

No. 768,493.

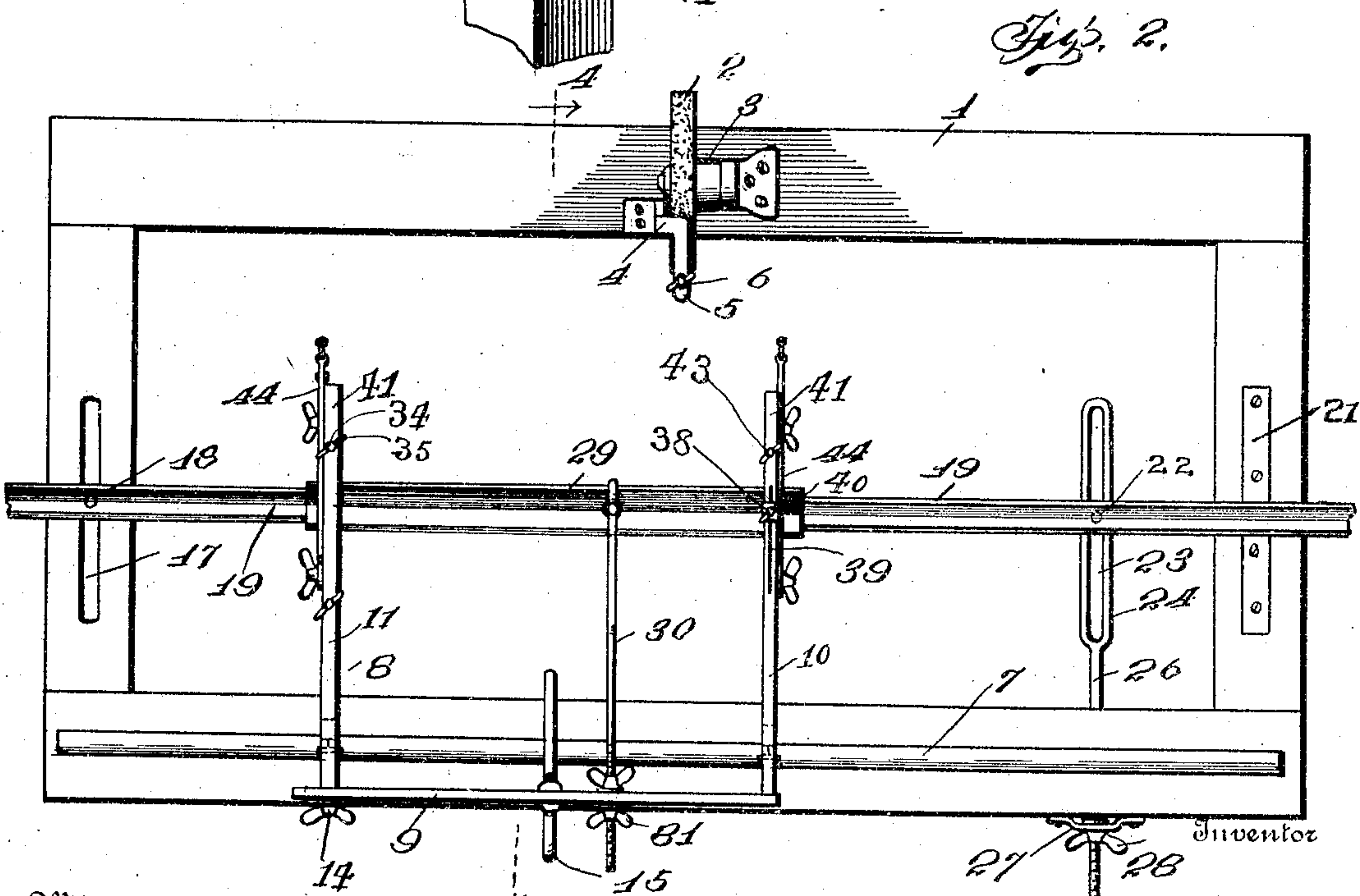
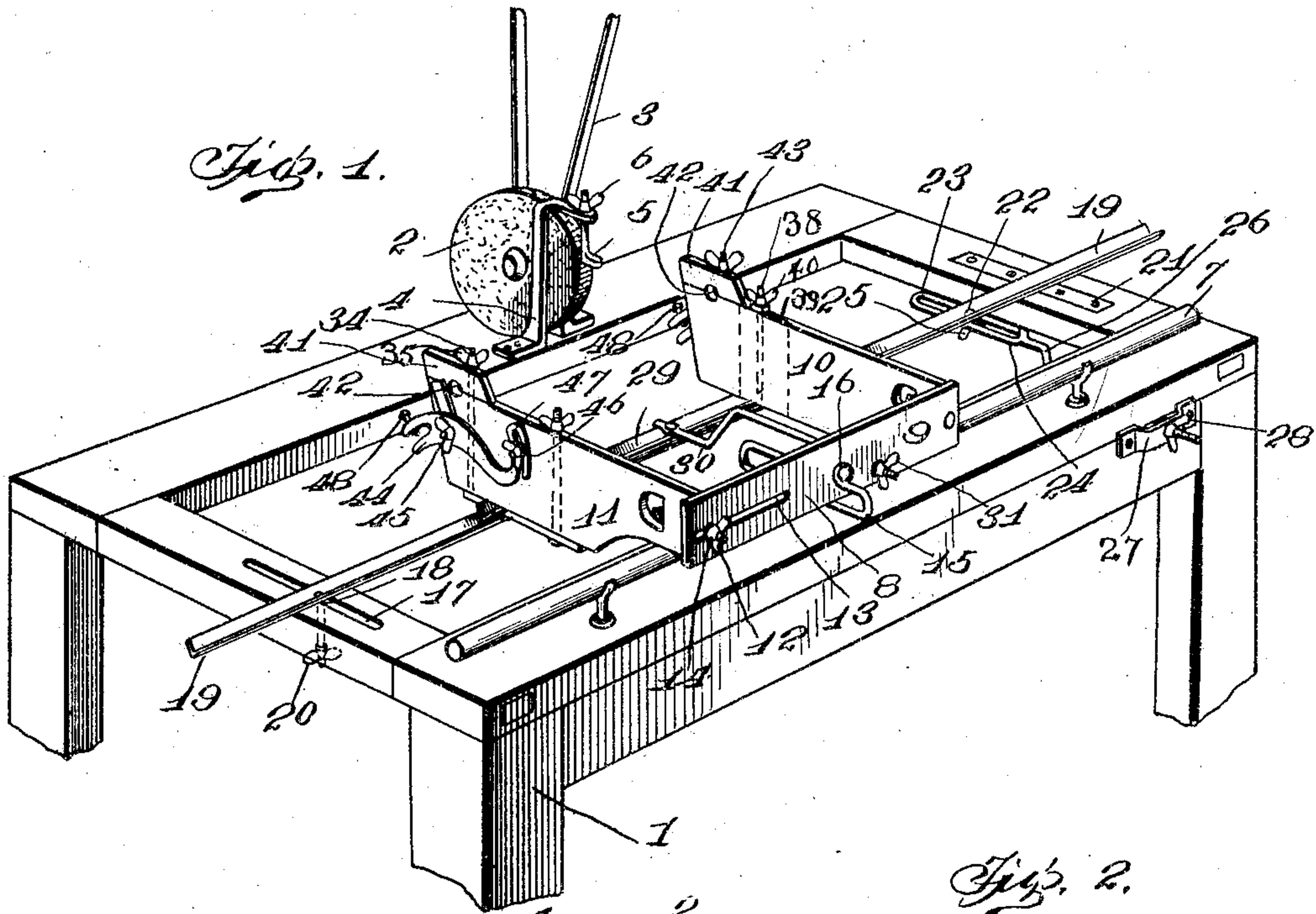
PATENTED AUG. 23, 1904.

