

S. NOBLE & J. P. COOLEY.

Improvement in Machines for Making Tooth-Picks.
No. 127,360.

Patented May 28, 1872.

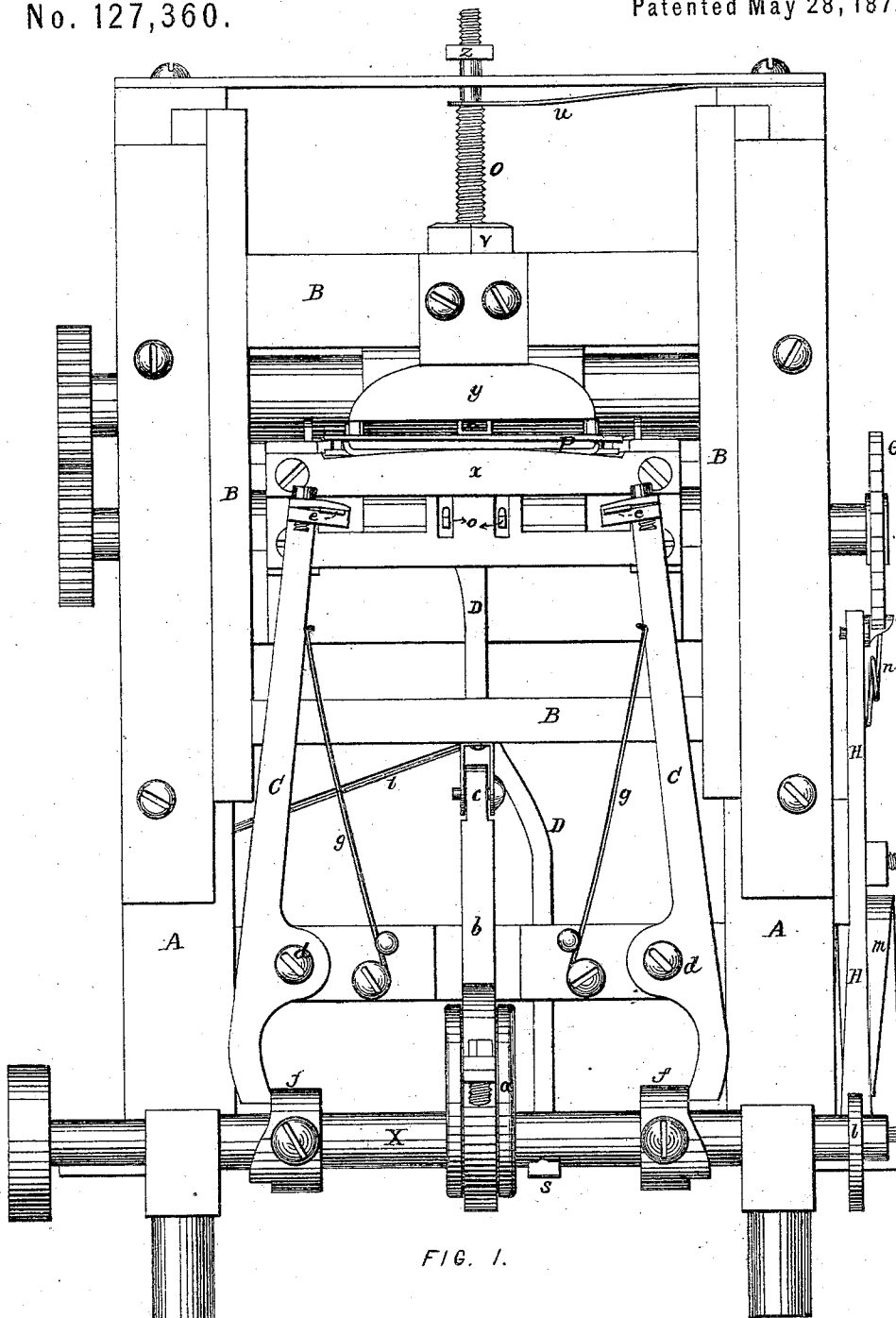


FIG. 1.

WITNESSES.

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C. L. Carter

INVENTORS.

