No. 761,634. PATENTED MAY 31, 1904.

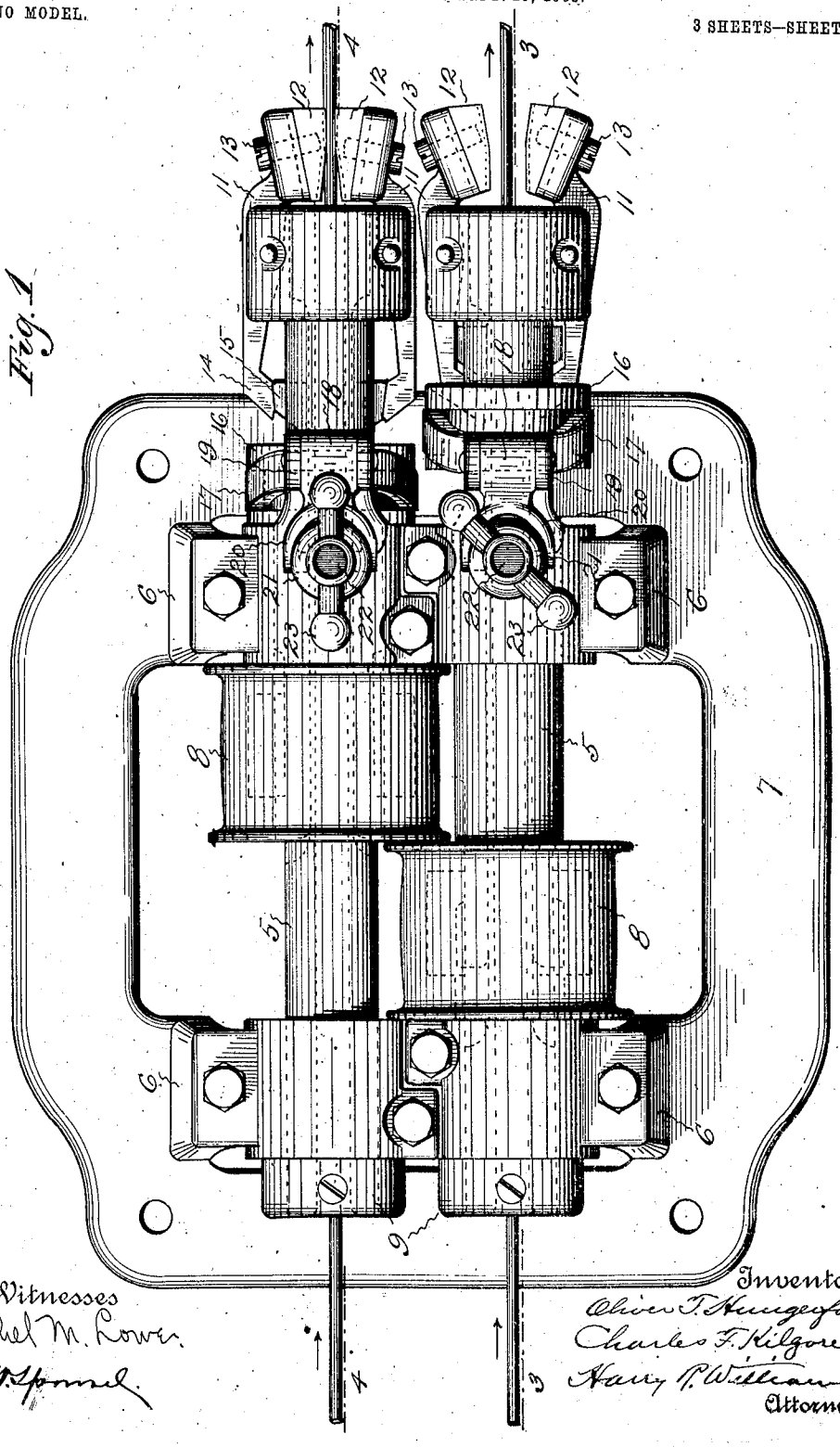
O. T. HUNGERFORD & C. F. KILGORE.

