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J. M. BROWN.  
WORK CENTERING ATTACHMENT FOR LATHES.  
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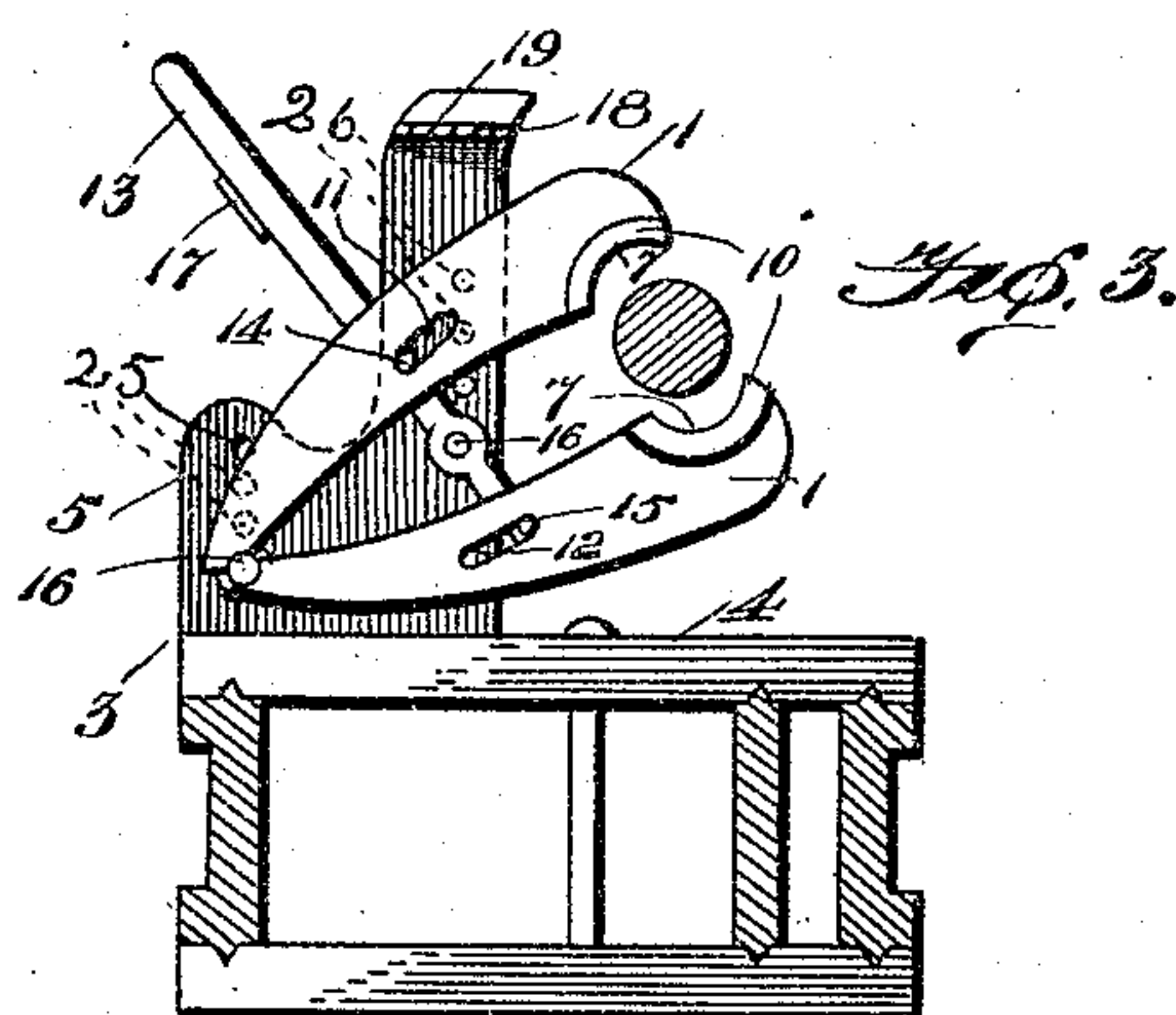
