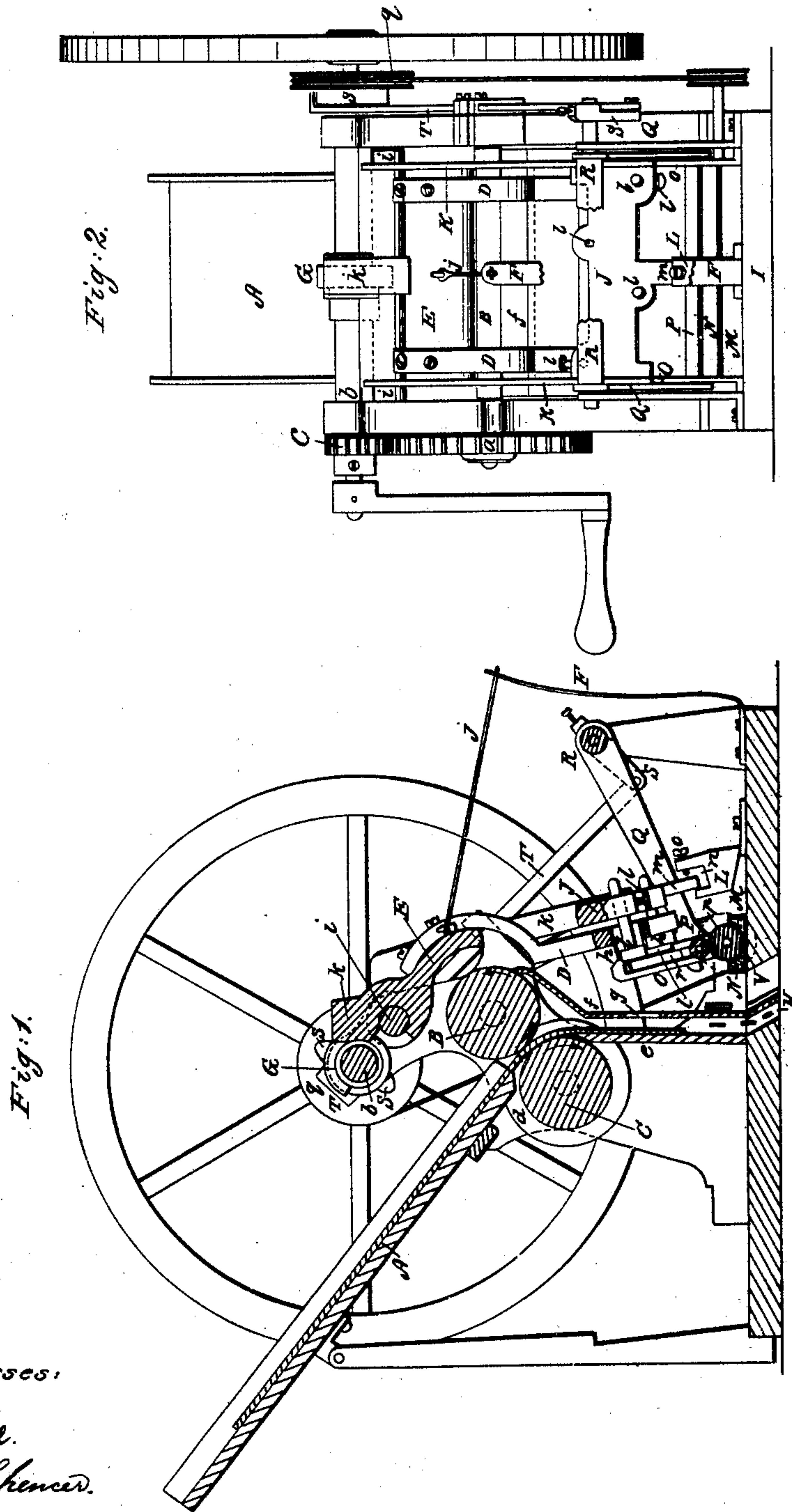


G. KOBER.  
Lozenge Machine.

No. 28,381.

Patented May 22, 1860.



Witnesses:  
H. Tuschke.  
R. S. Spencer.

Inventor:  
G. Kober.



# UNITED STATES PATENT OFFICE.

GOTTFRIED KOBER, OF NEW YORK, N. Y.

## MACHINE FOR MAKING LOZENGES.

Specification of Letters Patent No. 28,381, dated May 22, 1860.

*To all whom it may concern:*

Be it known that I, GOTTFRIED KOBER, of the city, county, and State of New York, have invented a new and Improved Machine for Making Lozenges; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in

10 which—

Figure 1 is a longitudinal vertical section of my invention. Fig. 2 is a front elevation of the same.

Similar letters of reference in both views indicate corresponding parts.

The object of this invention is to produce a simple and efficient mechanism for cutting out lozenges, giving to them the desired color and impressing them with suitable letters or inscriptions.

The paste, as indicated by red outlines in Fig. 1, passes from the feed board, A, to the gaging rollers, B, C, which serve to reduce the same to the desired thickness.

