Oct. 24, 1933. E. A. BAUMBACH 1,931,640

FACE PLATE

Filed July 30, 1932 3 Sheets-Sheet 1

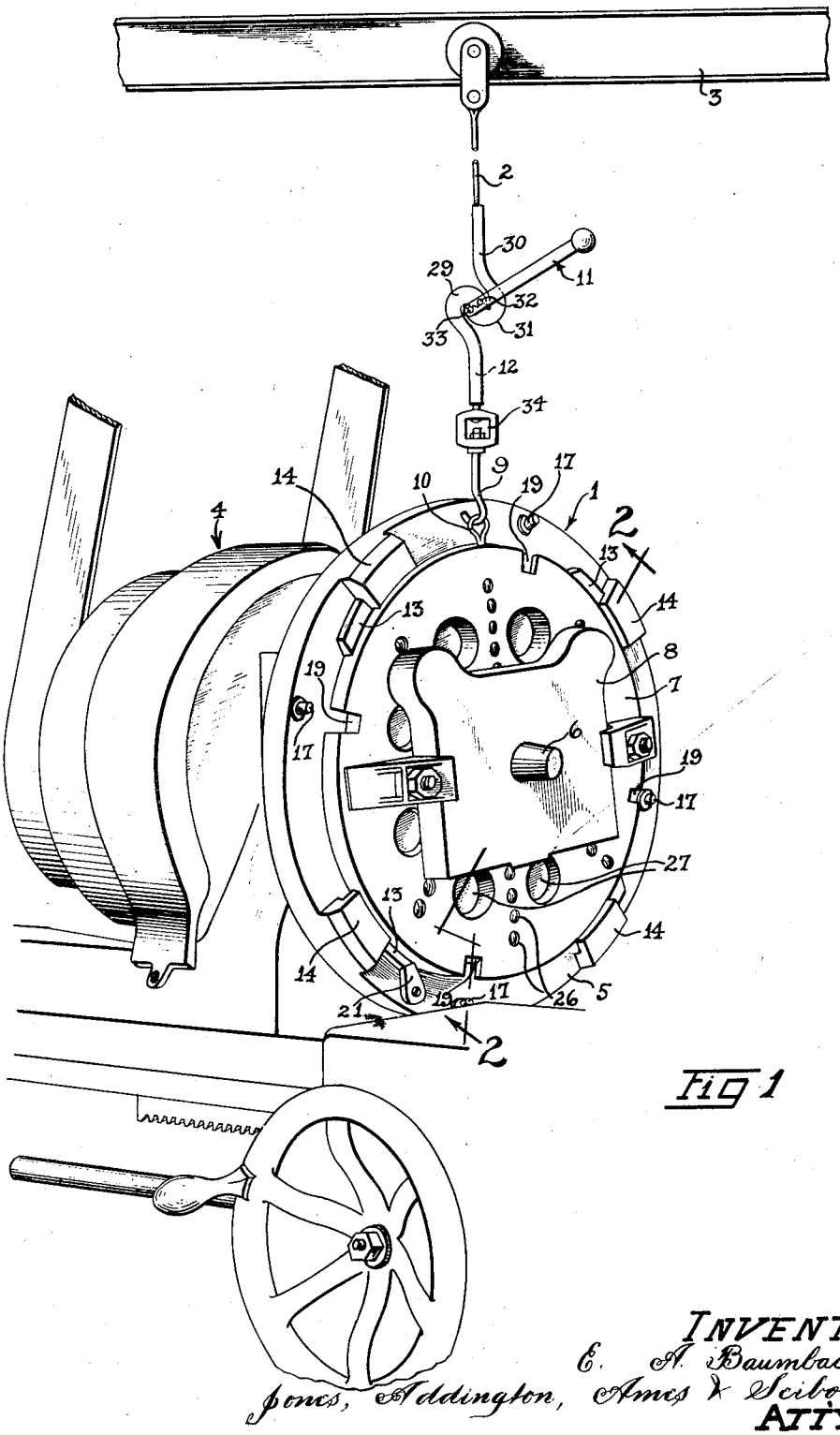

Fig 1

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Filed July 30, 1932 3 Sheets-Sheet 2