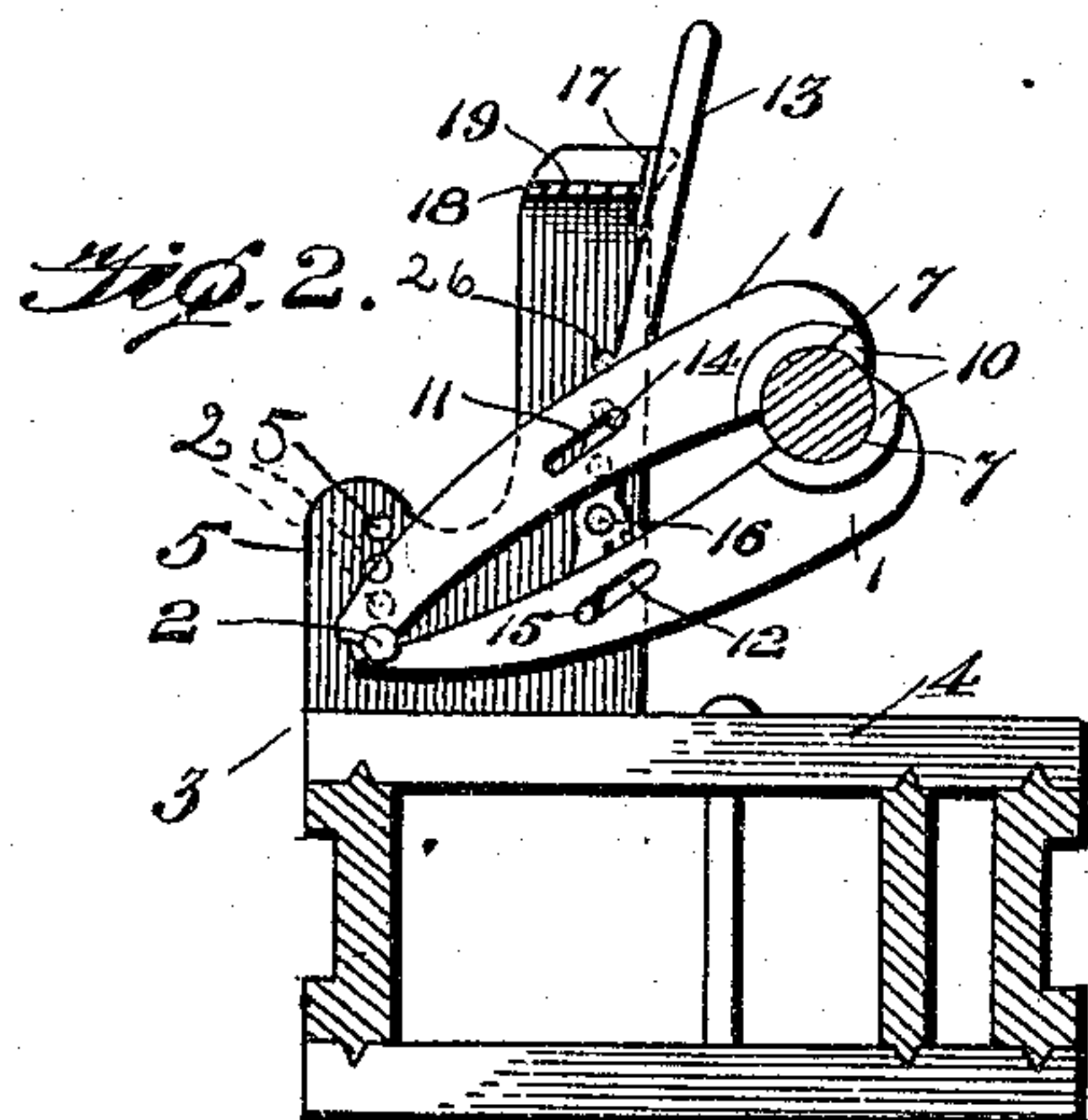
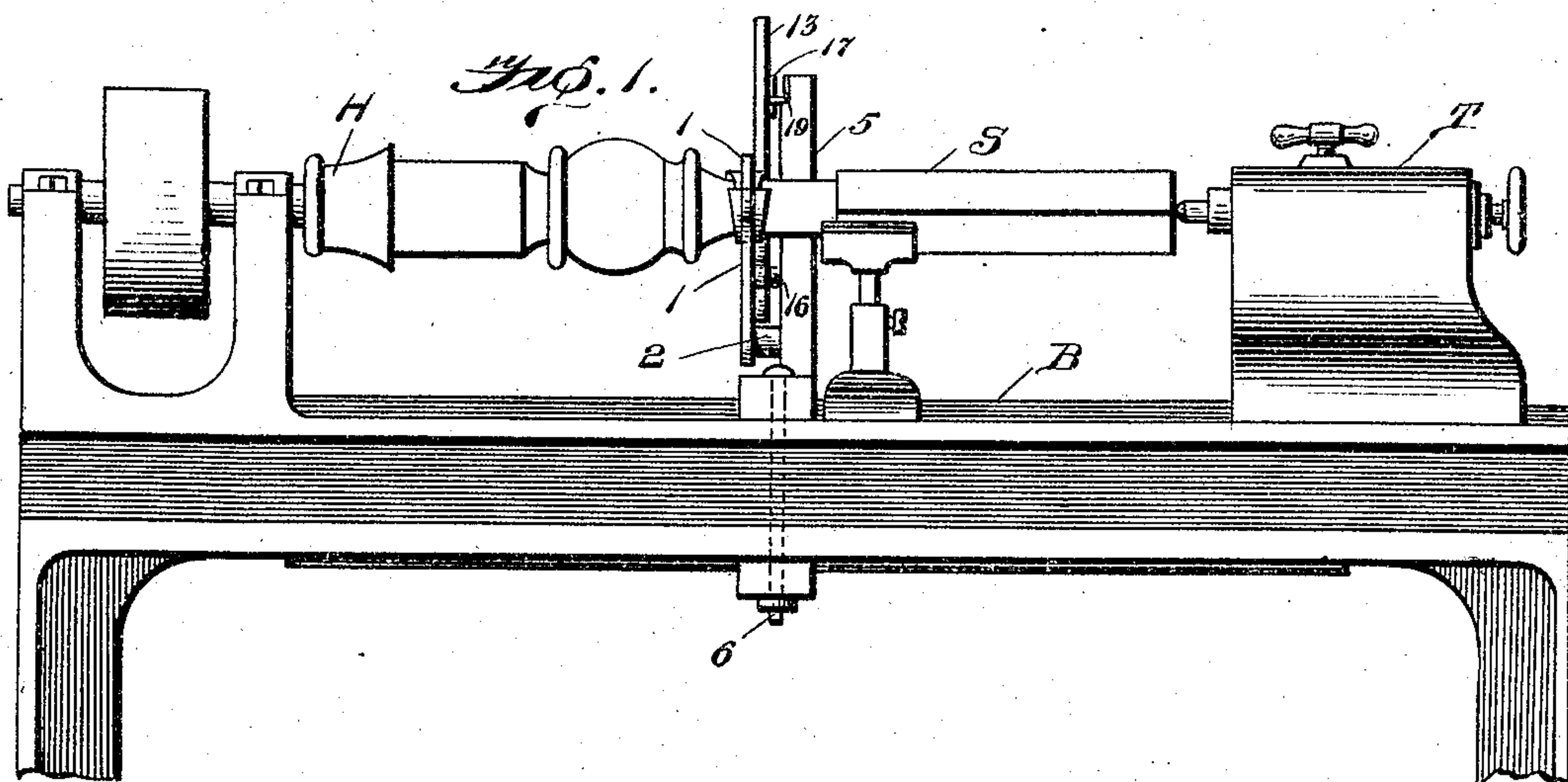


