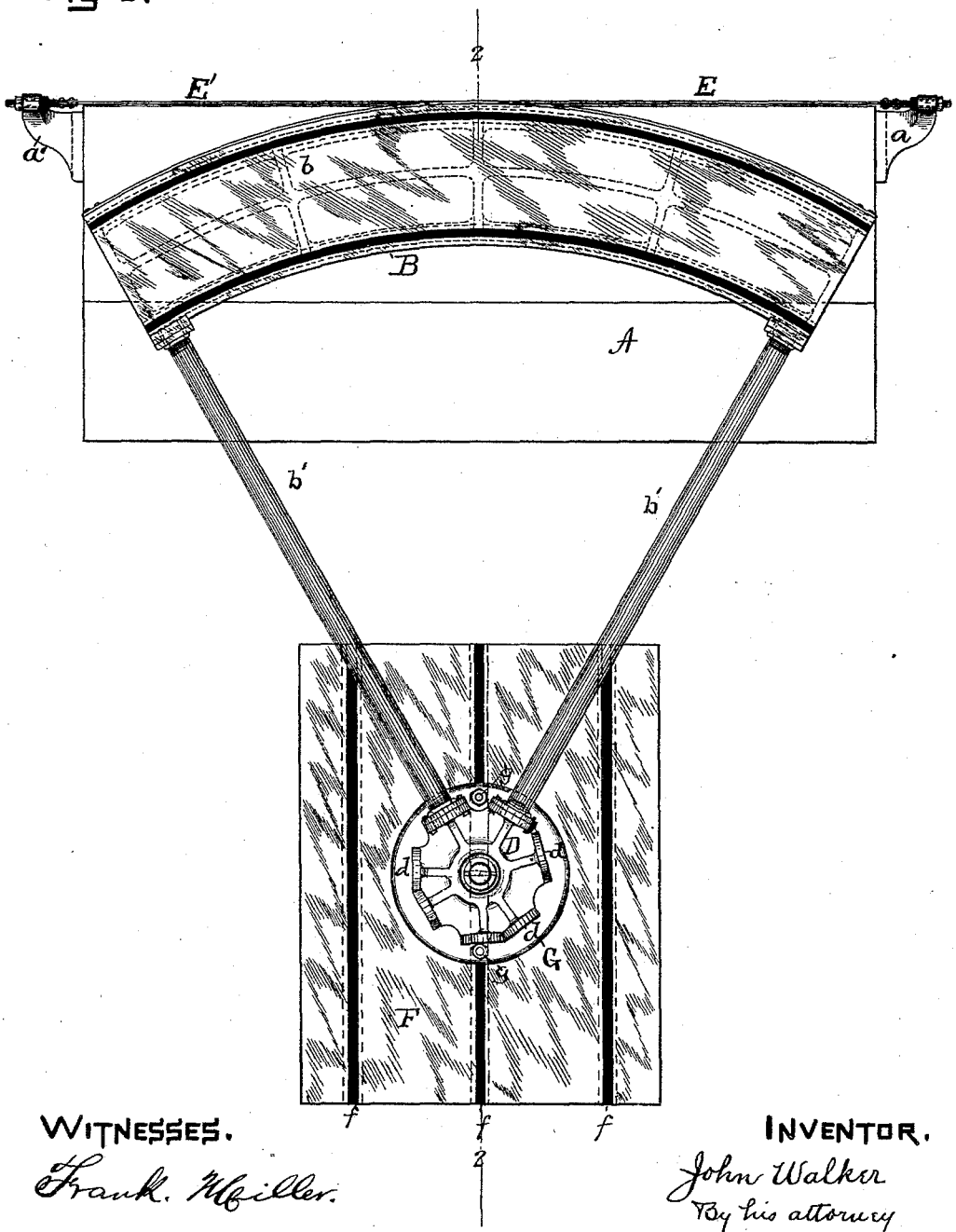
(No Model.) 2 Sheets—Sheet 1.

J. WALKER.

LATHE AND PLANER ATTACHMENT.

