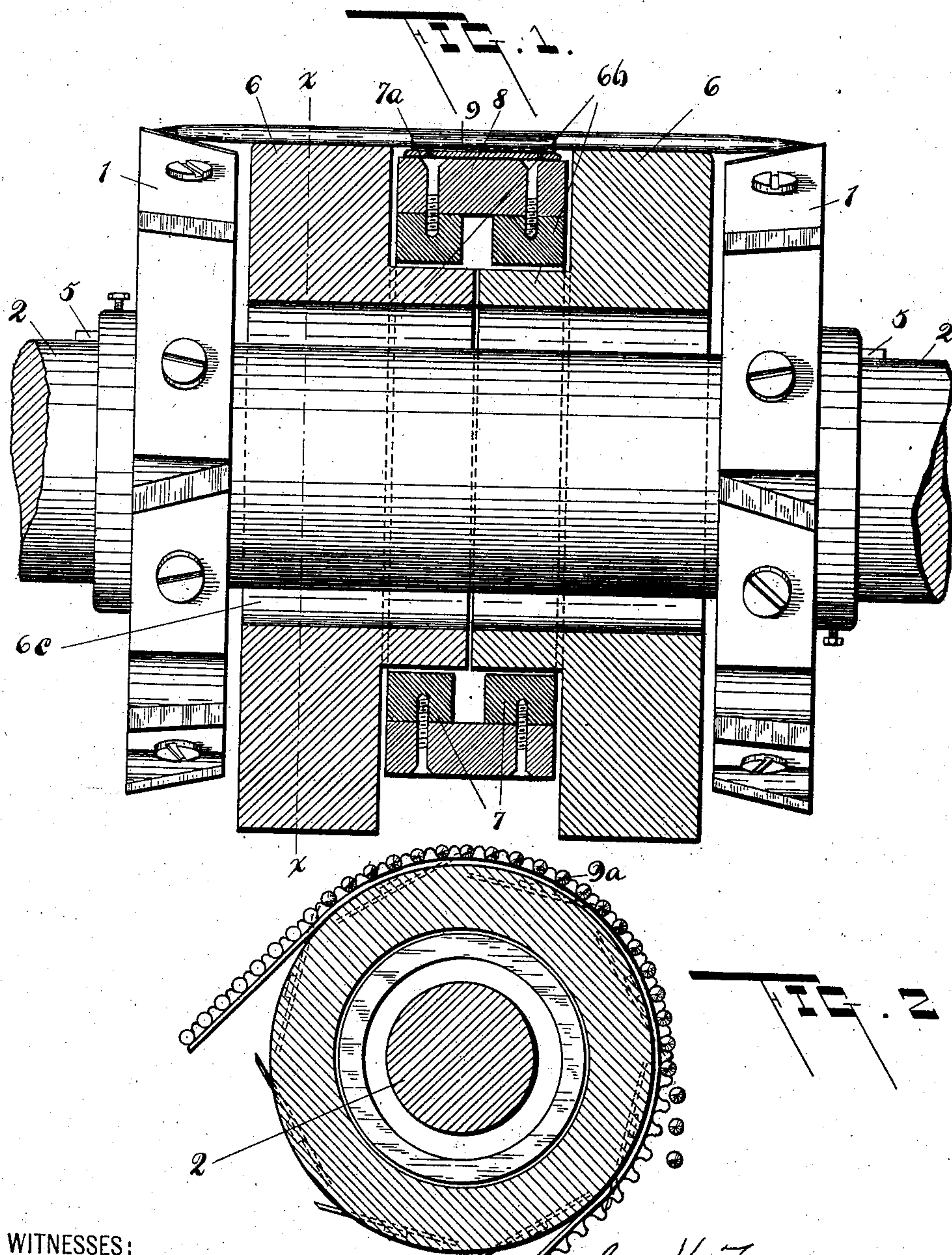


No. 827,333.

PATENTED JULY 31, 1906.

G. K. TYLER.
SKEWER POINTING MACHINE.
APPLICATION FILED JULY 1, 1904.

2 SHEETS—SHEET 1.



WITNESSES:

