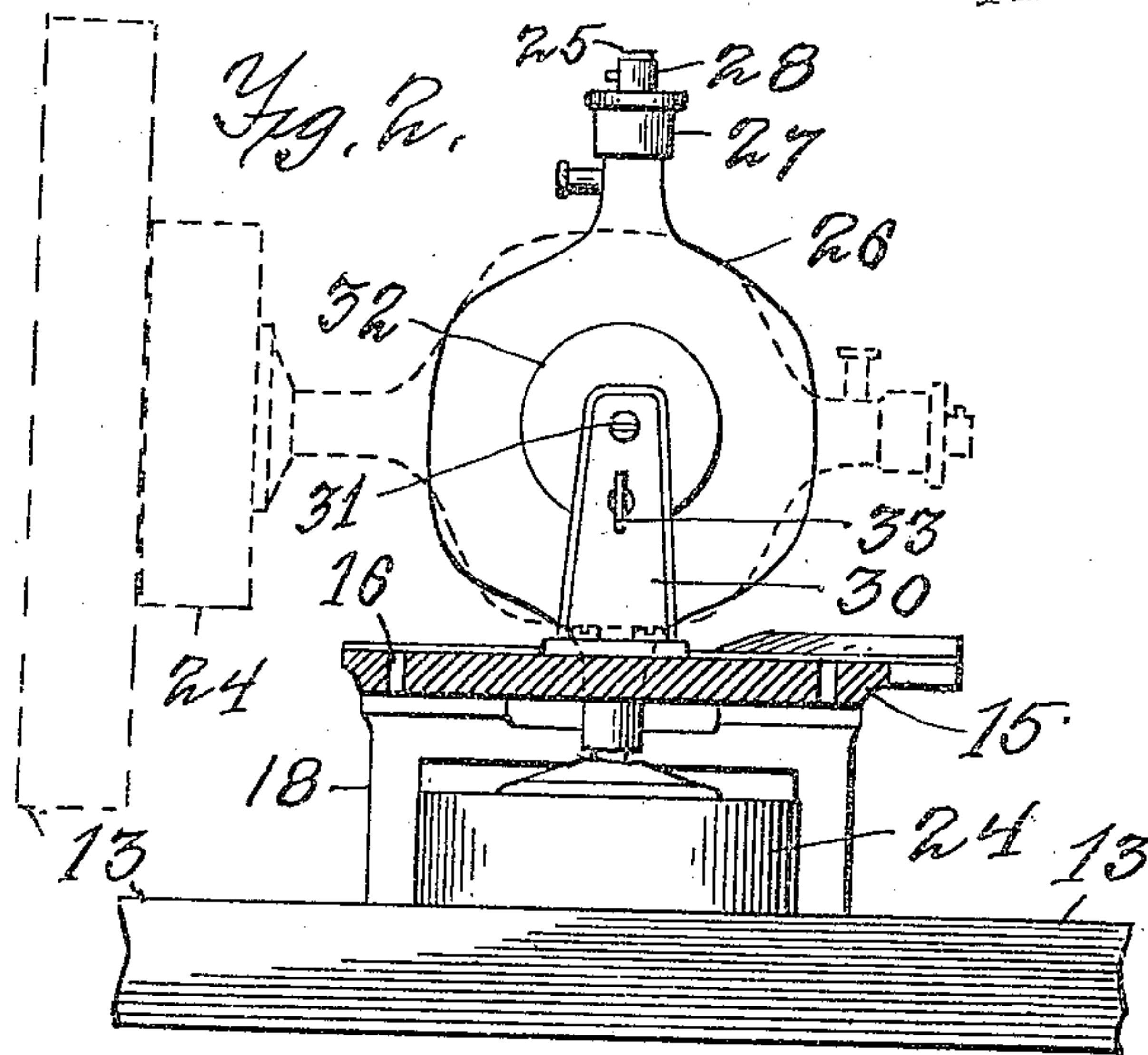
