(No Model.)

H. A. POERTNER & J. W. FIX.

TABLE FOR BORING MACHINES.

No. 594,902 Patented Dec. 7, 1897.

Fig. 1

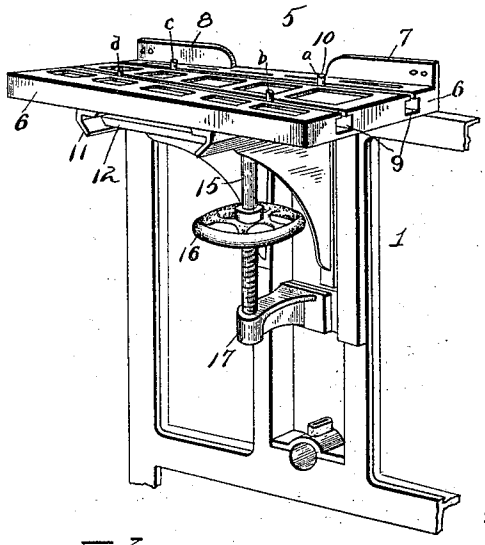


Fig. 2

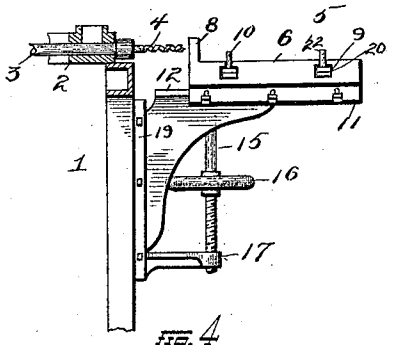


Fig. 4

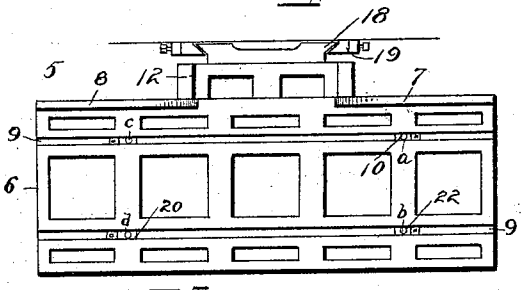


Fig. 3

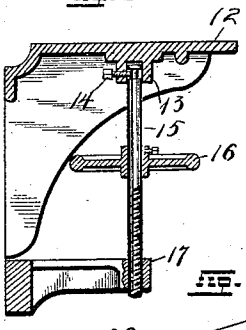


Fig. 5

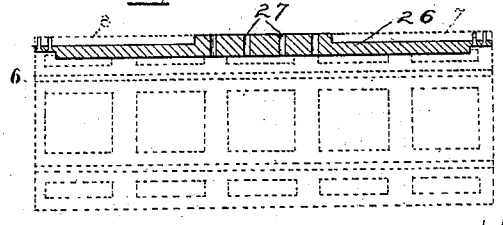


Fig. 6

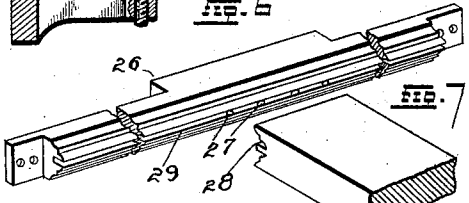


Fig. 7

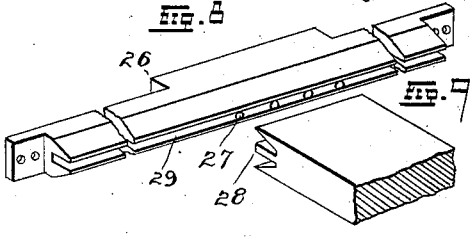


Fig. 8

Fig. 9

Fig. 10

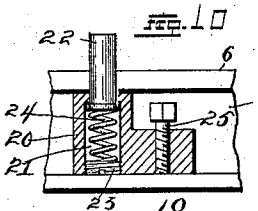


Fig. 11

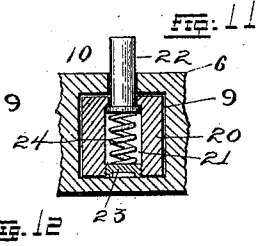
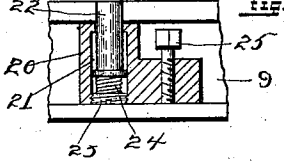


Fig. 12



Witnesses.

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By Alfred A. Eicks Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRY A. POERTNER AND JOHN W. FIX, OF ST. LOUIS, MISSOURI.

TABLE FOR BORING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 594,902, dated December 7, 1897.

Application filed April 5, 1897. Serial No. 630,886. (No model.)

To all whom it may concern:

Be it known that we, HENRY A. POERTNER and JOHN W. FIX, of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Tables for Boring-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

Our invention relates to improvements in a table for boring-machines; and it consists in the novel arrangement, construction, and combination of parts, as will be more fully hereinafter described, and set forth in the claims.

The object of our invention is to construct a table which may be used on any boring-machine, but is specially designed for a dowel-hole-boring machine. It can be vertically and horizontally adjusted; but the essential features of said table are the jacks and spring-controlled stops. The construction and operation of the same will be fully hereinafter clearly set forth.

By this table and use of the stops any size of work can be bored, narrow or wide. The stops are specially adapted for guiding door-rails to be bored, or, in other words, the door-rails are placed with one edge against the side of said stops, which directs said rails in communication with the bits of said machine.