J. S. Lee.
W. J. Cathcart.

Geo. K. Tyler INVENTOR

BY

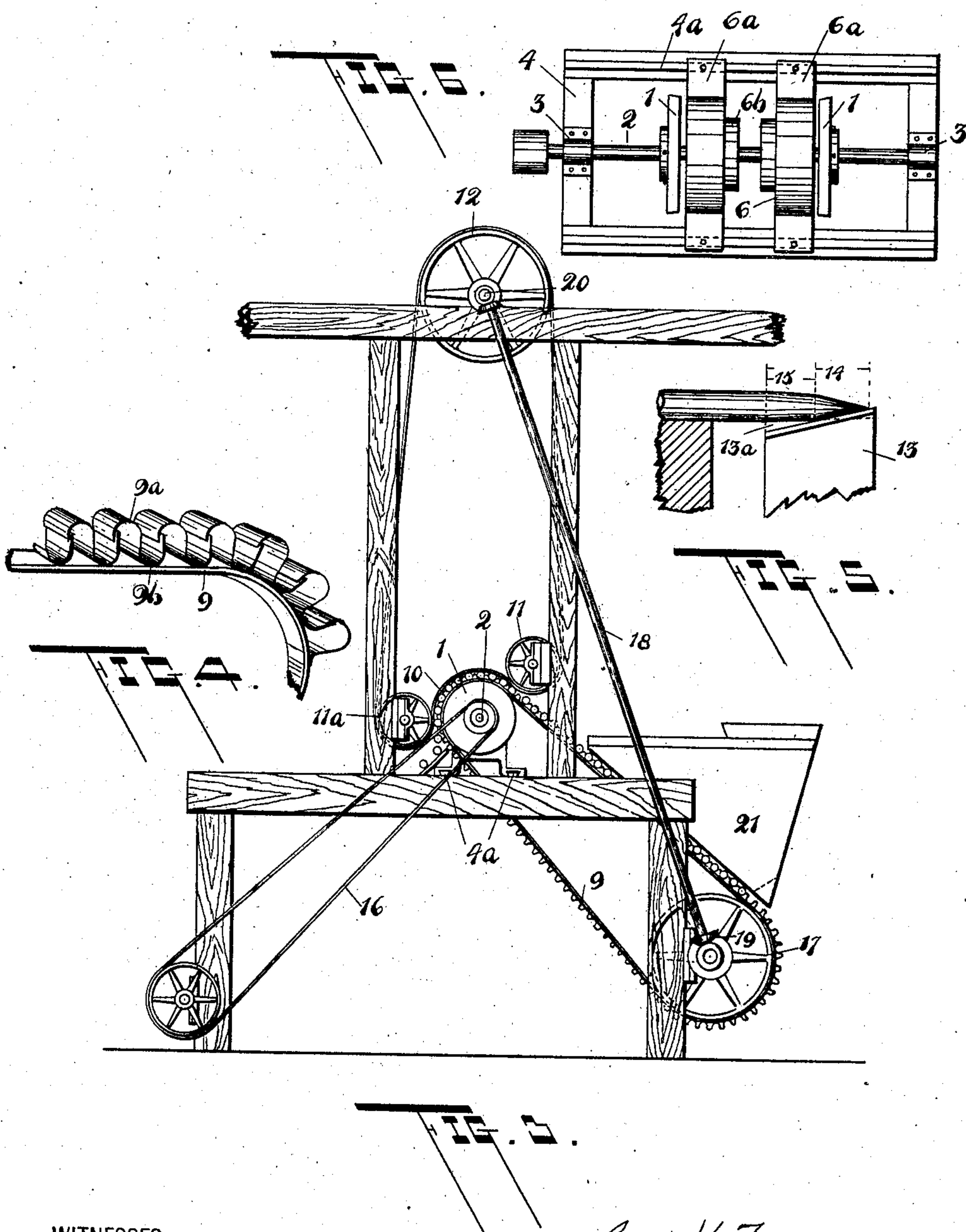
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UNITED STATES PATENT OFFICE.

GEORGE KING TYLER, OF TAWAS CITY, MICHIGAN.

SKEWER-POINTING MACHINE.

No. 827,333.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed July 1, 1904. Serial No. 214,937.

To all whom it may concern:

Be it known that I, GEORGE KING TYLER, a subject of the King of Great Britain, (having declared my intention to become a citizen of the United States,) residing at Tawas City, in the county of Iosco and State of Michigan, have invented certain new and useful Improvements in Skewer-Pointing Machines; and I 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 appertains to make and use the same.

This invention is a machine for pointing skewers; and the improvements consist in certain constructions and combinations and the equivalents thereof, as will be fully set forth in this specification.

The objects are to provide in a skewer-machine means for simultaneously pointing both ends of the skewer and to form the points with a double taper—that is, with a conical point and a portion between the conical point and the body of the skewer, said portion being in the form of a truncated cone.

Further objects are to so arrange the point-cutters that they may be adjusted to suit various lengths of skewers and to so mount the skewer conveyer-belt relatively to the revolving cutters that the cutters may be raised or lowered relatively to the skewers, thereby compensating for wear of the knives and keeping the skewer-points of uniform size.

