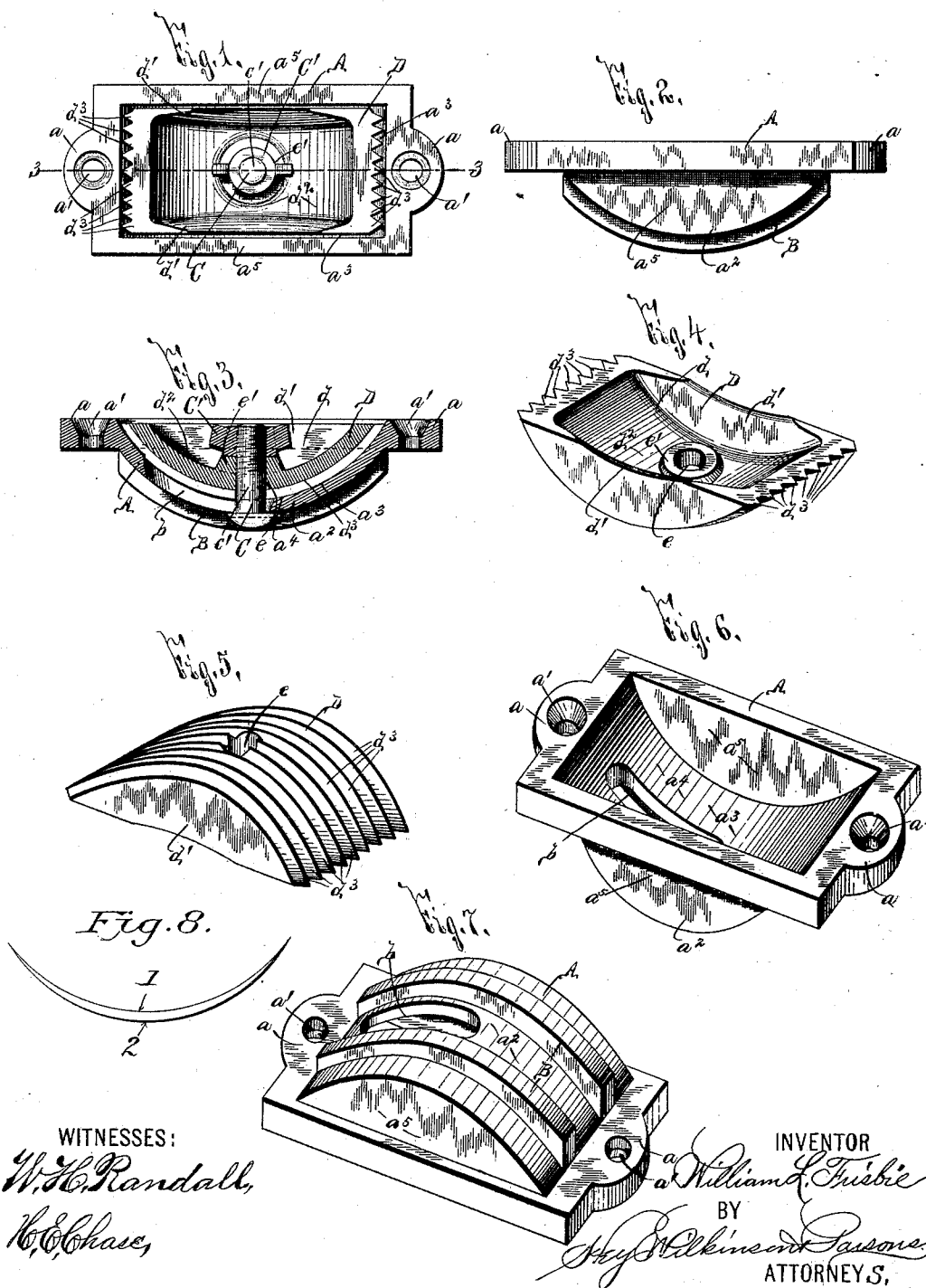


W. L. FRISBIE.
BENCH HOOK.

Patented Oct. 4, 1892.



