No. 849,414. PATENTED APR. 9, 1907.

E. MUELLER.

BORING LATHE.

APPLICATION FILED NOV. 27, 1906.

2 SHEETS—SHEET 1.

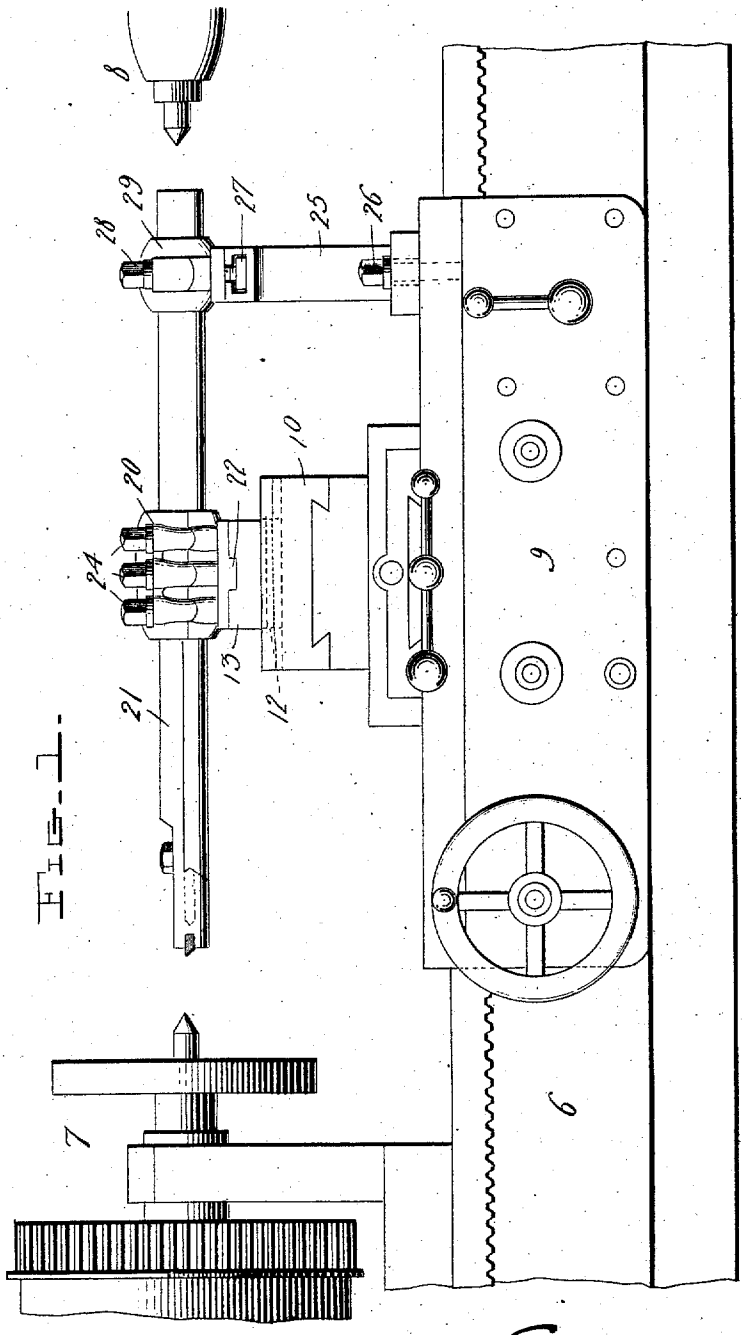

FIG. 1.

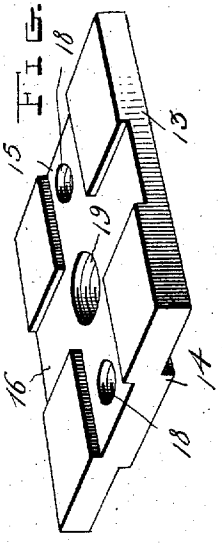

FIG. 5.

