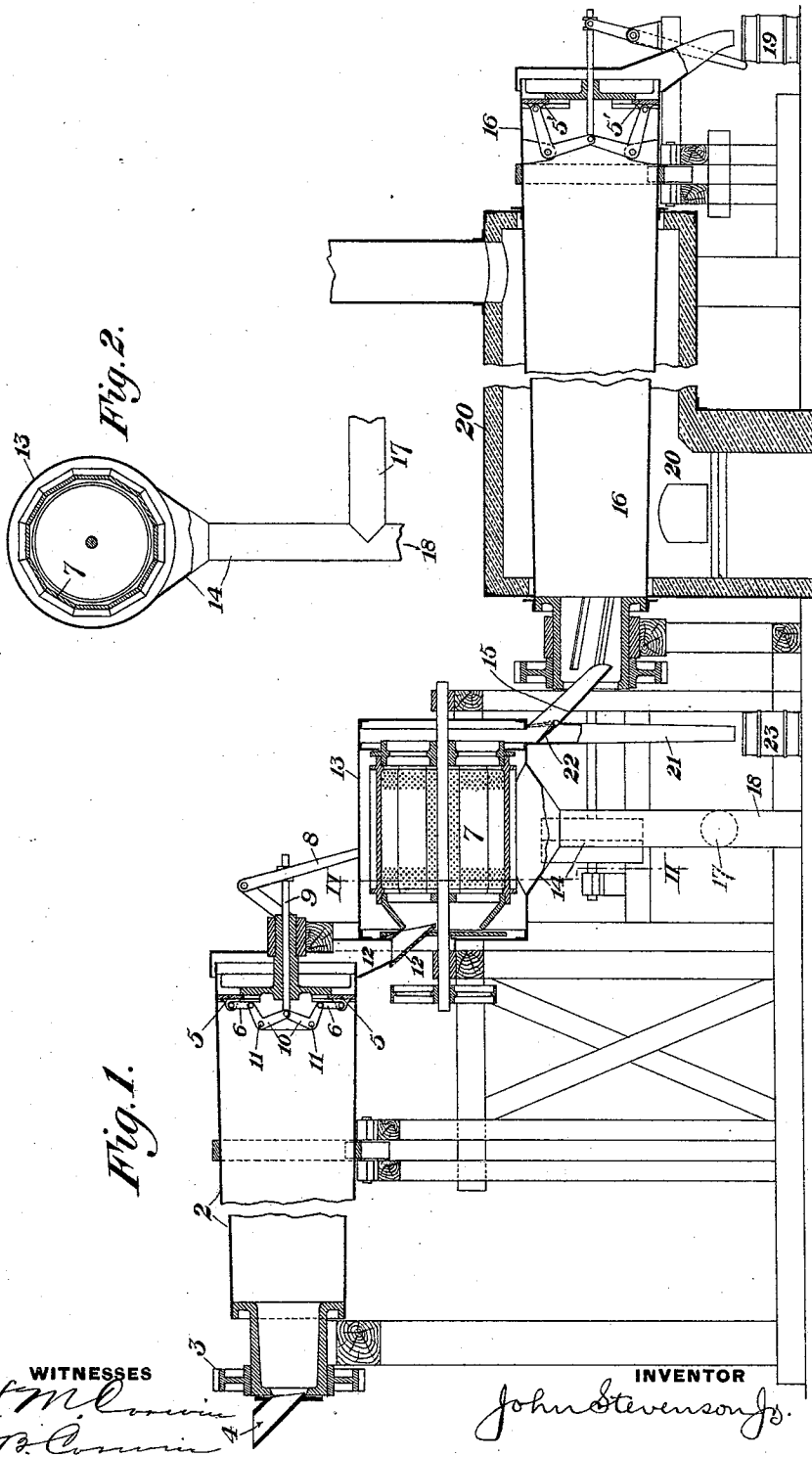


(No Model.)

J. STEVENSON, Jr.
NAIL FINISHING MACHINE.

No. 538,752.

Patented May 7, 1895.



WITNESSES
H. M. Conner
M. B. Conner

INVENTOR
John Stevenson, Jr.

UNITED STATES PATENT OFFICE.

JOHN STEVENSON, JR., OF NEW CASTLE, PENNSYLVANIA.

NAIL-FINISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 538,752, dated May 7, 1895.

Application filed December 7, 1894. Serial No. 531,129. (No model.)