Silas Noble
James Cooley

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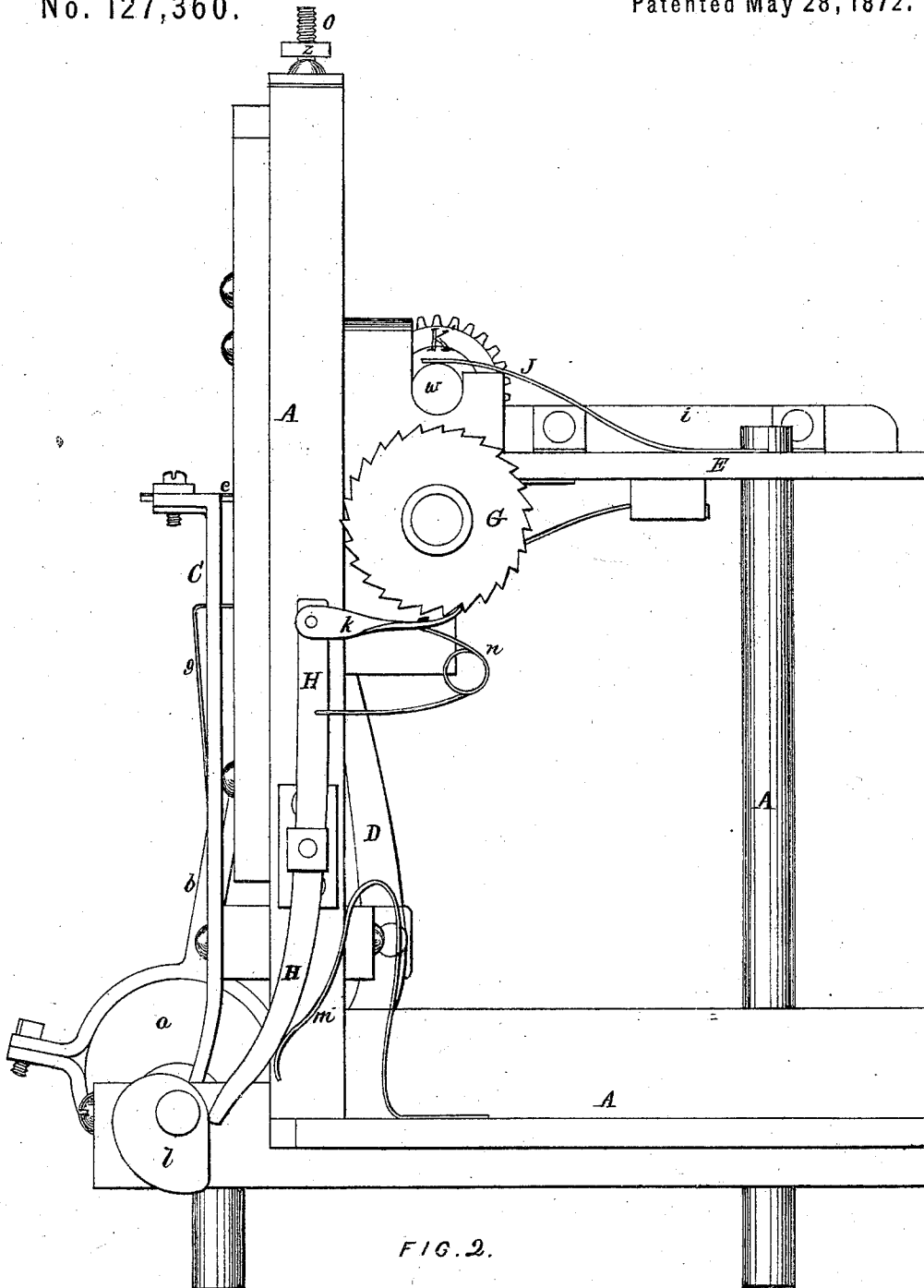


FIG. 2.

WITNESSES.

