No. 708,891. Patented Sept. 9, 1902.

C. K. LASSITER.

BOLT MACHINE.

(Application filed Oct. 12, 1901.)

(No Model.)

Fig. 1.

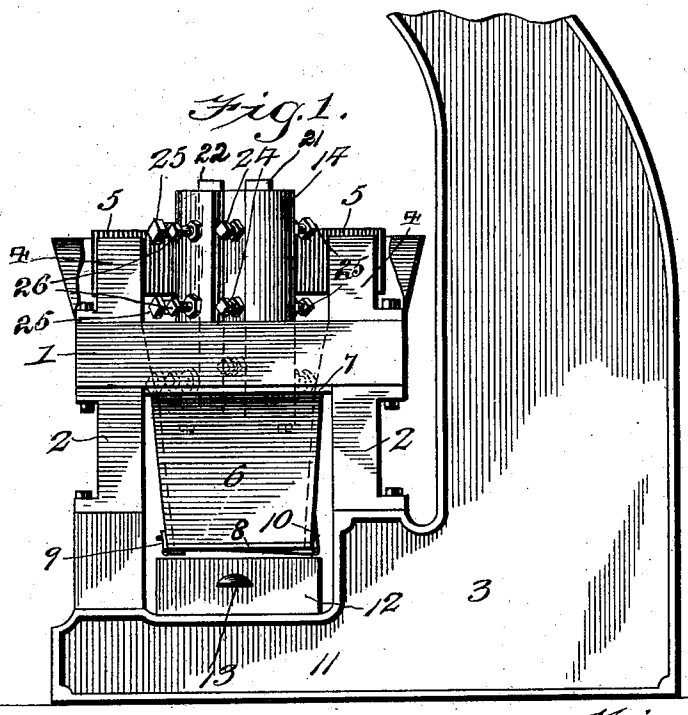


Fig. 3.

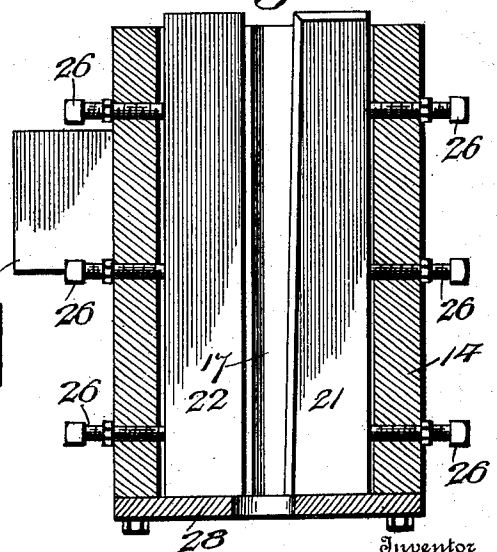
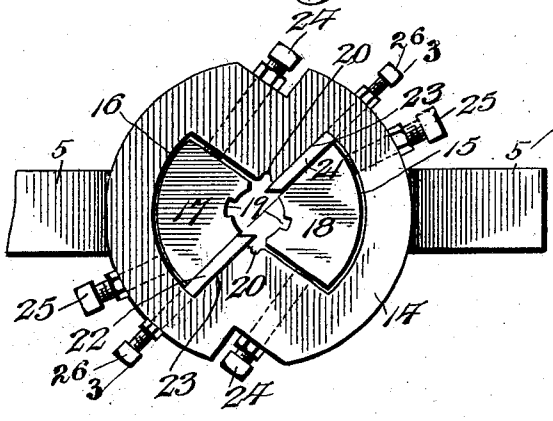


Fig. 2.



Witnesses
H. G. Dieterich
F. D. McCleary.

Inventor
Columbus K. Lassiter

By Victor J. Evans
Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

COLUMBUS K. LASSITER, OF RICHMOND, VIRGINIA.

BOLT-MACHINE.

SPECIFICATION forming part of Letters Patent No. 708,891, dated September 9, 1902.

Application filed October 12, 1901. Serial No 78,487. (No model.)

To all whom it may concern:

Be it known that I, COLUMBUS K. LASSITER, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Bolt-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to bolt-turning machines for machining both straight and tapered bolts, and especially bolts adapted for use in locomotive-building, where tapered bolts are required which are secured in place by what is known as a "driving fit."

My invention is designed to be employed in connection with a four-spindled vertical machine; but as the latter does not constitute a part of the present invention it is not necessary to show the same in the drawings.

The construction of the improvement will be fully described hereinafter in connection with the accompanying drawings, which form a part of this specification, and its novel features will be defined in the appended claims.

