

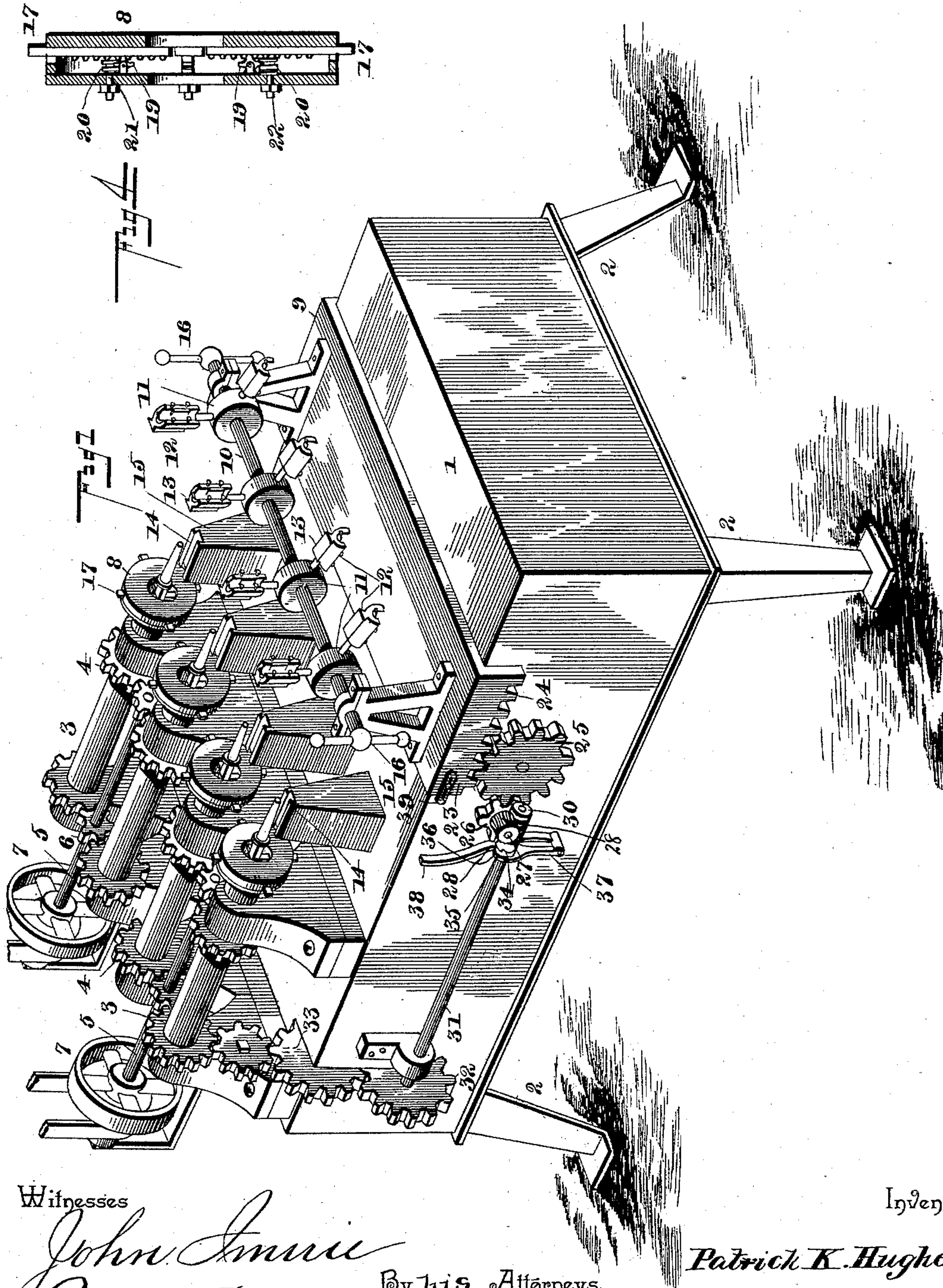
(No Model.)

2 Sheets—Sheet 1.

P. K. HUGHES.
MACHINE FOR TURNING AXLES.

No. 442,119.

Patented Dec. 9, 1890.