C. VOGEL.  
TOOL SHARPENING MECHANISM.

APPLICATION FILED DEC. 14, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

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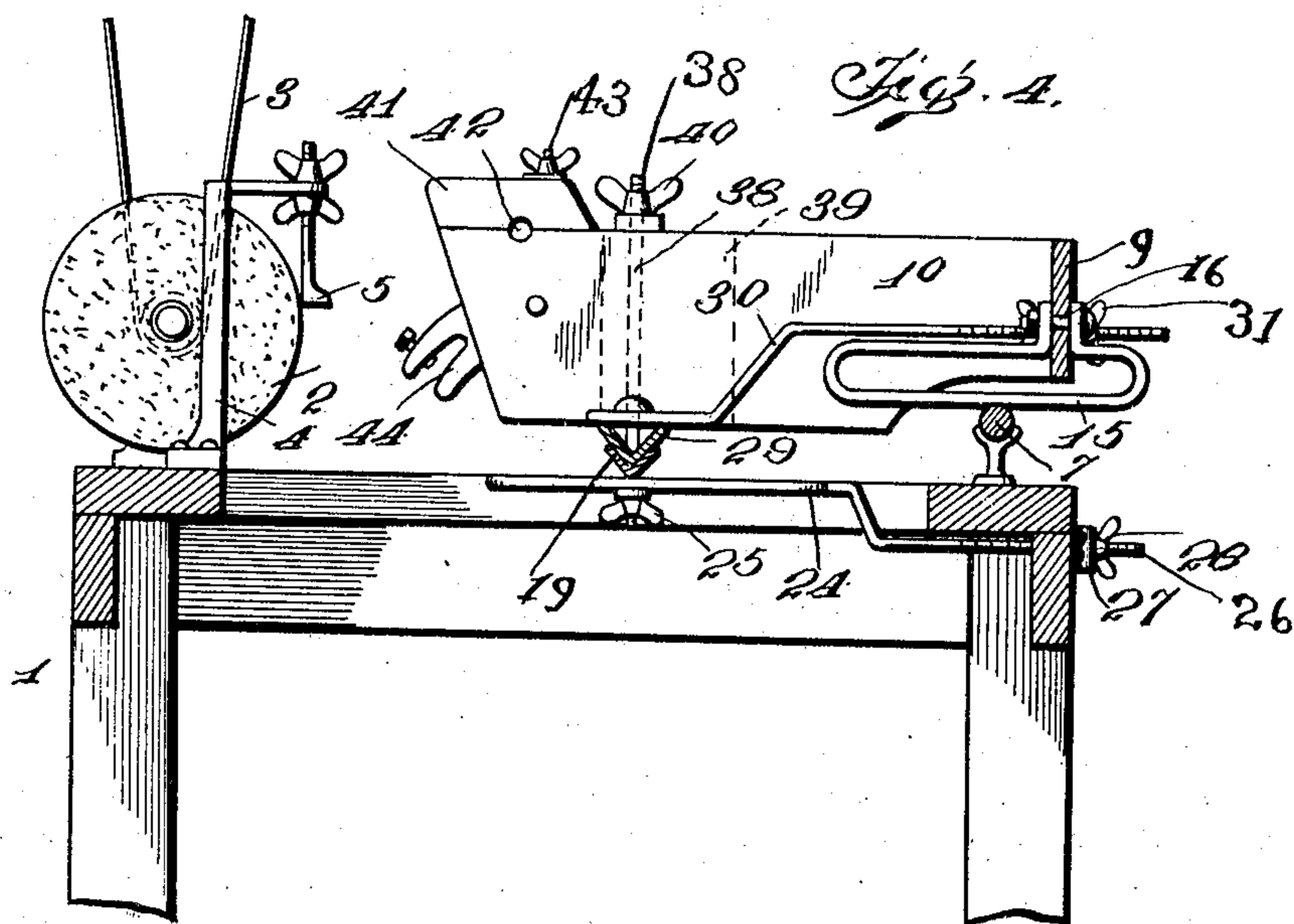
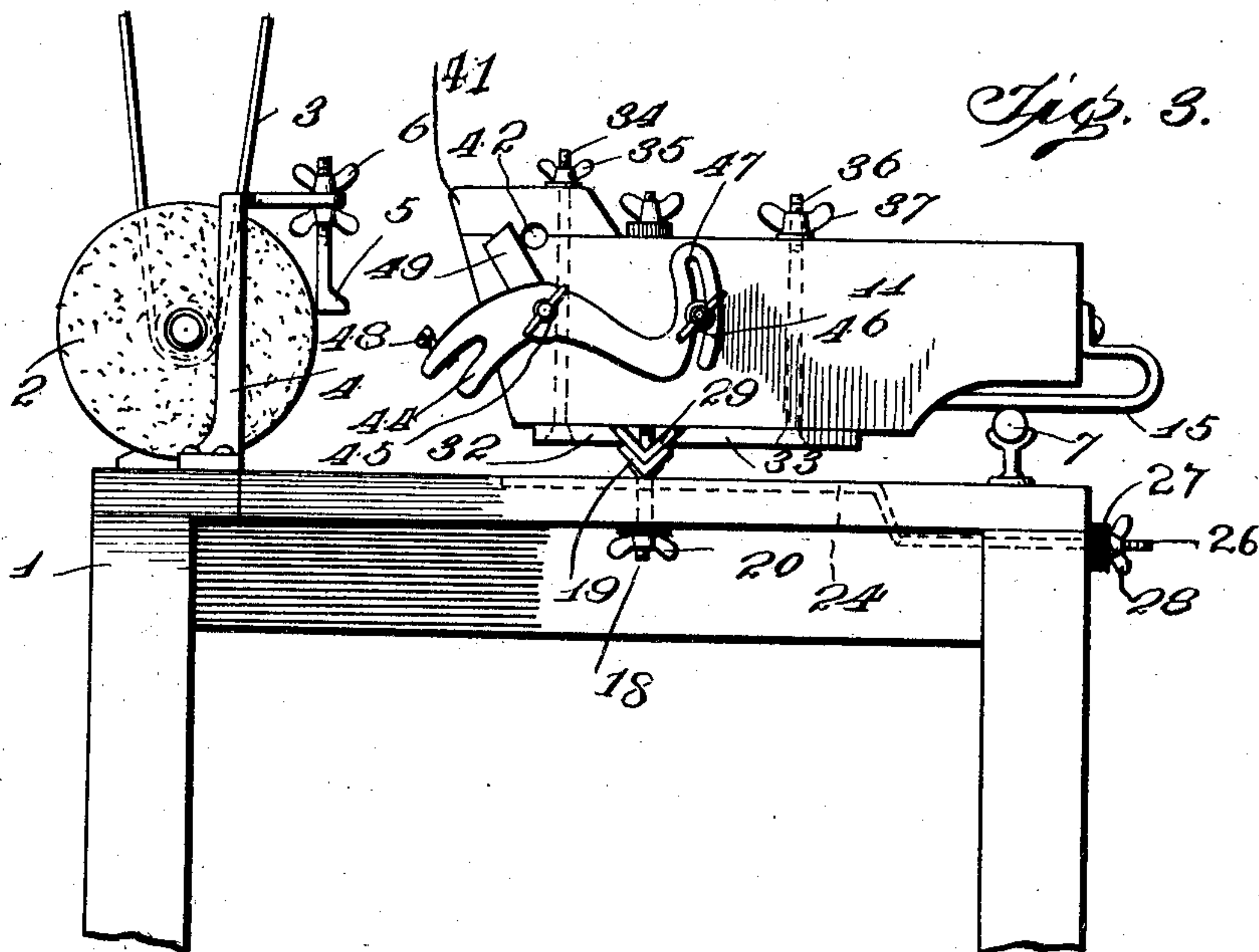
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# UNITED STATES PATENT OFFICE.

