(No Model.)

2 Sheets—Sheet 1.

# E. DUPLESSIS.

## PEGGING MACHINE.

No. 594,466. Patented Nov. 30, 1897.

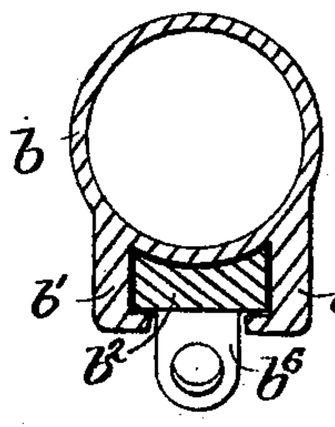


Fig. 3

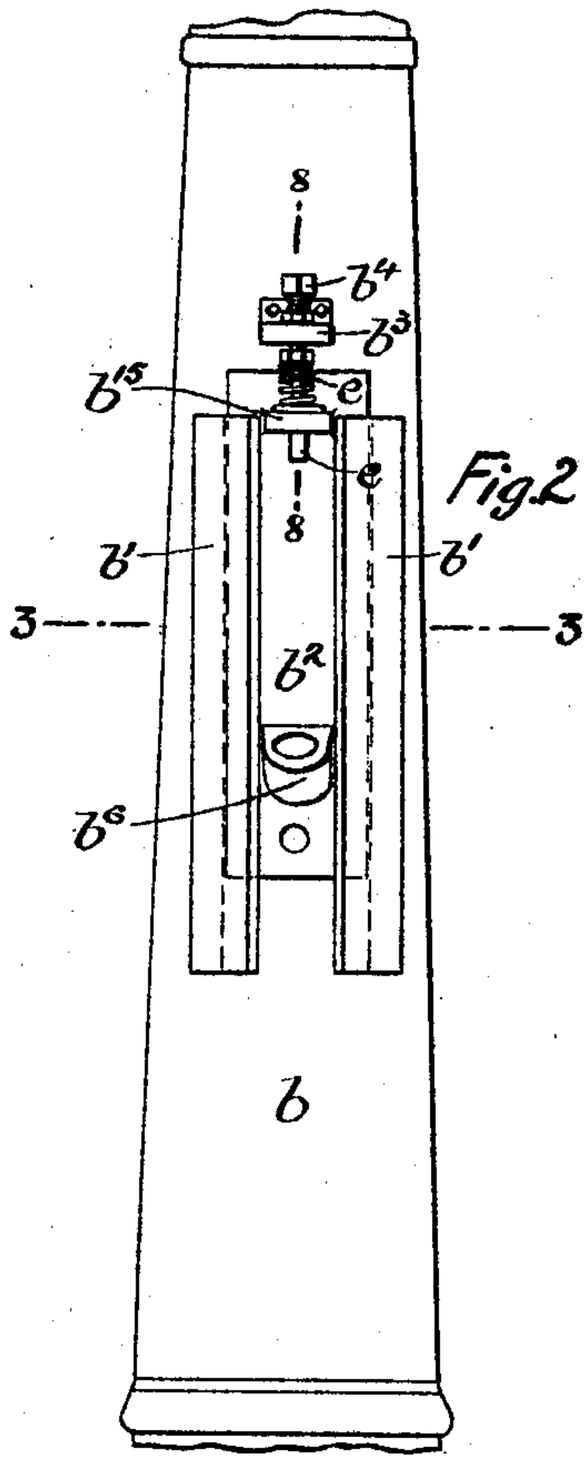


Fig. 2

