

Dec. 11, 1951

H. T. MOORE

2,577,975

WOOD PLANER

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2 SHEETS—SHEET 1

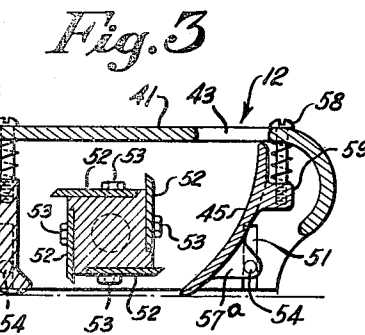
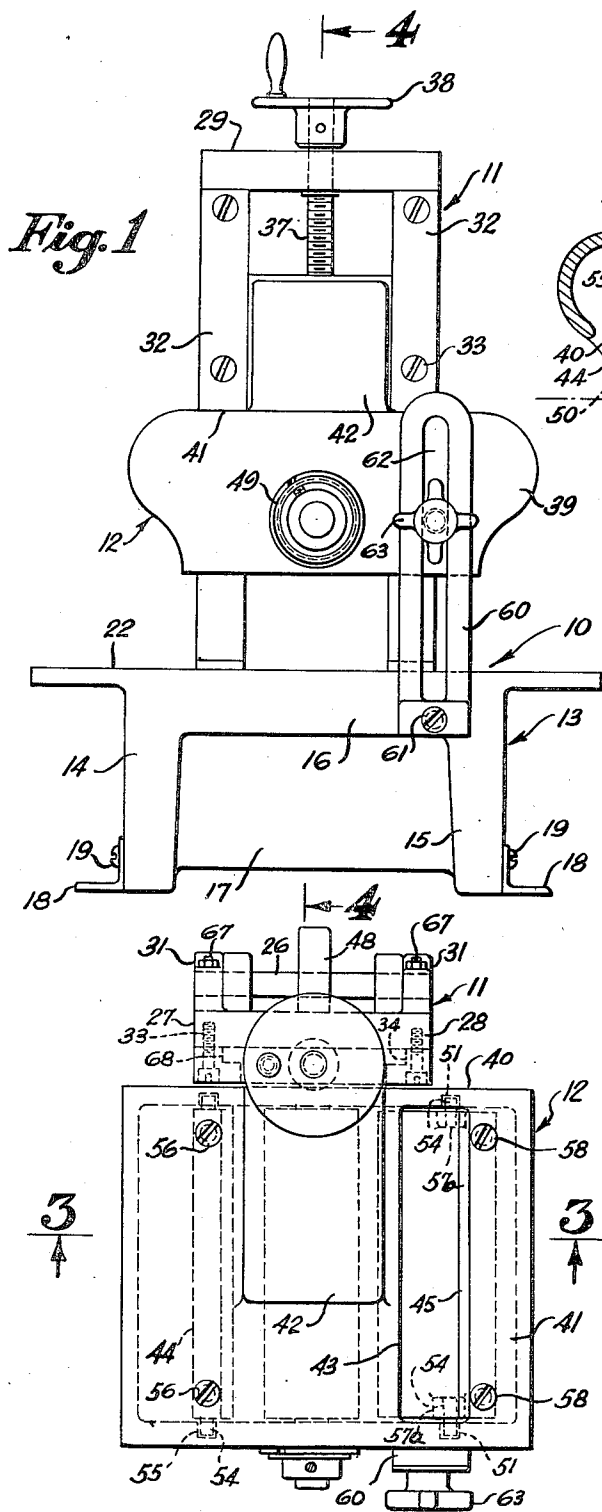