Fig. 4.

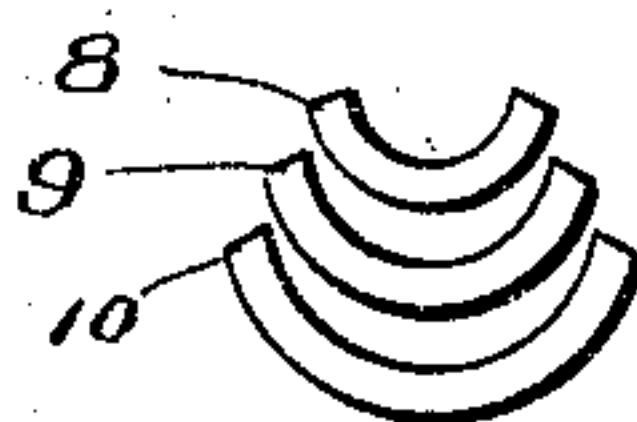


Fig. 6.

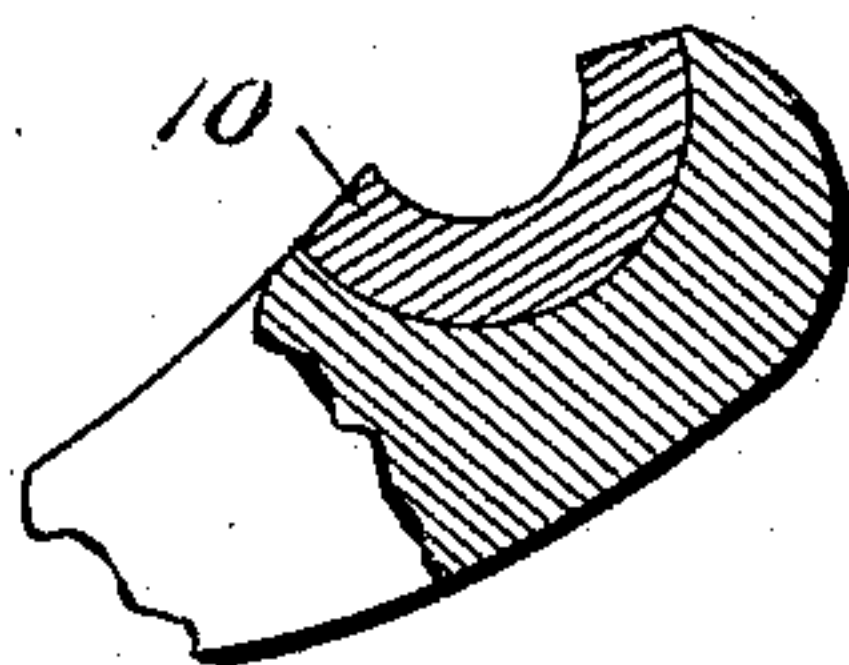


Fig. 5.

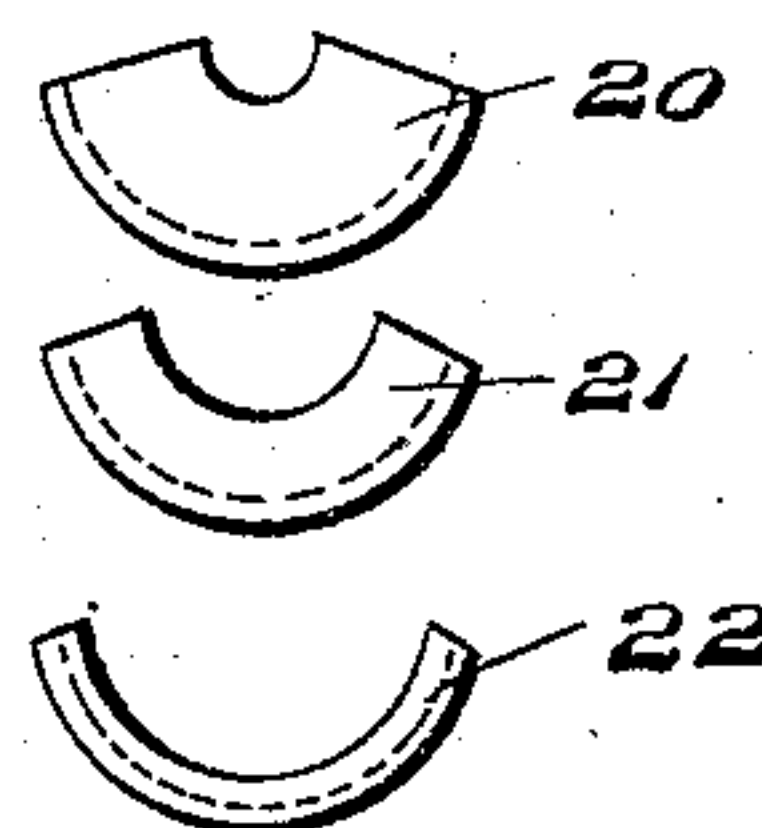


Fig. 7.