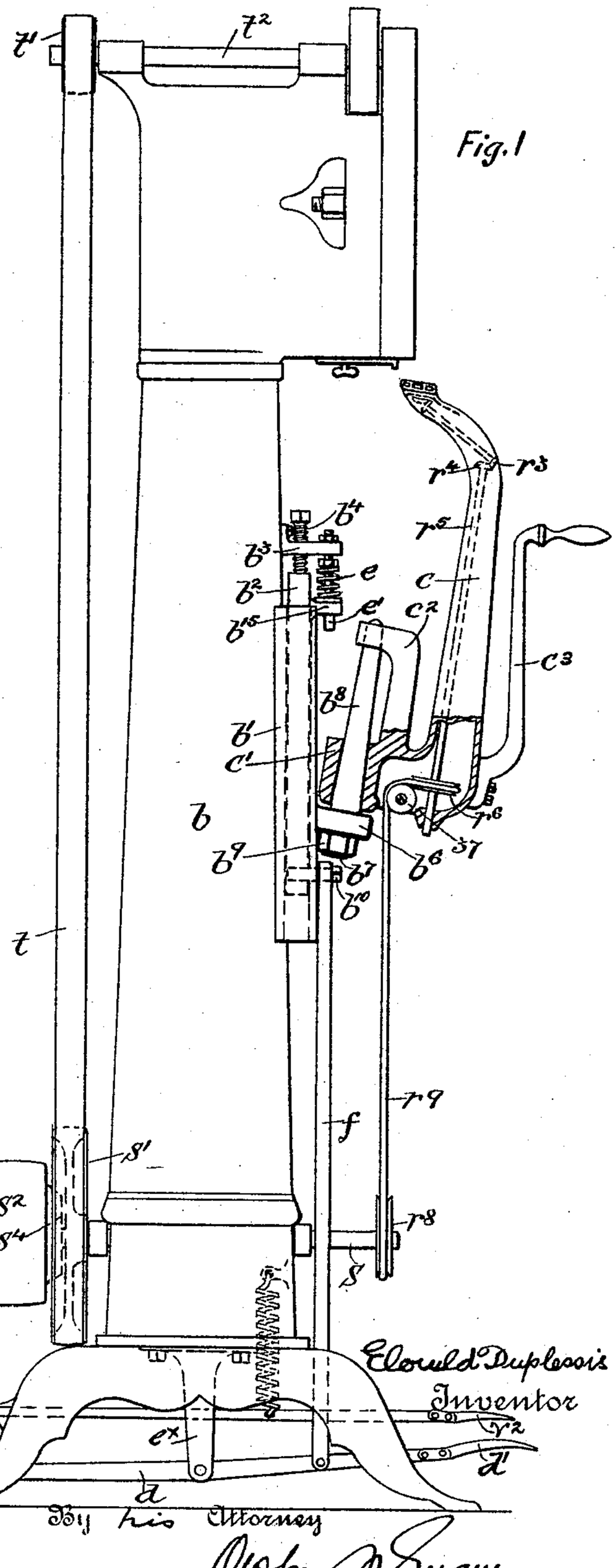


Fig. 1

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(No Model.) 2 Sheets—Sheet 2.

# E. DUPLESSIS.

## PEGGING MACHINE

No. 594,466. Patented Nov. 30, 1897.