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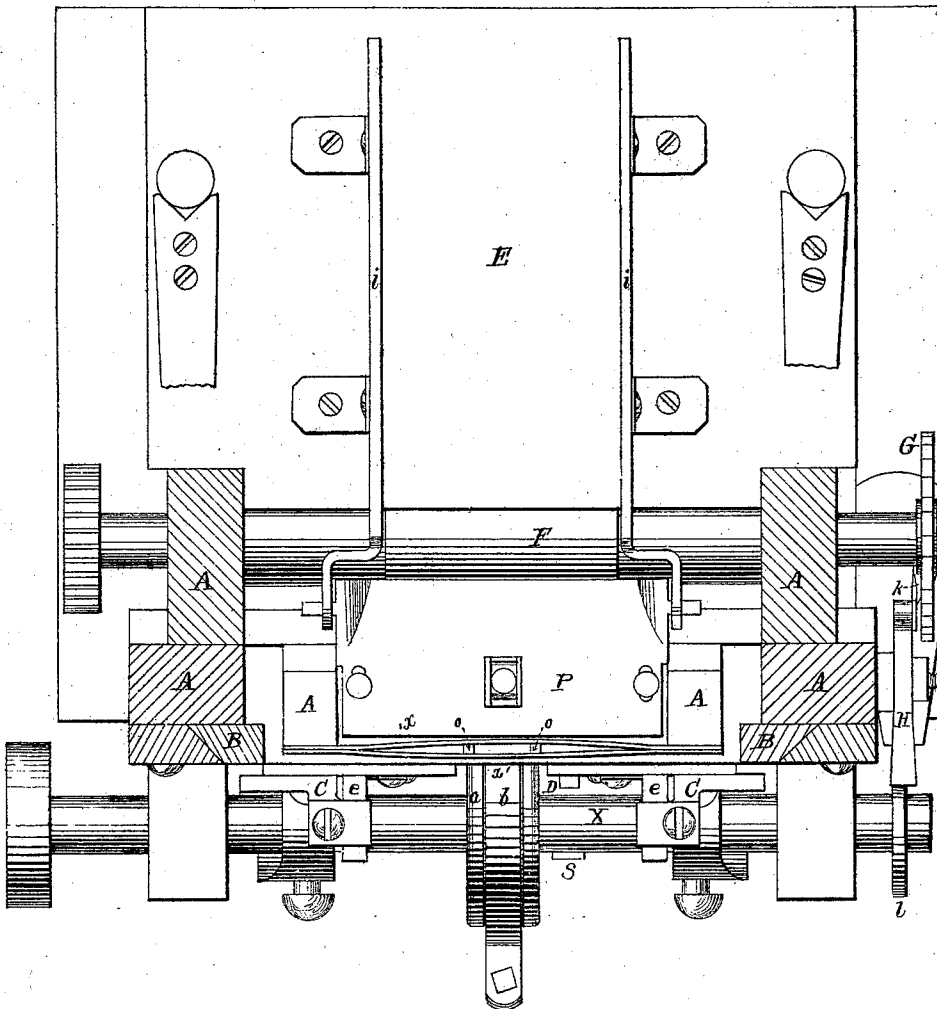


FIG. 3.

WITNESSES.

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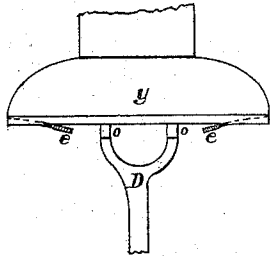


FIG. 5.