Witnesses

John Smie
Wm. Bagger

By his Attorneys,

Inventor

Patrick K. Hughes

C. A. Snow & Co.

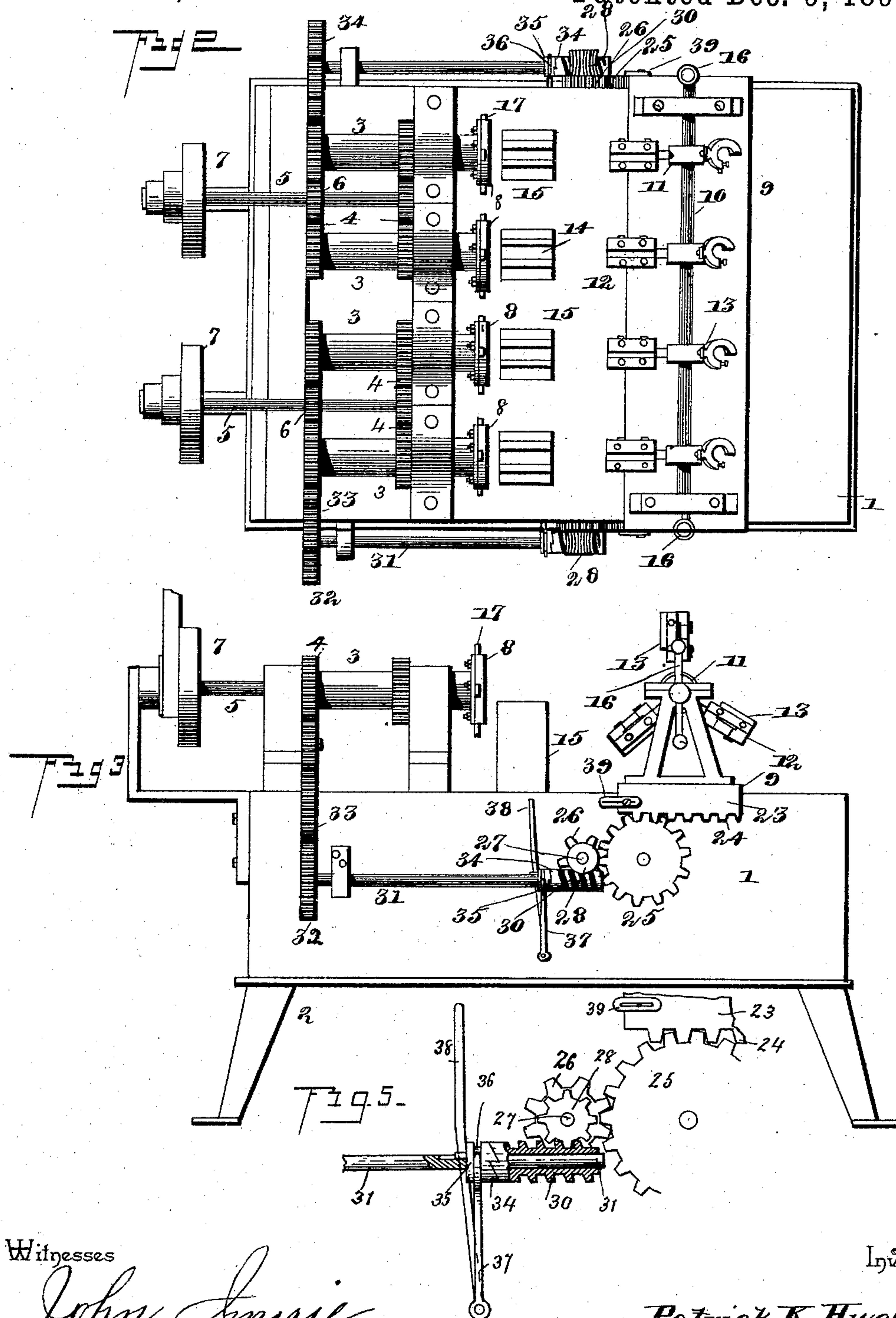
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UNITED STATES PATENT OFFICE.

PATRICK K. HUGHES, OF WILKES-BARRÉ, PENNSYLVANIA.

MACHINE FOR TURNING AXLES.

SPECIFICATION forming part of Letters Patent No. 442,119, dated December 9, 1890.

Application filed February 13, 1890. Serial No. 340,365. (No model.)

To all whom it may concern:

Be it known that I, PATRICK K. HUGHES, a citizen of the United States, residing at Wilkes-Barré, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Machine for Turning Axles, of which the following is a specification.

This invention relates to machines for turning or trimming the spindles upon carriage or wagon axles; and it has for its object to construct a machine of this class which shall be simple, durable, and efficient, and which shall be provided with a set or gang of turning-tools, so as to be capable of operating simultaneously upon a number of axles.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a perspective view of an axle-trimming machine embodying my improvements. Fig. 2 is a plan view of the same. Fig. 3 is a side elevation. Fig. 4 is a section of one of the chucks for the purpose of showing the construction more clearly. Fig. 5 is a detail view of the stop mechanism on one side of the machine.

Like numerals of reference indicate like parts in all the figures.