Fig. 4

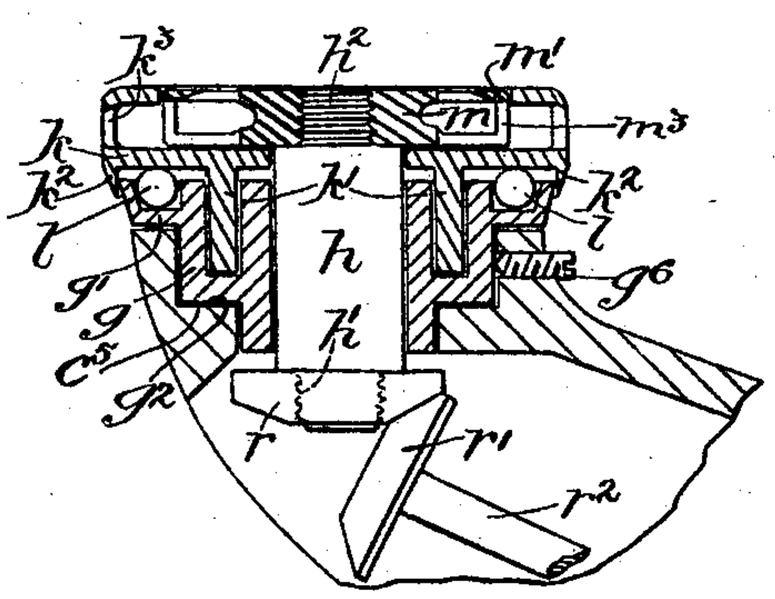



Fig. 6

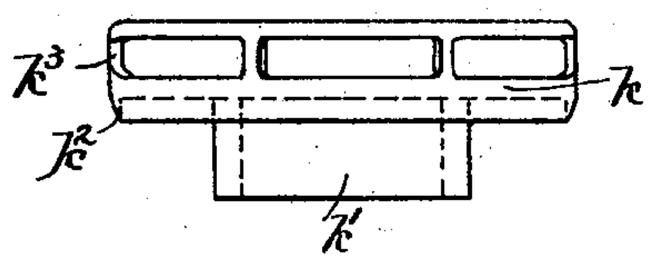



Fig. 5

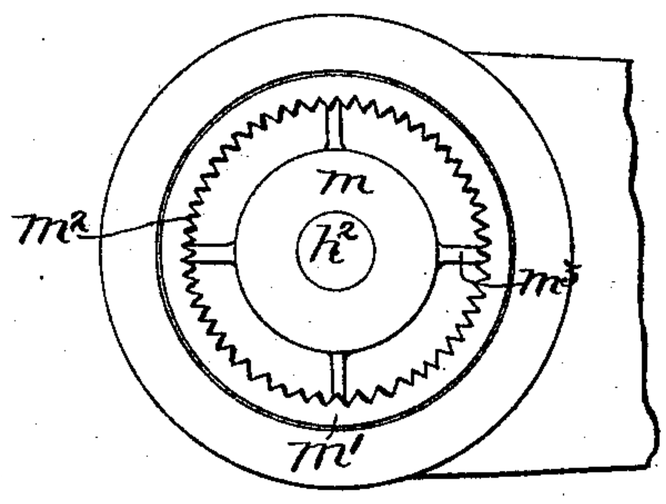



Fig. 7

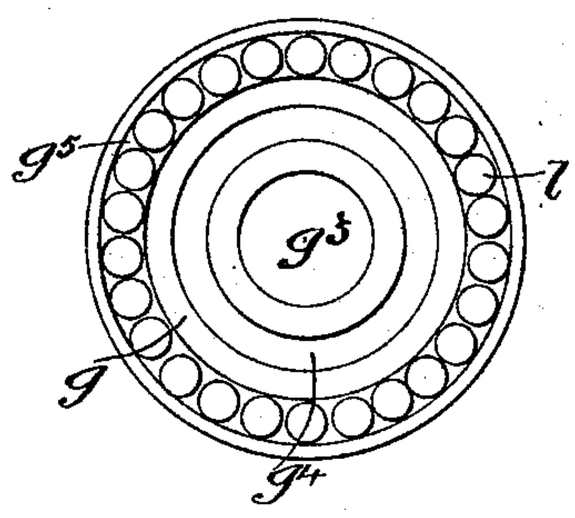
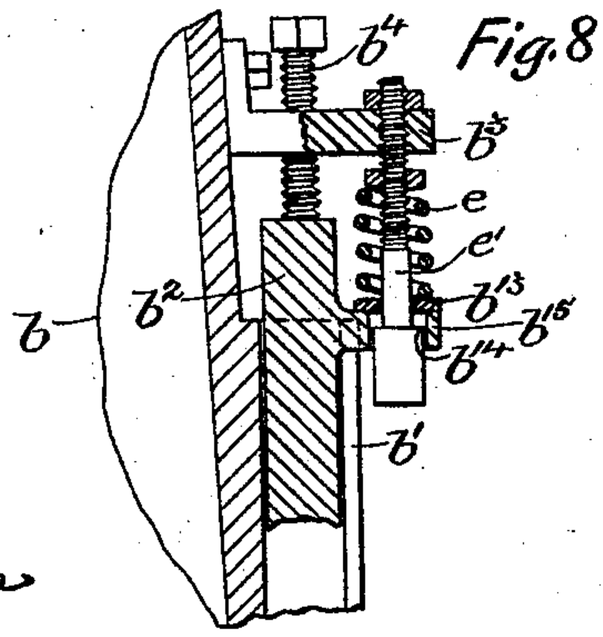



Fig. 8




Witnesses
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By his Attorney
Alon N. Evans

# UNITED STATES PATENT OFFICE.

ELOUILD DUPLESSIS, OF ST. HYACINTHE, CANADA, ASSIGNOR OF TWO-THIRDS TO EMILE ARTHUR MARCHILDON, MATHILDA MASSE, (WIFE OF FRANÇOIS TOUSIGNANT,) AND LOUIS H. MARIN, OF SAME PLACE.

## PEGGING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 594,466, dated November 30, 1897.

Application filed June 26, 1896. Serial No. 597,006. (No model.)