In the drawings, Figure 1 is an end elevation of the supporting-table with the improved cutter-head for tapering the bolts secured thereon. Fig. 2 is a top view of the cutter-head, and Fig. 3 is a longitudinal section on the line 3 3 of Fig. 2.

The reference-numeral 1 designates a table supported by means of standards 2 from a base-casting 3. The brackets 4 of the table are formed with vertical slots to receive the supporting-arms 5 of the cutter-head and with an opening through which the lower end of the cutter-head extends, as shown by dotted lines in the drawings.

Below the table 1 is arranged a receptacle 6, provided with flanges 7, which are bolted below the table. The receptacle 6 is provided with a perforated bottom 8, which is preferably hinged to the receptacle, as indicated at 9, and provided with a suitable catch, as 10, thus adapting the perforated bottom to be opened to discharge any accummulation of shavings therefrom.

Below the receptacle 6 and upon the base-plate 11 is supported a pan 12, preferably provided with end handle 13 to facilitate the placing and removal thereof. It is designed to supply oil to the cutter-head by means of a suitable pump and connections, (not shown,) and the shavings from the bolts drop into the receptacle 6, together with drippings of oil, and the oil percolates through the perforated bottom 8 into the pan 12.

The cutter-head comprises a block or casing 14, from which the arms 5 project at diametrically opposite sides. The casing 14 is formed with two approximately quadrant-shaped chambers 15 and 16, adapted to receive adjustable jaws 17 and 18, which correspond in cross-section to the chambers 15 and 16 to fit therein adjustably. The inner edges 19 of the jaws are notched, as shown, to keep the bolt from bearing in the center of the jaws and causing it to bear on the points, thus avoiding lateral play of the bolt. The projecting angles of the walls 20 are recessed to form clearance-passages for the cuttings.

21 and 22 designate the cutters, arranged against the quadrant-shaped projections 23 of the block or casing and adapted to be held by the jaws 17 and 18 under the clamping pressure of adjusting-screws 24 and set-screws 25, which extend through the casing and bear on the opposite sides of jaws to the cutters and against the back of the jaws, respectively. The cutters 21 and 22, as shown in Fig. 4, are adjusted by means of set-screws 26 to impart the required tapered form to the bolt.

A steel pin is first turned accurately with the taper which it is desired to give the bolt, and said pin is dropped into place in the proper block, after which the cutters are adjusted to the pin. A base-plate 28 is secured to the under side of the block or casing 14 to prevent the jaws and cutters from being pushed downward by the down feed of the spindle of the machine.

I claim—

1. In a device of the class set forth, a casing having oppositely-disposed inwardly-converging chambers communicating with each other at the center of the casing, inwardly-converging jaws located in and of materially less dimensions than the said chambers, oppositely-disposed cutters interposed between

one side of each jaw and one wall of each chamber, the said jaws and cutters extending full length of the chambers and adapted to coöperate to form a tapered bolt, adjusting devices for the cutters, and independent adjusting devices for the jaws, one set of adjusting devices for the jaws engaging the sides of the latter opposite the sides against which the cutters have bearing for firmly clamping the jaws against the cutters.

2. In a device of the class set forth, a casing having oppositely-disposed chambers communicating with each other at the center of the casing, jaws mounted in said chambers and of materially less dimensions than the latter so as to have a normal loose movement, cutters interposed between the reverse sides of the jaws and the adjacent walls of the chambers, the cutters and jaws extending full length of the chambers, a series of alined adjusting devices engaging the cutters whereby the latter may have their cutting edges disposed at an angle to form a tapered bolt, and two separate sets of alined adjusting devices engaging the jaws to control the inward adjustment of said jaws and also to hold the latter in firm clamping position in relation to the cutters, one set of the adjusting devices engaging the sides of the jaws opposite those in contact with the cutters.

3. In a device of the class set forth, a casing having oppositely-disposed chambers communicating with each other at the center of the casing, jaws located in and coextensive with the chambers, oppositely-disposed cutters interposed between the reverse side edges of the opposite jaws and the adjacent walls of the chambers, and also coextensive with the latter, the said jaws and cutters being held mounted in the chambers and the jaws normally loose, means for controlling the inward adjustment of the jaws and cutters, and means at an angle to the means for controlling the inward adjustment of the jaws to force the latter in close clamping engagement with the cutters.

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

COLUMBUS K. LASSITER.

Witnesses:

W. M. MYERS,

R. W. CARDWELL.