Fig 2

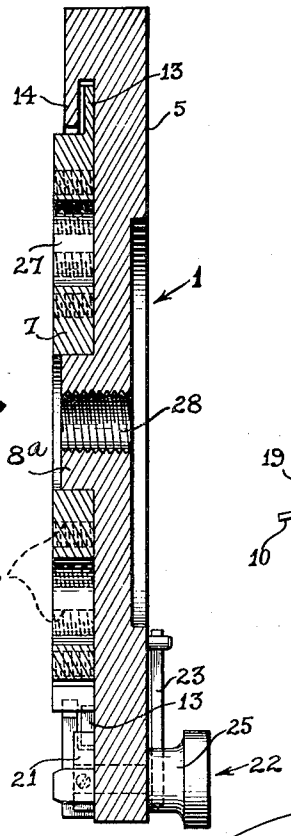


Fig 3

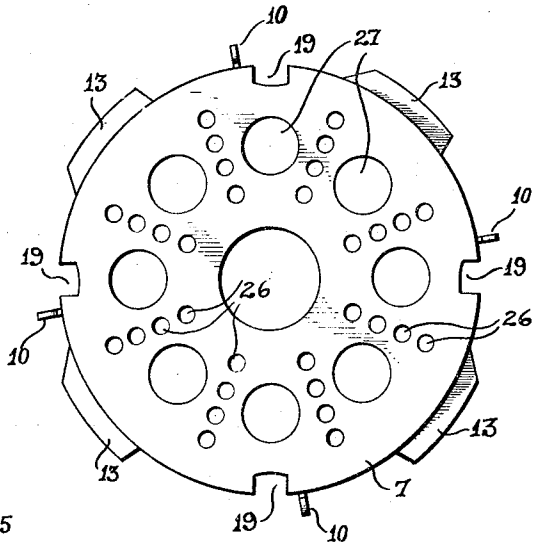
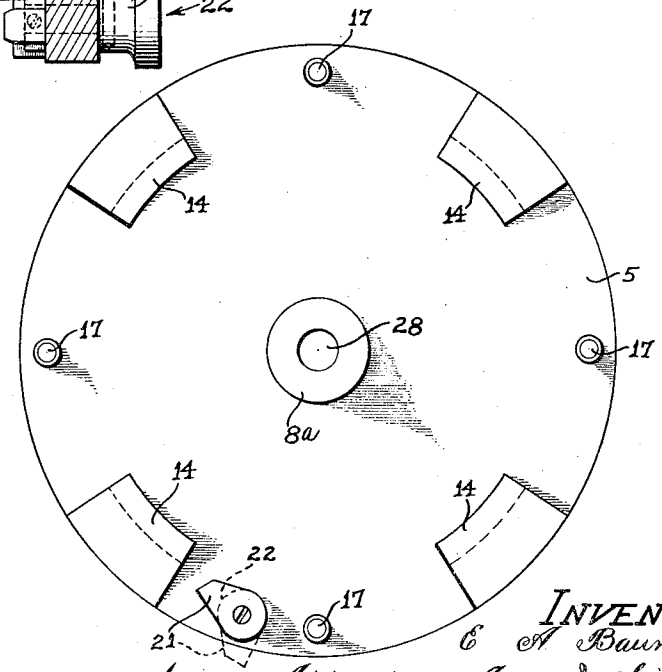