*To all whom it may concern:*

Be it known that I, ELOUILD DUPLESSIS, of the city of St. Hyacinthe, in the county of St. Hyacinthe and Province of Quebec, Canada, have invented certain new and useful Improvements in Pegging-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates more particularly to the means for supporting the work during the pegging operation, the means for trimming the driven pegs, and the means for operating the trimmer or cutter; and the object of the invention is to improve the construction and arrangement of these means, whereby a better-finished and more durable article will be produced, a great saving of time effected in the pegging of each article, and the liability of the cutter to be damaged reduced to a minimum.

To these ends the invention may be said, briefly, to consist in mounting upon a vertically-movable slide (the extent of movement whereof is restricted by an adjustable yielding resistance of novel construction) a swinging work-support or horn with its axis at an angle to the vertical line of the machine. A rotary cutter, preferably in the form of a ring saw-toothed on its inner edge and of peculiar construction, is mounted in the nose of this horn eccentrically to the point at which the pegs are driven and concentrically of a work-supporting section, which it encircles, and is driven, preferably, at a high rate of speed, its operating-gear embodying a sheave and belt connection in order that said cutter, in the event of its coming in contact with any obstacle, will be arrested, while the belt can slip over the sheaves and the remaining driving-gear continue to run. The horn or work-support is also of peculiar construction and embodies many features of novelty, for full comprehension of which, however, together with the foregoing, reference must be had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of a pegging-machine constructed according to my invention; Fig. 2, a detail front elevation, partly in section, of a portion of the pedestal of the machine; Fig. 3, a horizontal sectional view of the pedestal, taken on line 3 3, Fig. 2; Fig. 4, a detail enlarged sectional view of the nose of the horn, showing the trimmer and its carrying and retaining parts partly in elevation and partly in section; Fig. 5, a plan view of the nose of the horn; Fig. 6, a detail side elevation of the trimmer-carrier; Fig. 7, a detail plan view of the removable bearing for the trimmer spindle and carrier; Fig. 8, an enlarged transverse vertical sectional view taken on line 8 8, Fig. 2.

As the awl, awl-feed, and driver and their carrying and operating parts form no part of my invention, I will neither illustrate nor describe same, my invention being adapted to any well-known form of awl, feed, and driver.

The pedestal $b$ has a guiding-section $b'$ formed upon the front thereof, in which a vertical sliding bar $b^2$ is loosely retained. A bracket $b^3$ projects above and adjacent to the upper end of such guiding-section and a screw $b^4$ projects downwardly through this bracket.

A forwardly-projecting bracket $b^6$ is formed upon the sliding bar $b^2$ and near the lower end thereof. This bracket is inclined downwardly to the angle at which it is required that the horn or work-support will set and has an opening therethrough through which the lower diminished and screw-threaded end $b^7$ of a conically-shaped standard $b^8$ projects and receives a retaining-nut $b^9$, such standard extending upwardly obliquely to the vertical line of the machine and at right angles to the bracket $b^6$.

The horn or work-support $c$ is formed with a rearward extension $c'$, having an upwardly-offset portion $c^2$, which extension $c'$ and offset portion $c^2$ are perforated to take over the standard $b^8$, while an offset handle $c^3$ is rigidly secured to the front of the horn.

A weighted lever $d$ is fulcrumed to a bracket $e^\times$, secured upon the under side of the pedestal, and is furnished with a treadle $d'$, and a link $f$ has its lower end pivotally connected to such lever $d$ and its upper end connected to the slide-bar $b^2$ near the lower end thereof

by means of a bolt $b^{10}$, taking through an opening in the upper end of such link and screwed into said slide-bar $b^2$.

The horn is caused to hold the work against the under side of the head of the machine with a variable degree of pressure by means of a helical spring $e$, carried upon a guiding-spindle $e'$, screw-threaded into the bracket $b^3$ near the outer end thereof, such spring bearing at one end upon a disk $b^{13}$, adapted to slide freely upon said spindle, but limited in its downward movement by a shoulder $b^{14}$, formed on such spindle, while the other end of such spring bears upon a nut taking over the upper screw-threaded end of the spindle. A bracket projection $b^{15}$ is formed near the upper end of sliding bar $b^2$, and such bracket has a perforation therethrough which receives the lower end of spindle $e'$.

In order to adjust the normal height of the horn or work-support, the screw $b^4$ should be adjusted up or down through the bracket $b^3$ according as it may be required to raise or lower the height of such horn. When the work is in place upon the horn, the pressure of the weight upon the lever $d'$ will bear through the horn upon such work, and while such weight has been found to be just sufficient to hold the work when heavy in place without injuring it it has also been found to injure light grades of work. To obviate this difficulty, it will only be necessary to adjust the spring to offer sufficient resistance to the weight that will allow the horn to bear upon the work with just sufficient force to resist the impacts of the awl and driver without injuring the work.

