(No Model.) 2 Sheets—Sheet 1

J. H. & H. L. BERST.

SKEWER POINTING MACHINE.

No. 538,496. Patented Apr. 30, 1895.

Fig. 1.

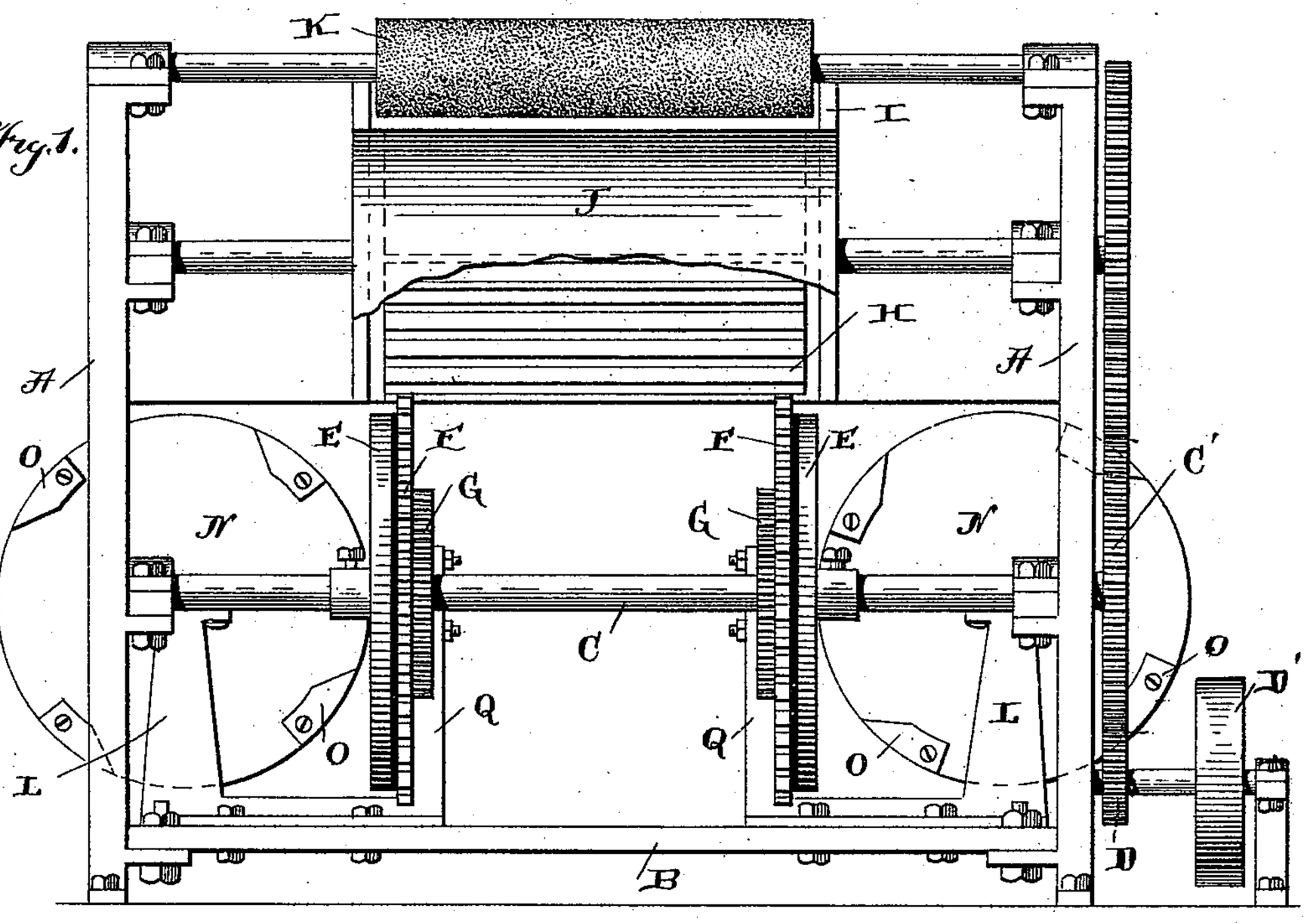


Fig. 4.