Fig 4



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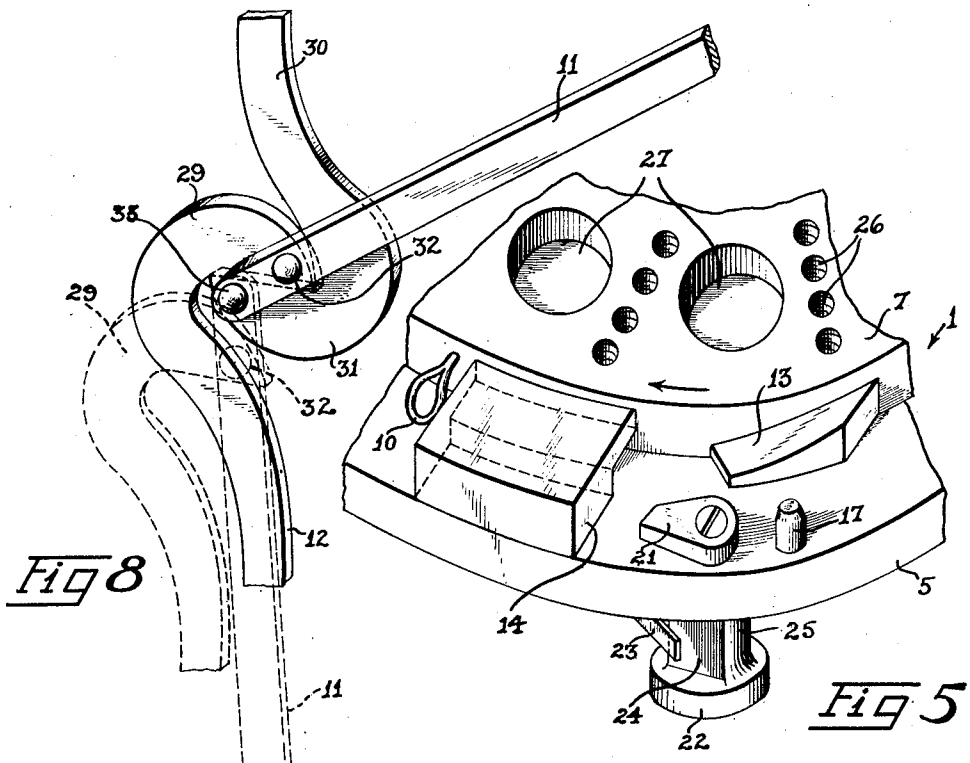

Fig 8

Fig 5

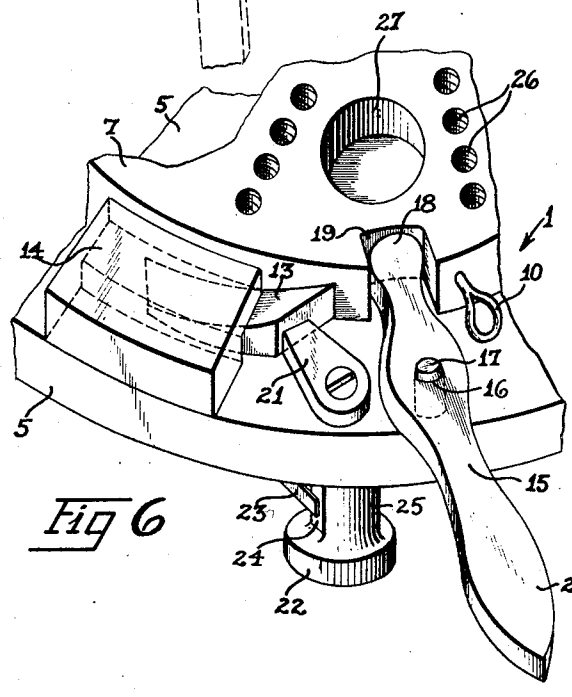

Fig 6

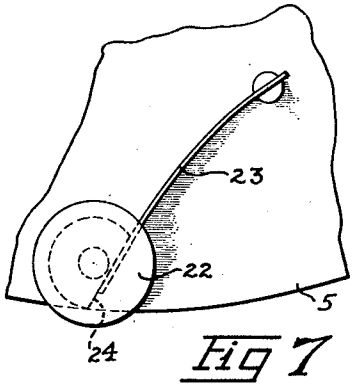

Fig 7

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UNITED STATES PATENT OFFICE

1,931,640

FACE-PLATE

Emil A. Baumbach, Chicago, Ill.