MACHINE FOR POLISHING INSULATED WIRE.

APPLICATION FILED SEPT. 29, 1903.

NO MODEL. 3 SHEETS—SHEET 1.

Fig. 1.



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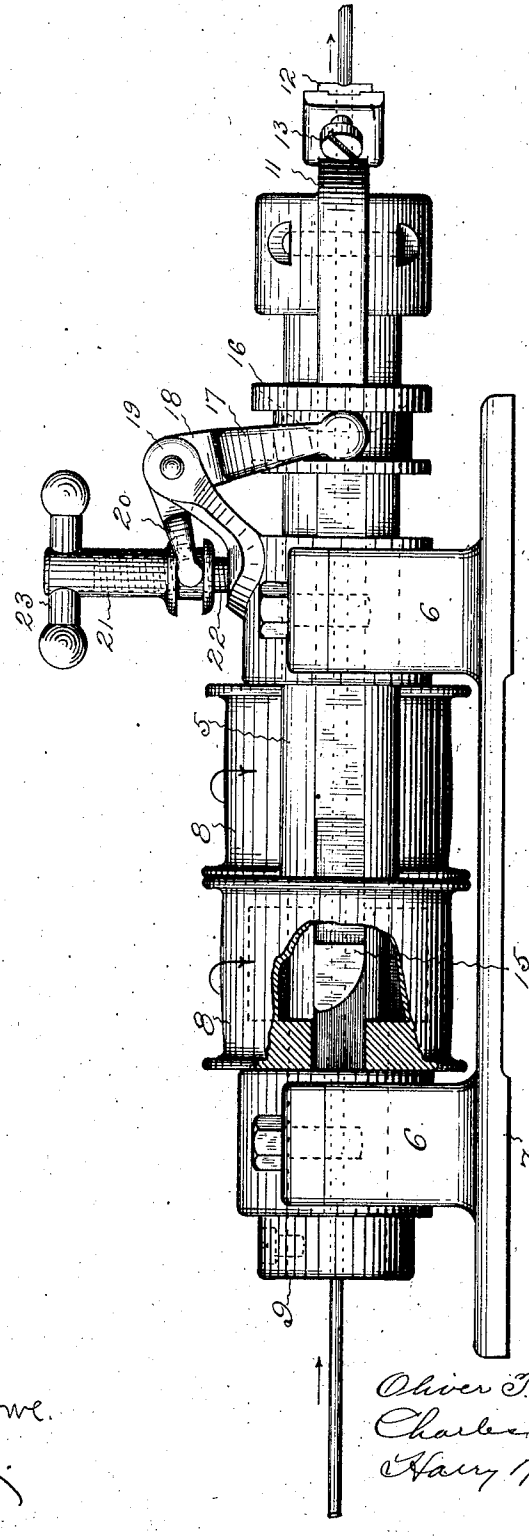


Fig. 2.

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NO MODEL. 3 SHEETS—SHEET 3.

