J. H. PASCHALL.

MILLING ATTACHMENT FOR LATHES.

APPLICATION FILED MAR. 29, 1915.

1,216,600. Patented Feb. 20, 1917.

Fig. 1.

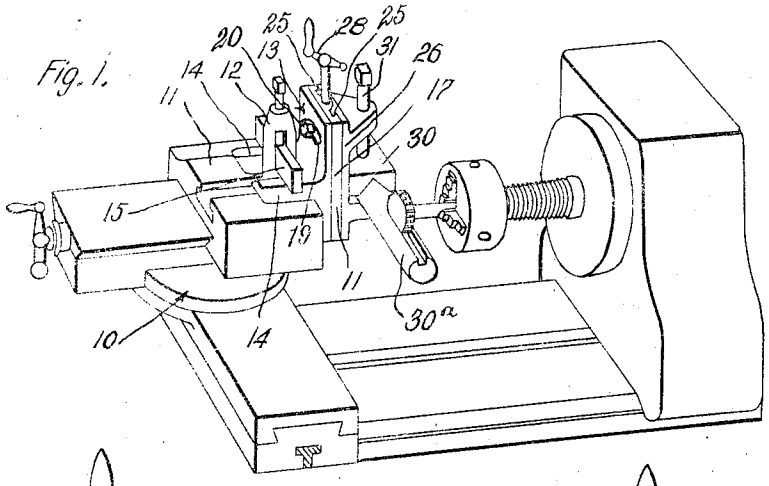


Fig. 2.

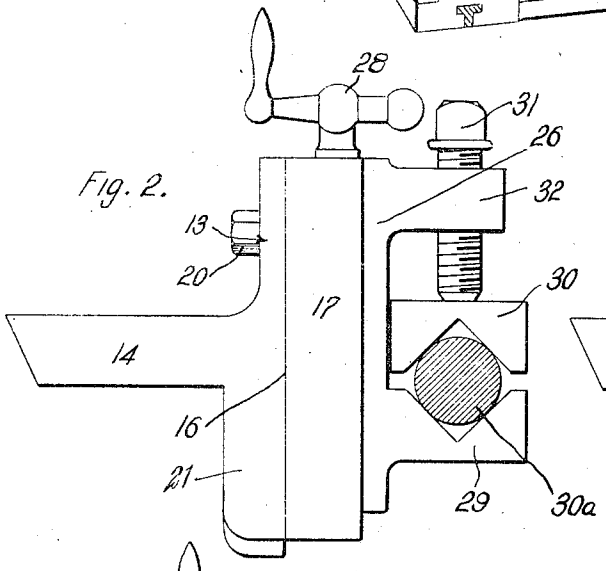


Fig. 3.

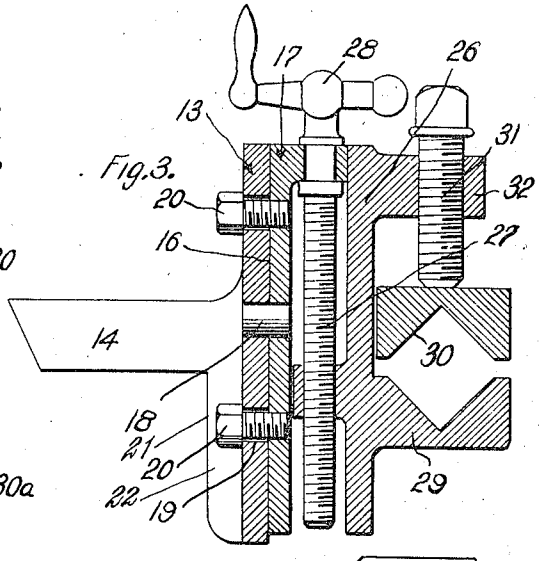


Fig. 4.

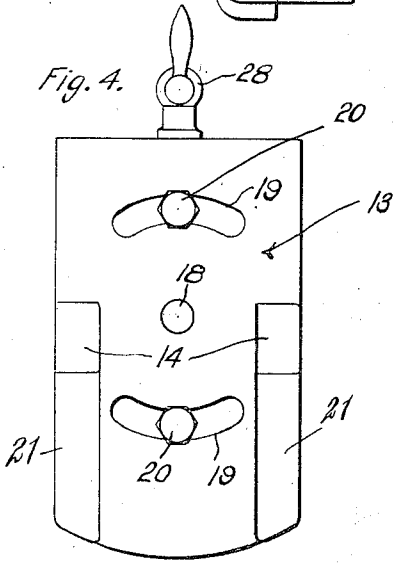
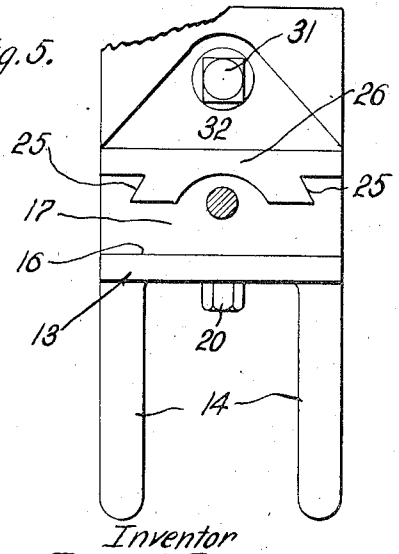


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

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MILLING ATTACHMENT FOR LATHES.

1,216,600. Specification of Letters Patent. Patented Feb. 20, 1917.

Application filed March 29, 1915. Serial No. 17,710.

