

(No Model.)

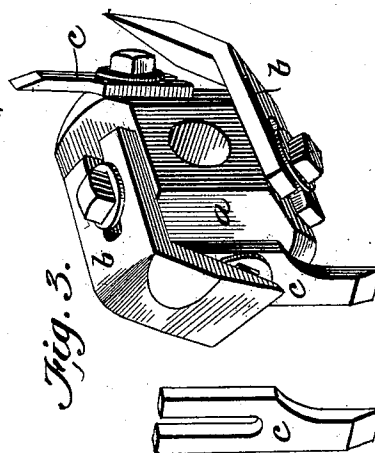
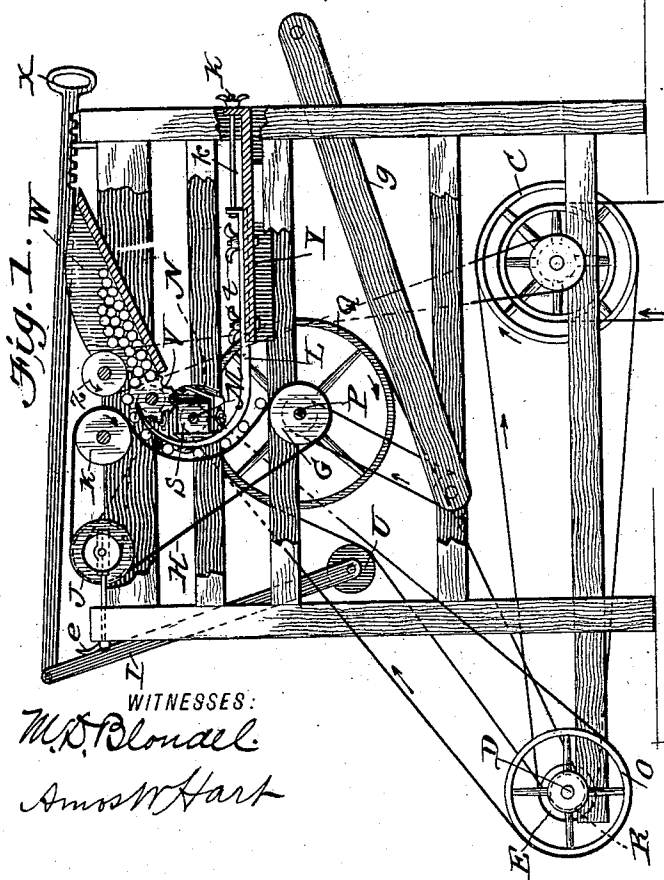
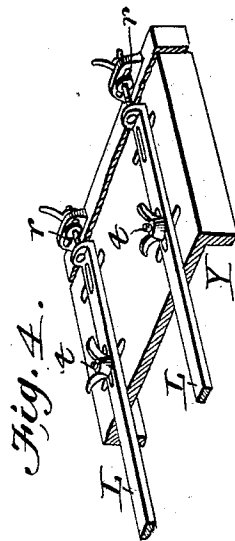
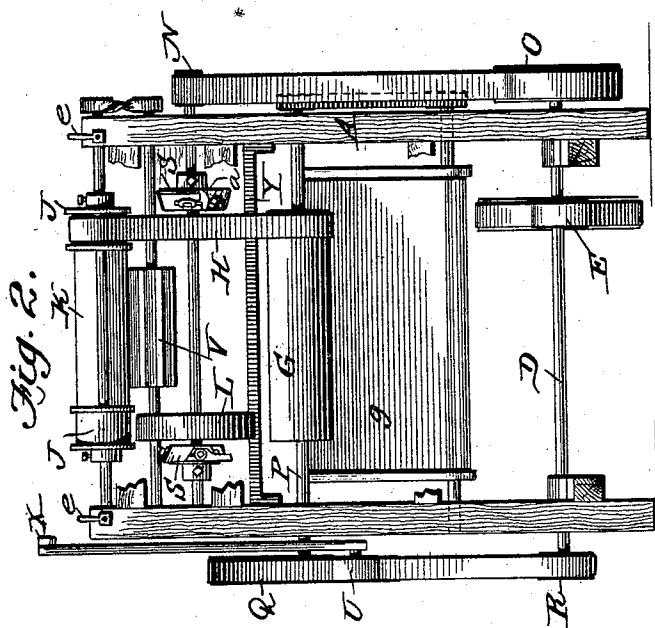
2 Sheets—Sheet 1.