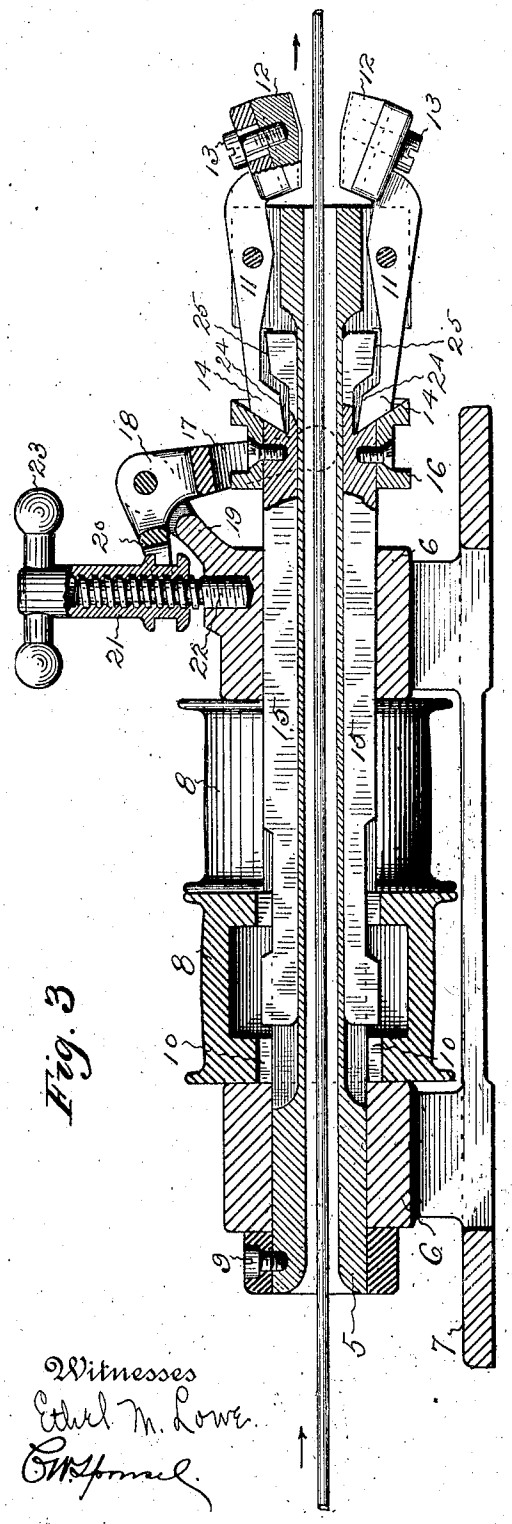


Fig. 3

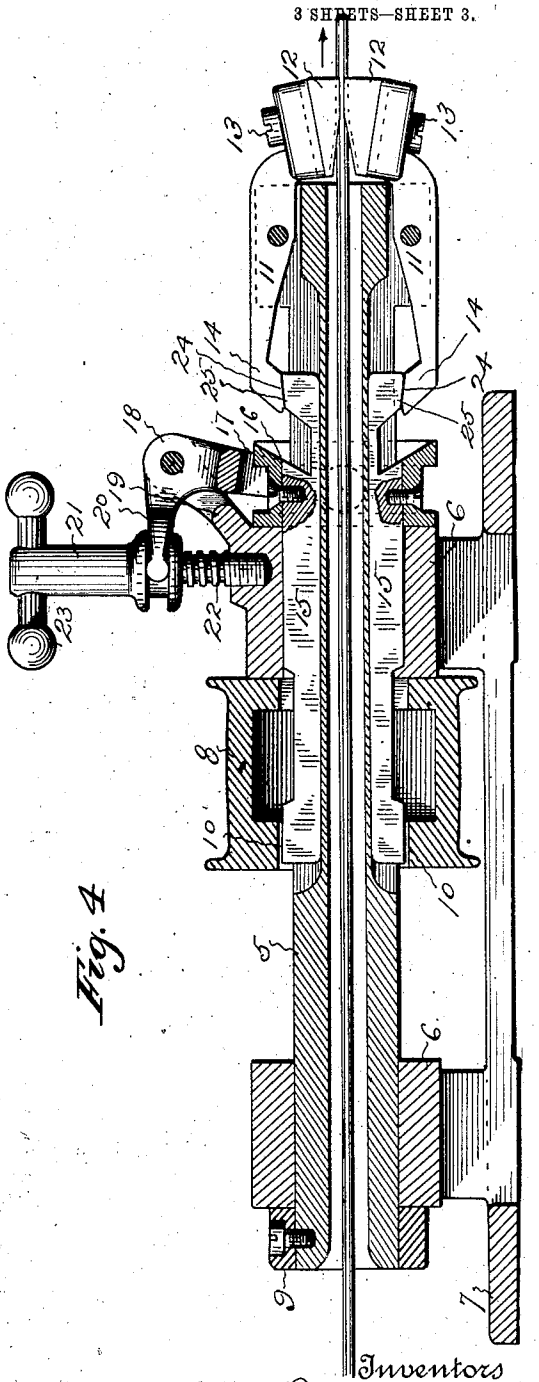


Fig. 4

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No. 761,634. Patented May 31, 1904.

UNITED STATES PATENT OFFICE.

OLIVER T. HUNGERFORD AND CHARLES F. KILGORE, OF BELLEVILLE, NEW JERSEY, ASSIGNORS TO THE HUNGERFORD ELECTRIC AND MANUFACTURING COMPANY, OF BELLEVILLE, NEW JERSEY, A CORPORATION OF WEST VIRGINIA.

MACHINE FOR POLISHING INSULATED WIRE.

SPECIFICATION forming part of Letters Patent No. 761,634, dated May 31, 1904.

Application filed September 29, 1903. Serial No. 175,081. (No model.)

To all whom it may concern:

Be it known that we, OLIVER T. HUNGERFORD and CHARLES F. KILGORE, citizens of the United States, residing at Belleville, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Machines for Polishing Insulated Wire, of which the following is a specification.

This invention relates to a machine designed for smoothing, hardening, and polishing the exterior surface of insulated wire.

The object of the invention is to provide a simple, small, compact, and efficient machine which can be adjusted while it is in operation.

The machine shown as embodying the invention has a pair of tubular spindles supported by bearings mounted on a bed. Each spindle has keys that when moved in one direction lock the spindle to a driving-pulley, also oscillate levers with polishing-blocks so that they will grasp a wire passing through the spindle and when moved in the opposite direction unlock the spindle from the pulley and open the blocks from the wire. Each set of keys is moved by an angle-lever that is oscillated by the vertical movement of a threaded adjusting-sleeve, which is provided with a turning-handle.

Figure 1 of the accompanying drawings shows a plan of this machine. Fig. 2 shows a side elevation. Fig. 3 shows a vertical longitudinal section through one of the spindles on the plane indicated by the dotted line 3 3 on Fig. 1, and Fig. 4 shows a vertical longitudinal section through the other spindle on the plane indicated by the dotted line 4 4 on Fig. 1.