UNITED STATES PATENT OFFICE.

WILLIAM L. FRISBIE, OF SYRACUSE, NEW YORK, ASSIGNOR OF ONE-HALF TO
WILLARD E. LAPE, OF SAME PLACE.

BENCH-HOOK.

SPECIFICATION forming part of Letters Patent No. 483,684, dated October 4, 1892.

Application filed July 23, 1891. Serial No. 400,504. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. FRISBIE, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Bench-Hooks, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in bench-hooks, and has for its object the production of a simple, strong, and effective device, which is economically manufactured, and is particularly durable and practical.

To this end it consists, essentially, in an outer frame having attaching-shoulders and a concave socket, a dog movable in the socket and formed with a series of ribs on its under face and a depression in its top face, and a clamp for retaining said dog in its adjusted position in the socket.

The invention also consists in the detail construction and arrangement of the parts, all as hereinafter more particularly described, and pointed out in the claims.

In describing this invention reference is had to the accompanying drawings, forming a part of this specification, in which like letters and figures indicate corresponding parts in all the views.

Figures 1 and 2 are respectively top plan and elevation of my improved invention, representing the dog as in its inoperative position. Fig. 3 is a longitudinal vertical sectional view taken on line 3 3, Fig. 1. Figs. 4 and 5 are respectively isometric perspectives of the top and under sides of the attaching dog. Figs. 6 and 7 are respectively isometric perspectives of the top and under sides of the detached frame, and Fig. 8 is a diagrammatic figure illustrating the difference between the curve of the lower face of the engaging dog and that of the adjacent face of the frame.

My improved bench-hook is intended to be readily placed in operative position and is designed to permit the dog to be quickly and easily adjusted to the desired height to readily engage the board or other object to be planed without any liability of the planer-blade becoming nicked or dulled.

The frame A consists of the top attaching-shoulder a , having openings a' for the reception of suitable clamps, (not illustrated,) and

the depressed central portion a^2 , which is formed at its upper face with the concave socket a^3 , having the vertical side walls a^5 , and an inner wall having its upper face a^4 concavely curved or inclined. On the under side of the depressed central portion a^2 are ribs B, and midway between said ribs at one extremity of the central portion of the frame is the slot b for receiving a clamp C, presently described.

It will be particularly noted that the frame of my improved bench-hook may be readily placed in position by gouging a concave recess for the reception of the central portion a^2 and letting in the shoulder a beneath the top face of the plank or table to which the bench-hook is attached.

The jaw D for my improved bench-hook may be composed of suitable material, although it is preferably formed of aluminum-bronze, which is considerably softer than the steel of the planing-tool, and consequently when engaged thereby does not nick or unduly wear said edge, as would be the case were the edge composed of harder material. Moreover, aluminum-bronze does not chip or break when forcibly engaged, as will cast iron or steel, and consequently my bench-hook is extremely durable and practical. As preferably constructed, the dog D is formed with a recess d in its upper face for receiving a clamping-nut, vertical side walls d' , adapted to lie closely against the side walls a^5 of the frame A, and a lower face d^2 , concavely curved or inclined and formed with ribs d^3 . The head of the clamp C for securing the dog in its adjusted position in the frame is of less thickness than the height of the ribs B and is mounted between the same, in order that it may be free to move in effecting such adjustment, even when the lower edges of the ribs rest against the wall of the socket, in which the central portion a^2 is seated when in operative position. The shank c' of said clamp is passed through the slot b , previously described, and through an opening e , formed at the center of the dog D, and provided with a hub e' , upon which rests a clamping thumb-screw C' for engaging threads on the outer extremity of the shank c' and firmly holding the dog in position.

When desired to move the dog from its inoperative position (shown in the drawings)

to a position for operative engagement, the thumb-screw C' is loosened and the forward end of the dog is then free to be elevated by shifting the same slightly forward and carrying with it the clamp C. As soon as the forward end of the dog projects the desired degree above the top face of the shoulder a the thumb-nut C' is screwed down and the dog firmly held in its position.