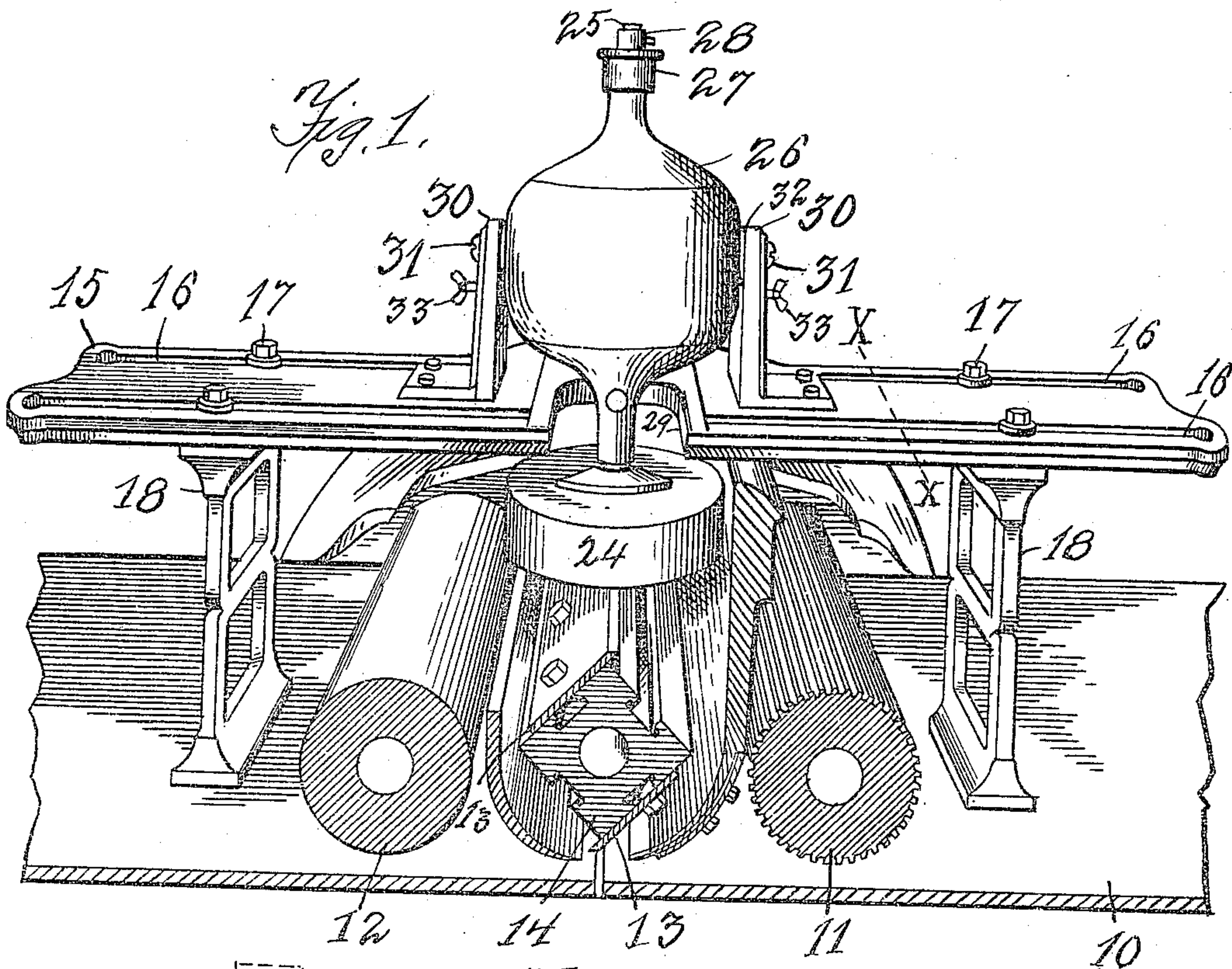