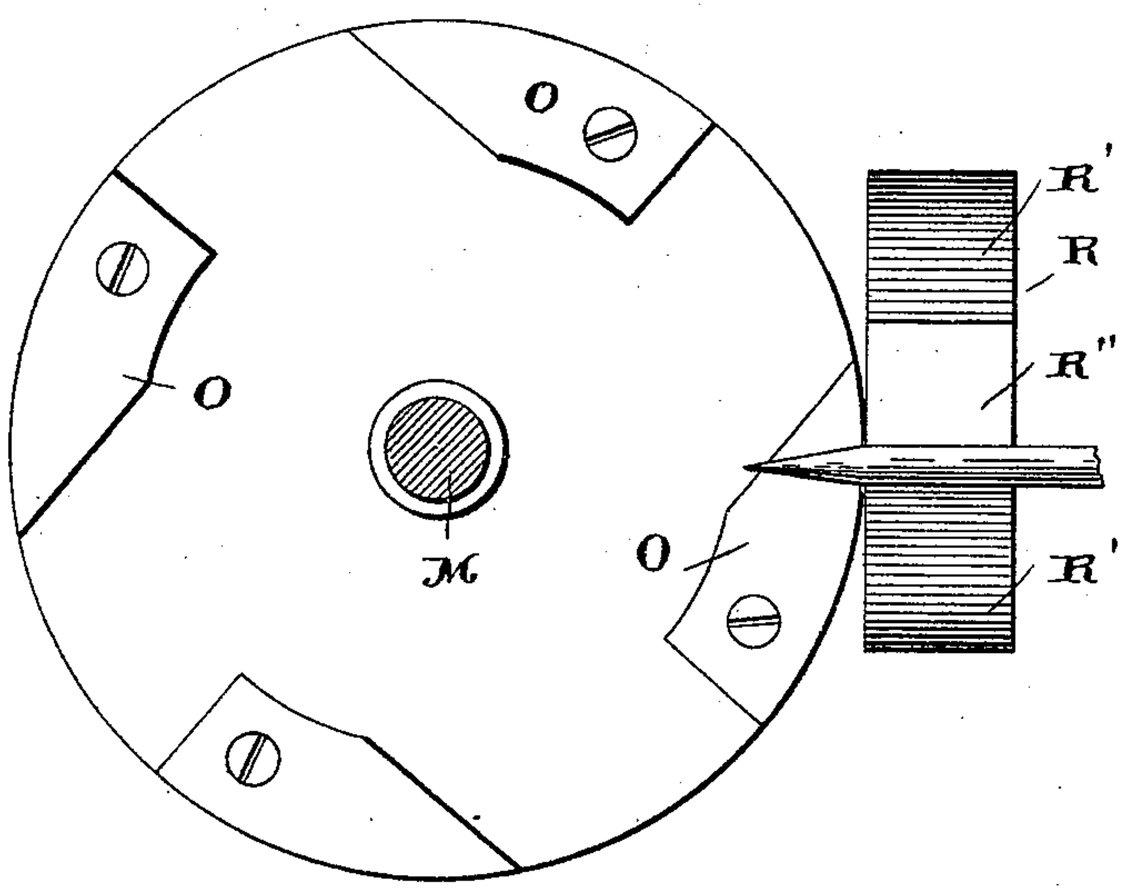
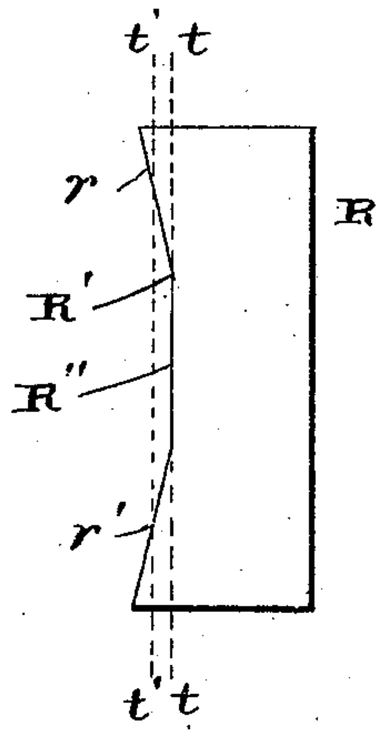


Fig. 5.



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(No Model.)

2 Sheets—Sheet 2.

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SKEWER POINTING MACHINE.

No. 538,496. Patented Apr. 30, 1895.

Fig. 2.

