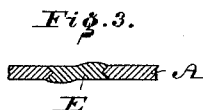
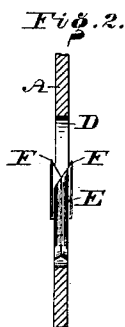
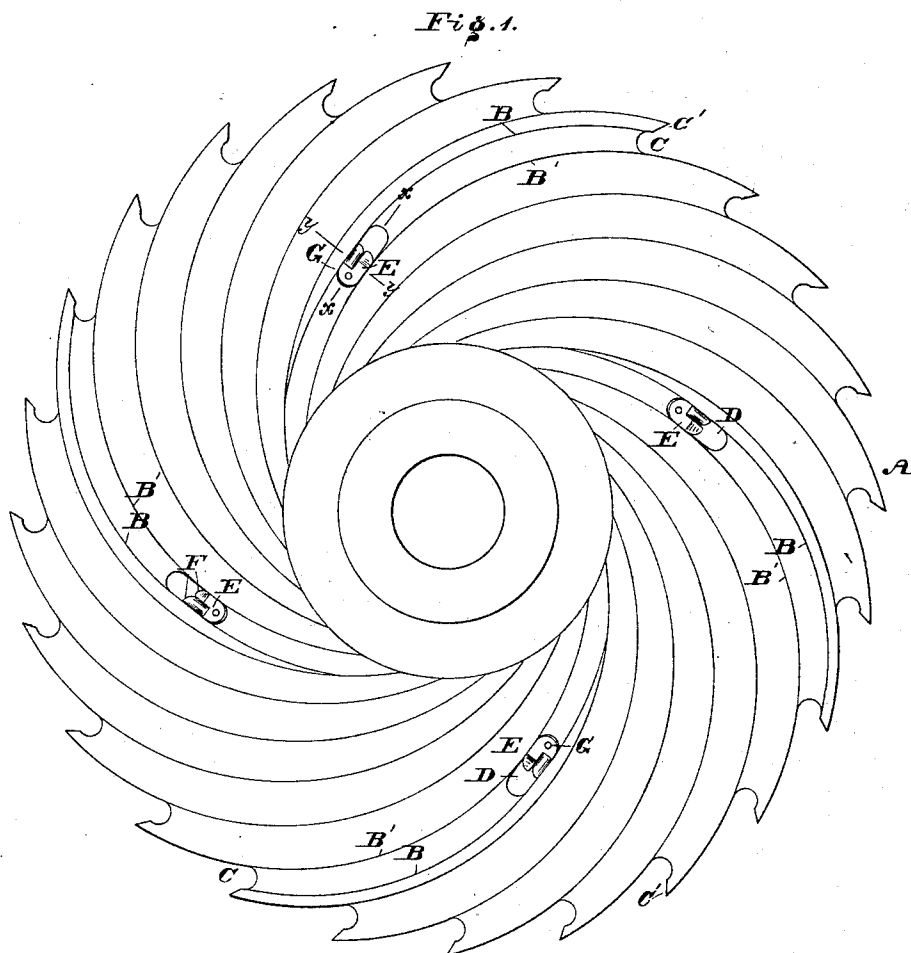


(No Model.)

H. F. BURKHARDT.
COMBINED SAW AND PLANER.

No. 375,730.

Patented Jan. 3, 1888.



WITNESSES:

H. Rolle.
A. P. Grant.

INVENTOR:

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UNITED STATES PATENT OFFICE.

HOWARD F. BURKHARDT, OF PHILADELPHIA, PENNSYLVANIA.

COMBINED SAW AND PLANER.

SPECIFICATION forming part of Letters Patent No. 375,730, dated January 3, 1888.

Application filed December 13, 1886. Serial No. 231,387. (No model.)

To all whom it may concern:

Be it known that I, HOWARD F. BURKHARDT, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Combined Saws and Planers, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 represents a side elevation of a wood saw and planer embodying my invention. Figs. 2 and 3 represent sections of portions thereof, respectively on lines *x x* and *y y*, Fig. 1, on enlarged scales.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists, first, of a gullet-saw having secured to it a planing-knife, which is located in a throat coincident in position with the gullet-lines of the tooth of the saw, whereby the gumming of the saw may be continued into and beyond said throat, so that service of the same does not terminate when gumming reaches the throat.

It also consists of a combined saw and planer having a planer-knife with cutting-edges on opposite sides, so as to plane both sides of the cut or knife made by the saw.

Referring to the drawings, A represents a circular gullet-saw, and B B' the gullet-lines on the sides of the saw coincident with the gullets C of the saw-teeth, serving as guides during the operation of gumming the teeth, being, as is well known, cut or clearly marked on the sides of the saw. In the present case only four lines B are shown as sufficient to illustrate my invention.

In the saw, between the periphery and center, and passing through the blade, are formed throats or recesses D, which, as will be seen, are bounded on their long sides by the gullet-lines B B', so as to be coincident in position with the gullets C of the teeth, which is of advantage in planing, as the planer-bits therein follow in the same line as the cutting-teeth of the saw, and their relative position thereto is easily maintained during the successive sharpenings of said teeth. In each of the throats are fitted planing-knives E, which have cutting-edges F F on opposite sides, said

edges projecting slightly beyond the sides of the saw, as most clearly seen in Fig. 2. The knives, which are in length shorter than the throats, have grooves in their ends, in which fit tongues formed on the walls of the throat, so as to retain the said knives firmly in place; but any other suitable means for securing the knives in position may be employed, as the particular means of fastening the same to the blade is not in itself a part of this invention.

On the face of each of the knives is an opening, G, for the insertion of a pry or other implement for the purpose of removing the said knife from the throat.

It will be seen that when the saw is in operation the knives act against the cut in the wood and plane both sides of the same, and it will also be seen that as the saw wears off in use the gumming of the teeth may be continued into the throats D and beyond the same, whereby the saw is adapted for service until its smallest possible diameter is reached.

I am aware that it is old to construct a saw having throats for the insertion of planer-bits; but I am not aware that the throats formed in those having gullet-lines have ever been placed as herein described, whereby when the saw is worn to the throats it can be sharpened past the same, and thus the portion inside of the throats may be utilized.

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

1. A saw having gullet-lines B B' and throats, the side walls of which are coincident with the gullet-lines B B' thereof, and provided with planer-bits secured in said throats, all substantially as and for the purpose set forth.

2. A saw provided with gullet-lines B B' and planer-bits secured in the throats in said saw, each of the said bits having cutting-edges on opposite sides of the saw, and the said throats being coincident with the gullet-lines of the teeth of said saw, all substantially as described.

HOWARD F. BURKHARDT.

Witnesses:

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