Fig. 2

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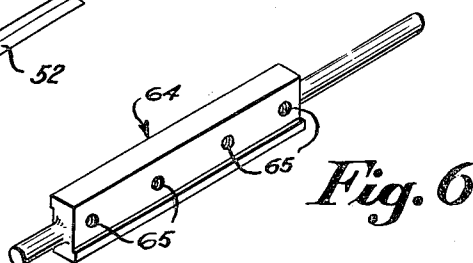
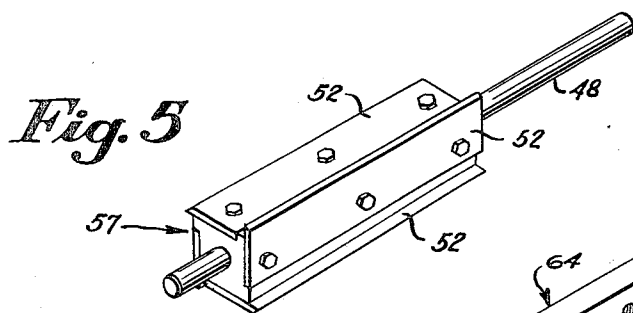
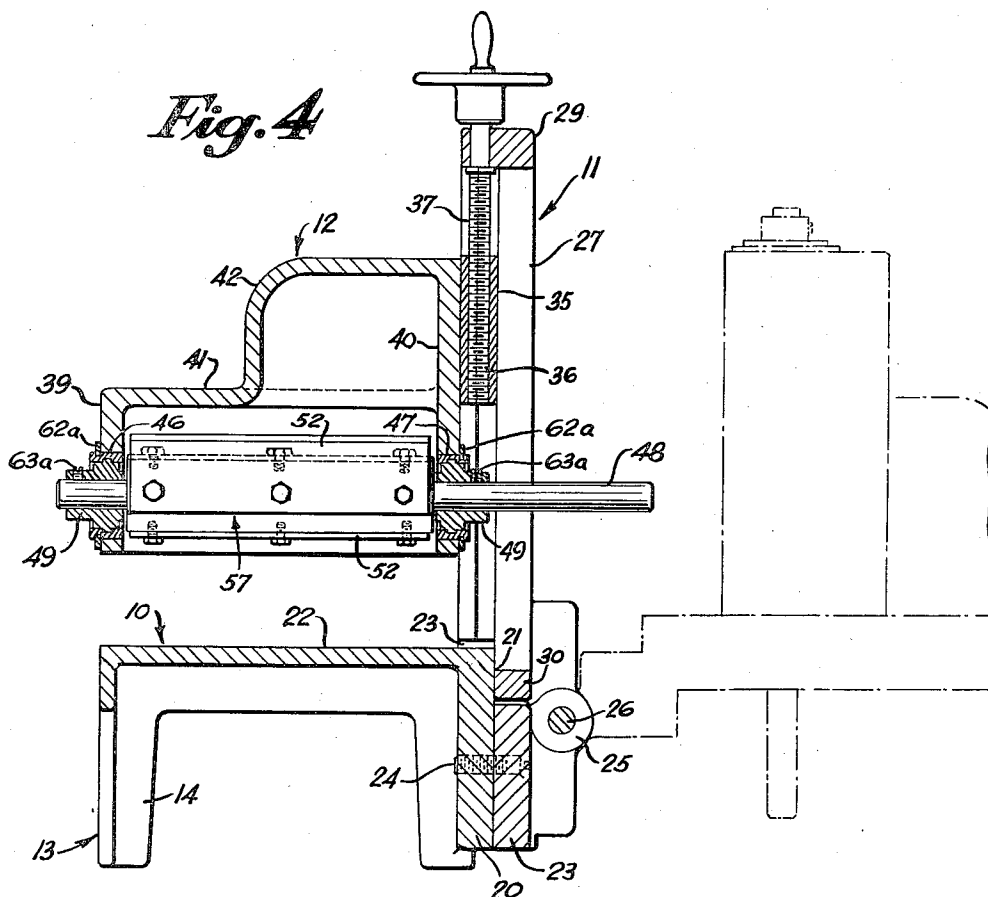
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2 SHEETS—SHEET 2



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WOOD PLANER

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2 Claims. (Cl. 144—117)

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This invention relates to improvements in wood planers.

In applicant's copending application, Serial No. 65,610, filed December 16, 1948, for an "Auxiliary Planer," there was described a planer designed for use with a cabinet maker's buzz planer, which made use of a feed roller and a dressing knife rotatably mounted in vertically adjustable bearings. It was subsequently found that by the incorporation of certain improvements, the original planer could be used as a separate unit in the accomplishment of many other wood forming operations than originally intended, the improvements being the subject of this application.