C. O. PETERSON.
 PLANER KNIFE SHARPENER.
 APPLICATION FILED OCT. 4, 1909.

962,047.

Patented June 21, 1910.

2 SHEETS—SHEET 1.



Inventor:

Witnesses
 E. C. Hultgren.
 J. A. Ellsworth

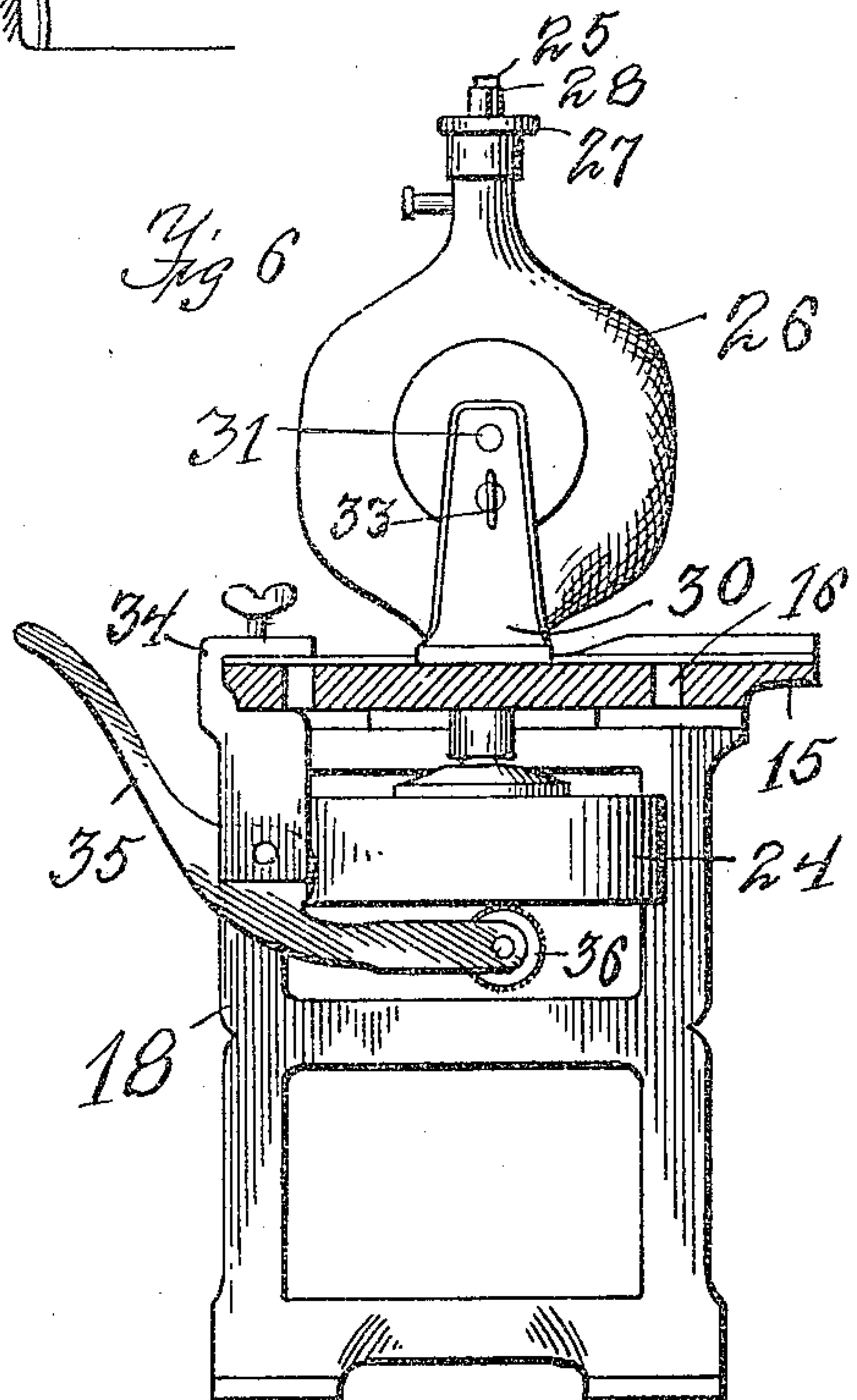
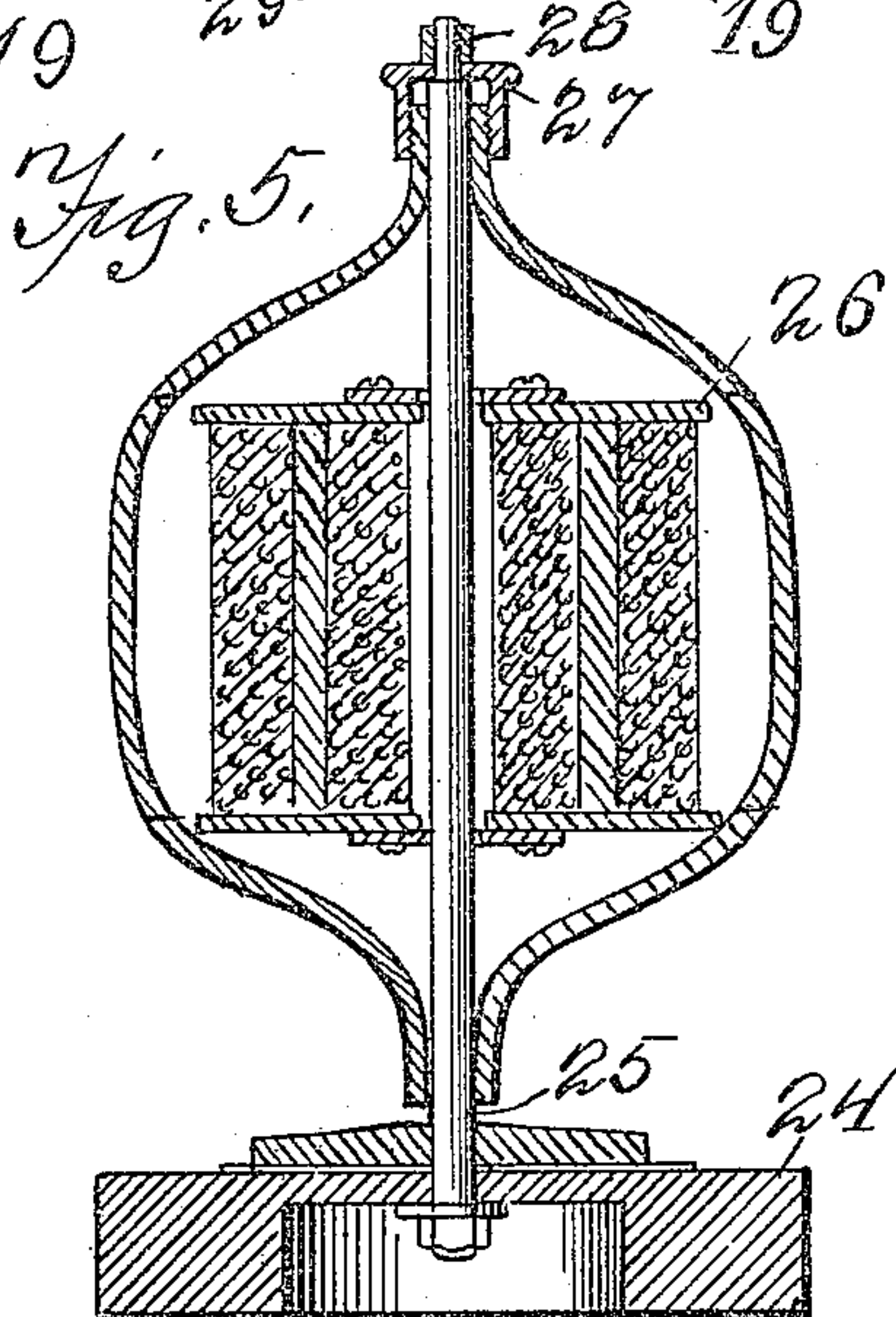
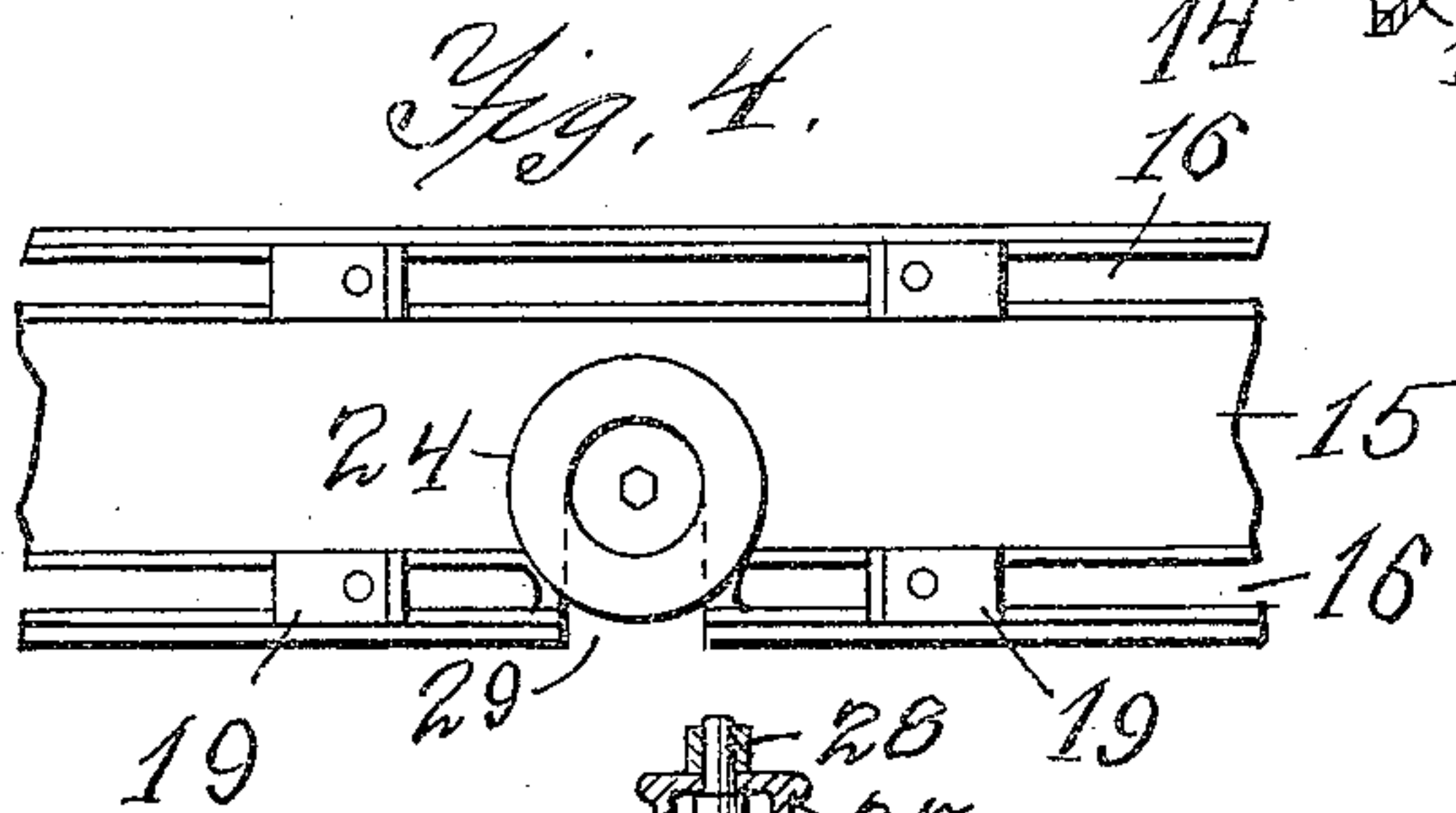