A further object is to provide a metallic conveying-belt that is capable of running without bending the metallic skewer-pockets while the belt is in operation.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a part sectional view through the pulley that carries the conveyer-belt and also showing the arrangement of the cutter-knives relatively to the stationary guides over which the skewers roll. Fig. 2 is a transverse section, on a reduced scale, the section being taken on the line *x x* of Fig. 1. Fig. 3 is a side elevation showing part of the machine-frame and indicating the general arrangement of the feeding-hopper, the conveyer-belt, and friction-belt. Fig. 4 is a perspective detail showing the construction of the metallic pockets, the pockets for the purpose of illustrating their construction being made deeper than they are actually made in

practice. Fig. 5 is a view of the end of the skewer, showing the double tapered point and the arrangement relatively thereto of the cutter-knives by which the point is formed. Fig. 6 is a top plan view of the frame that carries the cutter-knives.

As is clearly shown in the drawings, the device consists in a pair of cutter-heads 1 1, fixed to the arbor 2, which revolves in suitable bearings 3, carried by the frame 4. The cutter-heads are secured to the shaft by means of tapered keys or feather 5, so they may be adjusted toward or from each other lengthwise the shaft. Between the cutter-heads 1 is located a pair of stationary guides 6 6, the upper surfaces of which are curved in the arc of a circle corresponding with the cutting-circle of the cutter-heads 1. The cylindrical surfaces of these guides are preferably knurled or roughened for a purpose which will presently be described. The guides 6 have projecting bases 6^a, that rest on the sides of the frame 4, being slidably mounted thereon by means of dovetailed guides 4^a, so that the stationary guides 6 may move toward or from each other lengthwise the frame 4. Each guide has a hub 6^b, and the hubs of the two guides are arranged opposite each other, as shown in Figs. 1 and 6. A loose ring 7 is fitted to each of the hubs 6^b, as shown in Fig. 1, and a pulley 8 in the form of an annular rim is secured to and connects the rings 7 by means of the screws 7^a or any other suitable means.

A conveyer-belt 9 runs on the pulley 8, which, together with the rings 7, forms a loose pulley revolving on the hubs 6^b under the action of the belt 9. The construction of the belt 9 is illustrated in Figs. 2, 3, and 4, where 9^a is a flat sheet of metal bent into substantially the form of a letter **S** and secured to the belt 9 by rivets 9^b or otherwise. The pockets are assembled by interlocking the upwardly-projecting members of one pocket with the downwardly-projecting members of the next pocket, thus forming yielding joints between consecutive pockets and permitting the belt and pockets to travel around pulleys without bending the material of which the pockets are made.

In practice skewers are deposited in the pockets 9^a, as shown in Figs. 2 and 3, and are carried up around the pulley 8, where the lower surface of each skewer comes in contact with the stationary knurled faces of the

guides 6. As the belt travels around the pulley 8 the skewers are revolved by reason of their contact with the fixed guides 6. To insure their proper contact with the guides 6, and to thereby produce the positive rolling movement of the skewers, I provide a presser-belt 10. (Shown in Fig. 3.) This belt is mounted on idler-pulleys 11 and 11^a and a third pulley 12, by which the belt is driven. The bottom of the pockets 9^a as they pass around the pulley 8 are slightly below the periphery of the guides 6. By this means each skewer is made to roll around the periphery of the guides 6, revolving meanwhile in the pocket 9^a and not in contact with the bottom of the pocket. As the skewer travels up on the belt it rests in the bottom of the pocket; but as soon as it comes in contact with the knurled face of the stationary guide the skewer is raised a little, so that it clears the bottom of the pocket. The pressure-belt presses the skewer down upon the knurled face of the guide, but does not press it down upon the bottom of the pocket of the belt. An important object of the belt as it goes around the pulley 8 is to keep the skewer straight—that is, parallel with the axis of the shaft 2. Previous to reaching the pulley 8 the office of the belt is to convey the skewers up, keep them straight, and deliver them straight under the pressure-belt.

The two ends of the skewer project beyond the guides 6 and into the cutting-circle of the two cutter-heads 1 1. The knives or cutter-heads 1 1 are preferably arranged as shown diagrammatically in Fig. 5, where 13 is the cutting edge of the blade, set at a proper angle to form the conical point 14 of the skewer, and 13^a is the next succeeding knife on the head 1, set at an angle to form the enlarged or truncated conical portion of the point. By this device a sharp point is produced on the skewer, yet the long slim point heretofore common is avoided and a large strong point produced.

When it is desired to point skewers of greater length, it is only necessary to loosen the keys 5 to slide apart the heads 1 1 along the shaft 2 and also to slide apart the stationary guides 6. The pulley 8, which is preferably a split pulley, is removed from the rings 7 7, and a wider pulley or rim is substituted therefor.