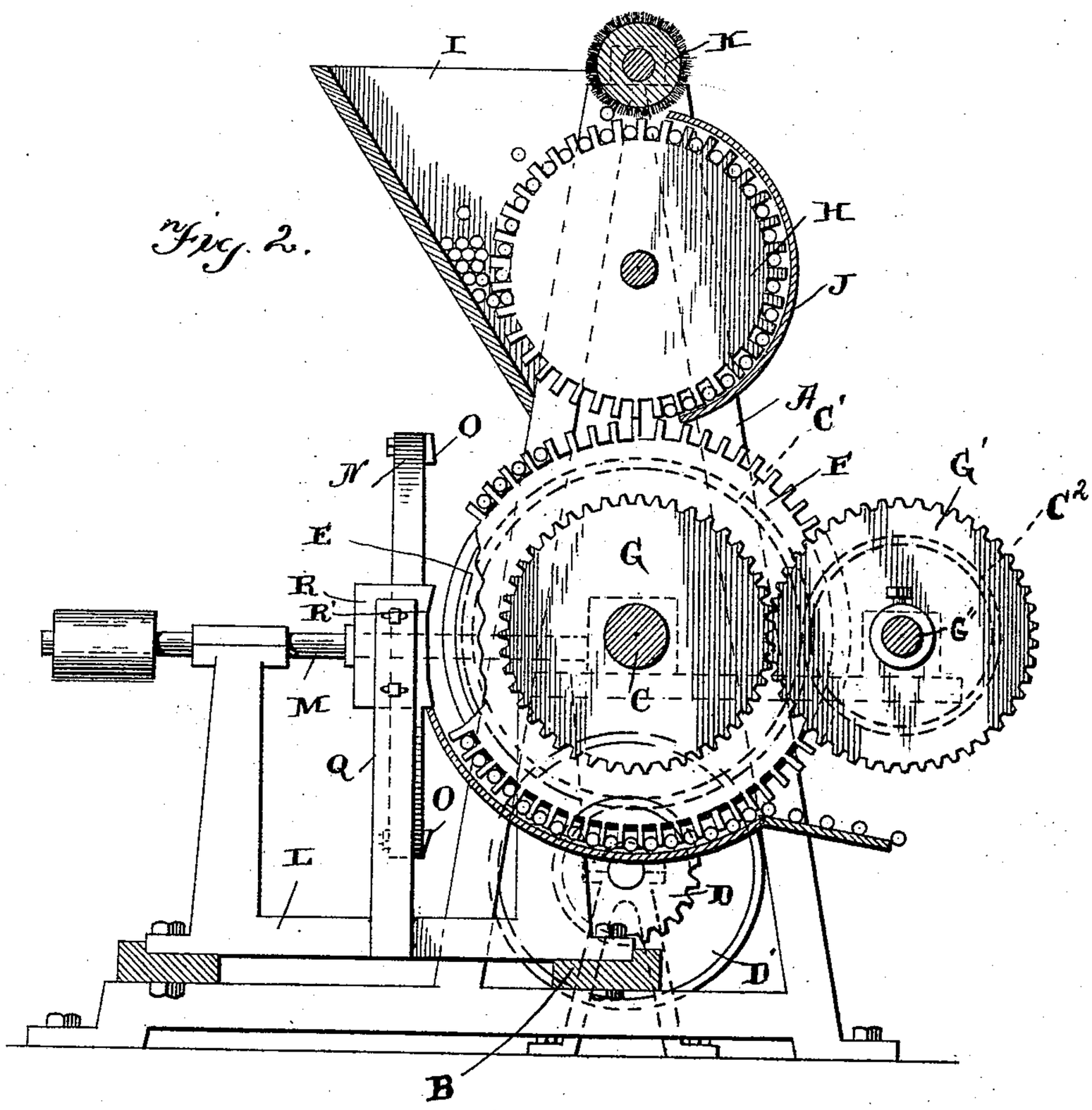
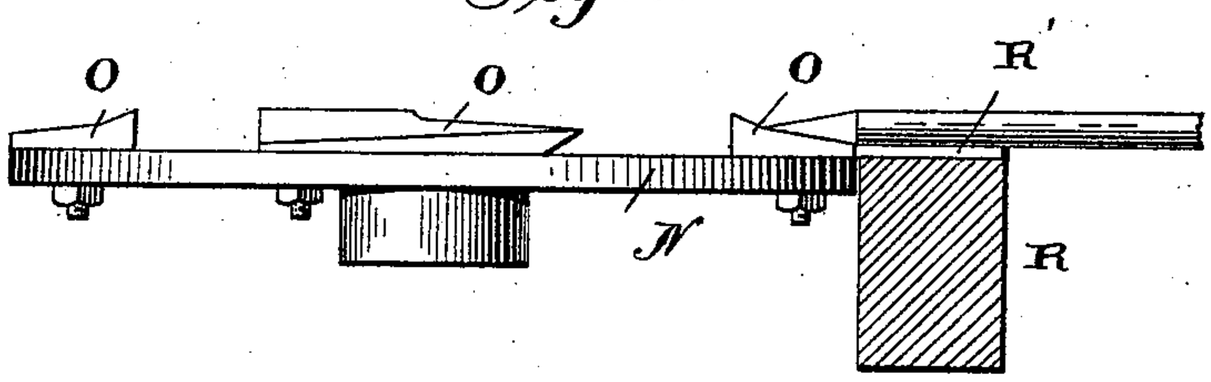