CHRISTIAN VOGEL, OF SEWARD, NEBRASKA.

## TOOL-SHARPENING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 768,493, dated August 23, 1904.

Application filed December 14, 1903. Serial No. 185,098. (No model.)

*To all whom it may concern:*

Be it known that I, CHRISTIAN VOGEL, a citizen of the United States, residing at Seward, in the county of Seward and State of Nebraska, have invented certain new and useful Improvements in Tool-Sharpening Mechanisms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in tool-supports, and particularly to such as are designed for carrying a tool during a sharpening operation.

The object in view is the provision of means for facilitating the sharpening of a tool, and particularly lawn-mower reels and cutter-bar knives, means being provided for facilitating the proper bevel of the reel-blades as well as the cutter-bar.

With this and further objects in view the invention consists, in combination with a table and sharpening means carried thereby, of a frame mounted upon said table, means for adjusting said frame upon the table relative to said sharpening means, and means for facilitating adjustment of parts of the frame with respect to other parts thereof.

It further consists in certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 represents a perspective view of a tool-supporting mechanism embodying the features of the present invention. Fig. 2 represents a top plan view of the same. Fig. 3 represents a view in side elevation of the same. Fig. 4 represents a transverse vertical section taken on the plane of line 4-4 of Fig. 2.

Referring to the drawings by numerals, 1 indicates any suitable platform or table forming the support for the operating parts of the present improved mechanism. Rotatably mounted upon the support 1 is a suitable emery-wheel or other sharpening-tool 2, driven by a belt or other power means 3. Arranged at one side of the wheel 2 is a supporting-bracket 4, carrying a rest 5, connected to said

bracket and supported by a nut 6, adjustable longitudinally of the rest for securing the same in various positions relative to said wheel. On the opposite side of the table 1 from that supporting the wheel 2 is arranged a suitable bar 7, preferably of metal, adapted to support a framework referred to generally by the numeral 8, said framework consisting of an end plate 9 and side plates 10 and 11, arranged parallel to each other and extending at right angles from said end plate. The plate 10 is fixed to one end of plate 9, and plate 11 carries a bolt 12, extending through a longitudinal slot 13, formed in plate 9, said bolt being provided with a suitable nut 14 for locking the plate 11 in any given position relative to plate 9. The plate 9 carries a looped rod 15, secured to said plate by a suitable bolt 16, passed through the ends of said rod, said rod resting upon the bar 7 and supporting frame 8 thereon.

