No. 793,911. PATENTED JULY 4, 1905.

J. W. RUSSELL.

WHEELWRIGHT MACHINE.

APPLICATION FILED DEC. 28, 1904.

2 SHEETS—SHEET 1.

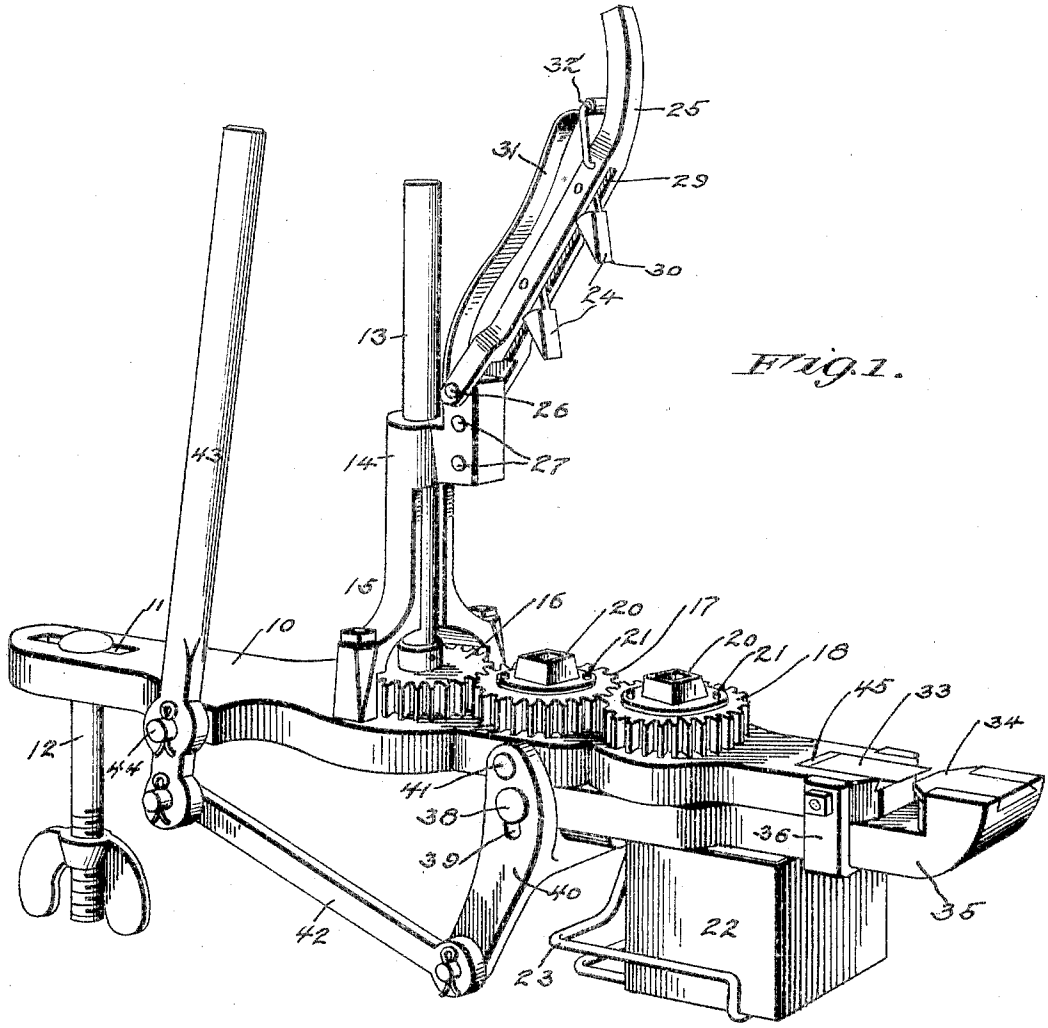


Fig. 1.