It is an object of this invention to provide a rugged but readily transportable planer requiring neither a feed roller nor adjustable bearings and in which vibration has been reduced to a minimum.

A further object is the creation of a wood planer suitable for the home and work shop at a substantial saving in capital investment as compared with that required for similar devices.

Other objects of the instant invention will become apparent in the course of the following specification.

In the attainment of these objectives, the planer is constituted of a base supporting a horizontal work platform on which the wood is processed. At the back of the base and over the work platform is a vertically adjustable tool carrier. In the tool carrier, a dressing tool is rotatably mounted transversely of the work platform and is equipped with adjustably mounted knife blades. Through an opening in the top of the carrier, the shavings are expelled by deflectors coacting with the dressing tool and the opening. By placing the deflectors under downwardly directed tension, the wood to be processed is conveniently held in position during the operation.

The invention will appear more clearly when taken in conjunction with the accompanying drawings showing by way of example a preferred embodiment of the inventive idea.

In the drawings:

Figure 1 is a front elevational view of the planer constructed in accordance with the principles of this invention;

Figure 2 is a top plan view of the planer shown in Figure 1;

Figure 3 is a sectional view along 3—3 of Figure 2;

Figure 4 is a sectional view along 4—4 of Figure 1;

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Figure 5 is a view in perspective of the dressing tool head; and

Figure 6 is a view in perspective of the molding tool head.

Referring now in greater detail to the drawings where like reference numerals indicate like parts, reference numeral 10 indicates the work table assembly, 11 the dressing tool support, and 12 the tool carrier adjustable in the support 11.

The work table assembly 10 is constituted of a leg assembly 13 formed of the two front legs 14 and 15 and two similar back legs one of which is shown in Figure 4. Between the tops of the front legs 14 and 15 is an integrally formed brace 16 (Fig. 1) while similar braces extend between the corresponding front and back leg members at each end of the assembly. Between the back leg members is a brace 17 extended downwardly to the feet of the legs as illustrated in Figure 1 to give strength to the structure for the attachment of the later described dressing tool support 11. At the bottom of each leg is a right angle bracket 18 (Fig. 1) through the upturned end of each of which is an opening for the insertion of a screw 19 threaded into the leg while a similar opening in the horizontal end provides a means for attaching the planer to any desired support. On the back of the brace 17 is a rearwardly extended protuberance 20 terminating in a vertical surface 21 for the attachment of the dressing tool support 11.

Over the upper edge of the leg assembly 13 is a horizontal work platform 22 of rectangular shape except for an extension 23 (Fig. 4) which extends rearwardly over the upper edge of the previously mentioned protuberance 20. Any suitable means may be used for attaching the work platform 22 over the upper edge of the leg assembly.

At the bottom of the protuberance 20 is a pivot base 23 for the pivotal attachment of the dressing tool support 11, the base 23 being attached by the screws 24. Integrally formed with the base 23 are two spaced vertical members, one of which is shown in Figure 4. Each vertical member extends above the top of the base 23 and terminates in an ear 25 of arcuate form through which aligned openings are made for the insertion of the pivot pin 26 as later shown.

The dressing tool support 11 is constituted of the spaced parallel side members 27 and 28 (Figs. 2 and 4) at the top of which is the integrally or otherwise formed top member 29 extending forwardly of the side members as most clearly shown in Figure 4. A bottom member 30 is disposed be-

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tween the bases of the side members. At the bottom, each side member is extended rearwardly and downwardly to provide an ear 31 of arcuate form which coacts with the previously mentioned ears 25 of the pivot base 23, openings being made in the ears 31 aligned with the openings in the ears 25 through which the pivot pin 26 is inserted so that the support 11 can be rotated rearwardly from the position shown by the full lines in Figure 4 to the dotted line position. It will be noted that the front surfaces of the side members 27 and 28 above the pivot base 23 bear against the vertical surface 21 of the protuberance 20 so that the weight of the superstructure is against that portion of the leg assembly 13 especially designed to carry the weight. To adjust the position of the side members 27 and 28 in the upright position relative to the vertical surface 21 similar screws 67 are threaded through each side member above the ears 31, the ends of the screws bearing against the vertical surface 21.