F. HARRISON.

MACHINE FOR POINTING BUTCHERS' SKEWERS.

No. 568,677.

Patented Sept. 29, 1896.



INVENTOR

*Frederick Harrison.*

BY *Munn & Co.*

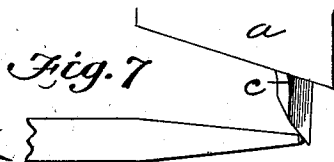
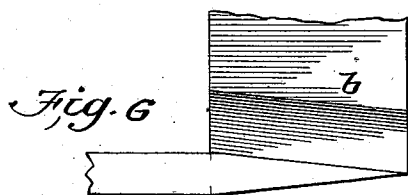
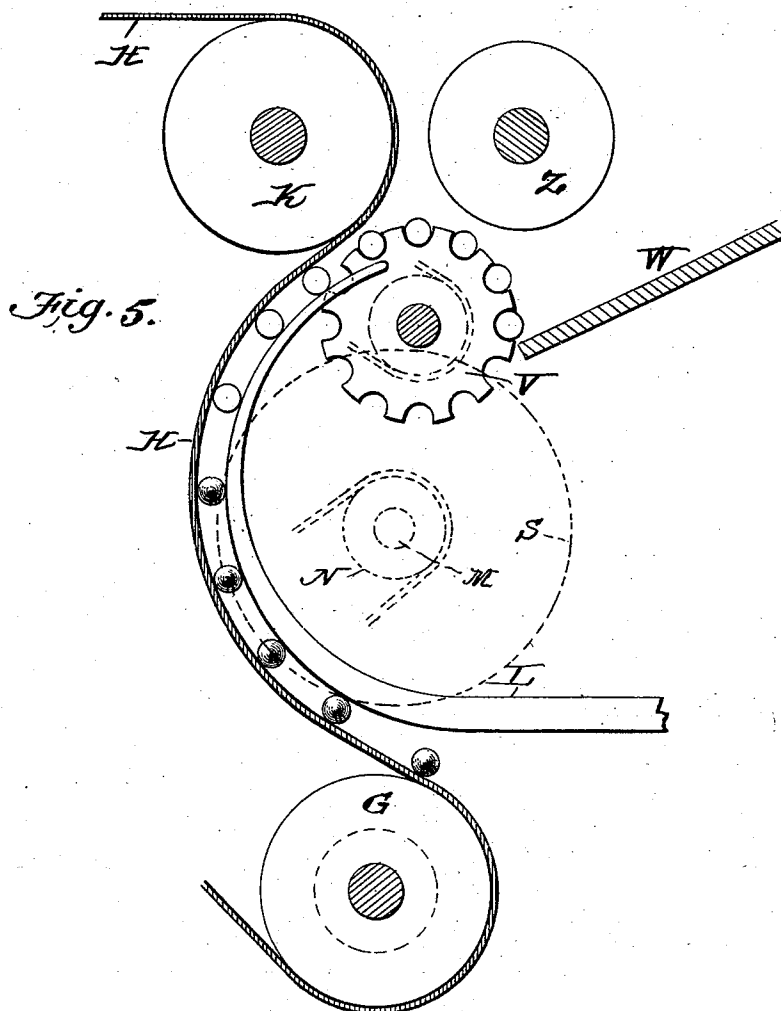
ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

F. HARRISON.  
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WITNESSES:

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# UNITED STATES PATENT OFFICE.

FREDERICK HARRISON, OF OWEN SOUND, CANADA.

## MACHINE FOR POINTING BUTCHERS' SKEWERS.

SPECIFICATION forming part of Letters Patent No. 568,677, dated September 29, 1896.

Application filed June 24, 1895. Serial No. 553,807. (No model.) Patented in Canada November 23, 1895, No. 50,665.

*To all whom it may concern:*

Be it known that I, FREDERICK HARRISON, a citizen of Canada, residing at the town of Owen Sound, in the county of Grey, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Skewer-Pointing Machines, (for which I have received Letters Patent of the Dominion of Canada, dated November 23, 1895, No. 50,665;) and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to make and use it.

My invention relates to machines for pointing round wooden pins in general, but more especially of that class known as "butchers' skewers."