1 designates the bed or base of the machine, which is supported upon legs 2 2. Boxes or bearings are provided at one end of the base for a series of longitudinally-arranged parallel tubular shafts 3 3, which are arranged in pairs, as shown, and are provided with gear-wheels 4 near their front and rear ends adjacent to the boxes or bearings in which the shafts are mounted.

Intermediately between the shafts 3 3 are placed the longitudinal shafts 5, having pinions 6, that mesh with the gear-wheels upon the said tubular shafts. The shafts 5 are provided at their rear ends with band wheels or pulleys 7 to receive motion from some suitable source of power. The front ends of the tubular shafts carry the chucks 8, which will be presently more fully described.

9 designates a bed-plate, which is arranged to slide longitudinally upon the base 1, and

which is provided at its ends with bearings for a shaft 10, arranged transversely to the the base and having a series of disks or tool-holders 11 equal in number to the number of the tubular shafts 3, with which they are in alignment.

Each of the tool-holders carries a series of turning-tools 12, the under sides of which have dovetailed ribs 13, adapted to engage the dovetailed grooves 14, formed in the upper sides of the blocks 15, which are mounted upon the base of the machine in front of the tubular shafts 3.

The ends of the shaft 10 are provided with handles 16, by means of which it may be turned so as to place any desired set of tools 12 in alignment with the grooves 14, where they will be centered to the chucks.

The chucks 8 are provided with radially-movable slides 17, having teeth 18, engaged by pinions 19, which are in turn engaged by worms 20 upon shafts 21, that extend through the rear sides of the chucks, where they are provided with square posts or offsets 22, adapted to be engaged by an ordinary key or wrench, whereby they may be turned so as to adjust the slides to or from the axles, which are thus held securely in the chucks.

The sliding bed-plate 9 is provided at its edges with downwardly-extending flanges 23, having teeth 24, meshing with pinions 25, journaled upon the sides of the base. Said pinions 25 mesh with pinions 26, journaled upon short shafts or stubs 27, adjacent to the pinions 25, and having worm-wheels 28 formed integrally therewith. The worm-wheels 28 mesh with worms 30 upon the longitudinally-arranged feed-shafts 31, the rear ends of which are provided with pinions 32, connected by intermediate idle-gears 33 with the pinions 4 upon the rear ends of the tubular shafts 3, from which motion will thus be transmitted to the said feed-shafts. The worms 30, which are mounted loosely upon the feed-shafts, have clutches 34 formed thereon, which are adapted to be engaged by the clutch-collars 35, which are feathered or splined upon the shafts, and are provided with annular grooves 36, engaged by levers 37, which are pivoted to the sides of the base, and are provided with upwardly-extending arms 38, adapted to be moved by

adjustable stops 39 upon the sides of the sliding bed-plate when the latter reaches the limit of its movement.

The operation of this invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. The axles having been mounted in the chucks, the shaft 10 is adjusted so as to bring the desired set of tools into alignment with the chucks. The clutch-collars 35 are now thrown into engagement with the clutches 34, and the sliding bed-plate will then be moved slowly in the direction of the chucks, the tools engaging and trimming the spindles of the axles mounted in the latter. When the stops 39 strike the levers 38, the feed mechanism is thrown out of gear, and the sliding bed-plate may then be returned to its original position and the shaft 10 be manipulated so as to expose another set of tools.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a machine for trimming axles, the combination of a series of tubular shafts having chucks at their front ends, the supporting-blocks arranged in front of the same and having dovetailed grooves in their upper sides, a longitudinally-sliding bed-plate, a transverse horizontal shaft journaled in suitable bearings upon the latter, a series of disks or tool-holders mounted upon said shaft in

alignment with the chucks and having the radially-arranged tools, and feed mechanism geared from the said tubular shafts to the said sliding bed-plate, substantially as set forth.

2. In a machine for trimming axles, the combination of a series of tubular shafts having chucks at their front ends, the supporting-blocks, the longitudinally-sliding bed-plate having the transverse horizontal shaft carrying the tool-holders, provided with the radially-extending turning-tools, the toothed flanges extending downwardly from said bed-plate and meshing with gear-wheels upon the sides of the base of the machine, the pinions meshing with said gear-wheels and having worm-wheels formed thereon, the longitudinally-arranged feed-shafts having worms mounted loosely thereon and provided with clutches, the clutch-collars feathered upon said shafts, the levers engaging said clutch-collars, the pinions at the rear ends of the feed-shafts, and the idle-gears connecting said pinions with gear-wheels upon the tubular shafts, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

PATRICK K. HUGHES.

Witnesses:

JOSEPH F. HUGHES,
C. J. O'DONNELL.