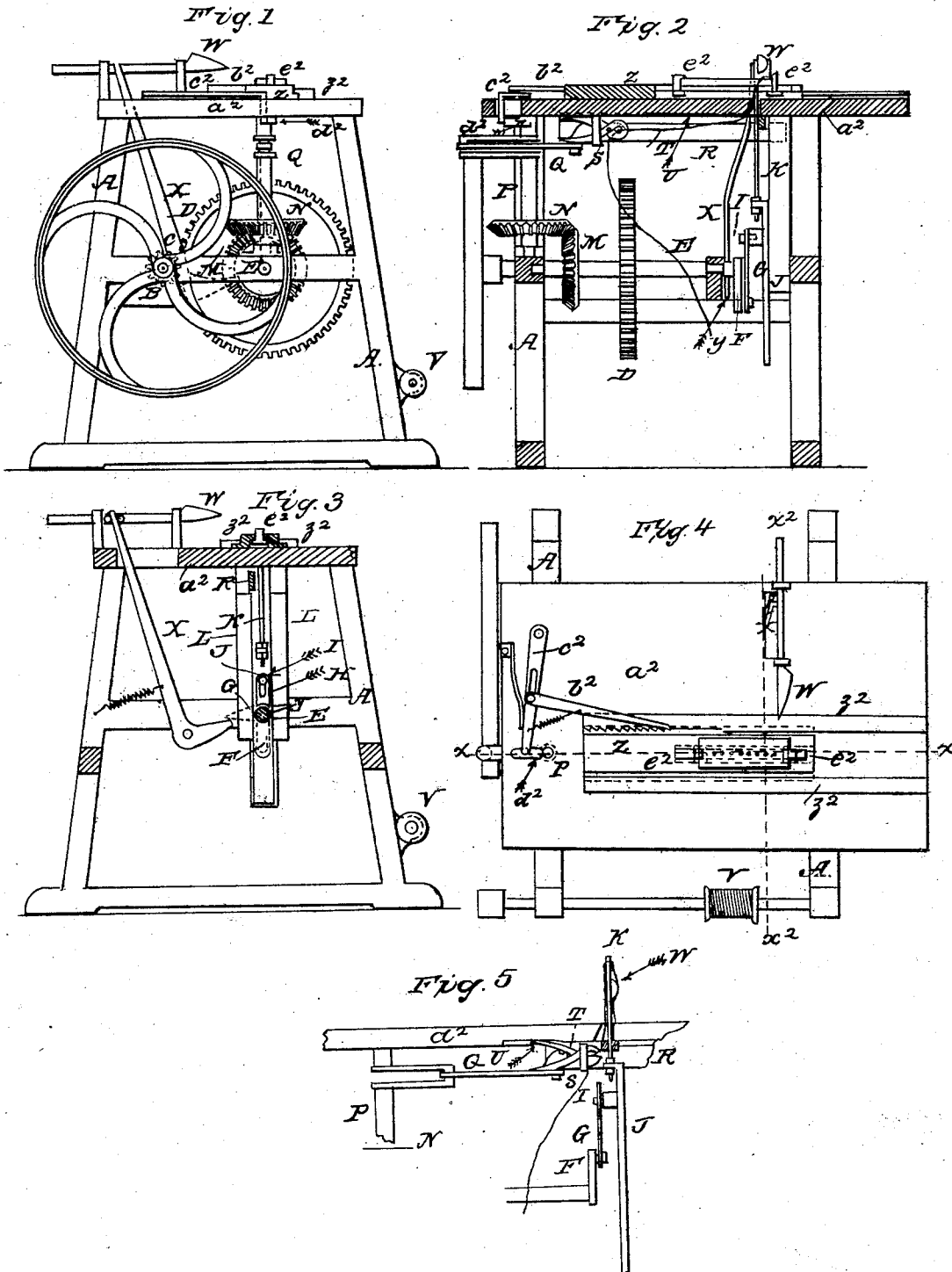


L. A. TRIPP.
Making Brushes.

No. 18,528.

Patented Oct. 27, 1857.



UNITED STATES PATENT OFFICE.

LEEMON A. TRIPP, OF NEW YORK, N. Y., ASSIGNOR TO LEWIS C. PLATT, OF WESTCHESTER COUNTY, NEW YORK.

MACHINE FOR MAKING BRUSHES.

Specification of Letters Patent No. 18,528, dated October 27, 1857.

To all whom it may concern:

Be it known that I, LEEMON A. TRIPP, of the city, county, and State of New York, have invented certain new and useful
5 Improvements in Machinery for Making Brushes; and I do hereby declare the following to be a full description of the same.

The nature of my invention consists in constructing a machine for wiring and sticking the tufts of hair or bristles in clothes, scrubbing and other brushes having wood or metal tuft holder stocks or backs, by means of a wire carrying needle operated by a crank, or cam, and having an intermit of
15 motion at each end of the stroke of the needle for allowing time for inserting the tuft of hair in the loop of the wire, and the feed motion of the brush; second, a wire holder grips or pincers, and gripping bar, having a reciprocating motion at right angles to the vertical motion of the needle for the purpose of carrying the wire to the needle and for taking up the slack of the wire to draw the tuft of hair in the brush stock;
20 third, a loop former, operated by a cam on the needle bar crank shaft for opening the wire at the point of the needle, to allow the tuft of hair to be inserted therein and lastly by the combination of a carriage for carrying the brush stock, with the needle, so that the needle will enter each hole in the stock in succession at the required time,—all the said foregoing parts being operated automatically by cranks or cams, and cog wheels
35 driven by a main shaft. But to describe my invention more particularly I will refer to the accompanying drawings forming a part of this specification, the same letters of reference wherever they occur referring to like
40 parts.

