. Said blades c carry part of the paper in between the blades d, whereby the paper is creased or plaited. The plates are then lifted for the purpose of separating them, the plaited or creased sheet is removed and replaced by a fresh sheet, and so on.

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

1. In a machine for making creased or plaited paper wrappers, the combination, with a vertical spindle, of two hubs on the same, a set of blades hinged to each hub, the blades on one hub being adapted to pass in between the blades of the other, and links connecting the swinging ends of the blades with plates mounted on the spindle to move toward and from each other, substantially as shown and described.

2. In a machine for making creased or plaited paper wrappers, the combination, with a spin-

dle, of two hubs on the same, a set of blades pivoted to each hub, the blades of one set being adapted to pass in between the blades of the other, two plates mounted to slide toward and from each other on the spindle, links connecting said plates and the free ends of the blades, and guides on said plates for guiding the links, substantially as shown and described.

3. In a machine for making creased or plaited paper wrappers, the combination, with a vertical spindle, of the plates C and L, mounted to slide toward and from each other, the blades *c* and *d*, pivoted on hubs on the spindle, the links *c'*, connecting the ends of the blades *c* with the rim of the plate C, the links *d'*, connecting the blades *d* with the center of the

plate L, the inverted funnel-shaped plate K on the under side of the plate C, said plate being provided with slots K' for guiding the links *c'*, and the inverted funnel-shaped plate M on the plate L, and provided with slots M' for guiding the links *d'*, substantially as shown and described.

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

EMIL SALTZKORN.

LUDWIG JOHANN FRIEDRICH NICOLAI.

Witnesses:

RUDOLF SCHMIDT,

PAUL DRUCKMÜLLER.