

June 20, 1944.

C. E. SOUTHWELL

2,352,132

DOUBLE-ACTING PLANER-HEAD

Filed July 27, 1943

2 Sheets-Sheet 1

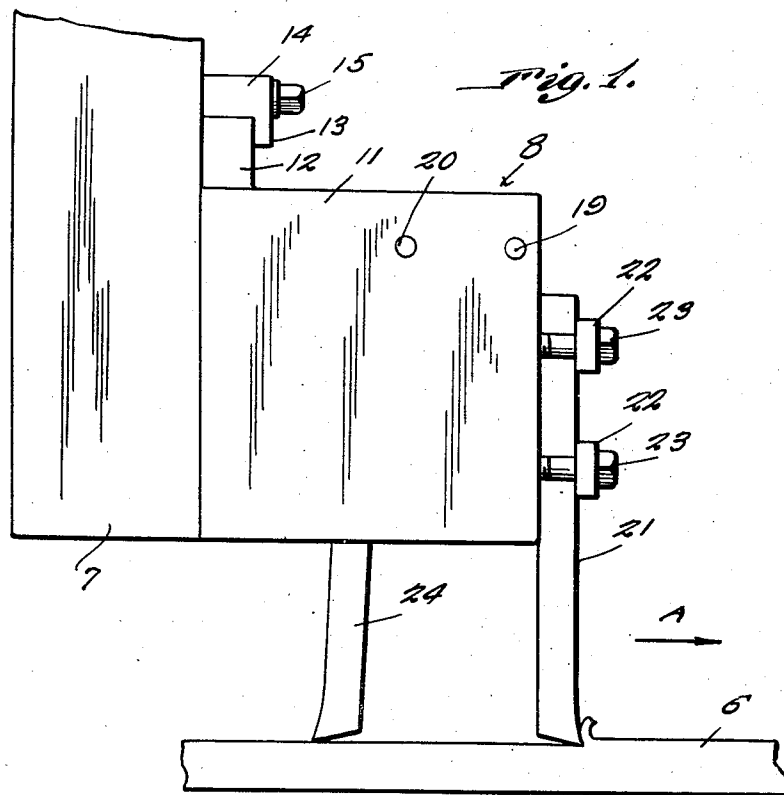
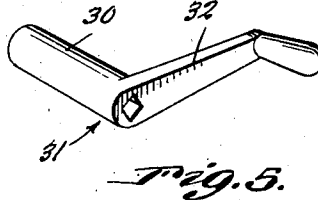
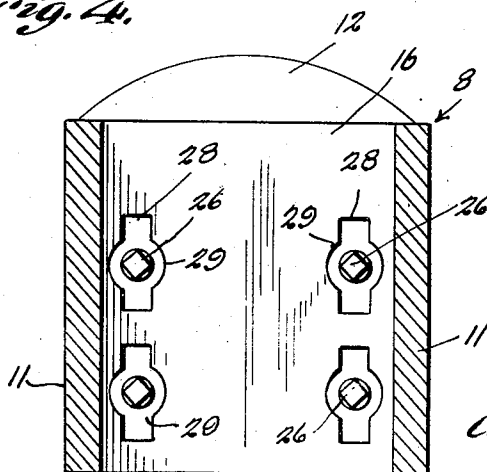


Fig. 4.



Inventor

Charles E. Southwell

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

June 20, 1944.