Figure 1, is an end view of the machine. Fig. 2, is a longitudinal cut section through the line x, x Fig. 4. Fig. 3, is a transverse cut section through the line x^2, x^2 , Fig. 4.
45 Fig. 4, is a plan of the table board and feed motion. Fig. 5, is a diagram of the needle and grippers, with connection for operating the same.

Letter A, is the frame of the machine,
50 which may be made of wood or metal as circumstances may require, and B, is the main driving shaft, secured in suitable bearings across the frame of the machine, and below or under the table board a^2 . On the main
55 shaft is a small cog wheel C, which gears

into a second and larger cog wheel D, on a crank shaft E, secured in suitable bearings in the frame of the machine parallel or nearly so with the main shaft. On the end of this shaft is a crank F, to which is attached a connecting rod G, having a slot H, in its upper end, of some inch and a half in length, more or less, through which a pin I, in the needle bar J, passes, for the purpose of connecting the rod G, and bar J, together, to give vertical motion to the needle K, attached to the head of the needle bar, by means of adjusting screws for regulating its length of stroke. This needle bar is secured by suitable guide ways L, attached to the frame of the machine, so as to keep it steady and in its vertical motion in carrying the wire to and from the brush. At each end of the stroke of the needle it is allowed to come to a stop, or remain stationary long enough to allow the loop of wire to be formed, and insertion of the tuft or knot of hair, when the needle is up, and of the feed of the brush stock, when the needle is down, by means of the slot in the end of the rod G, working loosely on the pin I, in the needle bar, during a portion of the rotation of the crank shaft. As this intermit of motion in the needle is of great importance in brush making, I esteem it a very essential feature of my invention, and desire to claim it as necessary to the successful working of this part of the same.

Letter M, is a miter cog wheel, also on the crank shaft E, which gears into a second horizontal miter cog wheel N, on the lower end of a vertical crank shaft P, having a connecting rod Q, attached thereto at one end and the opposite to the end of a horizontal sliding bar R, secured to the under side of the table board of the machine, in suitable guide ways. Secured to the back end of this bar, is a bracket or clasp S, into which are inserted, parallel with the bar, the ends of a pair of pincers or wire grippers T, through the jaws of which the wire passes and is fed up to the needle as required for holding the tufts or knots of hair. These wire grippers are held loosely in the bracket of the sliding bar, and their operations is thus: When the sliding bar draws back to the end of the stroke of the crank P, the brackets slip back on the arms of the grippers, thereby closing its jaws to hold the wire, and draw the tuft or knot of hair into

the hole of the brush stock. On the return or forward stroke of the sliding bar, the bracket attached thereto, slips forward till it comes against the back of the jaws of the grippers, to carry them forward, to slack up the wire as the needle ascends; but is held from opening, in consequence of thin arms pressing against the lower surface of the table board, and a shoulder on the lower side of the sliding bar, till they are carried past a notch plate U, secured to the under side of the table board, when the upper arm of the grippers, opens into a recess and comes to a stop, to allow the jaws to open, and the needle to take up the requisite amount of wire from the spool V. At this point they remain at rest long enough for the loop of wire to be formed, and the sliding bar to draw back, till the bracket on it closes the arms of the grippers to grip the wire, and take it out of the notch V, when it is carried back to the end of the stroke to draw the tuft or knot of hair into the hole of the stock. Letter W, a loop-former, arranged so as to work horizontally in slide ways on the upper side of the table board, and operated by a lever X, and cam Y, on the crank shaft E. The object of this loop former is to open the wire from the sides of the needle, and thereby facilitate the insertion of the knot of hair.

Letter Z, is a carriage for carrying the brush, arranged to work in guide ways Z²,

on the upper side of the table board and having on its side a rack into which a pawl ³⁵ b², is made to operate by means of a lever c², and cam d² on the vertical crank shaft P, so that at each time the shaft P, rotates it causes the pawl to move the brush, (secured on the carriage by suitable clamps e²,) one ⁴⁰ hole forward for the passage of the needle to form a new knot or tuft in the brush.

Having now described my invention and its operations I will proceed to state what I claim and desire to secure by Letters Patent ⁴⁵ of the United States:

1. I claim the use of the slot H, or equivalent therefor, in the connecting rod G, in combination with the needle, for causing it to remain stationary at each end of the ⁵⁰ stroke of the crank a definite space of time for the purposes hereinbefore set forth.

2. I also claim the use of the sliding bar R, having a bracket S, attached thereto, in combination with grippers T, operated by ⁵⁵ the devices hereinbefore described, or equivalent therefor, for the purposes substantially as set forth.

3. I also claim the loop former W, operated by means substantially as described, ⁶⁰ in combination with the needle for the purposes hereinbefore set forth.

LEEMON A. TRIPP.

Witnesses:

CHARLEY S. BARRITT,
H. S. LINCOLN.