On the front of each side member 27 and 28 is a right angle member 32 so attached to the side members by the screws 33 as to provide the opposed recesses 68 and 34 in which the later described slide 35 (Fig. 4) is adjustable.

The slide 35 is formed with recessed side edges which coact with the previously mentioned recesses 68 and 34 forming the slideway. Through the top of the slide 35 is a tap 36 formed along the vertical center line thereof and through which the screw 37 is threaded, the top of the screw 37 being rotatably passed through the top member 29 of the tool support 11 and having keyed thereto at the top a handle member 38, the bottom of which is rotatably supported on the upper surface of the tool support top member 29.

Extended forwardly of the slide 35 over the work platform 22 is the tool carrier 12. The tool carrier 12 is a hollow container having a front member 39 spaced parallel from a back member 40, the ends of the front and back members being of arcuate form as shown in Figure 3. End members of arcuate form are integrally formed between the front and back members but extend only partially down to the bottom edges thereof. The bottom of the carrier is open while over the upper edges of the front and back and end members is an integrally formed top member 41 on which is an upwardly directed protuberance 42 the back of which is in the plane of the back member 40. Taps are made in the back of the protuberance 42 for the insertion of screws (not shown) first passed through aligned openings in the slide 35 from the back and which support the tool carrier 12. A transverse opening 43 in the top member 41 provides an outlet for the shavings. In the front member 39 of the carrier there is a circular opening 46 and in the back member 40 an aligned opening 47. However, the opening 47 has a communicating opening or slot extended downwardly to the bottom of the back member 40 the width of which is greater than the diameter of the later described driven shaft 48. Similar bearings 49 are inserted in each of the aligned openings for the rotatable support of the driven shaft 48. On the inner surface of the back member 40 are the vertical slots or guideways 50 and 51 open at the bottom and aligned with similar slots on the inner surface of the front member 39.

Within the carrier 12 and keyed to the shaft 48 or integrally formed therewith is the square head dressing tool 57. Attached to each surface of the head is a knife blade 52 with the cutting edge

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protruding beyond the edge of the surface to which it is attached. Each knife blade has formed along the edge opposite to the cutting edge a series of spaced transverse slots which are aligned with taps formed on the head and through each slot a screw is threaded into a coacting tap which maintains the cuttings edge in any desired position relative to the edge of the surface of the head on which it is mounted.

Also within the carrier 12 is the shaving deflector 44 of flat surface except at the bottom where it turns inwardly as shown in Figure 3. Extended outwardly from each end of the deflector 44 is a pin 54 coacting with the previously mentioned vertical slots or guideways in the back and front members 40 and 39 of the tool carrier and on the side opposite the aforementioned opening 43. The deflector 44 is maintained under downwardly directed tension in the guideways by a spring 55 around a screw 56 threaded in the top of the deflector at each end and slidable through the top member 41. The other deflector 45 along the outer edge of the opening 43 is similar to the deflector 44 except that the surface is entirely arcuate and extended inwardly as illustrated to coact with the dressing tool and deflector 44 in expelling the shavings through the opening 43. A pin 54 in each end of the deflector 45 slidable in the aligned slots or guideways is held by a flange 57a on the outer surface at each end of the deflector while maintaining the deflector under downwardly directed tension in the slots are the screws 58 inserted through springs, similar to the previously mentioned springs 55, the screws being slidable through the top member 41 and threaded into aligned taps formed in a longitudinal rib 59 on the outer surface of the deflector 45 at the top.

To lock the dressing tool 57 in position, a bracket 60 (Fig. 1) is pivotally attached to the front of the leg assembly 13 by any pivotal mounting means 61. By providing the bracket 60 with a closed longitudinal slot 62 through which a screw actuated by a handle 63 is threaded into a tap in the front member 39 of the carrier 12, the superstructure of the planer is rigidly held on the base and vibration materially lessened as compared with known devices of a like type.