Fig. 3.



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UNITED STATES PATENT OFFICE.

JESSE H. BERST, OF KOKOMO, AND HENRY L. BERST, OF LEESBURG, INDIANA.

SKEWER-POINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 538,496, dated April 30, 1895.

Application filed September 27, 1894. Serial No. 524,284. (No model.)

To all whom it may concern:

Be it known that we, JESSE H. BERST, of Kokomo, Howard county, and HENRY L. BERST, of Leesburg, in the county of Kosciusko, State of Indiana, have invented certain new and useful Improvements in Skewer-Pointing Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improved skewer pointing machine; and the object of the same is to provide a machine which will rapidly guide the skewer blanks to the point cutters; and a further object of the invention is to so arrange the mechanism as to bring the edges of the cutters in contact with the blank with a gradually increasing or drawing cut from the base to the apex of the point thereby making a smooth surface and preventing breaking the same. In the machines of this character now in general use the edges of the cutters come in contact with the skewers the entire length of the point at the same moment, thereby cutting squarely across the grain of the wood with the result that a rough surface is produced and not infrequently the point is broken.

The invention consists in the novel features of construction hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of our improved machine. Fig. 2 is a vertical cross-sectional view of the same. Fig. 3 is an edge view of the cutter-head, showing the skewer-blank in position relative thereto. Fig. 4 is an elevation of Fig. 3. Fig. 5 is a detail view of the guiding-plate.

A designates the ends or uprights of the machine frame and B the base sills thereof.

C is the main shaft journaled in suitable bearings in the ends A as shown and carrying at its projected end the gear C′ which meshes with a suitable driving gear D.

Keyed to shaft C and adjustable thereon either toward or away from each other are the feed disks E having their smooth peripheries covered with felt, rubber or other yielding material. Loosely mounted on shaft C and adjacent feed disks E are the peripherally notched guide disks F having secured thereto gears G which mesh with suitable driving gears G′. Disks E and F constitute the carrier for conveying the blanks to the cutters and the latter are moved at twice the speed of disks E for the purpose presently to be stated, this difference in speed being accomplished by properly proportioning the gears C′ and D, driving disks E, and gears G and G′, driving toothed carriers F, if all these gears be coupled to and driven from the shaft of gear D. However the difference in speed can be attained by separately driving gears D and the shaft of gears G′.

Dotted lines in Fig. 2 show the shaft G″ carrying gears G′ provided with a gear C″, one-half the diameter of and meshing with gear C′, to drive the gears G′ and G, and shaft C at twice the speed of disks E.

Arranged longitudinally over the carrier is a longitudinally ribbed or corrugated drum H which is so driven from gear C′ that the notches or grooves of the drum and carriers F always register and so that the notches of the latter coact with the corrugations of the drum to receive in regular rotation the blanks therefrom. In front of the drum is arranged a suitable hopper I in which the blanks are placed and from which they are fed by the drum to the guide disks. Shield J holds the blanks on the drum while turning down to the feed disks as will be understood. Arranged over the drum and operated in any suitable manner is the rotary brush K for sweeping back the surplus blanks from the feeding drum.