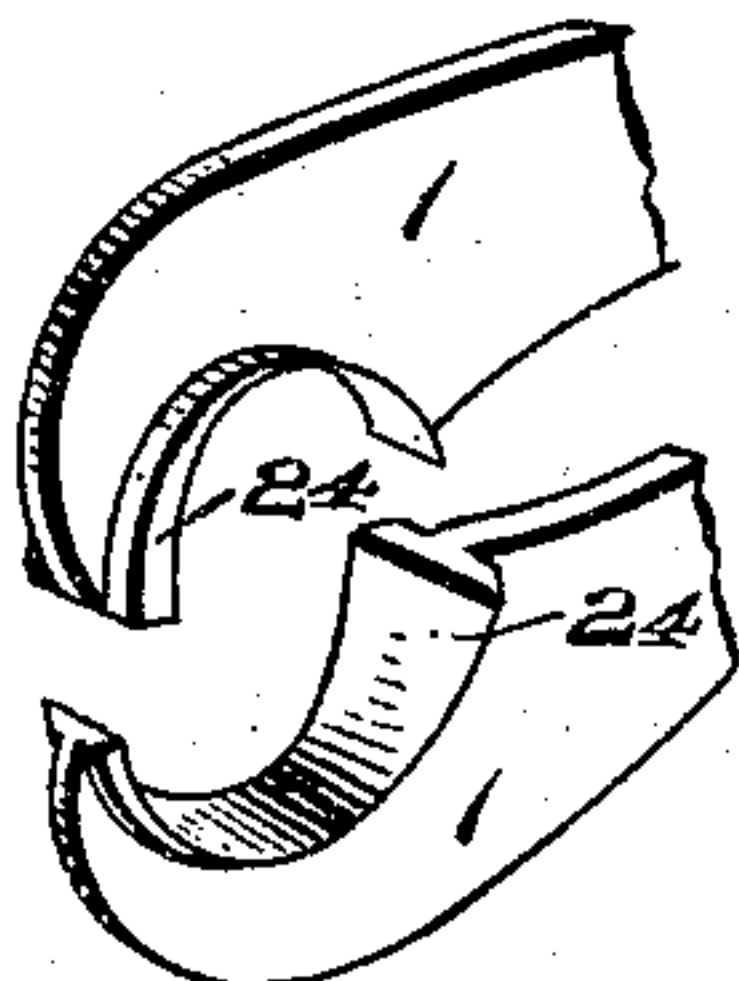
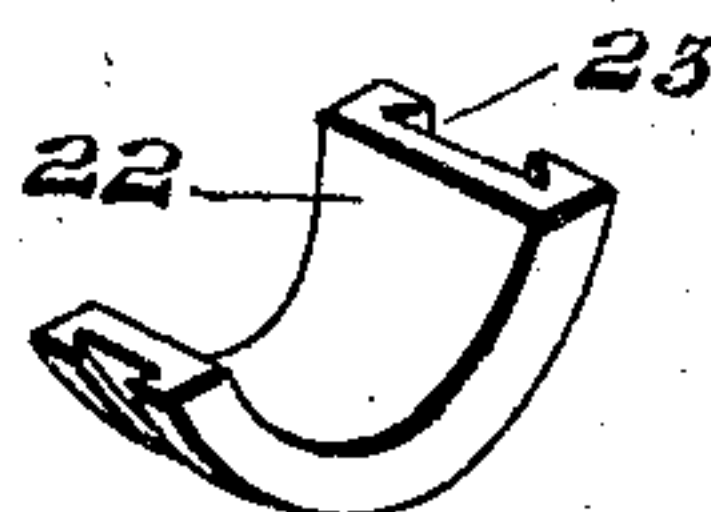


Fig. 8.



Witnesses:

*E. H. Stewart*  
*R. M. Elliott.*

*James M. Brown,*  
Inventor,

by *C. A. Snow & Co.*  
Attorneys.



# UNITED STATES PATENT OFFICE.

JAMES M. BROWN, OF SOUTHBEND, WASHINGTON.

## WORK-CENTERING ATTACHMENT FOR LATHES.

SPECIFICATION forming part of Letters Patent No. 785,193, dated March 21, 1905.