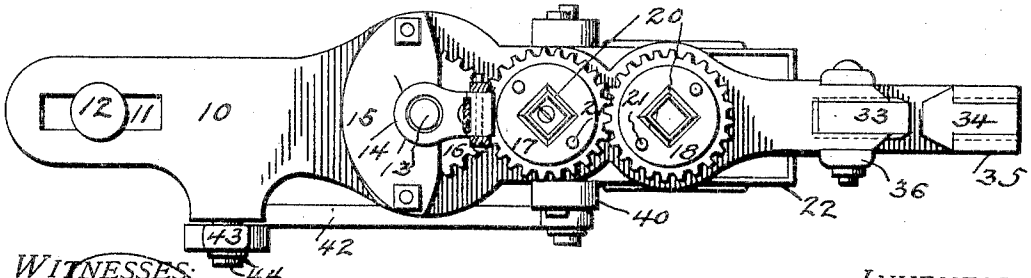


Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3.

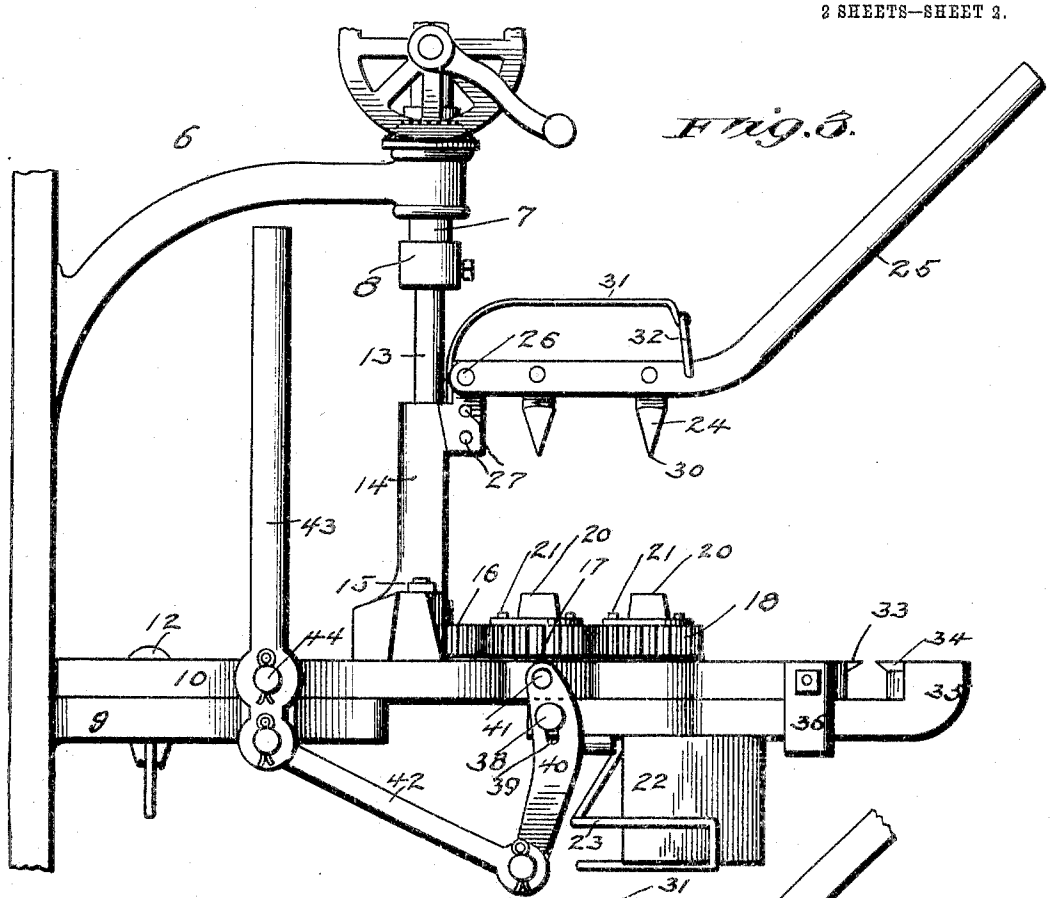
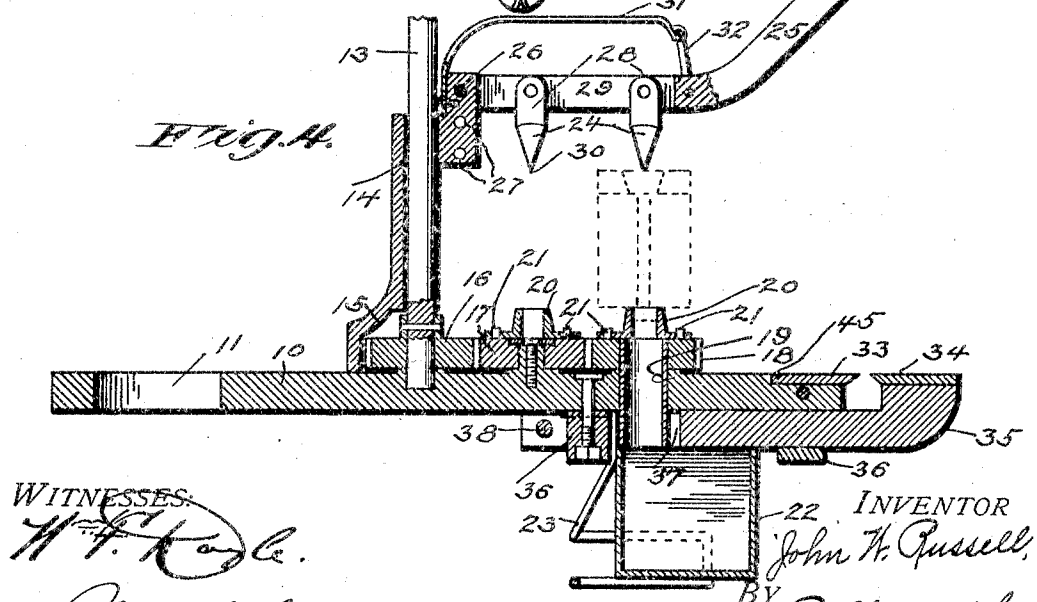