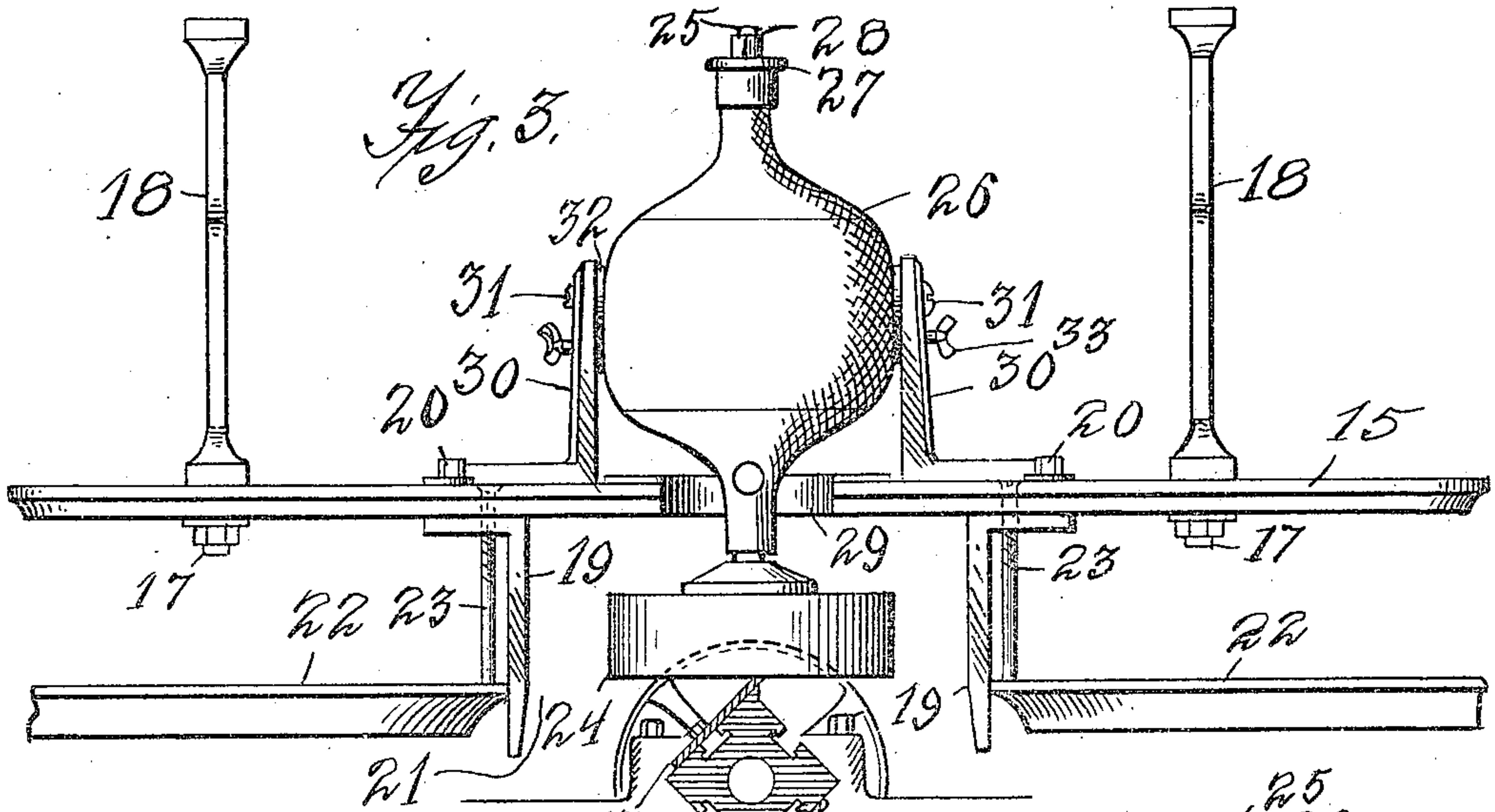
Carl O. Peterson
 By S. Arthur Baldwin
 Attorney