Application July 30, 1932. Serial No. 627,027

7 Claims. (Cl. 82—40)

My invention relates to a lathe attachment, and more particularly to a two-part face-plate comprising a base face-plate portion attached to the lathe headstock and an auxiliary face-plate portion detachably mounted upon the base face-plate.

In machine-shop practice large pieces of workable stock are unwieldy to manage and difficult to center and position on the lathe face-plate. In my invention, however, this handicap has been overcome by arranging to center and position the work on one member of a two-part face-plate and then to transport this one member or auxiliary face-plate portion, to which the work is clamped, to the other member or base face-plate adapted to conveniently receive the auxiliary face-plate.

An object of my invention is to provide improved apparatus for facilitating the setting up of bulky and heavy lathe work.

Another object of my invention is to provide a two-part face-plate, one member of which is readily and conveniently attachable to or detachable from the other member.

A further object of my invention is to provide a convenient means for forcing the auxiliary face-plate into tight cooperation with the base member.

A still further object of my invention is to provide a convenient means for readily locking the auxiliary face-plate portion to the base face-plate portion.

Another object of my invention is to provide a combined conveying and positioning means for facilitating the attachment to the base member of the auxiliary member to which the workable stock has been centered, positioned and clamped.

Other objects and features will appear from the detailed description and claims in connection with the accompanying drawings in which the same reference characters represent like parts throughout, and, in which:—

Figure 1 is a perspective view of a two-part face-plate and associated parts;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is an elevational view of one portion of the face-plate;

Fig. 4 is an elevational view of the other portion of the face-plate;

Fig. 5 is an enlarged detail perspective view of co-operating parts of the face-plate portions;

Fig. 6 is a view similar to Fig. 5 showing the parts in a different position;

Fig. 7 is an enlarged detail view; and

Fig. 8 is an enlarged perspective view of a lifter for the face-plate.

The construction shown in the drawings comprises a two-part face plate 1, a combination lifter and carriage 2 for the face-plate, a track 3 for the carriage, and portions of a lathe 4 with which the face-plate co-operates.

The two-part face-plate comprises an inner portion 5 having provisions whereby it may be readily attached and detached with respect to the headstock spindle 6 of the lathe, and an outer face-plate portion 7 having provisions whereby the work 8 to be operated on may be readily secured thereto and also having provisions whereby it may be readily attached and detached with respect to the inner face-plate portion 5.

By making the face-plate in two-parts, as thus described, the inner part 5 may be secured and centered with respect to the headstock spindle 6. The work 8 to be operated on may be secured and centered with respect to the outer face-plate portion 7, and the outer face-plate portion carrying the work secured thereto may be swung into position to be connected to the face-plate portion 5 secured to the headstock spindle 6. In order to center the outer face plate portion 7 with respect to the inner face plate portion 5, the face plate portion 5 is provided with a circular boss 8*a* which has a close fit in a registering opening in the outer face plate portion 7. When the two parts of the face-plate are secured together, the outer face-plate portion is automatically centered with respect to the inner face-plate portion so that the work itself is thus automatically centered by the act of connecting the face-plate portions.

In order to enable heavy work to be handled, I may provide a lifter carriage 2 and track 3 which will carry the outer face-plate portion at such a height as to bring the outer face-plate portion in proper relation with respect to the inner portion as the carriage 2 is shifted along the track 3.

In securing the outer face-plate portion to the carriage, this face-plate portion carrying the work secured thereto may be stood on edge and the carriage hook 9 slipped into one of the eyes 10 on the face-plate portion, after which the face-plate portion carrying the work may be lifted clear of the support by manipulating the lifting lever 11 which raises the lower hook link 12 from the position shown in dotted lines in Fig. 8 to the position shown in full lines, in which the lower link 12 is raised and held in

elevated position at a height to carry the outer face-plate portion into position with respect to the inner face-plate portion.