A slot 17 is formed transversely of the table or support 1, at one end thereof, and a bolt 18 extends therethrough and is connected at its upper end to an angle-bar 19 and at its lower end is provided with a securing-nut 20, the said bar 19 being thus retained adjustably upon said support. The bar 19 extends longitudinally of the frame 1 throughout the length thereof and at the end opposite that engaged by bolt 18 rests, preferably, upon a suitable plate 21, fixed in a table 1. Near that end of bar 19 resting upon plate 21 the same is provided with a depending bolt 22, extending through the slot 23 of a plate 24, arranged transversely of the support 1. A suitable nut 25 is carried by the bolt 22 and is adapted to be tightened upon the plate 24 for locking the bar 19 in a given adjusted position. A rod 26 carries plate 24 and extends through the side wall of the support 1 and through a suitable bracket 27, arranged outside of the same. A suitable nut 28 is threaded onto the outer end of rod 26 for making possible longitudinal adjustment of the rod 26.

Extending longitudinally of and lying within the angle of the bar 19 is a similar channel-bar 29, to which is connected a rod 30, extending parallel to the plates 10 and 11 and through the plate 9. A suitable nut 31 is



threaded onto the projecting end of the rod 30 and facilitates adjustment of the rod 30 through said plate 9. The bar 29 is removably secured to the plate 11 by means of clamping-strips 32 and 33, said strips being beveled at their contiguous ends and engaging the inclined sides of said bar. The strip 32 is secured in place by means of a bolt 34, extending through the plate 11 and retained in position by a nut 35, threaded onto the upper end of said bolt. A similar bolt 36, provided with a nut 37, retains the strip 33 in position. The bar 29 is secured at its opposite end to the plate 10 by means of a bolt 38, secured to said bar at its lower end and extending upwardly through a slot or enlarged opening 39, formed in the plate 10. A nut 40 is threaded onto the upper end of the bolt 38 and is designed to be clamped against the upper edge of plate 10 for securing the bar 29 in position.

The upper edge of each plate 10 and 11 is formed with a notch, and a block 41 is arranged above each of said notches and is formed with a registering notch producing an aperture 42, the block 41, carried by plate 10, being retained in position by a bolt 43, while block 41, carried by plate 11, is retained in place by the bolt 34. On the outside of each plate 10 and 11 is arranged a cutter-bar support 44, each of said supports comprising a metallic strip pivotally secured to the respective plate 10 or 11 by a bolt 45 and adjustably retained against pivotal movement by a bolt 46, said bolt 46 passing through a segmental slot 47, formed in said strip.

The slot 47 may be formed in the body of the material of each strip constituting the support 44, or said slot may, as illustrated, be formed by the bending of said strip into a position for producing said slot. Regardless of how the slot may be produced the operation will be the same, and said strip may be swung upon the pivotal bolt 45 to the desired position and locked in such position by a tightening of the nut on bolt 46.

The end of each support 44 projects beyond the end of the given plate 10 or 11 and is formed with a bifurcation, the upper arm of which is provided with a clamping bolt or screw 48, whereby a bar may be introduced between said bars and locked in such position by tightening of said bolts 48.

In operation the frame 8 is adjusted to adapt the same for use in connection with the particular mowing-machine to be sharpened by positioning the sides 10 and 11 closer together or further apart, as desired, simply by the loosening of the nut 14 and tightening of the same, the nuts 35 and 37 being loosened during such adjustment and tightened again when the said sides have been placed at the desired distance apart. The side 10 may be moved longitudinally for a slight distance either forwardly or rearwardly, as may be desired, for