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN W. RUSSELL, OF PIATT, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO EDWIN M. WILLIAMS, OF WHEELERVILLE, PENNSYLVANIA.

WHEELWRIGHT-MACHINE.

SPECIFICATION forming part of Letters Patent No. 793,911, dated July 4, 1905.

Application filed December 28, 1904. Serial No. 238,673.

To all whom it may concern:

Be it known that I, JOHN W. RUSSELL, a citizen of the United States, residing at Piatt, in the county of Sullivan and State of Pennsylvania, have invented new and useful Improvements in Wheelwright-Machines, of which the following is a specification.

My invention relates to a wheelwright-machine, and has for its object to provide a simple and efficient machine for screwing nuts on and off tire-bolts and also for cutting off or trimming the projecting ends of the bolts.

The invention consists in certain novel features of construction hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the machine, and Fig. 2 a plan view thereof. Fig. 3 is an elevation showing the manner in which the machine is mounted and supported. Fig. 4 is a vertical section.

Referring specifically to the drawings, 6 denotes an upright drill of ordinary construction, the drill-spindle being indicated at 7, and the chuck at 8.

The bracket which supports the rest or table of the drill is indicated at 9, to which bracket the invention is fastened when in use.

My machine comprises a base-plate 10, the rear end of which has an opening 11 for the clamping-screw 12, whereby the machine is secured to the bracket 9, the rest or table of the drill first being removed. A vertical shaft 13 is journaled at its lower end in the base and extends through a bearing 14, formed in an upright or standard 15, which is bolted or otherwise secured to the base. The outer end of the shaft 13 will be fastened in the drill-chuck, the drill-bit first being removed, and the machine will be operated by the rotation of the drill-spindle in the usual manner. The lower end of the shaft 13 is fitted with a pinion 16, which meshes with a pinion 17, and the latter pinion meshes with a pinion 18. The pinion 17 is suitably journaled in the base-plate 10, and the pinion 18 is fast on a tube 19, which is rotatably mounted in the base-plate and extends therethrough for a purpose to be described. The pinions 17 and 18 are fitted with removable socketed wrench-heads 20, secured by pins 21 or in any other suitable manner. Different-sized wrench-heads will be provided to enable the machine to operate on nuts of different sizes. The pinions 17 and 18 rotate in opposite directions, and one of them will be for screwing on while the other will be for unscrewing nuts. The pinion 18 will be used for unscrewing nuts, which drop through the tube 19 into a box 22 thereunder, which is supported on a bracket 23, secured to the base-plate. This facilitates the operation of the machine, as it is not necessary to stop and collect the nuts by hand, and the operator can therefore rapidly pass from one bolt to another.