To compensate for wear of the knife-edges, which tends to decrease the diameter of the cutting-circle of the heads 1 and also to admit of cutting skewers of different diameters, I provide an opening 6^c in the guides 6, through which the arbor 2 passes. This opening is considerably larger in diameter than the shaft 2, and the shaft and the cutter-heads may therefore be adjusted in height by placing shims or liners under the boxes 3 or by making the boxes adjustable in any suitable manner.

In the accompanying drawings I have shown the belt 16 for driving the arbor 2 and have mounted the lower end of the conveyer-belt 9 on the pulley 17, which in turn drives the pulley 12 through the medium of the shaft 18 and suitable bevel-gears 19 and 20. Simultaneous movement of the conveyer-belt 9 and the presser-belt 10 is thereby produced. I do not, however, desire to confine myself to the particular form of driving mechanism shown in the accompanying drawings, as any other suitable device may be employed without departing from the spirit of my invention.

As is usual in devices of this sort I provide a hopper 21 above the conveyer-belt 9 and fill the belt-pockets 9^a by skewers deposited in the hopper 21.

One advantage of the long conveyer-belt 9 is that in case a defective skewer is delivered from the hopper 21 to the belt the operator can detect it and pick it out before the skewer reaches the knives. This cannot be done in machines having the hopper close to or directly above the knives.

By the means above described I have produced a simple, inexpensive, and efficient machine for pointing skewers and for producing a double-tapered point, as shown in Figs. 1 and 5.

What I claim as my invention, and desire to secure by Letters Patent, is as follows:

1. In a skewer-pointing machine the combination of a pair of cutter-heads mounted on a spindle and adjustable lengthwise thereon; a pair of guides in proximity to said cutter-heads, said guides having roughened surfaces concentric with said cutter-heads; a projecting hub on each guide; a loose pulley mounted on said hubs; a conveyer-belt having pockets, the bottoms of which are slightly below the faces of said guides, and adapted to roll skewers around said pulley in contact with said guides; together with a presser-belt for holding the skewers in contact with the guides.

2. In a machine of the class described, the combination with a suitably-supported driven cutter-head, of a guide provided with a convex surface of less radius than the greatest radius of the cutter-head and located in alinement therewith and adjacent thereto, a conveyer for the work to be treated, the bed of the conveyer being received on a plane beneath the convex face of the guide as the work is presented to the cutters and means for retaining the work in simultaneous engagement with the cutter-head and guide.

3. A woodworking-machine comprising a cutting or abrading mechanism, a stationary guide having a convex surface located in lateral alinement with the mechanism, and a conveyer for supplying work to the guide and mechanism, the guides operating to partially remove the work from the conveyer

during the progress of the work past the mechanism and means for retaining the work in engagement with the mechanism.

4. In a machine of the character shown, 5 the combination with a cutter, of a convex guide, the height of the guide being slightly less than the radius of the cutter, a conveyer comprising an endless member and separate pockets secured thereto, the pockets overlapping each other, the pockets adapted to 10 receive the work, the bases of the pockets lying beneath the plane of the guide, the sides of the pockets extending above the plane of the guide, whereby when the work engages 15 the guide it is lifted off the base of the pockets and means for retaining the work in engagement with the guide and cutter.

5. A woodworking-machine comprising a cutting or abrading mechanism, a stationary 20 guide located laterally of and extending parallel with the mechanism, means for feeding work to the guide and mechanism and means for retaining the work in contact with the guide and mechanism, the guide capable of a 25 fixed lateral adjustment toward and from the mechanism and independent of the feeding means.

6. In a machine of the character shown, the combination with a shaft and a cutter 30 mounted thereon, of a sectional normally stationary guide, through which the shaft

extends, hubs formed on the sections of the guide and projecting toward one another, rings loosely journaled on the hubs, a rim secured to the rings, a conveyer passing over 35 the rim for feeding the work to the guide and cutter, and means for retaining the work in contact with the guide and cutter.

7. In a woodworking-machine, the combination with a cutting or abrading member, 40 of a guide located adjacent to and in lateral alinement with the member, a conveying means for supplying work to the member, the guides adapted to support the work during its passage past the member. 45

8. A woodworking-machine comprising a cutting or abrading member, a guide located in lateral alinement therewith, a carrier for supplying work to the member, the guides adapted to engage and support the work 50 during its passage across the member and means cooperating with the guides and the carrier to hold the work in simultaneous engagement with the guide and member and to cause a rotation of the work in a direction reverse to that in which the member moves. 55

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE KING TYLER.

Witnesses:

W. M. BAXTER,
ED. WAIZESCHKE, Jr.