To all whom it may concern:

Be it known that I, JAMES H. PASCHALL, a citizen of the United States, residing at Long Beach, in the county of Los Angeles, State of California, have invented new and useful Improvements in Milling Attachments for Lathes, of which the following is a specification.

This invention relates to attachments for lathes adapted for performing milling operations and the like thereon; and the primary object of this invention is the provision of a simple and efficient means which may be manufactured and sold at low cost and which may be applied to an ordinary lathe to perform milling operations of the character herein set forth. It is a particular object of this invention to provide a lathe attachment to enable the owner of a small shop to carry on milling operations which are now usually sent out of the small shops to be done with a milling machine, or are performed in the small shops by hand with a great loss of efficiency.

The specific character of my invention will be apparent from the following specification. In the accompanying drawings, I have illustrated for the purpose of this specification, a specific and preferred form of my milling attachment in which drawings, Figure 1 is a perspective illustrating my milling attachment as it appears in use on a lathe, Fig. 2 is a side elevation of the attachment, Fig. 3 is a vertical longitudinal section of the same, Fig. 4 is a rear elevation of the attachment, and Fig. 5 is a plan of the attachment.

In the drawings a lathe carriage is illustrated at 10, having the usual tool supporting member 11 and tool posts 12. My attachment is mounted upon the member 11 in the manner shown. The base member 13 of my attachment has preferably a pair of horizontally projecting prongs 14 which are spaced apart so as to lie one on each side of the tool posts 12; and a horizontal bar 15 placed in the tool posts is forced down on the prongs 14, forcing their under surfaces to accurate and tight engagement with the upper flat surface of the member 11. When the base member 13 is held in this position, the attachment is accurately lined up. Spaced marginal ribs 21 are provided on the base member 13 extending downwardly from the inner ends of the prongs 14 and forming right angular seating brackets therewith for engaging the adjacent corner of the support 11.

The base member 13 has a vertical face 16 against which the way member 17 is held. This way member 17 is mounted on a pivot 18, preferably centrally located, and is swingingly adjustable about its pivot 18 on the face 16. Slots 19 extend through the base member 13, and bolts 20 through into the member 17 and pass through the slots 19; and by loosening and tightening these bolts, the member 17 may be thrown to and set in any desired angular position. The lower bolt 20 is positioned between and protected by the said ribs 21. In its normal position, the member 17 is so situated that the ways 25 thereon are vertical. The work holding member 26 engages in these ways and is vertically movable thereon, a screw 27 extending within a central recess 22 of the way member 17 and hand wheel 28 providing the means for moving the work carrying member to any desired position. The work carrying member has a work clamp comprising a lower jaw 29 stationarily mounted upon the member 26 and an upper jaw 30 adapted to be pressed downwardly by a screw 31 which is mounted in the boss 32. The work clamp is particularly designed for holding such articles as shafts, as shown at 30^a in Figs. 1 and 2, holding these articles across the axes of the lathe to which the attachment is mounted and holding them either in horizontal or in inclined positions. By properly adjusting the position of the way member 17, the shaft 30^a, for instance, may be held either horizontally or inclined above or below the horizontal, and for instance, a key way of varying depth may be cut in the shaft, or the end of the shaft may be squared off to a taper, or may be flattened in any manner desired. In fact, my attachment provides a relatively simple means, which may be easily attached to any lathe, enabling the operator to perform such operations as herein indicated without the expense of maintaining such a large and complicated and expensive machine as a milling machine.

Having described a preferred form of my invention, I claim:

1. In combination, a base member having a pair of spaced horizontally projecting prongs and marginal spaced ribs angularly

extending therefrom adapted for removable attachment to a lathe carriage with the said prongs and ribs in contact therewith, a vertical flat surface directly on said member at right angles to the axis of the lathe to which it is attached, a way member pivotally attached to said base member to be swingingly adjustable thereon about said pivot and parallel to said vertical face, slot and bolt connection between the base member and the way member for holding the way member in any desired position, one of the bolts of said connections extending between the said ribs, vertical ways directly on said way member, a work holding member slidable on said ways, means to move said work holding member on said ways, and a work clamp directly mounted on said sliding member adapted to hold a shaft or the like at right angles to said ways and parallel to said vertical face on the base member.

2. A device of the character described consisting of a base member having a pair of spaced horizontally projecting prongs adapted for removable attachment to a lathe carriage by means of its tool post, a vertical flat surface directly on said base member at right angles to the lathe to which it is attached, a way member pivotally attached centrally directed to said base member against its said vertical face to be swingingly adjustable about said pivot in the plane of said face, slot and bolt connections between the base and way members above and below said prongs for holding the way member in any desired position about its said pivot, projecting marginal ribs upon said body below the said prongs and attached thereto, vertical ways directly on said way member on a face opposite its face engaging said flat vertical face of the base member, a work holding slider mounted directly on said vertical ways, means extending centrally within a recess within said way member to move said work holding slider thereon, and work holding means on said slider consisting of a clamp member integral with and projecting from the slider on its face opposite the engagement of said slider with said vertical ways, said clamp member having a V-shaped notch extending horizontally at right angles to said vertical ways, and another clamp member movable on said slider to and from the first mentioned clamp member, said last mentioned clamp member also having a V-shaped notch extending horizontally at right angles to said vertical ways and opposite the notch in said first mentioned clamp member.

In witness that I claim the foregoing I have hereunto subscribed my name this 23rd day of March 1915.

JAMES H. PASCHALL.

Witnesses:
FRANK P. CLEARY,
ELWOOD H. BARKELEW.