(No Model.)

H. L. BEACH.

SAW TABLE GAGE.

No. 381,752. Patented Apr. 24, 1888.

Fig. 1.

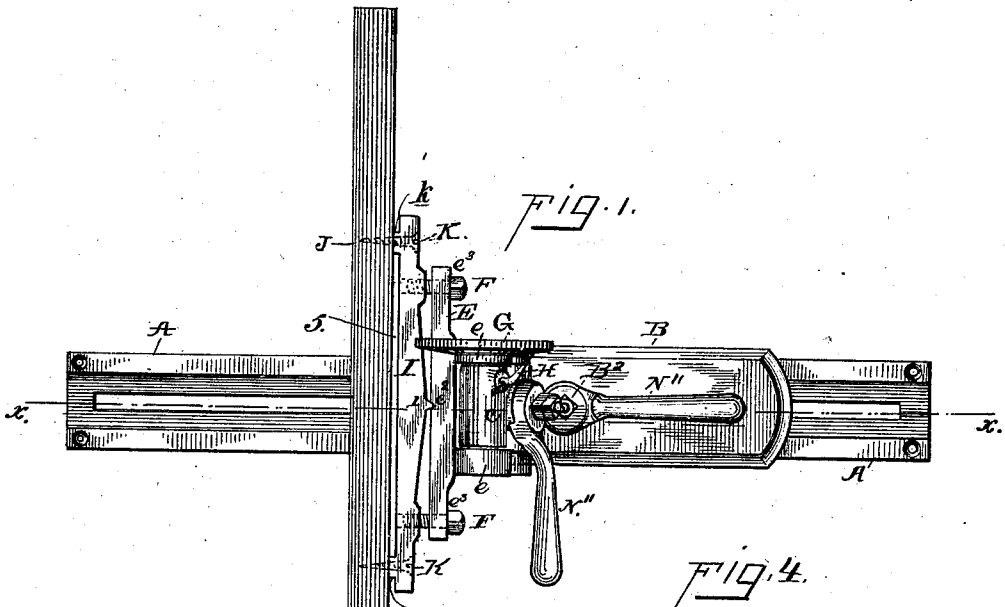


Fig. 4.

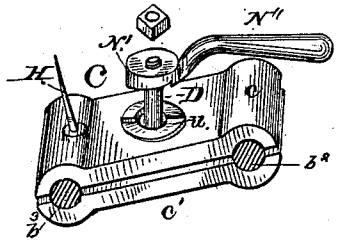


Fig. 2.

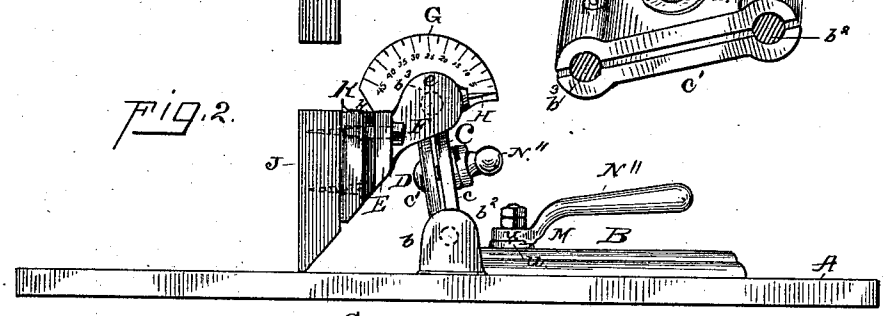
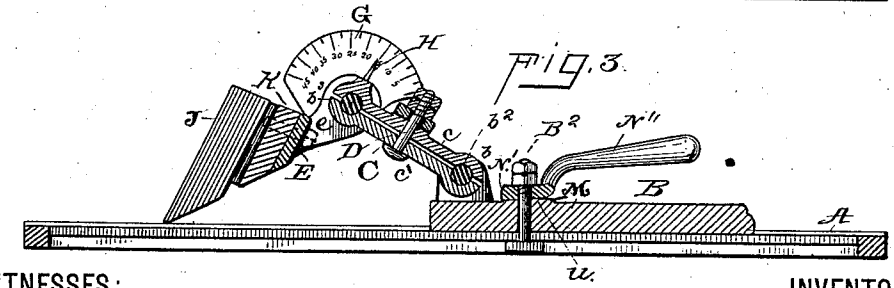


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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SAW-TABLE GAGE.