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2 SHEETS—SHEET 2.



Witnesses

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 J. A. Ellsworth.

Inventor

Carl O. Peterson

By

S. Arthur Baldwin.

Attorney

UNITED STATES PATENT OFFICE.

CARL O. PETERSON, OF JAMESTOWN, NEW YORK.

PLANER-KNIFE SHARPENER.

962,047.

Specification of Letters Patent. Patented June 21, 1910.

Application filed October 4, 1909. Serial No. 520,811.

To all whom it may concern:

Be it known that I, CARL O. PETERSON, a subject of the King of Sweden, and resident of Jamestown, in the county of Chautauqua and State of New York, have invented new and useful Improvements in Planer-Knife Sharpeners, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

The invention relates to grinding or sharpening devices for machine tools; and the object of my improvement is to provide a grinding or sharpening device for use in connection with machine tools which are operated in connection with a plane surface upon each side thereof which may serve as a guide and support, as for example a planing machine, the device being adapted by different guides to the different forms of planers, both to those having vertical and horizontal knives, so that the knives may be sharpened without removal from the machine and exactly in line with the planer bed or surface against which the wood is pressed while passing through the planer; and the invention consists in the combination and arrangement of the parts, as shown in this specification, and the accompanying drawings and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of the grinding device in position upon the bed of a surface planer with the knife in position as when placed for sharpening the same. Fig. 2 is a sectional view of the frame of the sharpening device at line X X in Fig. 1 showing an end elevation of the motor and grinding wheel, the position of the motor and grinding wheel for grinding a vertical knife being shown in dotted outline. Fig. 3 is a side elevation of the grinding device in position upon a buzz planer, the guide supports being adapted to the difference in height upon the planer bed. Fig. 4 is a plan view of the central portion of the grinding device. Fig. 5 is a sectional view of the motor and grinding wheel showing the means of adjusting the grinding wheel. Fig. 6 is an end elevation of the motor and a side elevation of one of the supports and also showing the manner of sharpening the grinding wheel.

Similar numerals refer to corresponding parts in the several views.

The numeral 10 indicates the bed of a planer surface which, as is well known, has a flat upper surface upon which the boards

lie as they pass under the feeding rods 11 and 12. The planer knives 13 are attached to the revolubly mounted bar 14 in the usual manner.

The grinding device consists of the plate 15 which has the lengthwise parallel slots 16 therein, preferably near each of its edges, to receive therethrough the attaching bolts 17 of the longer guide supports 18, or the bolts 20 of the shorter supports 19. The lower edges of the guide supports 18 are made flat so as to easily pass over the bed 10, the two supports being preferably exactly of the same height though they might vary without departing from my invention. The supports 18 are attachable to either side of slotted plate 15; thus in Fig. 1 the supports 18 are shown attached to one side and in Fig. 3 they are attached to the opposite side. The purpose of attachment on both sides to the plate 15 will be hereinafter set forth.

It is found to be highly preferable to making the supports 18 non-adjustable as to height on account of the precision with which the frame must move across the bed 10 of a planer in grinding the knives. There is about six inches difference in the height of the knives in relation to the planer bed between a surface planer and a buzz planer. Accordingly a separate pair of supports 19 are provided for the buzz planer, which are attached to slots 16 by means of bolts 20 and are arranged to extend down within the opening 21 in the planer bed. The faces of the supports 19 at each side are adjusted to fit against the edges of the bed adjacent to opening 21 and be guided thereby as the grinder is moved across the planer bed over the knife 13. The plate 15 is supported by two screw rods 23 which extend down through the angular support 19 and are adjustable therein so as to adjust the height of the grinding wheel 24 to the knife 13.

The grinding wheel 24 is attached to the lower end of a shaft 25 by means of a suitable thread and nut. An electric motor 26 is mounted on rod or shaft 25 above grinding wheel 24. The upper end of the motor 26 is arranged with a screw cap 27 which is threaded internally and screws upon the upper end of the motor so that the exact adjustment of the wheel 24 to the knife may be attained by turning the screw cap 27. Nut 28 is provided above the screw cap to hold it in position. Suitable electric connection for the motor is attached through a

suitable opening in said rod. The motor 26 with the grinding wheel 24 is supported in an opening 29 in one side of frame 15 by means of suitable bracket supports 30 at each side. The motor has suitable trunnions 31 at each side so that the motor may be turned to one side, as shown in dotted outline in Fig. 2, the grinding wheel being thereby raised to a vertical position for the grinding of a vertically placed planer knife. A plate 32 is provided on the motor and a set screw 33 is provided in the bracket 30 opposite said plate to secure said motor in the desired position when turned to one side, as shown.