Adjustable longitudinally on base sills B are the supports L in which short shafts M are journaled which carry the cutter heads N which are thus afforded a rotary movement at right angles to the carrier. The cutters O on the inner sides of said heads are formed

with their inner and outer edges curved concentrically with said heads, and in form they are thickest upon their inner or shorter edges as shown at O′, Fig. 3, and gradually decrease in thickness to their outer edges or peripheries. The cutter heads are so arranged with relation to the blanks being fed that the opposite ends of the latter are pointed simultaneously, it being our intention to feed blanks of double length and cut them in two after being pointed. The disks of the carrier are adjustable on the shaft as are also supports L on sills B so that skewers of varied lengths may be readily pointed by simply moving said parts so as to conform to the blanks to be operated on.

From supports L extend posts Q which support the laterally adjustable plates R which occupy positions parallel with disks E and at right angles to the axis of the cutter heads. The inner edges of said plates are formed with inwardly extending cuts or depressions R′, Fig. 3. The upper and lower portions of said depressions may be either as illustrated in said figure or curved to conform to the peripheries of disks F; but in either case the central portions of said depressions are straight as indicated at R″. These straight portions of the depressions are directly in line with the inner surfaces of the cutter heads. The dotted line *t*—*t* designates the path traveled by the outer or thinnest portions of the cutters, while line *t′*—*t′* indicates the line of travel of the inner or thickest portions of said cutters.

In operation the carrier conveys the skewer blanks to plates R and forces them squarely between the first or upper surfaces of said plates and the yielding surfaces of guide disks E. To roll (not slide) the blanks over the edges of plates R the said disks E must travel just double the distance traveled by the blanks, and for this reason the guide disks F travel at just one-half the speed of the carrier disks E. If said disks are afforded any other relative speed the blanks must slip, either on the surfaces of the plates R or disks E. The moment the blank reaches the upper end or first surface of the plates it begins to roll and this it continues to do until the plate is entirely traversed. The finishing of the points is all done on the central or straight surfaces of the indented plate edges, said surfaces being parallel with the inner sides of the cutter heads and only at this point of travel can the blank be reached by the cutters, for while upon the upper surfaces *r* it is approaching the position where it will be acted upon by the cutters and while on lower surface R′, it is receding therefrom, as will be readily understood by referring to plate R and the lines of travel of the cutter edges illustrated in Fig. 5. The central straight portions R″ of the plates are sufficiently long to afford blanks of the largest size a complete revolution. As will be understood from the description the thinnest portion or outer periphery of the cutters first attack the blank, forming the base of the point and as the cutter heads revolve the oblique edges of the gradually enlarged cutters act thereon and by a gradual or drawing cut form the completed point at its apex, and by this means we avoid a positive cut of the whole point at once which is sure to make a rough cut and is very liable to break the point.

The surfaces of disks E are roughened to prevent the blanks from slipping while being rolled over the edges of the plates R where the positive rolling movement is essential to the most successful operation of the machine.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. An improved pointing machine comprising a cutting mechanism, a carrier consisting of carrying and guiding disks for conveying the blanks to the cutters, a fixed surface against which the blanks are adapted to bear while being acted upon by the cutters, and a means for rotating the carrying disks at a greater speed than the guiding disks, whereby the blanks are rolled on said fixed surface, substantially as shown and described.

2. An improved pointing machine comprising a suitable cutting mechanism, a shaft, a carrier mounted thereon, said carrier consisting of the carrying disks fixed thereto and the guiding disks revoluble thereon, and a fixed surface adjacent the cutting mechanism over which the carrying disks are adapted to roll the blanks while being acted upon by said mechanism, substantially as shown and described.

3. In combination, a rotary blank carrier, the stationary block beside the carrier having its surface, adjacent to the carrier and against which the blanks are pressed and rolled, formed with end inclines and an intermediate straight portion, and the rotary cutter head beside said block and rotating in a plane parallel with the blank axes and provided with oblique cutting edges inclining inwardly from their inner ends at an angle to the blank axes and with their inner ends in approximately the same vertical plane as the intermediate straight portion of the block for the purpose set forth.

4. In a skewer pointing machine, a frame and driving means, notched rotating disks arranged on a horizontal axis, supporting disks beside said notched disks on which the blanks in the notches are arranged to rest and revoluble at greater speed than said

notched disks, stationary bodies arranged adjacent to said disks with surfaces arranged to engage said blanks as they are moved along the same and to thereby cause the blanks to roll between said surfaces and the disks, and the rotary cutter beside said bodies and carried by axes transverse to the disks and formed with inclined cutting edges to move into the paths of the blank ends as they roll on said surfaces, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

JESSE H. BERST.
HENRY L. BERST.

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