My improved trimmer consists of a rotary cutter mounted in the nose of the horn or work-support $c$ preferably as follows: The nose of the horn is recessed to provide a shoulder $c^5$. A bearing-section $g$ is set in this recess and formed with shoulders $g'$ and $g^2$ to rest, respectively, upon the top edge of the nose of the horn and upon shoulder $c^5$. A central aperture $g^3$ through this bearing-section receives the spindle of the cutter, and circular recesses $g^4$ $g^5$ are formed concentric with the spindle-aperture $g^3$, the inner recess $g^4$ receiving a downwardly-projecting flange $k'$, formed upon the under side of a bottom plate $k$ of a rotatable cap for the nose of the horn. The other recess, $g^5$, (which encircles the one $g^4$,) serves as a receptacle for the rollers or balls $l$, upon which the cap $k$ bears, this bearing-section being retained rigidly in place by a set-screw $g^6$, taken through a screw-threaded opening in the horn and adapted to bear upon and pinch the side of said bearing-section $g$. The spindle for carrying the cutter has its ends $h'$ $h^2$ diminished and screw-threaded, while the body portion $h$ thereof is plain and slightly longer than the combined depth of the bearing-section $g$ and the thickness of the plate $k$. A bevel-gear $r$ is screwed upon the lower diminished screw-threaded end $h'$ of the spindle and tightly against the shoulder formed by such diminished portion, while the cutter is formed with a central screw-threaded opening through which it is screwed upon the upper diminished screw-threaded end $h^2$ and tightly against the shoulder formed by such diminished end. This cutter is formed of a hub-section $m$, constituting a central work-supporting section, and a ring $m'$, having its inner edge formed with saw-teeth $m^2$, the upper surface of such saw-toothed ring being located on a line with the upper face of the hub and connected to such hub by a series of curved arms or braces $m^3$, secured rigidly to the under side of the ring $m'$ and to the lower edge of the hub $m$.

The rotatable cap has a dust-guard in the form of a flange $k^2$, extending downwardly from the under side of the plate $k$ and adjacent to the upwardly-curved edge $k^3$ thereof and fitting closely about the upper edge of the bearing-section $g$, and the upwardly-curved edge being extended inwardly to closely encircle the cutter and at the same time furnish a bearing-surface for the work, sections of the curved portion of the plate $k$ being cut away to allow the peg ends to escape from the chamber formed by such turned edge $k^3$. The required rotary motion is imparted to the cutter through the bevel-gear $r$, mounted upon the lower end of the cutter-spindle. A bevel-gear $r'$, intermeshing with such gear $r$, is carried rigidly on one end of a rod $r^2$, mounted in bearings inside the horn, the other end of which rod carries a bevel-gear $r^3$ rigidly thereon. A bevel-gear $r^4$, intermeshing with such gear $r^3$, is carried rigidly upon the upper end of a rod $r^5$, also mounted at its upper end in a bearing inside of the horn and having a sheave $r^6$, secured rigidly thereon near the lower end thereof, while such lower end projects through and bears in the bottom of the horn. A pair of sheaves 37 37 are mounted in the lower portion of the horn and adjacent to such sheave $r^6$, and another sheave $r^8$ is carried rigidly upon the forward end of the driving-shaft $s$ of the machine, these sheaves being operatively connected together by a belt $r^9$. This driving-shaft is carried in bearings, as usual, near the foot of the machine and has a tight and a loose pulley $s'$ and $s^2$, respectively, mounted on the rear end thereof, and the tight pulley is connected by a belt $t$ to a pulley $t'$, mounted rigidly upon the counter-shaft $t^2$, that operates the awl and driver, (not shown,) while the loose pulley $s^2$ is connected to the source of power. The tight pulley $s'$ has its face adjacent to the loose pulley made smooth and the loose pulley has a smooth-faced projection $s^4$ on the face thereof that is adjacent to the smooth face of the tight pulley, a grooved extension $s^5$ from the hub thereof allowing of a connection between such loose pulley and a bell-crank lever $v$, fulcrumed to a bracket $v'$, projecting from the rear side of the foot of the machine, while its other arm projects

forward of the machine and is finished in a treadle $v^2$.