Application filed April 29, 1904. Serial No. 205,596.

*To all whom it may concern:*

Be it known that I, JAMES M. BROWN, a citizen of the United States, residing at Southbend, in the county of Pacific and State of Washington, have invented a new and useful Work-Centering Attachment for Lathes, of which the following is a specification.

This invention relates to work-centering attachments for wood-turning lathes.

As is well known to operators of wood-turning lathes, when the "stick" is of considerable length there is a tendency for the stick to yield under the pressure of the turning-tool and be thrown out of alinement, causing a loss of time in the turning operation and increasing the difficulty of securing satisfactory results. Various means have been employed to support the middle portion of long sticks in lathes in order to overcome the tendency mentioned; but for the most part the devices employed for this purpose are not adapted for use with sticks of different sizes, and a considerable delay is occasioned in introducing the stick into the guide.

The object of the present invention is to provide a simple device adapted for attachment to a lathe-bed by which different-sized sticks may be so supported as to overcome the tendency to disalinement and which may be brought into operative engagement with a stick without appreciable loss of time.

A further object of the invention is to provide a device of the character specified which may be positively set to hold a stick of certain size and which will effectively support the stick without binding or otherwise interfering with the rotation of the stick in the lathe.

In describing the invention reference will be had to the accompanying drawings, in which is illustrated the preferred form of embodiment of the invention, it being understood that changes in the form, proportions, and exact mode of assemblage of the elements exhibited may be resorted to without departing from the spirit of the invention or sacrificing its advantages.

In the drawings, Figure 1 is a view in side elevation of a lathe-bed and the head and tail stocks mounted thereon, with a stick supported between said stocks and secured inter-

mediate of its ends by means of an attachment constructed in accord with the present invention. Fig. 2 is a transverse section through the lathe-bed with the attachment shown in operative position. Fig. 3 is a view also in transverse section through the lathe-bed, showing the jaws of the attachment open for the reception of the stick. Fig. 4 is a detail view of a nest of face-pieces or guide-blocks to be employed on the jaws of the attachment. Fig. 5 is a view showing a set of face-blocks of modified form. Fig. 6 is a detail view showing a mode of supporting face-blocks on the jaws on the attachment. Fig. 7 is a detail perspective view showing a slightly-modified form of jaw. Fig. 8 is a perspective detail view of a slightly-modified form of face-block.

Referring to the drawings, in which corresponding parts are designated by similar characters of reference; B designates the bed of an ordinary wood-turning lathe, and H and T designate the head and tail stocks, respectively. Work in the form of a stick S is rotatably supported between the head and tail stocks in the usual manner and the turning operation is effected by means of turning-tools of any preferred character.

The attachment proper comprises a pair of jaws 1 1, both pivoted at 2 upon an angular frame 3, comprising a horizontal arm 4 and a vertical arm 5. The frame 3 is secured by means of a clamp-bolt 6 at any desired point upon the bed or shears of the lathe and will ordinarily be fixed in position about midway between the head and tail stocks of the lathe. The two jaws 1 1 are provided near their free ends with oppositely-arranged concavities 7, in which may be placed concave blocks 8, 9, and 10 to correspond to sticks of different sizes. The two jaws are longitudinally slotted at 11 and 12, respectively, and a lever 13, provided with pins 14 and 15 for engagement with the slots 11 and 12, is mounted upon a pivot 16 between the two jaws in order to afford means for approximating and separating the jaws when desired. The lever 13 is so arranged that the free or handle end projects upward and is provided near its extremity with a lip 17 for engagement with the notches 18 of a rack 19, secured upon the vertical arm



5 of the frame 3. The lever 13 is made of iron, as are the jaws 1 1, and is sufficiently resilient to permit the lip thereon to be readily moved into and out of engagement with the notches of the rack 19, so that the jaws may be quickly brought together or separated, as desired.

In use the attachment will be set in proper position relative to the head and tail stocks of the lathe and the jaws will be spread apart, as shown in Fig. 3, when the stick is introduced into the lathe. The stick having been centered properly, the two jaws with their concavities provided with face-blocks, if necessary, will be approximated by means of the lever 13 until the free ends of the jaws are in such close proximity to the stick that any appreciable lateral play thereof will be impossible. The jaws will then be secured in this position by bringing the lip on the lever into engagement with the adjacent notch in the rack 19, and the turning operation may then be begun.