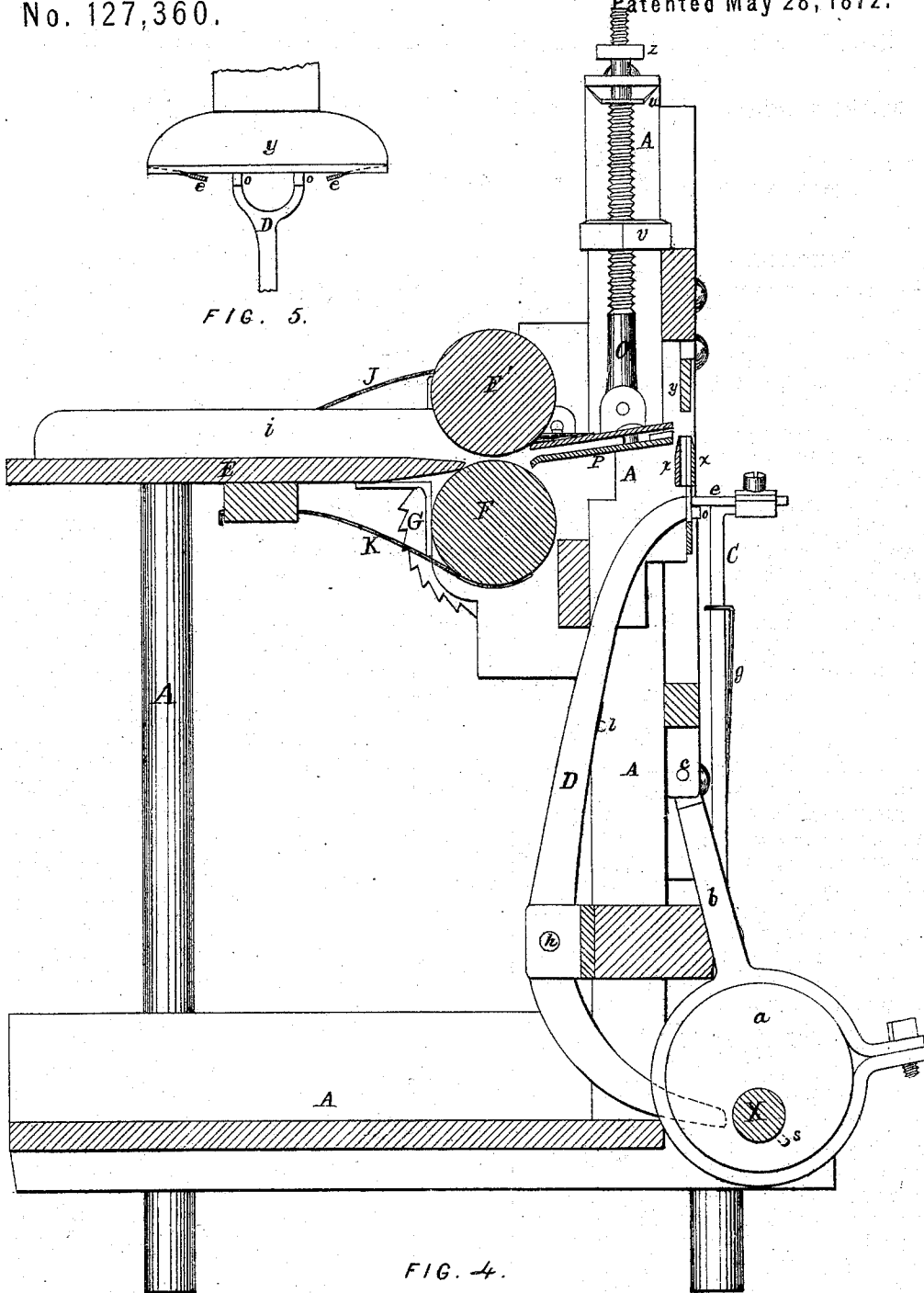


FIG. 4.

WITNESSES

W. H. Barlow
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INVENTORS.

S. Noble
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UNITED STATES PATENT OFFICE.

SILAS NOBLE AND JAMES P. COOLEY, OF GRANVILLE, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR MAKING TOOTH-PICKS.

Specification forming part of Letters Patent No. 127,360, dated May 28, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that we, SILAS NOBLE and JAMES P. COOLEY, of Granville, in the State of Massachusetts, have invented an Improvement in Machines for Making Tooth-Picks; and we do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawing, in which—

Figure 1 is a front elevation of our machine. Fig. 2 is a side elevation. Fig. 3 is a plan with upper portions removed. Fig. 4 is a sectional elevation from the side opposite the side shown in Fig. 2. Fig. 5 is a detailed view to illustrate the manner in which the tooth-pick made in our machine is pointed.

By this machine tooth-picks are cut from a ribbon of wood and afterward pointed at both ends.

In the drawing, A is the main frame of the machine. Attached to the main frame, as shown, are two curved knife-blades, *x x*, having their cutting edges upward and their concave sides toward each other. A horizontal plane through these blades and bounded by them would present the outlines of a tooth-pick, as seen in Fig. 3. B is a sliding frame working perpendicularly in slots in the main frame. It carries a plunger, *y*, which, upon each descent of the sliding frame, passes down between the blades *x x*. The bottom of the plunger *y*, as well as the arrangement of the blades *x x* relatively to each other, conforms to the shape of a tooth-pick. The sliding frame B obtains its motion by means of an eccentric, *a*, upon the main shaft X and its connecting-rod *b* pivoted to the sliding carriage at *c*, as shown. C C are two arms pivoted to the main frame at *d*. At their upper ends they carry each a knife, *e e*. These knives are back to back, and their cutting-edges are toward the sides of the machine. The ends by which they are secured to the arms C C by clamps, as shown, may be seen in Fig. 1. The arms C C receive their motions from the cams *f f* on the main shaft X and the springs *g g*, as shown. D is an arm pivoted to the main frame at *h*. It carries two fingers, *o o*, which project through the frame immediately under the knife-blades *x x*. These fingers, with the