Many changes can readily be made in the precise construction and arrangement of the parts without departing from the spirit of my invention.

What I claim is as follows:

1. In a pegging-machine, the combination with a rotary cutter consisting of a ring saw-toothed on its inner edge, a work-supporting section located within and concentrically of said ring, for the purpose set forth.

2. In a pegging-machine, a rotary cutter having a central work-supporting portion and said cutter being adapted to rotate about and eccentrically of the point at which the pegs are driven, for the purpose set forth.

3. In a pegging-machine, a rotary cutter consisting of a ring saw-toothed on its inner edge and connected to a rotatable hub-section adapted to partially support the work, for the purpose set forth.

4. In a pegging-machine, a rotary cutter consisting of a hub-section, a ring having its inner edge formed with saw-teeth, a series of downwardly-offset arms or braces connecting the under side of said ring rigidly to the lower end of said hub, for the purpose set forth.

5. In a pegging-machine, a rotary cutter consisting of a hub-section, a ring having its inner edge formed with saw-teeth, the upper surface of such ring being located on a line with the upper face of such hub, a series of downwardly-offset arms or braces connecting the under side of said ring rigidly to the lower end of said hub, for the purpose set forth.

6. In combination with the nose of the horn or work-support of a pegging-machine, a rotary cutter consisting of a hub-section, a ring having its inner edge formed with saw-teeth, the upper surface of such ring being located on a line with the upper face of such hub, a series of downwardly-offset arms or braces connecting the under side of said ring rigidly to the lower end of said hub, means for rotating said cutter, and means for retaining same against displacement, for the purpose set forth.

7. In combination with the nose of the horn or work-support of a pegging-machine, an aperture concentric of the upper surface of said nose; a rotatable cap consisting of a plate having a downwardly-projecting flange adapted to take into a circular recess formed at the upper end of said nose and concentric of the aperture therethrough, said plate extending over a second recess encircling said first-mentioned recess, a series of rollers located in said last-mentioned recess and adapted to support said cap, a cutter mounted upon the upper end of a rotatable spindle extending through said aperture, the edge of said plate being upwardly curved and extended inwardly to closely encircle said cutter and furnish a bearing-surface for the work, sections of said upwardly-curved portion of the plate being cut away; and means for rotating said spindle, for the purpose set forth.

8. In combination with the nose of the horn or work-support of a pegging-machine, an aperture concentric of the upper surface of said nose; a rotatable cap consisting of a plate having a downwardly-projecting flange adapted to take into a circular recess formed at the upper end of said nose and concentric of the aperture therethrough, said plate extending over a second recess encircling said first-mentioned recess, a series of rollers located in said last-mentioned recess and adapted to support said cap, a cutter mounted upon the upper end of a rotatable spindle extending through said aperture, the edge of said plate being upwardly curved and extended inwardly to closely encircle said cutter and furnish a bearing-surface for the work, sections of said upwardly-curved portion of the plate being cut away and the lower edge thereof having a downwardly-extending flange formed thereon and adapted to overlap the edge of said nose; and means for rotating said spindle, for the purpose set forth.

9. In combination with the nose of the horn or work-support of a pegging-machine, an aperture concentric of the upper surface of said nose; a rotatable cap consisting of a plate having a downwardly-projecting flange adapted to take into a circular recess formed at the upper end of said nose and concentric of the aperture therethrough, said plate extending over a second recess encircling said first-mentioned recess, a series of rollers located in said last-mentioned recess and adapted to support said cap, a rotary cutter consisting of a hub-section provided with a screw-threaded central perforation, a ring having its inner edge formed with saw-teeth, the upper surface of such ring being located on a line with the upper face of such hub, a series of downwardly-offset arms or braces connecting the under side of said ring rigidly to the lower end of said hub, said cutter being mounted through its perforated hub upon the upper screw-threaded end of a rotatable spindle extending through said aperture, the edge of said plate being upwardly curved and extended inwardly to closely encircle said cutter and furnish a bearing-surface for the work, sections of said upwardly-curved portion of the plate being cut away, and means for rotating said spindle, for the purpose set forth.