The supports 18 are shown attached to one side of the slotted plate 15 in Fig. 1 and to the opposite side in Fig. 3. It is apparent that attached as shown in Fig. 1, the supports uphold the grinding wheel 24 in the required position above the knife 13 of a surface planer. When it is desired to turn the knife to one side for sharpening a vertical planer knife, as for example in an edging machine, the supports 18 are preferably attached to the same side as the motor 26, as shown in Fig. 3, so that the motor and the attached grinding wheel will be low in position in relation to the supports, thereby enabling the user to adjust the grinding wheel at a lower elevation than would otherwise be possible. It is apparent also that the opening 29 in plate 15 may be enlarged from the form shown without departing from my invention, so that the grinding wheel may turn therein.

When it is desired to level and sharpen the wheel 24 a simple sharpening device 34 is attached to the plate 15 by means of a screw clamp. A lever 35 is pivotally attached to the lower end of the clamp frame. Lever 35 bears on its frame. Lever 35 bears on its lower end the revoluble steel roller 36 with its cutting knives. It is apparent that the revolution of the wheel 24 upon the roller 36, pressure being applied thereto by means of the lever 35, will cause the roller to quickly level and sharpen the lower face of the wheel 24.

It is apparent that the wheel 24 may be caused to revolve by means of the motor 26 and that the frame with its supporting plate 15 and supports 18 may be placed over the planer knife, said planer knife having been placed in position so that the bevel will be at the desired angle, and that the device may be passed from one end to the other of the knife by being pushed across the level planer bed. This may be accomplished whether the supports 18 or 19 are used and upon either of the forms of planer beds. It is also obvious that the planer knife will be ground exactly true to the face of the bed,

over which the board to be planed is passed and there is no need of adjustment of the planer knives to the bed after being ground as is common at the present time when the knives have to be removed from the machine in order to be ground.

I claim as new:

1. A planer knife sharpener comprising a plate, guide supports attached to said plate to sustain said plate a spaced distance from a planer bed, a grinding wheel adjustably mounted on said plate, and means for turning said grinding wheel.

2. A planer knife sharpener comprising a plate having parallel slots therethrough, guide supports having bolt and washer attachment to said plate through said slots to support said plate a spaced distance from a planer bed, a grinding wheel pivotally supported centrally on said plate, and means for turning said grinding wheel.

3. A planer knife sharpener comprising a plate having parallel slots therethrough, adjustable guide supports having bolt and washer attachment to said plate through said slots to support said plate a spaced distance from a planer bed, a grinding wheel pivotally supported centrally on said plate, and means for turning said grinding wheel.

4. A planer knife sharpener comprising a plate, parallel slots on the opposite edges of said plate, a motor pivotally supported on said plate midway of its length, said plate having a suitable opening for said motor, a grinding wheel revolubly mounted in said motor to be driven thereby, and guide supports detachably attached to said plate to sustain it a spaced distance from the bed of a planing machine.

5. A planer knife sharpener comprising a plate having a sidewise central opening therein, brackets on said plate each side of said central opening, a motor pivotally mounted in said brackets to be supported thereby, set screws in said brackets to support said motor at any desired angle, a shaft through said motor and adjusting means for said shaft, a grinding wheel attached to the lower end of said shaft, parallel slots running lengthwise of said plate near the opposite edges, guide supports to sustain said plate a spaced distance from the planer bed, said guide supports having suitable bolts and washers for attaching the said plate to said slots, substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL O. PETERSON.

Witnesses:

ARVID AHLSTROM,
A. W. KETTLE.