The tubular spindles 5 are held by bearings formed at the top of blocks 6 on the open bed 7. A pulley 8 is loosely mounted upon each spindle between the bearings, and a collar 9 is fastened on the end of each spindle. In each pulley there are key-slots 10. In mortises in the head of each spindle are a pair of levers 11, to the outer ends of which polishing-blocks 12 are held by screws 13, that pass through slots in the ends of the levers. When the screws are loosened, the polishing-blocks may be adjusted inwardly to bring them closer together or outwardly to carry them farther apart. The inner ends of the levers have hooks 14 with inclined edges. In longitudinal grooves in each spindle are keys 15, and encircling each spindle and fastened to the keys is a grooved collar 16, with a tapering recess in its front face. When the keys are moved forwardly, the walls of the tapering recess in the front of the collar which is attached to the keys engage the inclined rear edges of the hooks on the rear ends of the levers and so oscillate the levers that the polishing-blocks are opened apart. This movement of the keys also unlocks the pulley and allows it to run loose. When the keys are moved backwardly, the inclined front edges of the hooks on the rear ends of the levers are engaged by the inclined edges of the front ends of the keys in such manner that the levers are oscillated and close the blocks toward each other, and during backward movement the keys enter the key-slots and lock the pulleys and the spindles together. Each key-collar is engaged by the ends of a yoke 17 on an angle-lever 18, which is pivotally mounted upon an arm 19, that projects from the forward spindle-bearing. The upper end of each angle-lever has a yoke 20, the ends of which engage the grooved lower end of a sleeve 21, which has an interior thread that fits the exterior thread of a stud 22, that is screwed into the top of the forward spindle-bearing. Each sleeve has a handle 23, by means of which it may be rotated.