10. In combination with the nose of the horn or work-support of a pegging-machine, an aperture concentric of the upper surface of said nose; a rotatable cap consisting of a plate having a downwardly-projecting flange adapted to take into a circular recess formed at the upper end of said nose and concentric of the aperture therethrough, said plate extending over a second recess encircling said first-mentioned recess, a series of rollers located in said last-mentioned recess and adapted to support said cap, a rotary cutter consisting of a hub-

section, provided with a screw-threaded vertical perforation, a ring having its inner edge formed with saw-teeth, the upper surface of such ring being located on a line with the upper face of such hub, a series of downwardly-offset arms or braces connecting the under side of said ring rigidly to the lower end of said hub, said cutter being mounted through its perforated hub upon the upper screw-threaded end of a rotatable spindle extending through said aperture, the edge of said plate being upwardly curved and extended inwardly to closely encircle said cutter and furnish a bearing-surface for the work, sections of said upwardly-curved portion of the plate being cut away and the lower edge thereof having a downwardly-extending flange formed thereon and adapted to overlap the edge of said nose; and means for rotating said spindle, for the purpose set forth.

11. In combination with the nose of the horn or work-support of a pegging-machine, said nose being formed with a central aperture and recessed to form a shoulder, a circular bearing-section diminished in diameter to form a shoulder near the upper end thereof, and further diminished in diameter to form a second shoulder near the lower end thereof, the upper shoulder being adapted to rest upon the top edge of the nose and the lower shoulder being adapted to rest upon the shoulder formed by said recess in the nose; said bearing-section being provided with a central aperture, and a recess formed in the upper face of such bearing-section and encircling said aperture and a second recess similarly located and encircling said first-mentioned recess; a rotatable cap consisting of a plate having a downwardly-projecting flange adapted to take into said first-mentioned circular recess, said plate extending over said last-mentioned recess, a series of rollers located in said last-mentioned recess and adapted to support said cap, a cutter mounted upon the upper end of a rotatable spindle extending through said aperture, the edge of said plate being upwardly curved and extended inwardly to closely encircle said cutter and furnish a bearing-surface for the work, sections of said upwardly-curved portion of the plate being cut away; means for retaining said bearing-section in place; and means for rotating said spindle, for the purpose set forth.

12. In combination with the nose of the horn or work-support of a pegging-machine, said nose being formed with a central aperture and recessed to form a shoulder, a circular bearing-section diminished in diameter to form a shoulder near the upper end thereof, and further diminished in diameter to form a second shoulder near the lower end thereof, the upper shoulder being adapted to rest upon the top edge of the nose and the lower shoulder being adapted to rest upon the shoulder formed by said recess in the nose; said bearing-section being provided with a central aperture, and a recess formed in the upper face of such bearing-section and encircling said aperture and a second recess similarly located and encircling said first-mentioned recess; a rotatable cap consisting of a plate having a downwardly-projecting flange adapted to take into a circular recess formed at the upper end of said nose and concentric of the aperture therethrough, said plate extending over a second recess encircling said first-mentioned recess, a series of rollers located in said last-mentioned recess and adapted to support said cap, a cutter mounted upon the upper end of a rotatable spindle extending through said aperture, the edge of said plate being upwardly curved and extended inwardly to closely encircle said cutter and furnish a bearing-surface for the work, sections of said upwardly-curved portion of the plate being cut away and the lower edge thereof having a downwardly-extending flange formed thereon and adapted to overlap the edge of said nose; means for retaining said bearing-section in place; and means for rotating said spindle, for the purpose set forth.

13. In combination with the nose of the horn or work-support of a pegging-machine, said nose being formed with a central aperture and recessed to form a shoulder, a circular bearing-section diminished in diameter to form a shoulder near the upper end thereof, and further diminished in diameter to form a second shoulder near the lower end thereof, the upper shoulder being adapted to rest upon the top edge of the nose and the lower shoulder being adapted to rest upon the shoulder formed by said recess in the nose; said bearing-section being provided with a central aperture, and a recess formed in the upper face of such bearing-section and encircling said aperture and a second recess similarly located and encircling said first-mentioned recess; a rotatable cap consisting of a plate having a downwardly-projecting flange adapted to take into said first-mentioned circular recess said plate extending over said last-mentioned recess, a series of rollers located in said last-mentioned recess and adapted to support said cap, a rotary cutter consisting of a hub-section provided with a screw-threaded central perforation, a ring having its inner edge formed with saw-teeth, the upper surface of such ring being located on a line with the upper face of such hub, a series of downwardly-offset arms or braces connecting the under side of said ring rigidly to the lower end of said hub, said cutter being mounted through its perforated hub upon the upper screw-threaded end of a rotatable spindle extending through said aperture, the edge of said plate being upwardly curved and extended inwardly to closely encircle said cutter and furnish a bearing-surface for the work, sections of said upwardly-curved portion of the plate being cut away; means for retaining said bearing-section in place; and means for rotating said spindle, for the purpose set forth.