The operation with the wood planer follows:

Suppose that the planer is in the position shown in Figure 1 and it is desired to dress a piece of wood, dependent upon the thickness of the wood and the position of the tool carrier 12, the handle 63 is loosened and the handle 38 rotated until one end of the wood can be inserted under the carrier with the end against one of the knife blades and the side to be dressed uppermost. Then by rotating the handle 38, the carrier 12 is lowered until the deflector 45 bears against the surface of the wood. If desired, by threading the screws 58 further into the rib 59 the tension on the wood may be increased. After the bracket 60 is fastened to the carrier 12 by threading the screw actuated by the handle 63 into the coacting tap, the dressing tool 57 is set into motion by any suitable means (not shown) and the wood pressed forwardly of the deflector 45, the four knife blades assuring a finish that sanding could hardly improve, the shaving deflectors not only eliminating wave or gouging of the material but providing suitable protection for the operator, including the prevention of kick back.

Suppose further that it be desired to form a molding around a desk top, by removing the rear bearing 49 held in place by the lock ring 62a and the set screw 63a as well as the set screw in the

front bearing, the shaft 48 can be pulled rearwardly out of the front bearing, and out of the opening for the back bearing through the communicating opening. By reversing the disassembly steps, another square head dressing tool 64 in which the taps 65 are made can be inserted in the tool carrier 12. Any desired type of molding blade (not shown) can be inserted in one of the taps suitably positioned relative to the edge of the desk top. With the bracket 60 unlocked and pivoted downwardly out of the way, the desk top can be guided over the platform 22 and under the molding blade to provide an artistic edge for the desk which at present can only be accomplished by using a separate strip of molding.

It will be understood that the invention is not limited to the exact disclosure herein described but may lend itself to a variety of expressions within the scope of the appended claims.

What is claimed is:

1. A wood planer comprising a stationary horizontal work platform, a leg assembly for the work platform, the leg assembly comprising two spaced front and back leg members, a brace disposed between the tops of the front leg members and between the corresponding front and back leg members on the ends, a back leg brace disposed between the back leg members, the back leg brace extending downwardly substantially to the feet of the back leg members and having a rearwardly extended protuberance integrally formed on the outside surface thereof, a pivot base disposed on the bottom of the protuberance, a dressing tool support pivotally disposed on the pivot base and coacting with the upper portion of the protuberance, the support having a slideway formed therein, means for adjusting the support relative to the back leg brace, a slide for the slideway, a tool carrier with open bottom disposed on the slide and extended forwardly thereof, and a dressing tool shaft rotatably disposed between the front and back members of the carrier in a fixed plane spaced parallel from the plane of the open bottom of the carrier and extended rearwardly through the slideway of the support, and means for releasably securing the forwardly extended end of the carrier to the front of the platform.

2. In a wood planer having a pivotally mounted

dressing tool support, the support having a slideway, and the slideway having a slide; a tool carrier with open bottom for the slide, the carrier comprising spaced front and back members and end members integrally formed between the ends of the front and back members and a top member integrally formed along the upper edges of the other members, the top member having a shaving outlet formed therein adjacent one end member and intermediate the front and back members, the front and back members having aligned circular openings formed therein, the circular opening in the back member communicating with a slot extending downwardly to the bottom edge of that member, a bearing removably disposed in each of the circular openings, and a dressing tool shaft rotatably disposed in the bearings, one end of the shaft being extended through the slideway of the dressing tool support and the diameter of the shaft being less than the width of the slot; the front and back members of the carrier further having a pair of aligned and downwardly directed guideways formed on the inner surface adjacent the end member most remote from the shaving outlet and a second pair of aligned guideways intermediate the opposite end member and the shaving outlet, and a shaving deflector slidably disposed under downwardly directed tension in each pair of guideways, the deflectors coacting with each other and with the shaving outlet.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
170,396	Rees	Nov. 23, 1875
384,445	Hoyt	June 12, 1888
532,915	Shleicher	Jan. 22, 1895
556,015	Marsh	Mar. 10, 1896
920,904	Blood	May 11, 1909
1,840,801	Withers	Jan. 12, 1932
2,349,162	Gaskell et al.	May 16, 1944
2,432,190	Dick	Dec. 9, 1947