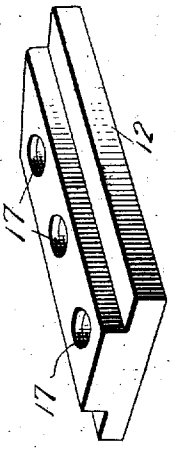

FIG. 6.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

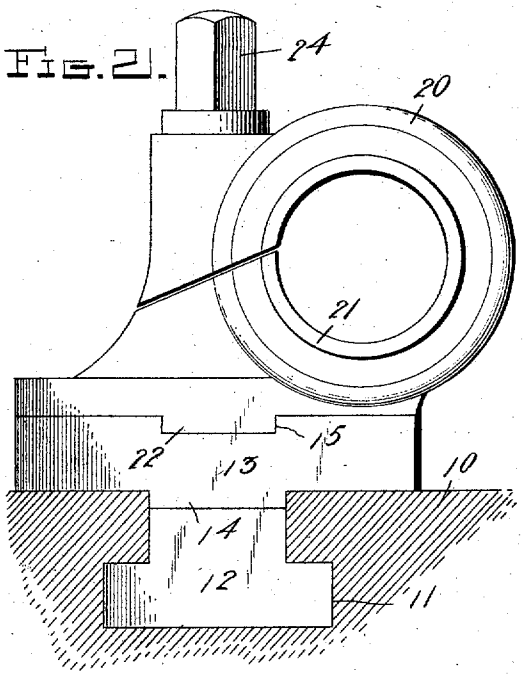


Fig. 3.

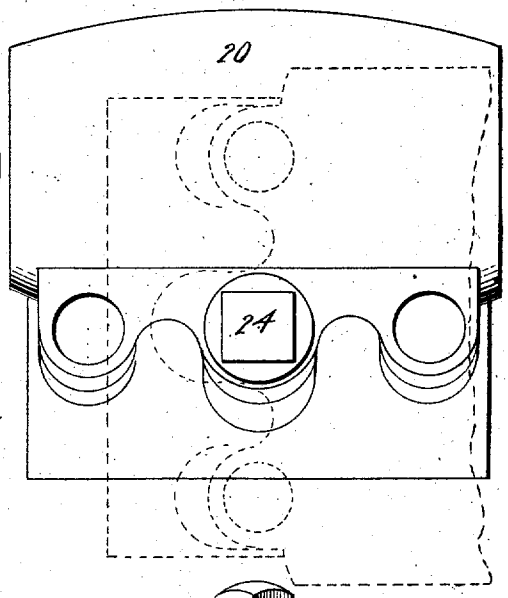


Fig. 4.

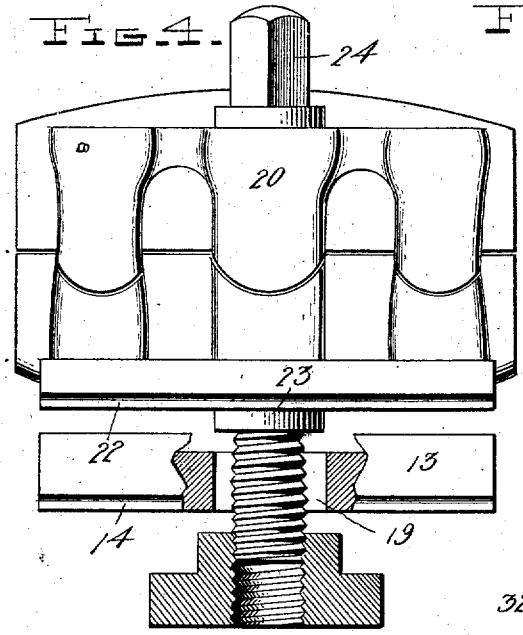


Fig. 7.

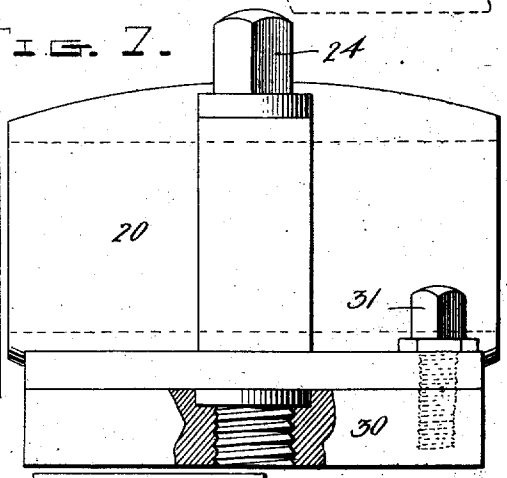
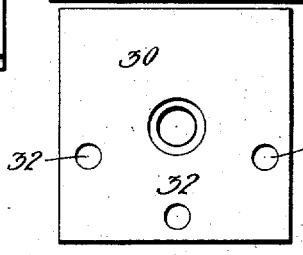


Fig. 8.



Witnesses

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UNITED STATES PATENT OFFICE.

EMIL MUELLER, OF CHICAGO, ILLINOIS.

BORING-LATHE.

No. 849,414. Specification of Letters Patent. Patented April 9, 1907.

Application filed November 27, 1906. Serial No. 345,401.

To all whom it may concern:

Be it known that I, EMIL MUELLER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Boring-Lathes, of which the following is a specification.