The quick detachable connection for the two-part face-plate is in the nature of a bayonet joint. It comprises four radially extending wedge-like lugs 13 on the outer face-plate portion 7 which slip under cooperating overhanging ledges 14 on the inner face-plate member 5 by a limited movement of rotation as shown in Figs. 3, 4, 5 and 6.

A detachable lever 15 may be provided for insuring a firm connection between the two face plate portions 5 and 7, this lever having an opening 16 which enables it to be slipped over the fulcrum-pin 17 on the face-plate portion 5 in such a position that one end 18 of the lever 15 engages a notch 19 in the outer face-plate portion 7 so that by shifting the handle 20 of the lever 15 to the right as seen in Fig. 6, a powerful turning movement may be imparted to the outer face-plate portion 7 to force the wedge-like lugs 13 firmly into engagement with the overhanging ledges 14 of the inner face-plate portion 5.

In order to hold the two face-plate portions in connected position, a latch member 21 may be provided mounted on a turn-button 22 oscillatably mounted in the inner face-plate portion 7. A leaf spring 23 serves to hold this latch member 21 in latching position by engaging a flat spot 24 on the shank 25 of the turnbutton 22. The outer face-plate portion 7 is provided with suitable tapped holes 26 to facilitate securing the work thereto and may be provided with a number of large openings 27 to lighten the face-plate 7. The inner face-plate portion 5 is provided with a central tapped opening 28 enabling it to be screwed on the projecting spindle 6 of the lathe headstock.

The lifting carriage comprises a lower link 12 having an upper hook-like head 29, an upper link 30 having a lower hook-like head 31, and a lifting lever 11 pivotally connected with both heads 29 and 31 at 32 and 33, respectively.

In securing the outer face-plate portion 7 to the lifting carriage 2, the parts of the lifting carriage are first placed in the dotted line position shown in Fig. 8. The outer face-plate portion 7 is hooked into the depending hook 9, and the lever is then shifted from the dotted line position to the full line position lifting the pivotal point 32 of the hook-like head 29 from the dotted line position to the full line position and raising the face-plate portion 7 and the work 8 carried thereby to enable the carriage 2 to be rolled along to bring the outer face-plate portion 7 into proper relation with respect to the inner face-plate portion 5. The inner face-plate portion 5 may then be given a slight movement of rotation either by starting up the motor or by turning the head stock by hand to cause the the proper engagement of the overhanging ledges 14 with the wedge-like lugs 13. The final connecting movement between the face-plate portions may be effected by the use of the hand lever, previously described, by means of which powerful turning motion may be effected.

The use of the apparatus has been outlined in connection with the description of the construction. Briefly, the outer face-plate portion 7 may be placed on a suitable support and the work 8 to be operated on secured thereto. The face-plate 7, carrying the work, may then be tipped up on edge, the hook 9 secured to the eye 10 of the face-plate portion 7, and the face-plate portion carrying the work 8 lifted clear of the support by operating the lever. The carriage 2 may then be rolled along the track 3 to bring the outer face plate portion 7 into proper position with respect to the inner face-plate portion 5, and the two face-plate portions 5 and 7 secured together by the bayonet joint movement described.

The face-plate portions may be forced into final position by means of the hand lever 20 and the face-plate 7 then securely latched by means of the turn-button 22. This operation acurately centers the work with respect to the headstock spindle, as the two face-plate portions 5 and 7 are accurately centered with respect to each other, the inner face plate portion 5 is accurately positioned with the head stock spindle, and the work 8 is accurately positioned on the outer face-plate portions. This greatly facilitates the operation of securing and centering the work 8 with respect to the face-plate, particularly if the work to be operated on is heavy and awkward to handle. If desired, an adjustment may be provided as indicated at 34 to vary the effective length of the lower link.

Further modifications will be apparent to those skilled in the art, and it is desired, therefore, that my invention be limited only by the prior art and the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A two-part face-plate comprising a base member, a demountable auxiliary member provided with means for slidably locking onto said base member, a plurality of pivot studs on said base member, said auxiliary member being provided with a plurality of recesses along its edge substantially coincident with said studs, and a lever pivotally mounted on one of said studs and engaging said recesses for tightening to and loosening from said base member the said auxiliary member.