As most long-turned forms—such as porch-columns, balusters, and the like—are generally made in standard sizes in woodworking plants, the face-blocks 8, 9, and 10 may be made of such size that the number required for use in the production of any particular piece of work may be determined instantly and the necessity of experimenting to determine the proper number avoided. The most common sizes for porch-columns are those of three and three-eighths, four and three-eighths, and five and three-eighths inches in diameter, and the face-blocks illustrated are designed for use in turning porch-columns of this size. With face-blocks of the form shown it will be necessary, when it is desired to turn columns of the smaller sizes, to use a plurality of face-blocks in the concavity of each jaw; but, if desired, face-blocks of the form shown at 20, 21, and 22 may be used instead. The modified form of face-blocks differs from the form first mentioned in that each block has its outer surface provided with a dovetailed groove 23, adapted to engage flanges 24 on the jaws. In order to obviate the employment of any holding means—such as bolts or screws for retaining the face-blocks positioned upon the jaws—the groove, in addition to being dovetailed, is tapered, being approximately wedge-shaped when viewed in plan, and the flanges 24 are similarly tapered or wedge-shaped, and by this arrangement when the face-block is positioned upon the jaw it will be positively held from accidental separation therefrom by reason of the frictional contact between the edges of the flanges and the inner walls of the groove. By preference, the pitch or inclination of the flanges of the two jaws are in opposite directions—that is to say, the narrow ends of the flanges on the lower jaw are at its terminal and the wide ends of the

flanges on the upper jaw are at the like terminal. This arrangement is advantageous in positioning the face-blocks, and, moreover, by the manner of thus arranging the flanges on the upper jaw the face-block cannot become accidentally disconnected from its jaw by working off at the end.

In order to adapt the device for use in connection with lathes of different sizes, the frame 3 is provided with a plurality of orifices 25, to be engaged by the pivot 2 of the jaws, and by this means the jaws can be raised or lowered to bring the face-blocks in the proper operative relation with the work. Of course in adjusting the jaws it will be necessary to change the pivotal point of the lever 13, and to effect this the frame is provided with a second series of orifices 26, corresponding in number to the series of orifices 25, and the orifices 26 are engaged by the pivot 16 of the lever.

By using blocks of the modified form shown in Fig. 5 the necessity of using more than one face-block on each jaw at any time will be obviated; but the single blocks for forms of the smaller sizes will be heavier than the blocks for the smaller sizes of the form first described.

From the foregoing description and the drawings illustrative thereof it will be seen that sticks of different sizes may be conveniently supported in a lathe, so that the middle portions thereof will not be thrown out of alinement by the pressure of the turning-tool, and it will also be seen that the time required for bringing the jaws of the guide into operative relation with a stick in the lathe is so slight as to be negligible.

Having thus described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A work-centering attachment for lathes comprising a standard adapted for connection with the bed of a lathe and provided with two series of spaced openings, a pair of guide members pivotally connected by a pin that engages one of the series of openings, and a lever operatively connected with the guide members and having its fulcrum adapted to engage other series of openings.

2. A work-centering attachment for lathes comprising a standard adapted for connection with the bed of a lathe, a pair of jaws carried by the standard and having oppositely-disposed concaved faces provided with lateral flanges, and face-blocks having grooves to engage the flanges.

3. A work-centering attachment for lathes comprising a standard adapted for connection with the bed of a lathe, a pair of work-supporting jaws mounted thereon and having oppositely-disposed concaved faces provided with lateral angularly-disposed flanges, and face-blocks having grooves corresponding in contour to the flanges.

4. A work-centering attachment for lathes  
comprising a standard adapted for connection  
with the bed of a lathe and provided with two  
series of spaced openings, a pair of guide mem-  
5 bers connected at one end by a pin that engages  
one of the series of openings, detachable space-  
blocks combined with the other ends of the  
members, and a lever operatively connected  
with the guide members and having its ful-

crum adapted to engage the other series of 10  
openings.

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

JAMES M. BROWN.

Witnesses:

J. H. DALTON,

A. P. LEONORD.