No. 449,392. Patented Mar. 31, 1891.

Fig 1.



WITNESSES.

Frank. Mfiller.

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INVENTOR.

John Walker

By his attorney

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(No Model.)

2 Sheets—Sheet 2.

J. WALKER.

LATHE AND PLANER ATTACHMENT.

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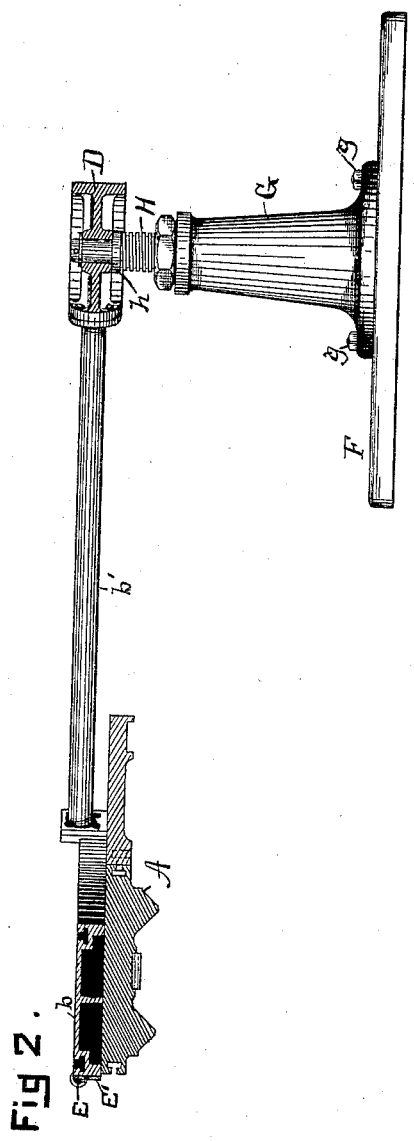

Fig 2.

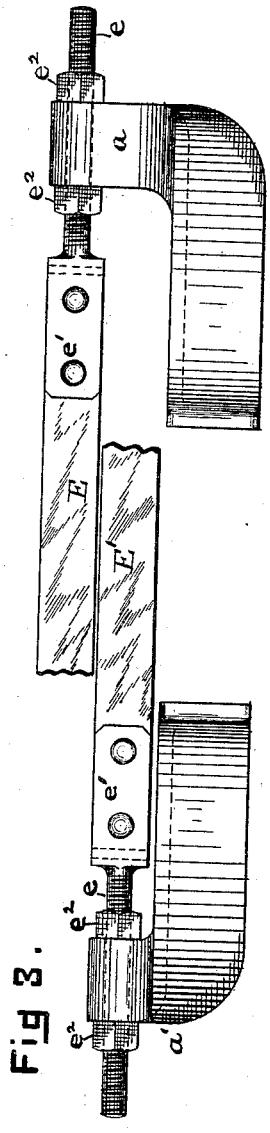

Fig 3.

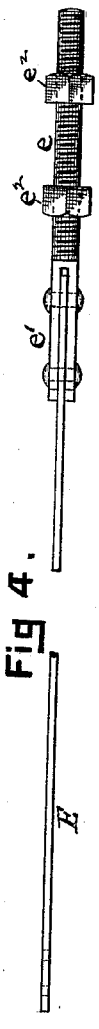

Fig 4.

WITNESSES.

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UNITED STATES PATENT OFFICE.

JOHN WALKER, OF CLEVELAND, OHIO.

LATHE AND PLANER ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 449,392, dated March 31, 1891.

Application filed October 6, 1890. Serial No. 367,172. (No model.)

To all whom it may concern:

Be it known that I, JOHN WALKER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Lathe and Planer Attachments, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to that class of devices adapted to be used in connection with lathes and planers by means of which curved surfaces may be planed or otherwise worked upon.