positioning the instrument being sharpened at the desired angle, such adjustment being accomplished by the loosening of the nut 40 and the moving of the bolt 38 within the slot in plate 10. The nut 31 on bolt 30 may be adjusted for retaining the side 10 in its given longitudinally-adjusted position. The entire framework 8 may be adjusted bodily toward or away from the sharpening instrument 2 by means of the bar 19, which may be moved rearwardly from the support 1 and secured in a given position by tightening of the nuts 20 and 25. After the frame 8 has been adjusted to the desired position the blocks 41 are loosened and the reel positioned between the sides 10 and 11, with its axle extending through apertures 42, and said blocks 41 are again positioned, and a suitable guard 49, pivoted to one of the bolts 45, is swung into position for preventing lateral play of the reel. During the operation of sharpening a reel the supports 44 are preferably removed. The sharpening operation is accomplished by placing one of the blades of the reel with its edge against the sharpening-reel 2, said blade being retained at a given incline by contact with the support 5. The frame 8 is moved from left to right with the blade in contact with said wheel, and said frame is then lifted bodily and moved from right to left free from its supporting parts and said blade again brought into position for further operation. After one blade has been sharpened the next is swung into position and the sharpening operation continued. With various sizes of reels the various adjustments of the frame 8 are necessitated, and the adjustment of the support 5 vertically aids in positioning the same for properly guiding the blades of a reel regardless of their size.

When it is desired to sharpen the cutter-bar of a lawn-mowing machine, it is only necessary to clamp the same by means of the bolts 48, adjust the supports 44 to the proper position for retaining the bar in a given relation to the sharpening-wheel 2, adjust the frame 8 to the required nearness to the wheel 2 for permitting contact between said wheel and said bar, and the sharpening operation is accomplished as above described.

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

1. In a mechanism of the class described, the combination with a support, of a sharpening-tool, carried thereby, a bracket at one side of said tool, a rest carried by said bracket, a tool-carrying frame mounted upon said support and movable longitudinally thereof, and a bar supporting said frame and movable transversely of said support for facilitating positioning of the tool carried by said frame with respect to said rest.

2. In a mechanism of the class described, the combination with a support and sharpening means carried thereby, of a frame movably



mounted on said support, a bar resting on said support and formed with a channel, means adjustably securing said bar to said support, a bar carried by said frame movably mounted in the channel of said first-mentioned bar, and tool-carrying means carried by said frame.

3. In a mechanism of the class described, the combination with a support and sharpening means carried thereby, of a frame movably carried by said support, said frame comprising a slotted end plate, side plates extending at right angles to said end plate, means securing one of said side plates to said end plate, and means carried by the other of said side plates and extending through the slot of said end plate for connecting said side plate therein, and tool-supporting means carried by said frame.

4. In a mechanism of the class described, the combination with a support and sharpening means carried thereby, of a frame movably mounted on said support, tool-supports pivotally carried by said frame, each of said supports being formed with a segmental slot, and means extending through said slots for locking said supports in given positions.

5. In a mechanism of the class described, the combination with a support and sharpening means carried thereby, of a frame mounted on said support, tool-supporting strips pivoted to said frame and formed with bifurcated ends, each of said strips being formed with a segmental slot, means extending through said slots for locking said supporting-strips in given positions, and tool-clamping means carried by the bifurcated end of each of said supporting-strips.

6. In a mechanism of the class described, the combination with a support and sharpening means carried thereby, of an angle-bar mounted upon said support, a frame carried by said support and resting upon said angle-bar, an

angle-bar carried by said frame and slidably engaging said first-mentioned angle-bar, and means for adjusting said frame independently of said last-mentioned angle-bar transversely thereof.

7. In a mechanism of the class described, the combination with a suitable support and sharpening means carried thereby, of an angle-bar carried by said support and adjustable transversely thereof, an angle-bar slidably resting within said first-mentioned angle-bar, a frame carried by said support, means carried by said frame engaging said last-mentioned angle-bar, a rod connected with said last-mentioned angle-bar and extending through said frame, and means on said rod for adjusting the frame transversely of the angle-bar.

8. In a mechanism of the class described, the combination with a support, of an angle-bar mounted thereon, means for securing said angle-bar at various adjustments on said support, a second angle-bar slidably mounted within said first-mentioned angle-bar, a frame resting on said support and second-mentioned angle-bar and formed with a slot in one of its sides, a bolt connected to said second-mentioned angle-bar and extending through said slot, clamping-bars carried by the other side of said frame engaging said second-mentioned angle-bar, means for adjusting one side of said frame independently of said second-mentioned angle-bar transversely thereof, and means permitting adjustment of the other side of said frame longitudinally of said second-mentioned angle-bar.

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

CHRISTIAN VOGEL.

Witnesses:

ROY R. SCHICK,  
ELAM. H. LANDIS.