

G. F. YOUNG.
MACHINE FOR THREADING PORCELAIN INSULATORS.
APPLICATION FILED NOV. 12, 1909.

954,490.

Patented Apr. 12, 1910.

FIG. 1.

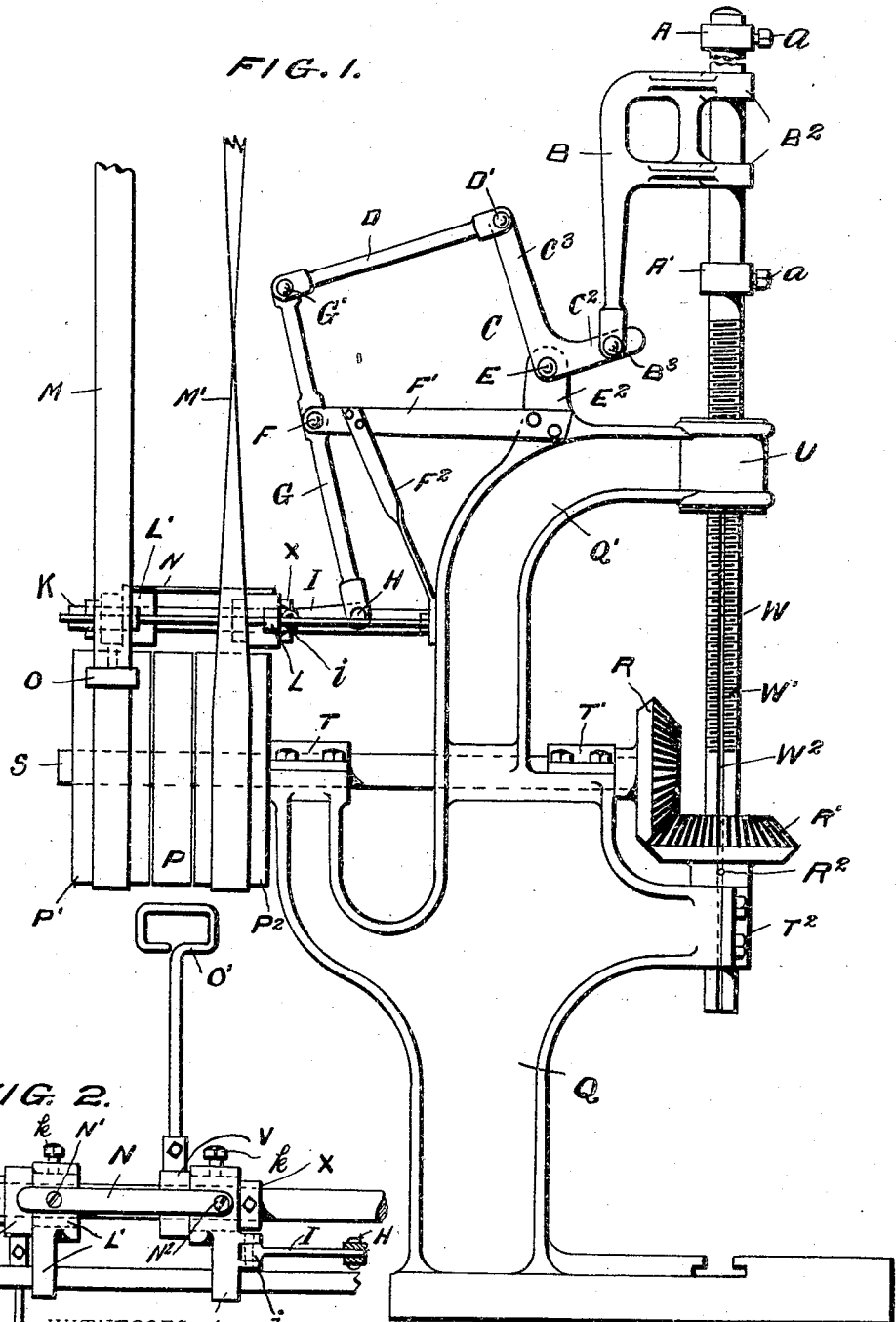
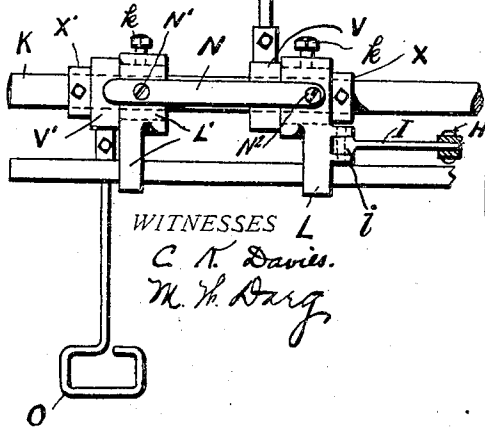


FIG. 2.



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MACHINE FOR THREADING PORCELAIN INSULATORS.

954,490.

Specification of Letters Patent. Patented Apr. 12, 1910.

Application filed November 12, 1909. Serial No. 527,730.

To all whom it may concern:

Be it known that I, GEORGE F. YOUNG, a citizen of the United States, residing at Zanesville, in the county of Muskingum and State of Ohio, have invented certain new and useful Improvements in Machines for Threading Porcelain Insulators, of which the following is a specification.

My invention relates to machines for threading electric insulators constructed of porcelain or the like.