SPECIFICATION forming part of Letters Patent No. 381,752, dated April 24, 1888.

Application filed October 28, 1887. Serial No. 253,600. (No model.)

To all whom it may concern:

Be it known that I, HENRY L. BEACH, a citizen of the United States, residing at Montrose, in the county of Susquehanna and State of Pennsylvania, have invented certain new and useful Improvements in Saw-Table Gages, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan view of a saw-table gage embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a longitudinal sectional view on the line *x x* of Fig. 1. Fig. 4 is a detail showing the clamping-plates C with the operating-lever released therefrom.

My invention relates to saw-table gages; and it consists in the constructions and combinations which I shall hereinafter fully describe and claim.

To enable others skilled in the art to make and use my invention, I will now describe its construction and indicate the manner in which the same is carried out.

In the said drawings, A represents a slotted bed-plate adapted to be let into a suitable table, so that its surface will be flush with the top surface of the table.

B represents a plate adapted to the operating parts of my device and moving over the table in the usual manner, a bolt, B^2, being passed through the plate B and slot in the bed-plate and securing the movable plate in any position thereon by means of a lever, N.

The upper face of the plate B contiguous to the opening through which the bolt B^2 passes is slightly raised and provided with two oppositely-disposed inclined planes or cam-surfaces, *u*, and the lower face of the head N′ of the lever is similarly formed, whereby, when the plate is moved into its adjusted position, the lever is turned on the bolt B^2, being confined thereon by nuts, so that the two cam-surfaces before mentioned will ride upon each other and tightly draw the head of the bolt against the under surface of the bed-plate to securely hold the plate B against movement. When it is desired to move the plate and its adjuncts into a new position on the bed-plate, the lever N is turned to cause the highest points of the inclined planes on the head of the lever to ride down the cam-surfaces on the plate B, thereby loosening the rigid connection between said lever and plate and permitting the latter to be moved into a new position.

The forward end of the plate B is provided with two upwardly-extending ears, *b*, between which is rigidly secured a shaft or rod, b^2, on which is loosely mounted the lower end of a link, C, said link consisting of two parallel and spaced plates or sections, *c* and *c′*, which are connected, preferably, at or near their centers by a bolt, D, as shown in Fig. 3. The lower and upper ends of each section *c* and *c′* are curved to form the semicircular bearings which fit over the shafts b^2 and b^3, and the upper surface of the section *c* contiguous to the bolt D has a double cam-surface similar to that on the plate B, this cam-surface being engaged by a similar surface on the lower face of the head of a lever, N″. This lever N″ is mounted on the bolt D and is secured thereon by suitable nuts, whereby, when the lever is turned, the sections of the link C are drawn tightly together to cause their bearing ends at all times to be clamped tightly on the shafts b^2 and b^3, as shown in Fig. 3.

The block J herein represented is of the usual form and serves as the gage against which the inner edge of the board abuts, and this block J is secured to a plate, I, by wood-screws K, which pass through projections *k* on the ends of the plate into the block.

It will be observed the plate I at its rear central portion is provided with a rib, e^2, seated in a notch or groove in the front face of another plate, E, the ends of this second plate being secured to the plate I by means of regulating-screws F, which pass through said ends and into the body of the plate I.

From this description it will be manifest that when it is necessary to provide "lead" for the saw one of the regulating-screws F is loosened and the opposite screw tightened, so as to cause the plate I and its attached gage-block J to turn upon its rib or pivot e^2 until the desired adjustment has been obtained. It will be observed there is left a small space, 5, between the adjacent faces of the plate I and block J, so that should the operator draw upon one end of the plate I without providing for the necessary movement of the opposite end this plate will be bowed outward at its center

without affecting the block J, the space furnishing room for the movement of the center of the plate.