C. E. SOUTHWELL

2,352,132

DOUBLE-ACTING PLANER-HEAD

Filed July 27, 1943

2 Sheets-Sheet 2

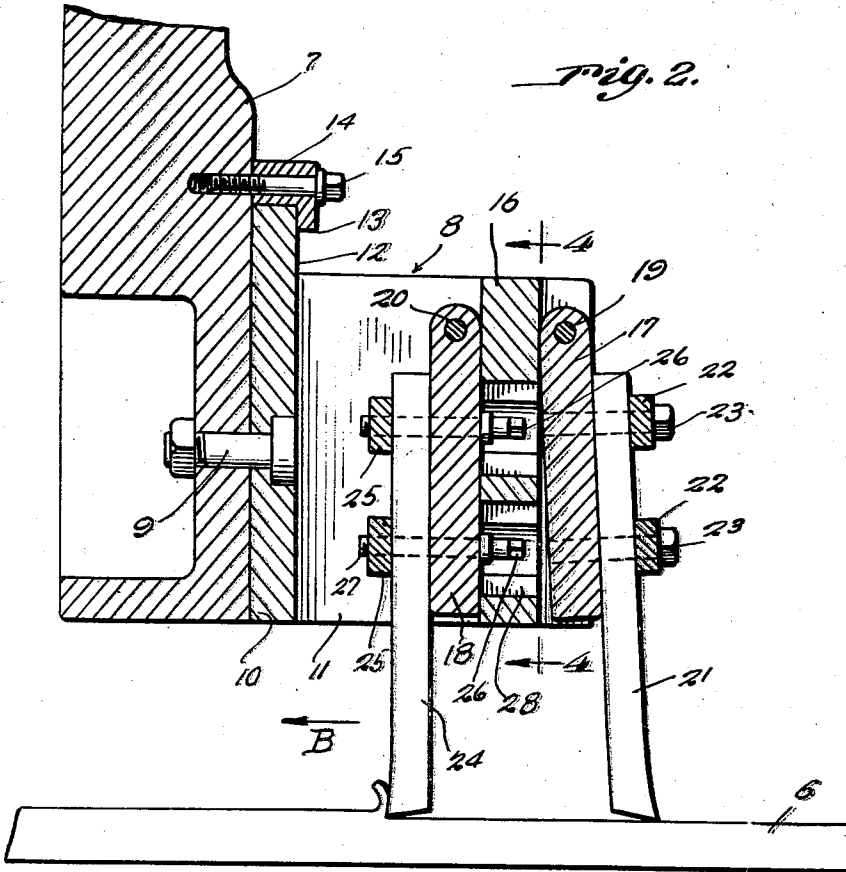


Fig. 2.

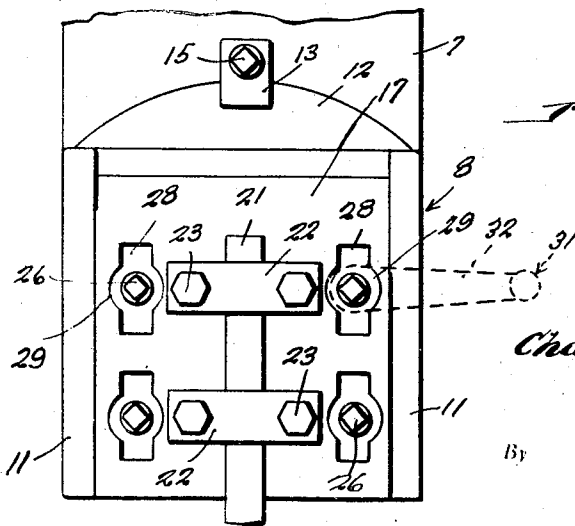


Fig. 3.

Inventor

Charles E. Southwell

By

Clarence W. O'Brien
and Harvey B. Jacobson
ATTORNEYS

UNITED STATES PATENT OFFICE

2,352,132

DOUBLE-ACTING PLANER HEAD

Charles E. Southwell, Milmont Park, Pa.

Application July 27, 1943, Serial No. 496,343

4 Claims. (Cl. 90—53)

The present invention relates to a novel and improved double-acting planer-head, the same having more particular reference to a structure which is possessed of appreciable refinements and improvements such as serve to romote more reliable and satisfactory results.

As is well known, most planer-head constructions are such as to embody a single cutting tool, said tool functioning in one direction only. As a result of research I have discovered that there are also a limited number of different types of so-called double-acting planer-heads, the function of the latter being, obviously, to perform somewhat continuously and alternately whether the bed of the machine is moved forwardly or backwardly. The present invention relates to the latter type of head constructions.

My primary aim is, therefore, to generally improve upon double-acting planer-head constructions, this being done through the medium of an ingenious structural arrangement characterized by simplicity, durability and such an arrangement of parts as to achieve the desired aim in what is believed to be a more adequate and practicable manner.

In reducing to practice the specific principles of my improved adaptation, I have evolved and produced a carefully planned and properly designed structure wherein the essential novelty resides in the coacting features, making it possible to have ready access to the inside clapper block and its tool retention means.

Other features and advantages will become more readily apparent from the following description and the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views—

Figure 1 is a side elevational view of the duplex or double-acting planer-head constructed in accordance with the principles of the present invention.

Figure 2 is a similar view with parts in section and elevation to more readily disclose the specific construction and arrangement of said parts.

Figure 3 is an end elevation, that is, a view of Figure 1 observing the structure in the direction from right to left.

Figure 4 is a vertical section on the plane of the line 4—4 of Figure 2, looking in the direction of the arrows.

Figure 5 is a perspective view of the special socket wrench employed to tighten and loosen

the clamping bolts for the so-called inside clapper block and associated tool.

The work is denoted by the numeral 6 and the depending head, above said work, by the numeral 7. The U-shaped attachment or casting 8 is secured to the head 7 by a king-pin bolt 9. The web or bight portion 10 of the casting has a segmental riser 12 projecting above the parallel side walls 11, said riser 12 being secured in place by the flange or lip 13 of the clamping clip 14, the latter held in place by a bolt 15 threaded into a socket in the main head 7. Adjacent the outer end of the walls I provide a heavy partition 16 which constitutes a thrust element or abutment for the clapper blocks 17 and 18.