Among the objects in view is to provide a machine of the character described which shall be of simple and inexpensive construction and adapted for effectively and quickly threading electric porcelain insulators or other articles intended to be interiorly threaded while in a semi-plastic condition.

The invention consists in the novel construction, arrangement and combination of parts as hereinafter described and claimed.

In the drawing, Figure 1 shows my invention by a side elevation, and Fig. 2 is a detail plan view.

In carrying out my invention I provide a suitable supporting frame Q upon which is rotatably mounted in bearings T T' a shaft S. Upon the shaft S are mounted loose pulleys P', P² and a fixed pulley P intermediate the said loose pulleys.

M, M' indicate belts running over the loose pulleys, the belt M being a straight belt while the belt M' is crossed.

O indicates a suitable belt shifter arranged to shift the belt from pulley P' onto pulley P and vice versa. When belt M is upon pulley P the shaft S will be rotated in one direction while when the belt M' is on the pulley P shaft S will be rotated in the reverse direction.

O' indicates a suitable shifter for the belt M' for shifting the latter from pulley P² onto pulley P and vice versa.

The frame Q is provided with an overhanging arm Q', the outer end of which is provided with a box U threaded interiorly for the reception of the shaft W which is threaded as at W' said threaded portion working within the threaded box U. The lower end of the shaft W passes freely through a box T² carried by the frame.

Mounted upon the lower end of shaft W intermediate the boxes T² U is a bevel pinion R', the latter being adapted to rotate with the shaft W but at the same time per-

mit said shaft to have a vertical movement independently of the said pinion. To allow of this the shaft W is provided with a key-way W² within which runs a key R² carried by the pinion. Upon the shaft S is mounted a bevel pinion R, which meshes with pinion R' for imparting rotation to the latter and the shaft W. When the shaft S is rotated by shifting belt M onto pulley P, the shaft W' will be rotated in a direction to cause it to feed downwardly through the boxes U, T², the key-and-slot connection with pinion R' permitting such movement and in this descending movement of the shaft W, its lower end, which projects below box T², will force its way through the insulator, which in a semi-plastic condition is placed beneath the lower end of shaft W, and the threading tool which is adapted to be carried by the lower end of the shaft W will thread the interior of the insulator.

In order that the reversal of the shaft W, may be accomplished automatically as soon as the threading has been completed, I provide the following described means: B indicates an arm having portions B², through which loosely passes the upper unthreaded end of shaft W. Said arm is pivotally connected at B³ to one arm C² of an L-shaped lever C which is pivoted at E to a suitable bearing lug or post F² on the frame S. The arm C³ of lever C is pivotally connected at D' to one end of an arm D, pivotally connected at G' to an arm G. The opposite end of arm G is pivotally connected by bolt H with an arm I. The arm G is pivotally connected intermediate its ends as at F to an arm F' bolted to post E² and to a brace arm F² bolted to frame S. Upon the upper end of shaft W are adjustably mounted by set screws a, two collars A A'. The belt shifters are to be connected so that they will be shifted simultaneously and any suitable arrangement may be adopted for this purpose. For instance, the arm I is pivotally connected at i with an arm L and arm N connects the arm L with an arm L'. Sleeves V V' are slidingly mounted on shaft K and extend into the arms L L' to any desired distance and are secured in place by set-screws k. The shifters O O' are carried by the sleeves V V'. Sleeves X X' are adjustably secured on shaft K by set-screws x. Their purpose is to limit the sliding movement of arms L L' and consequently the

throw of the shifters. $N' N^2$ are pins securing the arm N to the arms $L L'$. When the shaft W has descended sufficiently to thread an insulator the collar A will strike 5 against the arm B^2 and carry downwardly causing the lever C to swing on pivot E and swinging arm D and G to cause the arm N to shift the arms $L L'$ and belt shifters $O O'$ to the left and thus shift belt M' onto pulley 10 P and belt M from pulley P to pulley P' thereby reversing shaft S and causing shaft W to ascend. When it has ascended sufficiently to cause collar A' to strike against arm B^2 the arm B will be pushed upwardly 15 thus causing the various parts to resume the position seen in the drawing and the belt M' being shifted back onto pulley O^2 and belt M from pulley P' to pulley P .

What I claim is:—

20 In a machine of the character described, the combination with a supporting frame, and an overhanging arm on said frame, and an interiorly-threaded box carried by said arm, of a vertically-arranged rotatable shaft 25 having a threaded portion screwing within the said box, a horizontally-arranged rota-

table shaft mounted upon said frame, a gear wheel carried by the said horizontal shaft, a gear wheel having a key-and-slot connection with the vertical shaft and gearing with the 30 first mentioned gear wheel, two loose pulleys upon the horizontal shaft, a fast pulley also mounted upon the horizontal shaft intermediate the loose pulleys, belts adapted to be shifted from the loose pulleys onto the 35 fast pulley and vice versa, as described, one of said belts being crossed, belt shifters connected together and adapted to simultaneously shift the belts, an arm loosely mounted upon the upper end of the vertical shaft, col- 40 lars carried by the vertical shaft on opposite sides of the arm and adapted to operate the latter as set forth and connections between the said arm and the belt shifters in the manner and for the purposes specified. 45

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

GEORGE F. YOUNG.

Witnesses:

N. S. SAXMAN,
A. S. BAIRD.