The object of my invention is to provide an improved supplemental work or tool carrying table which may be easily adapted to different sizes of curved work and easily applied to machines of ordinary build, and also to provide improved mechanism for actuating said supplemental table at a substantially constant speed and with the minimum expenditure of force; and my invention consists in the construction and combination of parts, hereinafter described, and pointed out definitely in the claims.

In the drawings, Figure 1 is a top plan view of my improved attachment. Fig. 2 is a sectional view thereof on line 2 2 of Fig. 1. Fig. 3 is a detached view of a part of the two bands, hereinafter described, and the figure is designed to show their position relative to each other and the specific means adopted to adjustably secure their ends to the reciprocating table A. Fig. 4 is a top view of one of the bands.

I will now proceed to describe the exact embodiment of my invention, which is shown in the drawings, and to explain the principle thereof, and the manner in which it operates.

Referring to the parts by letter, A represents the reciprocating table of a planer or carriage of a lathe. B represents a supplemental table, which is approximately sector-shaped, and it consists of the bed *b*, which rests upon the table A, a hub D, and suitable arms *b' b'*, connecting said bed and hub D. The hub is pivoted in the proper horizontal plane by suitable means. The outer edge of the bed *b* is curved in the arc of a circle of which the pivot of the hub is the center.

Secured to the edge of the bed *b* by bolts or other suitable means (and at the left-hand side thereof, as shown in the drawings) is a band E, which is most efficient when made of flexible steel. This band lies against the edge or periphery of the bed *b* for a greater or less distance, dependent upon the position of the supplemental table, and it is then carried to the bracket *a*, to which its end is attached. A second flexible band E' is in like manner connected to the edge of the bed *b*, and at the opposite (right) side thereof, and its other end is secured to bracket *a'*.

The brackets *a a'* are securely fixed to the ends of the reciprocating table A, and both brackets preferably lie in the same vertical plane tangential to the periphery of the bed *b*.

While the above-described construction and arrangement of the parts is the best and cheapest known to me, clearly some modifications thereof are possible. For example, the bed *b* need not rest upon the table A. Any suitable support would answer; but in the construction shown there is less friction between the bed and its support than there would be in any other construction, and since a flat-topped table is present in all planers, the above-described construction is the simplest and least expensive.

It is not essential to the broad invention that the ends of the bands should be attached to the table A. Any device or devices moving in substantially the paths traveled by the brackets *a a'* and having sufficient power will serve the purpose; but obviously the construction shown is simple, cheap, and efficient.

It is not essential to the broad invention that the brackets should lie in the same plane tangential to the periphery of the bed *b;* but when so arranged the largest sweep of the supplemental table can be secured, and the power is applied in the most advantageous and economical manner, and, finally, it is not essential to the broad invention that the periphery of the bed should be in the form of a circular curve, although when the supplemental table is pivoted to a fixed pivot, as shown in the drawings, it is clearly of great advantage, both because of the less cost of construction and of the superior operation thereof.

Although the above-mentioned details are not essential to the broad invention, they are important features of the particular form of the invention which the drawings describe, and are claimed as elements of the invention as it is set forth in some of the less comprehensive claims.

The width of each of the two bands E E′ is a little less than one-half the thickness of the bed *b*, and said bands are arranged one above the other, as clearly indicated in Fig. 3. The bands when connected as above described are drawn taut, and this result is secured by the adjustable connection between the bands and the table A. The specific mechanism adopted for this purpose consists of the screw-threaded rods *e e*, which have slotted heads *e′ e′* into which one end of the bands E E′ is inserted and secured by rivets. Each rod passes through its bracket, and is adjusted to the desired position by the nuts e^2 e^2. When the reciprocating table A moves to the right, for example, it pulls upon the band E, and the pull, transmitted to the table B, causes it to revolve on its pivot to the right. During this movement the band E is unwound from and the band E′ is wound upon the periphery of the bed *b*. When the table A moves to the left, the reverse of the above-described action takes place.

It is evident from the above description that the power to move the table B upon its pivot is always applied tangentially, and therefore most advantageously. It is also clear that if the table A moves at a constant rate of speed the table B will turn its pivot at a constant rate.