When a handle is turned so a sleeve rises, the angle-lever that engages the sleeve through the collar moves the keys backwardly, so that their rear ends will lock the pulley to the spindle and their forward ends will oscillate the levers and bring the polishing-blocks toward each other and against a piece of wire passing through the spindle. The surfaces 24 on the ends of the levers and the surfaces

25 on the ends of the keys are preferably inclined, so that the farther the keys are drawn backward the tighter the polishing-blocks will grasp a piece of wire. When a handle is turned so that a sleeve is lowered, the keys are pushed forwardly and unlock a pulley and cause the levers to be oscillated, so as to open the blocks from each other and from a piece of wire extending through the spindle.

Two lengths of insulated wire can be continuously fed through the spindles of the machine that is illustrated, and the polishing-blocks can be closed upon the wire with the desired degree of pressure while they are rotating rapidly and the wire is being fed. The pressure of the polishing-blocks upon the wire can be regulated without stopping the machine.

The invention claimed is—

1. A polishing-machine having a rotatory tubular spindle, levers with polishing-blocks carried by the spindle, a pulley loosely mounted upon the spindle, keys movable longitudinally of the spindle and adapted to oscillate the levers and lock and unlock the pulley and the spindle, and means for moving the keys while the spindle is rotating, substantially as specified.

2. A polishing-machine having a rotatory tubular spindle, levers with polishing-blocks carried by the spindle, a pulley loosely mounted upon the spindle, keys movable longitudinally of the spindle and adapted to oscillate the levers and lock and unlock the pulley and the spindle, a lever adapted to move the keys, and a handle adapted to oscillate the lever, substantially as specified.

3. A polishing-machine having a rotatory tubular spindle, levers with polishing-blocks carried by the spindle, a pulley loosely mounted upon the spindle, keys movable longitudinally of the spindle and adapted to oscillate the levers and to lock and unlock the pulley and the spindle, an angle-lever adapted to move the keys, and a threaded sleeve adapted to oscillate the angle-lever, substantially as specified.

4. A polishing-machine having a rotatory tubular spindle, levers carried by the spindle, polishing-blocks adjustably attached to the levers, a pulley loosely mounted upon the spindle, keys movable longitudinally of the spindle and adapted to oscillate the levers and to lock and unlock the pulley and the spindle, an angle-lever adapted to move the keys, and a handle adapted to oscillate the angle-lever, substantially as specified.

5. A polishing-machine having a rotatory tubular spindle, levers with polishing-blocks carried by the spindle, a pulley loosely mounted upon the spindle, keys movable longitudinally of the spindle, the forward ends of the keys being adapted to engage with and oscillate the levers and the rear ends of the keys being adapted to lock and unlock the pulley and the spindle, a collar movable on the spindle and fastened to the keys, an angle-lever adapted to move the collar and a handle adapted to oscillate the angle-lever, substantially as specified.

6. A polishing-machine having a bed, rotatory tubular spindles supported by bearings mounted on the bed, levers carried by the spindles, polishing-blocks mounted on the levers, a pulley loose upon each spindle, keys movable longitudinally of the spindles and adapted to oscillate the levers and lock and unlock the spindles and the pulleys, angle-levers for moving the keys and a handle for oscillating the angle-levers, substantially as specified.

7. A polishing-machine having a rotatory tubular spindle, levers pivotally mounted upon the spindle, polishing-blocks attached to the levers, keys movable longitudinally of the levers and adapted to engage with and oscillate the levers, and means for moving the keys longitudinally of the spindle, substantially as specified.

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