In many similar machines as at present constructed the block or gage J is so secured to an adjacent plate that when the regulating-screws are tightened they press upon the ends of the block J, and thereby cause its center to be bowed inwardly so much as either to greatly impair the working of the saw or cause the board to bind in the guide between the saw and block. In my case this objectionable feature is entirely done away with, as the plate I will bow at its center on the application of uneven pressure, and will therefore not affect the trueness of the block.

The plate or bar E, previously referred to, has two rearwardly-extending ears, *e*, and between these ears the upper shaft, b^3, is cast or otherwise rigidly formed, and with one of the ears *e* there is also formed a segmental plate, G, having on its inner face a series of graduations or characters representing the different degrees which I may use in operating my device. This plate G, with its graduations, is used in conjunction with a fixed pointer, H, projecting from the upper face of the section *c*. It will thus be seen that as the block J and the plates I and E are moved outward they move the plate G, which is a part of one of the ears *e*, until the character or graduation corresponding with the bevel desired registers with the pointer H.

In operating my device the lever N″ is turned to loosen the sections *c* c^2 of the link C, and the block J and its adjuncts are moved outward to cause the shaft b^3 to turn in its bearing, and also to permit the pointer H to register with the desired character on the graduated plate G. When these movements have been accomplished and the sections *c* c^2 clamped in position by the lever N″, the plate B is moved forward, carrying with it the other parts of the device, until the lower edge of the block J comes to a point a distance from the saw equal to the amount of wood or edge I desire to leave on the board. Thus, if I desire to remove from a one-inch board a one-half-inch bevel, I will adjust the edge of the block J to within one-half inch of the saw, so that when the saw has passed through the board there will be left a one-half-inch edge throughout the length of the latter. When it is desired to use the device as a square gage, I adjust the several parts before mentioned until the face of the block J assumes a perpendicular position, as shown in Fig. 2, in which case the pointer H will register with the character O on the graduated plate G; but if at any time the operator desires to bevel a board or timber he simply releases the parts and adjusts them until the amount of bevel desired is indicated by the pointer and graduated plate. The device is then adjusted toward the saw, as before specified, and the board or timber run through the guide between the saw and block J.

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

1. In a saw-table gage, a plate movable upon a bed-plate and a block or gage, J, in combination with the plate I, secured to said block, the plate E, secured to the plate I and bearing upon a projection at its center, the shafts b^2 and b^3, carried by the plate I and the movable plate, respectively, and a link-connection between said shafts, said connection consisting of two spaced plates having curved faces fitting the shafts and a lever having a cam-surface engaging a similar surface on one of the spaced plates, whereby said plates may be clamped tightly upon the shafts, substantially as and for the purpose specified.

2. The combination, with the slotted bed-plate and the plate B, adapted to be moved thereon, of the block or gage having the plate I secured thereto, the plate E, secured to said plate I and provided with a graduated plate, and a link-connection between said movable plate and plate I, said connection having a pointer adapted to register with the graduated plate, substantially as described.

3. The slotted bed-plate and the movable plate B, provided with the ears *b*, in combination with the shafts b^2 and b^3, the link-sections *c* and *c′*, mounted thereon, one of said sections having a pointer, H, and double inclined or cam surface, a locking-lever engaging said surface to clamp the link-sections, the block J, having a plate, I, secured thereto, and the plate E, connected with said plate I and having a graduated plate, whereby when said block is moved the graduated plate and pointer indicate the angle of the block, substantially as described.

4. The block or gage J, the plate I, secured at its end thereto, so as to leave a space between itself and gage, and provided with the rib or projection e^2, in combination with a plate or bar having a recess for said rib or projection, and the regulating-screws F, substantially as described.

5. An improved saw-table gage comprising a slotted bed-plate, a plate moving thereon, a locking-lever for the movable plate, a block or gage, J, the plate I, secured thereto and provided with a rib or projection, the plate or bar E, secured to the plate I and having the graduated plate G, recess e^2, and ears *e*, the regulating-screws securing plate E to plate I, the link-sections, one of which has a fixed pointer, and a lever for locking or clamping the link-sections together, substantially as described.

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