

No. 709,049.

Patented Sept. 16, 1902.

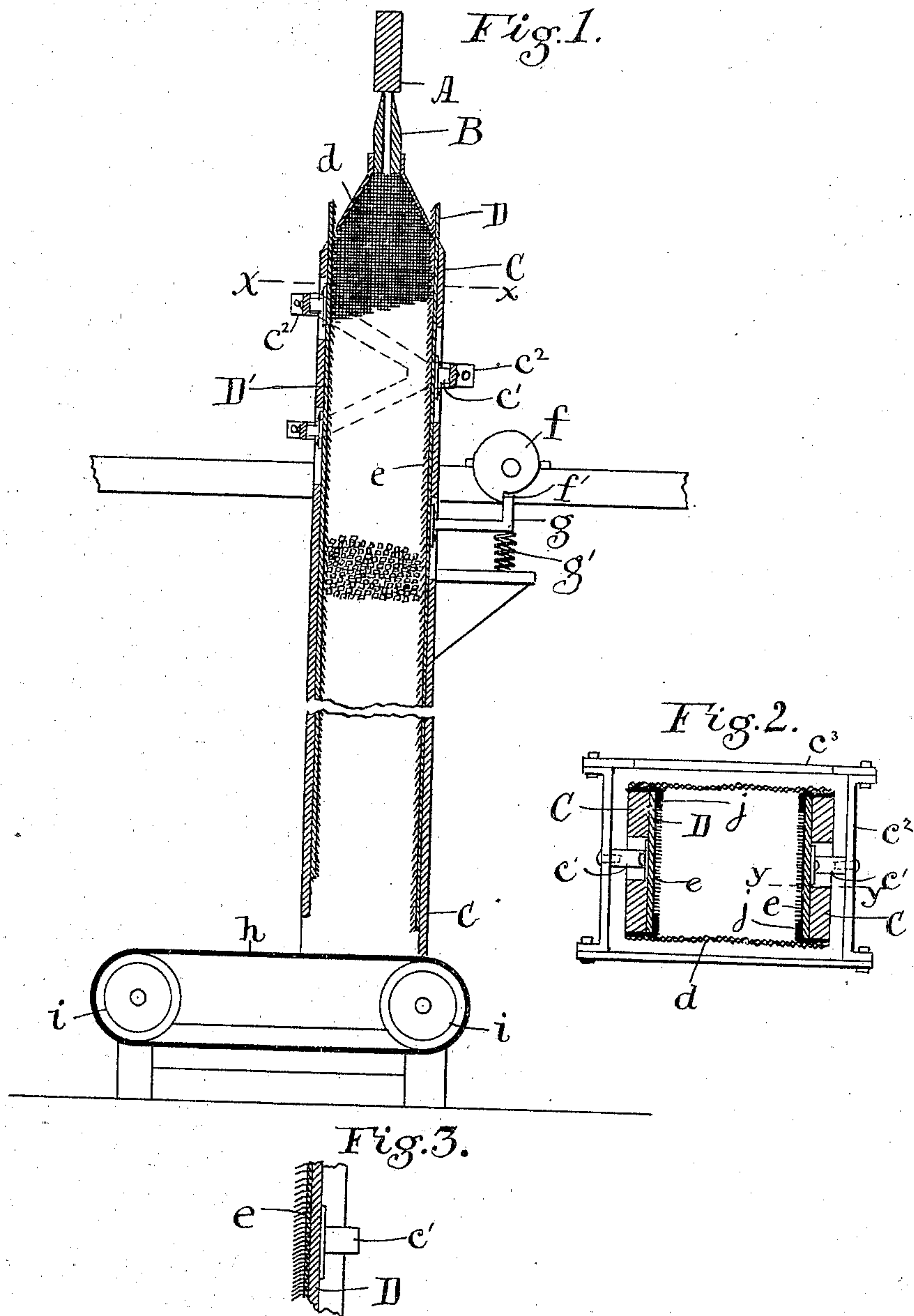
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MACHINE FOR FORMING AND DRYING TOOTHPICKS.

(Application filed Oct. 19, 1901.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

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MACHINE FOR FORMING AND DRYING TOOTHPICKS.

SPECIFICATION forming part of Letters Patent No. 709,049, dated September 16, 1902.

Application filed October 19, 1901. Serial No. 79,223. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. SCAMMAN, a citizen of the United States of America, and a resident of Portland, Cumberland county, State of Maine, have invented certain new and useful Improvements in Machines for Forming and Drying Toothpicks, of which the following is a specification.

My invention relates to a machine for forming and drying toothpicks; and it is particularly designed as an improvement on the apparatus shown in Letters Patent No. 521,736, issued to me August 29, 1894. In that apparatus the toothpicks were formed by passing a veneer strip over the cutting edges of a toothpick-knife, the picks being formed by a cutting-block which pressed the strip down onto the knife by a rapid reciprocating motion, and the picks as fast as formed dropped down between the two halves of the knife. A vertical spout extending downward from beneath the knife caught the picks as they fell, and at the lower end of the spout, which was supposed to be kept full of picks at all times, there was a telescoping end, which was designed to drop down to elongate the spout at just the right speed to make room for the picks as they fed in at the top of the spout. In actual practice with this device it was found that the picks would not settle down evenly throughout the whole length of the spout, but they would form natural arches within the spout, obstructing the uniform downward movement of the picks.