Means for holding the bolts from turning while the nuts are screwed on or off are also provided. Said means comprise dogs 24, carried by a lever 25, which is pivoted to the upright 15 by a pin or bolt 26. A number of bolt-holes 27 are provided to permit the lever to be raised or lowered according to the size of the wheel. The dogs have shanks 28 and are pivoted to the lever 25, the inner end thereof being forked, as at 29, between which the shanks extend. The dogs have chisel edges 30, which engage the bolt-heads and prevent turning thereof. A flat spring 31, fastened to the upright 15 and hooked to a bail 32 on the lever, normally holds the same in elevated position, as shown in Fig. 1.

Means for cutting off or trimming the projecting ends of the bolts are also provided and will now be described. The base-plate 10 is fitted with a cutting-blade 33, which projects from the front end thereof, being dovetailed thereinto. A movable cutting-blade is indicated at 34, being carried by a slide 35. This blade is also dovetailed in. The slide works along the under side of the base-plate, being supported on hangers 36, secured to said plate. The slide is slotted, as at 37, to clear the tube 19. A pin or bolt 38 extends transversely through the slide, at the rear end thereof, and

through a slot 39 in a lever 40, which is fulcrumed to the base-plate, as at 41. The lever 40 is connected by a link 42 to an operating-lever 43, which is fulcrumed to the base-plate, as at 44. The lever 40 is forked and extends on both sides of the slide, the connection between these parts being the same on both sides, so that the movement of the slide will be in a perfectly straight line and no binding thereof in the hangers will ensue.

The operation of the machine will be apparent from the foregoing description. To unscrew a nut, the wheel is positioned as shown by dotted lines in Fig. 4. The drill-spindle is then rotated, which rotates the wrench-head on the pinion 18. As the nut clears the bolt it drops down the tube 19 into the box 22. To screw on a nut, the wrench-head on the pinion 17 is used. The end of the bolt is cut off or trimmed by placing it between the blades 33 and 34 and swinging the lever 43. The blades can be readily removed for sharpening. When the blade 33 wears, it can be slid forward and a block 45 inserted behind it, as shown in Fig. 1.

A machine constructed as herein described is easy to operate, has no complicated parts to get out of order, and effectively serves the purpose for which it is intended. Minor changes in the construction and arrangement of the various parts can be made without departing from the scope of the invention, and I do not desire to limit myself to the precise construction shown, except as hereinafter claimed.

Having thus described my invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a wheelwright-machine, the combination of a base, a rotatable vertical shaft journaled therein, a pinion on the shaft, a pinion journaled in the base and provided with a socketed wrench-head, and an intermediate pinion in mesh with the aforesaid pinions and also provided with a socketed wrench-head.

2. In a wheelwright-machine, the combination of a base, a rotatable vertical shaft journaled therein, a pinion on the shaft, a tube rotatably mounted in the base, a pinion on the tube and provided with a socketed wrench-head, a receptacle under the tube, and an intermediate pinion in mesh with the aforesaid pinions and also provided with a socketed wrench-head.

3. In a wheelwright-machine, the combination of a base, an upright thereon, a rotatable vertical shaft journaled in the base and upright, a pinion on the shaft, a pinion journaled in the base and provided with a socketed wrench-head, an intermediate pinion in mesh with the aforesaid pinions and also having a socketed wrench-head, and a lever pivoted to the upright and having bolt-holding means.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN W. RUSSELL.

Witnesses:
W. R. Foster,
Alvin F. Battin.