25 The roller, B, is rotated in the direction of the arrow marked on it in Fig. 1, by means of a gear wheel, *a*, which receives motion from the driving shaft, *b*, by a pinion, *c*, and the roller, C, rotates in the direction of the arrow marked thereon in Fig. 1, simply by the friction produced by the paste as it passes through between the rollers. The last named roller, C, is furnished with projecting flanges, *d*, on its sides to prevent the paste running off sidewise. After having passed through between the rollers the paste runs down over the scraper, *e*, that serves to keep the roller, C, clean, and which is made of wood or some other soft substance so as not to injure the cutters. Another scraper, *f*, serves to clean the roller, B, and this scraper which is made of metal is perforated with apertures, *g*, large enough and in the proper position to admit the cutters, *h*. These cutters are formed of small tubes of sheet steel, which are inserted into arms, D, that are secured to a shell, E, which vibrates on a rock shaft, *i*. A spring, *f*, which connects with the shell, E, by means of a rod, *j*, serves to draw the same back from the roller, B, and a cam, G, on the driving shaft by coming in contact with a dog, *k*, which projects from the upper part of the shell turns the latter in toward the roller, B. By this motion the cutter arms, D, together with the cutters, *h*, are thrown in to-

ward the scraper, *e*, and the cutters are so adjusted that they penetrate through the apertures, *g*, in the scraper, *f*, and that their cutting edges are forced up flat against the surface of the scraper, *e*. The number of cutter arms depends entirely upon the width of the shell, E, or feed board, A, and the number of the apertures, *g*, in the scraper, *f*, corresponds to the number of cutters used. The cam, G, is so arranged that for each revolution of the driving shaft the cutters are forced up twice against the scraper, *e*, and with each motion the cutters fill up with paste, and as they recede by the action of the spring F, the paste adhering to the outside of the cutters, is thrown off by the action of the apertures, *g*, in the scraper, *f*, and all the waste paste or the scraps drop down through a slot, H, in the bed plate, I, of the machine.

The lozenges contained in the cutters are pushed out by the action of pistons, *l*, which are adjusted in a plate, J, so as to fit nicely into the cutters, *h*, and so that their surfaces are level or nearly so with cutting edges of the cutters, when the latter are drawn back by the action of the spring, F. The plate, J, that carries the pistons is suspended from the arms, K, which hang loosely on the rock shaft, *i*, so that they, together with the plate, J, are drawn toward the scraper, *f*, by their own gravity. A projection, *m*, extends from the plate, J, into a slotted standard, L, whereby the arms, K, together with the plate and pistons are kept in an inclined position, as clearly shown in Fig. 1. The projection, *m*, fits quit loosely into the slot, *n*, in the standard, L, and the amount of play of said projection in the slot is determined by a set screw, *o*.

The faces of the pistons, *l*, are provided with suitable letters or inscriptions, and as the cutters, *h*, are thrown back suddenly by the action of the spring, F, said letters are impressed into the surfaces of the lozenges before the latter have time to escape from the cutters. In order to make said letters or inscriptions more visible, and at the same time to give to the lozenges a more lively and ornamental appearance it is desirable to apply some coloring matter to the faces of the pistons before they come in contact with the lozenges. To obtain this object a vat, M, is arranged on the bed-plate, I, and a roller, N, is made to rotate



in this vat by means of a band-wheel, *p*, which receives motion from a band-wheel, *q*, on the driving shaft. The axle of the roller, *N*, has its bearings in two inclined standards, *O*, which extend up beyond the pistons, *l*, and which are furnished with slots, *r*, that form the guides for the axle of the coloring roller, *P*. The axle of this roller extends on each side through a forked arm, *Q*, and both these arms are rigidly attached to a rock-shaft, *R*, to which an oscillating motion is imparted by means of a cam, *S*, on the driving shaft that actuates a slotted bar, *T*, which connects with a crank, *s*, on said rock-shaft. When left to themselves the arms, *Q*, together with the coloring roller, *P*, sink down until the surface of the latter rests on the surface of the roller, *N*, and if some coloring matter is placed into the vat, *M*, a portion of it is taken up by the roller, *N*, and communicated to the coloring roller, *P*, and if the cam, *S*, comes in contact with the hooked end of the bar, *T*, the roller, *P*, is raised so as to sweep over the faces of the pistons, *l*. The cam, *S*, is placed in such relation to the cam, *G*, that the coloring roller, *P*, begins to rise just as the cutters begin to come in contact with the paste, and that color is applied to the pistons each time just before they come in contact with the lozenges cut out by the cutters. The pistons are secured in the plate, *J*, by means of set screws, *I*, so that they can be taken out and replaced by others whenever desired.

The lozenges as they are pushed out of the cutters drop down through an opening, *V*, in the bed-plate, and an endless apron may be so arranged that it carries them off to the drying-rooms. The scraps on the other hand may be collected in a basket or another endless apron may be so arranged that it carries the scraps off keeping them carefully separated from the lozenges.

This machine is very simple in its construction and operation and all its working parts are so arranged that they can easily be adjusted or replaced by new ones when worn, and the cutter arms as well as the pistons can readily be changed so as to conform to different sizes of lozenges.

I do not claim broadly the combination of the pistons with the coloring roller.

What I claim as new, and desire to secure by Letters Patent, is:—

1. The arrangement and combination of the vibrating arms, *D*, the spring, *F*, cutters, *h*, scrapers, *e* and *f*, and pistons, *l*, constructed and operating substantially as and for the purpose specified.

2. In combination with the pistons, *l*, and cutters, *h*, the coloring roller, *P*, when the same is operated by vibrating arms, *Q*, or their equivalents, so as to sweep over the faces of the pistons, substantially in the manner and for the purpose described.

G. KOBER.

Witnesses:

WM. TUSCH,  
R. S. SPENCER.