This invention relates to boring-lathes or to boring-bar attachments for lathes, to adapt ordinary lathes for horizontal boring-work.

The object of the invention is to provide an improved support or holder for a boring-bar, having lateral and longitudinal adjustment with respect to the axis of the lathe and also having an adjustment to turn the boring-bar at a right angle to the lathe-axis.

The invention also includes improved means for clamping or holding the bar in position as set.

In the accompanying drawings, Figure 1 is a side elevation illustrating the invention applied to a lathe. Fig. 2 is an end view of the holder for the bar. Fig. 3 is a top view thereof, illustrating a quarter-turn or adjustment in dotted lines. Fig. 4 is a side view, partly in section, with the clamping-blocks separate. Figs. 5 and 6 are perspective views of the clamping-blocks. Fig. 7 is a side view of a modified form, and Fig. 8 is a plan view of the block shown in Fig. 7.

Referring specifically to the drawings, 6 indicates the bed of a turning-lathe; 7, the head-stock; 8, the tail-stock, and 9 the slide-rest. The pillow-blocks mounted upon the latter are compounded to give lateral and longitudinal adjustment by means of a block 10, the lower side of which is grooved transversely to receive a dovetailed rib in the slide-rest and the top of which is grooved longitudinally with a T-groove, as at 11, to receive the clamp-block 12, held in said groove. Mounted above the clamp-block 12 is a swivel-block 13, having a rib 14 on its under side, which fits in the top of the groove 11 opposite the clamp-block. In the upper side the block 13 has cross-grooves 15 and 16 at a right angle to each other. The clamp-block 12 has three tapped holes 17 spaced along the same, and the swivel-block 13 has two tapped holes 18 at the ends of the longitudinal groove 15 and also a central enlarged hole 19. The holes in the respective blocks register with each other.

Mounted upon the swivel-block 13 is a split sleeve-holder 20 for the boring-bar 21. The base of this sleeve has on the under side thereof a longitudinal rib 22, shaped to fit in either of the grooves 15 or 16, and also having a circular collar 23, arranged to fit in the hole 19 and keep the block 13 central with the boring-bar holder. One or more clamping-screws 24 are inserted through the split sleeve to clamp the same upon the boring-bar and also to clamp the swivel-block 13 and lower block 12 together and upon the slide-rest. When more than one screw is used, one or both of the screws extends through the hole 18 and into the tap 17, and a plurality of screws so inserted will hold the various blocks together rigidly without any possibility of any lateral turn or variation of the holder and boring-bar.

When it is desired to turn the bar at a right angle to the work, only one clamping-screw 24 is used, which is placed at the middle hole and which when loose permits the holder to be lifted until the rib 22 clears the block 13 and then turned a quarter-turn upon the block and then clamped with its rib 22 in the groove 16 in said block, the position being indicated in dotted lines in Fig. 3.

To assist in holding the boring-bar when set lengthwise, and especially to prevent chattering or vibration thereof, a support or "saddle" 25 is provided, having a slotted base attached to the slide-rest by bolts 26 and having a transverse T-groove in the top to receive a clamp-block 27, into which enters the screw 28 of a split sleeve 29, which extends around the boring-bar behind its holder 20. By this means the bar is held at two points, with consequent additional rigidity.

In Figs. 7 and 8 a modification is shown consisting of a block 30, tapped to allow the passage of the screw 24 and adapted to fit upon the slide-rest block 10. The holder 20 is mounted upon this block and has a base which carries a small cap-screw 31, adapted to enter either of the holes 32 in the block 30 when the holder is turned to either angle desired.

I claim—

1. An attachment for lathes, comprising a clamp-block having a center hole therein and adapted to be mounted upon the slide-rest of the lathe, a tubular boring-bar holder split horizontally on one side and adjustable angularly on the block and having a collar on the bottom fitting in said hole, and a bolt extending through the parts of the holder at one side of the tube thereof and also through

the block and arranged to clamp the same together and to the slide-rest.

2. An attachment for lathes, comprising a lower clamp-block adapted to fit in the groove in the lathe slide-rest, an upper block having a rib on the bottom fitting in said groove and crossed grooves on the top, and also having a hole therethrough at the crossing of said grooves, a split tubular boring-bar holder having a rib on the bottom offset from the axis of the tube, said holder being adjustable angularly to enter said rib into either of the crossed grooves, and also having a centering-collar fitting in said hole, and a screw extending through the holder at one side of the tube therein and also through the upper block and into the lower block, and adapted to clamp all said parts together.

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

EMIL MUELLER.

Witnesses:

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NILS RYERSAN.