14. In combination with the nose of the horn

or work-support of a pegging-machine, said nose being formed with a central aperture and recessed to form a shoulder, a circular bearing-section diminished in diameter to form a shoulder near the upper end thereof, and further diminished in diameter to form a second shoulder near the lower end thereof, the upper shoulder being adapted to rest upon the top edge of the nose and the lower shoulder being adapted to rest upon the shoulder formed by said recess in the nose; said bearing-section being provided with a central aperture, and a recess formed in the upper face of such bearing-section and encircling said aperture and a second recess similarly located and encircling said first-mentioned recess; a rotatable cap consisting of a plate having a downwardly-projecting flange adapted to take into said first-mentioned circular recess said plate extending over said last-mentioned recess, a series of rollers located in said last-mentioned recess and adapted to support said cap, a rotary cutter consisting of a hub-section provided with a screw-threaded central perforation, a ring having its inner edge formed with saw-teeth, the upper surface of such ring being located on a line with the upper face of such hub, a series of downwardly-offset arms or braces connecting the under side of said ring rigidly to the lower end of said hub, said cutter being mounted through its perforated hub upon the upper screw-threaded end of a rotatable spindle extending through said aperture, the edge of said plate being upwardly curved and extended inwardly to closely encircle said cutter and furnish a bearing-surface for the work, sections of said upwardly-curved portion of the plate being cut away and the lower edges thereof having a downwardly-extending flange formed thereon and adapted to overlap the edge of said nose; means for retaining said bearing-section in place; and means for rotating said spindle, for the purpose set forth.

15. In a pegging-machine, the combination with the pedestal thereof having a vertical guideway formed thereon, and a bracket $b^3$ carried by said frame above and in vertical line with said guideway; a sliding bar located in said guideway, a vertically-adjustable screw carried by said bracket and in line with the upper end of said sliding bar; a bracket projection formed near the upper end of said sliding bar and having its forward end perforated a guiding-spindle screw-threaded into the forward end of said first-mentioned bracket, said spindle having its lower end extended in diameter to form a shoulder and adapted to take through the perforation in the bracket projection carried by said sliding bar, a perforated disk adapted to take over the upper portion of said guiding-spindle; a nut screwed upon the screw-threaded portion of said spindle below its carrying-bracket, a helical spring encircling said spindle and adapted to bear between said nut and disk; said sliding bar carrying a horn or work-support; and treadle mechanism for moving said sliding bar to and from said bracket $b^3$ for the purpose set forth.

16. In combination with the pedestal and driving-shaft of a pegging-machine, a perforated forwardly-projecting, downwardly-inclined bracket carried by said pedestal, a conical standard having its lower end diminished and screw-threaded, and adapted to take through the perforation in said bracket and receive a retaining-nut thereon; a horn or work-support formed with a perforated rearward extension and a perforated upwardly-offset portion both adapted to take over said standard; the upper end of said horn being offset and the center of the nose thereof located in the axial line of said horn or work-support, for the purpose set forth.

17. In a pegging-machine, the combination with the pedestal thereof having a vertical guideway formed thereon, and a bracket carried by said frame above and in vertical line with said guideway; a sliding bar located in said guideway a vertically-adjustable screw carried by said bracket and in line with the upper end of said sliding bar; a bracket projection formed near the upper end of said sliding bar and having its forward end perforated; a guiding-spindle screw-threaded into the forward end of said first-mentioned bracket, said spindle having its lower end extended in diameter to form a shoulder and adapted to take through the perforation in the bracket projection carried by said sliding bar, a perforated disk adapted to take over the upper portion of said guiding-spindle; a nut screwed upon the screw-threaded portion of said spindle below its carrying-bracket, a helical spring encircling said spindle and adapted to bear between said nut and disk; a perforated forwardly-projecting, downwardly-inclined bracket carried by said sliding bar, a conical standard having its lower end diminished and screw-threaded, and adapted to take through the perforation in said bracket and receive a retaining-nut thereon; a horn or work-support formed with a perforated rearward extension and a perforated upwardly-offset portion both adapted to take over said standard, the upper end of said horn being offset and the center of the nose thereof located in the axial line of said horn or work-support, for the purpose set forth.

ELOUILD DUPLESSIS.

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