With the herein-described device no special construction of lathe or planer is necessary, provided it has a reciprocating table or carriage with a flat top. It is only necessary to attach the brackets thereto. The different-sized supplemental tables, which it may be desirable to use, are provided with smooth curved peripheries, which are easily and cheaply furnished, and the same bands may be used for a variety of different-sized attachments. Even if different sets of bands were necessary for each attachment they are cheap and easily applied.

The supplemental table B may carry the work, which may be held on the bed by any suitable mechanism, in which case the tool will be held in the desired position by mechanism, (not shown,) or the table B may carry the tool, and the work will then be held in the proper relation thereto. If used with a lathe, curved worms may be chased with this attachment.

In the specific construction of the supplemental table and of the mechanism for pivoting it, which the drawings show, F represents a base-plate permanently secured to the floor or other suitable support at one side of the planer or lathe. A T-shaped groove or grooves *f f* are formed in said plate, and a T-shaped tongue on the standard G slides in one of said grooves, whereby said standard is guided in moving toward and from the table A in a straight line. Bolts *g g* or other suitable means are employed to secure said standard at the desired distance from said table. A screw-threaded stud H screws into the standard G, and a collar *h* on said stud supports the hub of the supplemental table, the part of the stud above the collar serving as the pivot of said table. This stud may be screwed out of and into the standard, and thus raise or lower the plane in which the supplemental table swings. The hub D is provided with numerous radiating spokes *d d*, to which one end of each of the arms *b′ b′* are attached, while the other ends of said arms are screwed into or are otherwise secured to the bed *b*.

The several spokes are so arranged that they lie at various angles to each other, whereby the same hub may be employed when it is desired to use a supplemental table, representing any common fraction of a circle.

The arms *b′ b′* may be made any desired length to suit the curve of the bed *b*, and the standard G may be moved backward or forward, so that said bed may suitably rest upon the table A.

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

1. The combination of the pivoted supplemental table B, having a curved periphery, the reciprocating table A or its equivalent, and the flexible bands E E′, secured at their ends to said tables A and B, respectively, substantially as and for the purpose specified.

2. The combination of a pivoted and substantially sector-shaped table and a reciprocating table upon which the outer end of said pivoted table is supported with two flexible bands, each of which is secured at one end to the pivoted table and at the other end to brackets on the reciprocating table, substantially as and for the purpose specified.

3. The combination, with a reciprocating table A, having the brackets *a a′*, of the pivoted supplementary table having its side farthest from the pivot in the form of an arc of which its pivot is the center, two flexible bands secured to opposite ends of said curved surface and one above the other, and adjustable connections between the other ends of said bands and the said brackets, substantially as and for the purpose specified.

4. The combination of the reciprocating table of a lathe or planer and brackets secured at opposite ends thereof with a substantially sector-shaped table resting on said reciprocating table and pivoted to a suitable support at one side thereof, the two flexible steel bands E E′, the screw-threaded rods *e e*, secured to the ends of said bands and passing through said brackets, and the nuts e^2 e^2, substantially as and for the purpose specified.

5. The combination, with a reciprocating table of a lathe or planer, of a supplemental table supported thereon, a standard movable

toward and from the reciprocating table, a vertically-adjustable stud secured to said standard and serving as the pivot of said supplemental table, and suitable mechanism for oscillating said table upon its pivot, substantially as and for the purpose specified.

6. The combination, with the reciprocating table of a lathe or planer, of a supplemental table resting thereon, a standard movable toward and from the reciprocating table, a screw-threaded stud to which one end of said supplemental table is pivoted, a collar on said stud, and suitable means for oscillating said supplemental table upon its pivot, substantially as and for the purpose specified.

7. In an attachment for lathes and planers, a hub having a number of spoke-sockets lying at different angles to each other, a curved bed, and arms connecting said bed with two of the spoke-sockets, whereby the same hub may be used with beds of any curvature and representing any common fraction of a circle, substantially as and for the purpose specified.

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Witnesses:
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E. L. THURSTON.