The design of my present invention is to secure a positive downward movement of the picks, so that they will pass slowly downward through the spout in just the same rate that they are fed into the top of the spout, and I carry out this design by means of the apparatus hereinafter shown and described.

I illustrate my invention by means of the accompanying drawings, in which—

Figure 1 is a general vertical section. Fig. 2 is an enlarged cross-section on the line $x x$ of Fig. 1, and Fig. 3 is a section on the line $y y$ of Fig. 2.

B represents the stationary toothpick-knife, made in two parts, and A is the cutting-block, which reciprocates on the top of the knife,

forcing the picks down between the two halves of the knife in a manner well understood.

C is the vertical spout, having a contracted upper end fitting under the knife for receiving the picks as they pass down through the knife. Two of the opposite sides of the spout are made of wood or some substantial material, and the remaining sides are composed of wire-gauze or other pervious material to allow of the passage of a current of heated air for drying the picks as they pass downward through the spout. The parts so far described are common to my said Patent No. 521,736 and need no further description here. For the purpose of insuring a regular and steady motion of the column of picks down through the spout I provide one or more vertically-disposed plates, as D, each plate forming a lining or surface for the inside of the spout from top to bottom. These plates, as shown, are provided with an inner surface of some pile-like material, as card-cloth e , where they come in contact with the picks. The plates are held in suitable guides j , so that they are free to move vertically, and the opposite plates are connected together, as herein shown, by means of a frame or yoke $c^2 c^3$, connecting with studs c' , which project out from the rear of each plate through a slot formed in the spout. Vertical motion is imparted to one plate and by it transmitted to the opposite plate. As here shown, I produce a slow downward motion and a quick return by means of a cam f , acting on an arm g , connected with the plate D. The cam as it turns slowly forces the plates down, and when the arm comes around to the shoulder f' the spring g' quickly returns the plates to their upper position. The speed of the cam is so adjusted as to lower the plates just fast enough to carry the column of picks down as fast as new picks are fed in at the top, so that the spout will be kept full at all times. It will be seen that as the plates pass slowly downward they will carry the picks with them as the points of the pile-surface are directed downward; but as the plates are lifted quickly they will not lift the column of picks, but will secure a new hold and continue to move the picks downward. This reciprocating motion of the plates

is repeated indefinitely, so that the picks are prevented from lodging in the spout. The picks are removed from the lower end of the spout by any suitable means—such as the belt *h*, running over the pulleys *i*; but this portion of the apparatus is no portion of my invention, the essential feature of which is the reciprocating plate for carrying downward the column of picks.

10 It may under some circumstances be practical to omit the pile-surface, relying on the friction of the picks against the smooth surface of the plate to carry the column down and the rapid motion of the plates, combined
15 with the full spout, to allow the plates to slide up without carrying upward the column of picks.

I claim—

1. In a machine for making and drying
20 toothpicks, the combination of a toothpick-knife and a cutting-block, of a vertical spout for receiving the picks as formed, means for removing the picks from the lower end of the spout, a plate lining one of the sides of said
25 spout and having a limited vertical motion therein, a lining for the inner surface of said plate having a pile-like inner surface and means for vertically reciprocating said plate.

2. In a machine for making and drying
30 toothpicks, the combination of a toothpick-knife and a cutting-block, of a vertical spout for receiving the picks as formed, means for removing the picks from the lower end of the spout, two of the sides of said spout being
35 formed of pervious material and each of the remaining sides having on its inner surface a plate adapted to have a limited vertical motion, a lining for the inner surface of said

plate having a pile-like inner surface and means for vertically reciprocating said plate. 40

3. In a machine for making and drying toothpicks, the combination of a toothpick-knife and a cutting-block, of a vertical spout for receiving the picks as formed, means for removing the picks from the lower end of the
45 spout, a plate forming the lining of one of the sides of said spout having a limited vertical motion therein, a lining for the inner surface of said plate having a pile-like inner surface and means for depressing said plate
50 slowly and raising it quickly.

4. In a machine for making and drying toothpicks, the combination of a toothpick-knife and cutting-block, of a vertical spout for receiving the picks as formed, two oppo-
55 site sides of said spout being formed of pervious material and each of the remaining sides of the spout having on its inner surface a plate lined with card-cloth and means for vertically reciprocating said plates. 60

5. In a machine for making and drying toothpicks, the combination of a toothpick-knife and a cutting-block, of a vertical spout for receiving the picks as formed, means for removing the picks at the lower end of the
65 spout and a plate lining one of the sides of said spout and having a limited reciprocating vertical motion therein for passing the column of picks downward.

Signed at Portland, Maine, this 4th day of
October, 1901. 70

CHARLES F. SCAMMAN.

Witnesses:

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