plunger *y*, hold the pick after it has been cut from a ribbon, as will be hereafter described. The arm D is worked by a cam, *s*, upon the main shaft, seen in Figs. 1, 3, and 4, and a spring, *t*, seen in Fig. 1. When the cam *s* strikes the lower end of the arm D the fingers *o o* are suddenly pushed out in front of the machine, the spring *t* immediately returning them to their place. E is a table, over which the ribbon is conveyed into the machine, between guides *i i*, by means of rollers F F'. The lower roller F gets its motion by means of a ratchet-wheel, G, at one end of its shaft and a pawl, *k*, the pawl being operated by an arm, H, which is pivoted to the main frame and worked by a cam, *l*, upon the main shaft, and a spring, *m*, as shown in Fig. 2. The pawl *k* is pivoted to the arm H and held in contact with the ratchet-wheel by a spring, *n*, as shown. The lower roller F has bearings in the main frame, as shown in Fig. 3. At the end opposite the ratchet-wheel it is geared with the upper roller F', as shown. The upper roller F' has bearings, as shown in Fig. 2, at *w*. Springs J J keep the upper roller in place, whatever may be the thickness of the ribbon passing between the rollers. A spring, K, is also used, as shown in Fig. 4, for the more perfect working of the two rollers together. P is a swinging guide, through which the ribbon is presented to the action of the plunger *y* and knife-blades *x x*. (See Fig. 4.) The upper and lower plates of the guide are rigidly connected so as to move together, and are hinged to projections from the guides *i i*, as shown in Fig. 3. The upper plate of the guide P is also pivoted to the lower end of a bar, O, which moves up and down in a cross-bar at the top of the main frame. The bar O gets its upward movement from the sliding frame B, which in its upward movement strikes a nut, *v*, upon the bar, as shown. In the drawing the bar O and, consequently, the swinging guide P are represented at their highest elevation. The downward movement of the bar and guide is given by the spring *u*, which keeps the nut *v* in contact with the sliding frame till stopped by the nut *z* striking against the cross-bar at the top of the machine.

The movements of the parts described are so timed that the machine operates as follows:

The ribbon is fed into the machine over the table E, and passes between the plates of the swinging guide P till it projects over the knife-blades *x x*, when the plunger, descending, causes the knife-blades to cut a blank from the ribbon of a shape previously indicated, and carries the blank down between the blades *x x* and holds it upon the fingers *o o*. While the plunger passes down between the knife-blades the swinging guide P descends behind the rear blade sufficiently far to keep the ribbon from splitting. The knives *e e*, which in mean time have approached each other, now move outward and point the pick, as shown in Fig. 5. The sliding frame, with the plunger and swinging guide, now rise, and the fingers *o o* are rapidly pushed forward and as rapidly return, discharging the finished tooth-pick from the machine, when the operation is repeated.

The blades *e e*, instead of being operated as above described, may be made to revolve upon perpendicular shafts, being curved to the shape in which it is desirable to point the tooth-pick.

The device by which the ribbon is kept from

splitting will be of use in making matches, lamp-lighters, and other similar articles from a ribbon of wood, which do not require subsequent pointing.

We claim—

1. The knife-blades *x x*, the plunger *y*, the fingers *o o*, and the knives *e e*, operating substantially as described, for the purpose described.

2. The combination of the swinging guide P with the plunger and the knife-blades with which the plunger works, substantially as described.

3. The combination of the fingers *o o* and the plunger *y*, operating together to hold the blank, substantially as and for the purpose described.

The above specification of our said invention signed and witnessed at said Granville this 3d day of April, 1872.

SILAS NOBLE.

JAMES P. COOLEY.

Witnesses:

R. H. BARLOW,

NELLIE L. CARTER.