2. A two-part face-plate for use with a lathe, comprising an inner face-plate portion having provisions whereby it may be secured to rotate with the spindle of the lathe headstock and an outer face-plate portion having provisions whereby the work to be operated on may be secured thereto, said inner and outer portions having telescoping and swiveling interengaging means for centering them and providing for relative swiveling movement and being also provided with circumferentially spaced interlocking means positioned radially outside said telescoping and swiveling interengaging means and movable into interlocking position by said swiveling movement.

3. A two-part face plate for use with a lathe, comprising an inner face-plate portion having provisions whereby it may be secured to rotate with the spindle of the lathe headstock and an outer face plate portion having provisions whereby the work to be operated on may be secured thereto, said inner and outer portions having telescoping and swiveling interengaging means for centering them and providing for relative swiveling movement and being also provided with circumferentially spaced interlocking wedging means positioned radially outside said telescoping and swiveling interengaging means and movable into interlocking position by said swiveling movement.

4. A two-part face-plate for use with a lathe comprising an inner face-plate portion having

provisions whereby it may be secured to rotate with the spindle of the lathe headstock, an outer face-plate portion having provisions whereby the work to be operated on may be secured thereto, said face-plate portions having means whereby they may be readily attached, detached, and centered with respect to each other whereby the inner face-plate portion may be secured in proper position with respect to the headstock spindle, the work to be operated on may be secured to the outer face-plate portion, and the outer face-plate portion carrying the work to be operated on may be readily centered and secured in position on the inner face-plate portion, said means comprising a bayonet joint connection between the face-plate portions, and means for locking said inner and outer portions against swiveling movement to hold the bayonet joint in locked position.

5. A two-part face-plate for use with a lathe, comprising an inner face-plate portion having provisions whereby it may be secured to rotate with the spindle of the lathe headstock and an outer face plate portion having provisions whereby the work to be operated on may be secured thereto, said inner and outer portions having telescoping and swiveling interengaging means for centering them and providing for relative swiveling movement and being also provided with circumferentially spaced interlocking wedging means positioned radially outside said telescoping and swiveling interengaging means and movable into interlocking position by said swiveling movement, and means for locking said inner and outer portions against swiveling movement to hold the bayonet joint in locked position.

6. A two-part face-plate for use with a lathe comprising an inner face-plate portion having provisions whereby it may be secured to rotate with the spindle of the lathe headstock, and an outer face-plate portion having provisions whereby the work to be operated on may be secured thereto, said face-plate portions having means whereby they may be readily attached, detached, and centered with respect to each other whereby the inner face-plate portion may be secured in proper position with respect to the headstock spindle, the work to be operated on may be secured to the outer face-plate portion, and the outer face-plate portion carrying the work to be operated on may be readily centered and secured in position on the inner face-plate portion, said means comprising a bayonet joint connection between the face-plate portions, having provisions for drawing the outer face-plate portion snugly against the inner face-plate portion.

7. A two-part face-plate for use with a lathe comprising an inner face-plate portion having provisions whereby it may be secured to rotate with the spindle of the lathe headstock, an outer face-plate portion having provisions whereby the work to be operated on may be secured thereto, said face-plate portions having means whereby they may be readily attached, detached, and centered with respect to each other whereby the inner face-plate portion may be secured in proper position with respect to the headstock spindle, the work to be operated on may be secured to the outer face-plate portion, and the outer face-plate portion carrying the work to be operated on may be readily centered and secured in position on the inner face-plate portion, said means comprising a bayonet joint connection between the face-plate portions, having provisions for drawing the outer face-plate portion snugly against the inner face-plate portion, and means for locking said inner and outer portions against swivelling movement to hold the bayonet joint in locked position and to retain the outer face-plate portion snugly against the inner face-plate portion.

EMIL A. BAUMBACH.