The tool supporting clapper blocks 17 and 18 are hingedly mounted on opposite sides of the abutment 16 by way of hinge pins 19 and 20 as shown to advantage in Figure 2. It will be noticed, in this connection, that the partition or abutment 16 is spaced inwardly of the outer ends of said walls 11, defining a sort of a pocket for the outer clapper block 17. The conventional cutting tool 21 is secured by cleats or clips 22 and bolts 23 to the block 17. Thus, when the block 17 is firm against the abutment or partition 16 the tool 21 functions in the direction of the arrow A as disclosed in Figure 1. On the other hand, when the inside clapper block 18 is resting firmly against the opposite side of the abutment 16 the inside tool 24 functions against the work 6 in the direction of the arrow B. In the latter arrangement the tool 24 is held in place by a similar clip 25 and said clip is secured by bolts 26 threaded into the cleats 25 as indicated at 27.

It will be observed that I provide four vertical slots 28 in the abutment partition. The central portion of each slot is enlarged and rounded as at 29 to accommodate the projecting head of the adjacent bolts 26. This serves to accommodate the cylindrical socket 30 of the wrench 31 shown in Figure 5. The wrench is provided with a suitable crank handle 32 to facilitate its use.

As is obvious, in this improved head construction I provide two clapper blocks which allows the tools to be used independent of each other, each tool and block moving back on the return stroke allowing the tool to drag back and forth over the work and to cut on the forward stroke as the block rests firmly against the partition and the tool is pressed against the work. The bolts 26 serve to retain the tool 24 in place by way of the cleats 25 have freedom of action in the accommodation or adapter slots 28. This permits

the clapper block 18 to swing independently and function automatically. Access is had to the bolts 26 by way of the slots 28, whereby to permit convenient use of the wrench 31. Proper adjustment of the cutting tool 24 can thus be made without disturbing or removing the outside clapper block 17 and its cutting tool 21. The clamping bolt 15, retention clamp 14 and swivel connection 9 serves to permit the entire assembly 8 to be adjusted about a horizontal axis.

Novelty is predicated upon the adoption and use of the U-shaped mount or casting 8, this adjustably mounted at 9 on the head 7, the adjustment being had through the simple upstanding segmental flange 12 and associated clamping or retention means 13, 14 and 15. These improvements in conjunction with the double-acting clapper blocks and tools constitute an important phase of my contribution to the art. More important, however, is the U-shaped mount 8 having the abutment partition 16, there being clapper blocks hingedly mounted between the side walls and said clapper blocks operating intermittently and being so constructed and associated with the apertured partition as to achieve the desired aims.

Attention is directed to the fact that the design of this planer head is such that the latest and most modern planer tools can be used in connection therewith. These tools measure anywhere from one and one-half inches in square stock up to two and two and one-half inches in length. It is felt that this is an important point to the extent that the head is modern and up-to-date and expressly designed to meet conditions in common practice as of this date.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawings. Therefore, a more lengthy description is regarded as unnecessary.

Minor changes in shape, size and rearrangement of details coming within the field of invention claimed may resorted to in actual practice, if desired.

Having described the invention, what is claimed as new is:

1. In a structure of the class described, a tool accommodation casting, said casting being of general U-shaped form, an abutment partition between the side walls of said casting, clapper

blocks hingedly mounted between the side walls and located on opposite sides of said partition, and means for adjustably and detachably securing alternately operable tools to the respective clapper blocks.

2. In a double-acting planer-head construction of the class described, a body having an abutment partition, clapper blocks hingedly mounted on the body on opposite sides of the partition, cleats and bolts for securing tools to the respective blocks; said partition having apertures therein, and the bolts from one of said clapper blocks projecting into said apertures in the manner and for the purposes described.

3. In a double-acting planer-head construction of the class described, a U-shaped casting having means for adjustably and detachably mounting same on a supporting and operating head, a transverse partition between the outer end portions of the side walls of said casting, said partition being provided with a plurality of vertically elongated wrench accommodating slots, a clapper block hingedly mounted between the outer ends of the side walls and disposed on one side of the partition, a similar clapper block also mounted between the side walls and disposed on the opposite side of the partition, a tool secured to the latter clapper block, means for holding the tool in place embodying adjusting and clamping bolts, the head portions of the bolts projecting into the slots to render said heads accessible from that side of the partition adjacent the first-named outer clapper block.

4. In a double-acting planer-head structure of the class described, a U-shaped casting, a transverse heavy duty abutment partition disposed between the side walls of the casting and spaced inwardly from the outer ends of said side walls, said partition being provided with a plurality of vertically elongated slots having the intermediate portions enlarged to accommodate the socket portion of a socket wrench, an outer clapper block mounted between the outer end portions of the side walls and adapted to bear against the abutment, a tool detachably bolted on said outer clapper block, an inner clapper block hingedly mounted between the side walls disposed on the opposite side of the partition, a tool, cleats, bolts securing the tool and cleats in place, the bolts having adjusting heads and said adjusting heads being disposed for free functioning in the slots in the manner and for the purposes described.

CHARLES E. SOUTHWELL.