The object of my invention is to adapt a machine to automatically feed blank pins in double lengths to cutters by a rolling motion parallel axially with the axis of the cutter-shaft, and thus present each side of the pin to the action of the cutters, which are so adjusted as to taper each end of the blanks and dub the points in one contact.

In its broadest conception my invention consists in an arrangement of belts which press the pins or blanks against a smooth rounded or convex surface while being rolled and fed forward and at the same time acted on by rotary cutters. In its preferred form the invention consists in a machine having belts so arranged on pulleys as to pass around the convex faces of solid rolling beds, by which means the pins being caught between the faces of the beds and the belts near each end of the pin the motion of the belts rolls the pins along the face of the beds, which being convex in form and the radius of the rotary cutters being less than that of the convex beds the pins are gradually brought into contact with them until the extreme depth of the cut is just past the axis of the pin, by which means and a peculiar arrangement of knives the pins are tapered by one set of knives and the points shortened by another set on the same head. The belts carrying the pins thus pointed past the contact of the knives drop them into carriers, by which they are conveyed to boxes convenient for handling.

In the drawings, Figure 1 represents a side elevation of a skewer-pointing machine ac-

cording to my invention. Fig. 2 is an end elevation showing the arrangement of pulleys and shafting by means of which motion is imparted to the various parts not clearly shown in Fig. 1. Fig. 3 is a perspective view of one of the cutter-heads and cutters employed. Fig. 4 is a perspective view of a portion of the bed-plate of the machine. Fig. 5, Sheet 2, is an enlarged vertical section illustrating the operative relation of the convex bars or beds and the belts that travel over them. Fig. 6 is a view illustrating the action of the cutters by which the skewers are tapered. Fig. 7 is a view illustrating the action of the cutters that dub the points of the skewers.

In the drawings, A is the frame of the machine, which should be constructed substantially of suitable materials to resist the vibration of the operating parts.

B is the driving-pulley, communicating motion to the main shaft C, from which the large pulley F, acting by a belt upon the pulley E, drives the counter-shaft D, the object of which mechanism is simply to impart a high rate of speed to the cutter-heads by means of the large pulley O on the counter-shaft D, operating upon the small pulley N on the cutter-head shaft M.

P is the feed-shaft, on which a lower speed being required it is attained by means of the small pulley R on the counter-shaft D, operating by a belt on the large pulley Q on the shaft P. In order to impart proper power to the pulley R, the tension of the belt from Q to R is regulated by the tightening-pulley U, which is controlled by an arm I with a handle X, operated from the front of the machine. The feed-shaft P, which extends through the machine from side to side, is provided in the center with a long pulley G, as shown in Fig. 2, around which pass feed-belts H H, one of which is shown in Fig. 1. The form of the pulley G is such that the distance between the belts H H may be increased or diminished at pleasure without reference to the pulley G. The feed-belts H H are exactly similar, and passing around the pulley G, from which they derive their motion, they extend upward and pass over the flanged pulleys J J and forward around the pulley K, which is similar in form to the pulley G; thence downward over the convex face of the rolling-

beds L L to the pulley G. Each of the rolling-beds L L is formed of a band or bar of metal of sufficient strength to bear the pressure of the belts without perceptible vibration, having one end firmly secured by tail nuts or bolts to a plate Y, slotted so that the beds may be adjusted toward or away from each other, as shown in Fig. 4. The other ends of the beds L L are bent upward into half-circles, the arcs of which project between the pulleys G and K, so that the belts H H, passing from the pulley K to the pulley G, must pass over the convex face of the beds L L, as shown in Fig. 1. The tension of the belts and their friction on the beds L L or on the blanks when operating is regulated by tightening-screws *e e*, attached to the boxing of the shaft of the pulleys J J.

A hopper W is placed in the top of the machine, in the throat of which a grooved roller V is set, in which each groove will just receive one blank. The object of the roller V is to deliver the blanks on the points of the beds L L, where they are seized by the belts H H and rolled around the circle, as formerly set forth. The roller V is driven by a pulley and cross-belt from the shaft of the pulleys J J. A fluted roller Z, just above the roller V and turning in an opposite direction by means of a cross-belt from the driving-shaft, prevents the blanks from crowding on the roller V.