Referring to the drawings, Figure 1 is a perspective view of our complete invention, showing it attached to the frame of a machine. Fig. 2 is a side view of our improved table secured to the machine, showing its position to the bits. Fig. 3 is a vertical sectional view of the table, showing its operation. Fig. 4 is a top plan view of said table, showing its horizontal adjustment. Fig. 5 is a top plan view of said table in dotted lines, showing the jack by which the rail is supported in horizontal section. Fig. 6 is a perspective view of a jack used on said table. Fig. 7 is a perspective view of a door-rail, with part broken away, showing it in readiness to be brought in contact with said jack. Fig. 8 is a perspective view of a modified form of jack. Fig. 9 is a perspective view of a door-rail, with part broken away, ready to be brought in contact with said jack. Fig. 10 is a vertical sectional view of the spring-controlled stop, showing a portion of the table. Fig. 11 is a cross-section of the same. Fig. 12 is a view similar to Fig. 10 with its stop in ts depressed position.

In the drawings, 1 indicates a portion of the frame of a boring-machine, and 2 its sliding frame, carrying spindles 3, which rotate the bits 4. To the frame 1 is secured our invention 5, which consists of a table 6, having on its one side vertical projections 7 and 8, the use of which will be hereinafter fully set forth. In the table 6 are provided two undercut grooves 9, in which are inserted the spring-controlled stops 10. To the bottom of said table is formed two angular guides 11, which are adapted to fit over the casting 12 and be slid backward and forward thereon for the purpose of bringing the work to be bored in contact with the bits of the machine. The casting 12 is provided with a boss 13, in which is inserted and held by means of a set-screw 14 an adjusting rod or shaft 15, which is operated by a wheel 16, secured thereto in any desirable manner. The rod or shaft 15 is screw-threaded, and thereby it is raised and lowered by meshing with the internal screw-threads formed in the casting 17, which is firmly secured to the framework of the machine. By turning the wheel 16 the rod 15 is, as above stated, raised and lowered, and said rod is loosely secured in the collar 13, but yet carries with it the casting 12, which is guided by angular projections 18, formed on the vertical portion thereof and sliding in guides 19, formed on the machine-frame 1. This adjustment is for raising and lowering the work, which is necessary when the work to be bored is of thick or thin material, as in all millwork all thicknesses of lumber are bored by the same machine. The spring-controlled stops, which are adapted to be placed in the grooves 9 of said table, are composed of a casting 20, having a bore 21, in which is adapted to operate or to be depressed a stop-post 22. The said stop-post has upon its lower side a shoulder which prevents the same from being forced out of its casting. In said bore 21 and at the base thereof is inserted a threaded plug 23, which prevents the spiral spring 24, which is placed in said bore for operating said stop-post 22, from falling from its position when the said casting is removed from the

grooves or from one location to the other, and said casting is held in its position by means of a set-screw 25.

The projections 7 and 8, formed upon the table 6, are for the purpose of allowing the work to rest against the same, and when door-rails are bored a jack 26 is placed thereon and held thereto by screws or otherwise. The jacks 26 are made of a piece of the door-stile cut in such manner (see Figs. 5, 6, and 8) as to fit in front and between said projections 7 and 8. The jacks are provided with holes 27. These holes are in direct line with the bits, and through these holes the bits pass. The jacks are made of many different designs of door-stiles, as many different designs of rails are to be bored. The use of jacks is very important, as the rails cannot be properly bored without the use thereof. In boring the rails the end 28 is placed against the face 29 of the jack 26, which then makes a solid facing for the rail, and the bits are guided straight into the said rail. If in boring said rail without the jack the bits have no straight surface and said bits have a tendency to slightly slant, then when the parts that form the door are placed together it forms a warped unplumb door.

The stops 10 are used when boring rails and they are placed in position upon the table according to where the holes are to be bored in said rails. When the stops are once set, the operator places the rail upon the table, bringing its one edge against the two stops *a* and *b*, and then places its end to be bored against the jack which is made to fit, and the holes are bored, and the same operation is gone through when the stops *c* and *d* are used, as two out of a series of four bits are used at a time.

When a rail is to be bored that is wider than the space between the four stops, the one edge of the rail is placed against two of said stops and the portion of the rail which rests upon the other two stops presses them down to a level with the top of the table, and they are then out of the way, and the rail is brought in communication with the jack without the stops interfering in the least.

Having fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In an improved table for boring-machines, composed of a table provided with two grooves extending throughout its entire length, vertical projections extending from said table, a jack adapted to be secured to said projections, said jack provided with holes for the passage of bits, a casting adjustably mounted in slides said table mounted upon the casting or bracket, an adjusting-rod provided and operated by a wheel adjusting said casting and table, said casting mounted in guides secured to the machine-frame, stops placed in said grooves in said table, said stops composed of a casting provided with a bore, a spring placed in said bore, for the purpose to keep the stop-post in a raised position, said stop for the purpose to guide the work when pressing on its side, but said pin to sink, when pressed upon, substantially as set forth.

2. In an improved table for boring-machines, having a table provided with slots formed throughout its length, stops adapted to be placed at any location in said slots, said stops composed of a casting, a bore formed in said casting, a pin placed in said bore, a spring placed in said bore, and pressing upward on said pin, a threaded plug placed in the base of said bore, for the purpose to prevent the pin and spring from falling from said bore, a set-screw provided to firmly secure said stop at any desirable location in said slots, a jack placed, and secured to said table, said jack used for the purpose to allow the ends of the rails to be straightly bored, said jacks adapted to correspond with the end of the rail to be bored, an adjusting-rod formed under said table for raising and lowering the same, substantially as shown and described.

In testimony whereof we affix our signatures in the presence of two witnesses.

HENRY A. POERTNER.
JOHN W. FIX.

Witnesses:
ALFRED A. EICKS,
GEO. F. LANE.