To all whom it may concern:

Be it known that I, JOHN STEVENSON, JR., of New Castle, in the county of Lawrence and State of Pennsylvania, have invented a new and useful Improvement in Nail-Finishing Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation, partly in section, of my improved apparatus; and Fig. 2 is a cross-section of the separating-cylinder.

My invention relates to machines for finishing wire nails, and is designed to provide improved apparatus for cleaning, polishing and bluing or varnishing such nails.

In the drawings, in which similar numerals indicate corresponding parts, 2 represents a horizontal imperforate cylinder in the shape of the frustum of a cone, which is rotated through suitable gearing 3, and is provided with an inlet chute 4 at its smaller end. At its other end this cylinder is provided with doors 5, which may be adjusted through links 6, so as to give any desired size of exit for the mixed nails and sawdust which pass therefrom to the separating cylinder 7. The doors 5 are set at the desired point by a lever 8, which operates the rod 9 movable within the hollow trunnion of the cylinder and connected to the bell-crank-levers 10, which are pivoted to the cylinder-head at 11 and operate the link 6. A chute 12 leads from the cylinder 2 to the cylinder 7, which latter cylinder is perforated for the exit of the sawdust and "whiskers" from the nails, and is preferably made of wire screening or perforated metal. This cylinder is open at both ends, and is completely inclosed by a cylindrical casing 13, which is provided directly beneath the cylinder with a chute 14, into which the sawdust and whiskers drop, while the nails issuing from the end of the cylinder pass through a second chute 15 to the bluing or varnishing cylinder 16. Into the bottom of the chute 14 leads a suction pipe 17, through which the sawdust is drawn off, while the heavier "whiskers" or burrs drop through the opening in the end of the pipe 17 into a pipe 18. This

opening may be provided with an adjustable gate to regulate its size, but in practice it is not found necessary, as the burrs clog up the opening sufficiently and feed out slowly. The bluing cylinder 16 is also in the form of the frustum of a cone, and through it the nails are slowly fed to the keg 19 and blued in transit by the heat of the furnace 20, through which the cylinder extends. This cylinder may also be used if desired for coating the nails with varnish as they pass through the same, the varnish being preferably placed in the cylinder in bulk and melted by the heat of the furnace. This cylinder 16 is provided with outlet doors 5' similar to those of the cylinder 2.

In case it is desirable to pack the cleaned nails without bluing them, the cleaning cylinder is provided with the extra chute 21, in which is the valve 22, which valve, when thrown into the position shown by dotted lines, will discharge the nails directly from the cleaning cylinder into the keg 23.

The separating and bluing or varnishing cylinders are rotated by pulleys, gearing, or other suitable means, and the action is as follows:—The nails and sawdust being fed into the chute 4, pass slowly through the feeding cylinder 2, and the nails are therein polished, and the burrs broken off, the sawdust absorbing the oil and grease clinging to them. Thence they pass to the separating cylinder 7, through which the "whiskers" and sawdust pass to the chute 14, the sawdust being drawn off through the suction pipe 17, and the burrs dropping into the pipe 18. The nails dropping from the end of the cylindrical screen into the chute 15, are blued as they feed slowly through the cylinder 16.

The advantages of the apparatus will be apparent to those skilled in the art.

The separating cylinder being distinct and separate from the cylinder 2, the suction or exhausting of the air does not draw the sawdust at once from the nails, as would occur if it were a part of such cylinder. The action is continuous instead of intermittent as formerly, and hence is much more rapid and demands less attention.

Many changes in the form, construction and relative arrangement of the parts may be made by the skilled mechanic without departure from my invention, since

5 What I claim is—

1. In cleaning apparatus, the combination of an imperforate feeding cylinder having outlet openings, means for adjusting the size of said openings, and a perforated cylinder
10 into which the first cylinder feeds; substantially as described.

2. The combination of a rotating feed and cleaning cylinder, a perforated cylinder into which the material is discharged therefrom,
15 a casing inclosing the perforated cylinder,

and a suction pipe leading from the casing; substantially as described.

3. The combination of a rotating feed and cleaning cylinder, a perforated cylinder into which the material is discharged therefrom, a casing inclosing the perforated cylinder, a chute leading from the casing and having an outlet for the burrs, and a suction pipe leading from the chute; substantially as described.

In testimony whereof I have hereunto set
my hand.

JOHN STEVENSON, JR.

Witnesses:

W. B. CORWIN,

H. M. CORWIN.