As previously stated, the dog is formed on its under face with the ribs d^2 , which give it a minimum frictional resistance when adjusted, enable it to adhere firmly to the adjacent face of the frame when clamped there-against, and permit the ready passage of dirt, dust, &c., without clogging its movement. The clamping of the dog is also facilitated by forming its lower face of a slightly-less curvature than that of the adjacent face of the frame, as seen at Fig. 8, thus giving the dog a firm bearing at its extremities. I have represented the curvature of the lower face of the dog by the upper line 1 and the curvature of the adjacent face of the frame by the lower line 2. Should the engaging ends of the ribs become worn, they may be readily sharpened by means of a file, and when this extremity of the dog has been greatly filed off it may be reversed and the opposite end used, since the opening e for the clamp is at the central portion of said dog.

The operation of my invention will be readily perceived from the foregoing description and upon reference to the drawings, and it will be noted that it is readily mounted in position, is easily adjusted, and extremely practical and durable in use. It is evident, however, that the detail construction and arrangement of the parts thereof may be somewhat changed without departing from my invention. Hence I do not limit myself to the precise detail construction.

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

1. In a bench-hook, the combination, with a frame having a concave recess formed with an inner wall having a curved or inclined outer face, of a dog mounted in said recess and movable lengthwise therein and formed with a curved or inclined inner face, whereby when the dog is moved lengthwise its end is adapted to project beyond the top face of the recess, and a clamp for securing the dog in its adjusted position, substantially as and for the purpose specified.

2. In a bench-hook, the combination, with a frame having a concave recess in its upper face provided with an inner wall having a curved or inclined outer face and a lengthwise slot therein, of a dog mounted in said recess and movable lengthwise therein and formed with a curved or inclined inner face, whereby when the dog is moved lengthwise its end is adapted to project beyond the top face of the recess, and a clamp engaged with said dog, passed through said slot in the inner

wall of the recess, and movable lengthwise in said slot for securing the dog in its adjusted position, substantially as and for the purpose described.

3. In a bench-hook, the combination, with a frame having a recess in its top face provided with an inner wall having a lengthwise slot therein and ribs on the outer face of the inner wall of the recess arranged on opposite sides of said slot, of a dog adjustable lengthwise in said recess, and a clamp having its head between said ribs and its shank passed through said slot and engaged with the dog, substantially as and for the purpose specified.

4. In a bench-hook, the combination of a frame having a concave recess formed with an inner wall having a curved or inclined outer face, with a dog mounted in said recess and movable lengthwise therein and formed with a curved or inclined inner face, whereby when the dog is moved lengthwise its end is adapted to project beyond the top face of the recess, ribs provided on the inner face of said dog, and a clamp for securing the dog in its adjusted position, substantially as and for the purpose described.

5. In combination, a frame having a recess provided with an inner wall having an inclined or curved upper face, a dog adjustable lengthwise in said recess and provided with a lower curved or inclined face adapted to bear upon the adjacent face of the recess and provided with a recess in its top face, a bolt for securing the dog in its adjusted position, and a nut on said bolt mounted in the recess in the dog, substantially as specified.

6. In combination, a frame having a concave recess provided with an inner wall having an outer curved face, a dog adjustable lengthwise in said recess and having its lower face of a less curvature than the adjacent outer face of the inner wall of the recess, and a clamp for securing the dog in its adjusted position, substantially as and for the purpose set forth.

7. In combination, a frame having a concave recess provided with an inner wall having a lengthwise slot, a dog adjustable lengthwise within said recess and formed with a curved lower face adapted to bear against the adjacent face of the inner wall of the recess, a recess at the upper face of the dog, a screw passed through and movable lengthwise of the frame in said slot and engaged with said dog, and a nut mounted in the recess in the top face of the dog and engaged with said screw, substantially as and for the purpose specified.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 6th day of July, 1891.

WILLIAM L. FRISBIE.

Witnesses:

CLARK H. NORTON,
L. M. BAXTER.