The cutters S S (see Fig. 3) are fitted on the shaft M and can be set at any distance apart by means of the set-screws *s s*. The heads proper, *a a*, are beveled on each side, the incline of the bevel being inward toward the beds L L. Each head is provided with two sets of knives *b b* and *c c*, one set of which (*b b*) forms the taper, as shown in Fig. 6, and the set *c c* shortens or dubs the point, as shown in Fig. 7. Each knife is set on a beveled side of the head and secured by means of a screw-bolt and washer and is adjustable by means of slots. The knives *b b* are wide, with oblique edges and adjusted with the long points inward, so that the cut is from the butt to the point of the taper. The bevel of the heads raising the outer side of the knife makes the first contact of the knives at the point of the blank, and, deepening the cut outward, tapers it. The knives *b b* could be used straight, but a cleaner cut is produced when they are curved in the form shown in Fig. 3, which is preferred. The knives *c c* have a cut more across the axis of the blank, and are merely for the purpose of dubbing or shortening the point of the finished skewer, as a long straight taper is not as easily inserted and is more liable to break and be damaged or injure the hand in insertion.

In adjusting the machine for operation the cutters S S are secured at the proper distance apart on the shaft M by the set-screws *s s*. The beds L L are adjusted similarly close to the cutters by the tail-nuts *t t*, and the beds L are adjusted to the periphery of the circle

described by the knives by means of the screw-bolts *k k* and jam-nuts *r r*, Fig. 4. The pulleys J J are then set upon their shaft by means of set-screws *p p*, so as to pass the belts H H directly over the faces of the beds L L. By means of these adjustments the machine can be adapted to different lengths of skewers and to different sizes of blanks, the skewers being pointed in double lengths.

By reason of their elasticity the belts H H afford a slightly-yielding, yet duly firm, support for the skewer-blanks while the cutters are acting on the latter, which is a very important feature, since it compensates for the slight difference in the size or quality of the blanks, whereby they offer a variable resistance to the cutters.

What I claim is—

1. In a machine for pointing skewers, the combination with vertically-arranged convex or circular beds or surfaces over which the pins or blanks pass, of belts adapted to run over such surfaces and press the pins upon and feed them over the same, and rotary cutters arranged, as specified, whereby, in acting upon the pins they press them against the concave sides of such belts, substantially as shown and described.

2. In a machine for pointing skewers or round wooden pins, the combination of the adjustable convex beds L, L, with resistance-belts H, H, arranged on the outer or convex side of said beds, and running on the pulleys J, J, K and G, to roll the blanks over the faces of the beds, and the cutter-heads S, S, working within the beds L, L, and acting on the skewers, and pushing them outward against the resistance-belts H, H, to point the blanks as they roll along the faces of the beds L, L, substantially as set forth.

3. In a machine for pointing skewer-blanks, the combination, with means for holding and rotating such blanks, of the improved cutting devices for acting on the blanks individually and successively, the same being composed of heads, fixed on a rotatable shaft, and having four bevels on their inner ends; the two sets of cutters proper, which are secured on such bevels, one set of cutters *b*, being angular, or double-winged, and having oblique cutting edges which incline backward from the inner side of the cutters, to adapt them to shave and bevel the skewer-blanks by means of a draw cut, made practically across the grain of the blanks; and the other set of cutters *c*, being straight and held with their faces inclined or oblique to the axis of the cutter-heads, to adapt them to snub the skewer-blanks obliquely, as shown and described.

4. In a machine for pointing skewer-blanks, the combination, with means for rotating such blanks, of the cutting devices, consisting of heads fixed on a rotatable shaft, and two sets of cutters proper secured to said heads, the set of shaving and beveling cutters *b* having cutting edges which are oblique, the same being inclined backward and inward from the

inner side, and the set of snubbing-cutters c, arranged intermediately of the shaving-cutters and having their edges inclined transversely to the axis of the skewer-blanks, as shown and described.

5 In a machine for pointing wooden skewer-blanks or pins, the combination with means for feeding skewer-blanks, the traveling belts H, and convex beds or forms L, over which  
10 the belts run, of rotatable cutters arranged

on the sides of such beds but in rear of or within the same, as shown and described, whereby the cutters, in acting on the skewer-blanks push them against the belts, which offer an elastic resistance, as specified.

Owen Sound, February 12, 1895.

FREDERICK HARRISON.

In presence of—

CHAS. K. GRIGG,

CHAS. N. BAINS.