

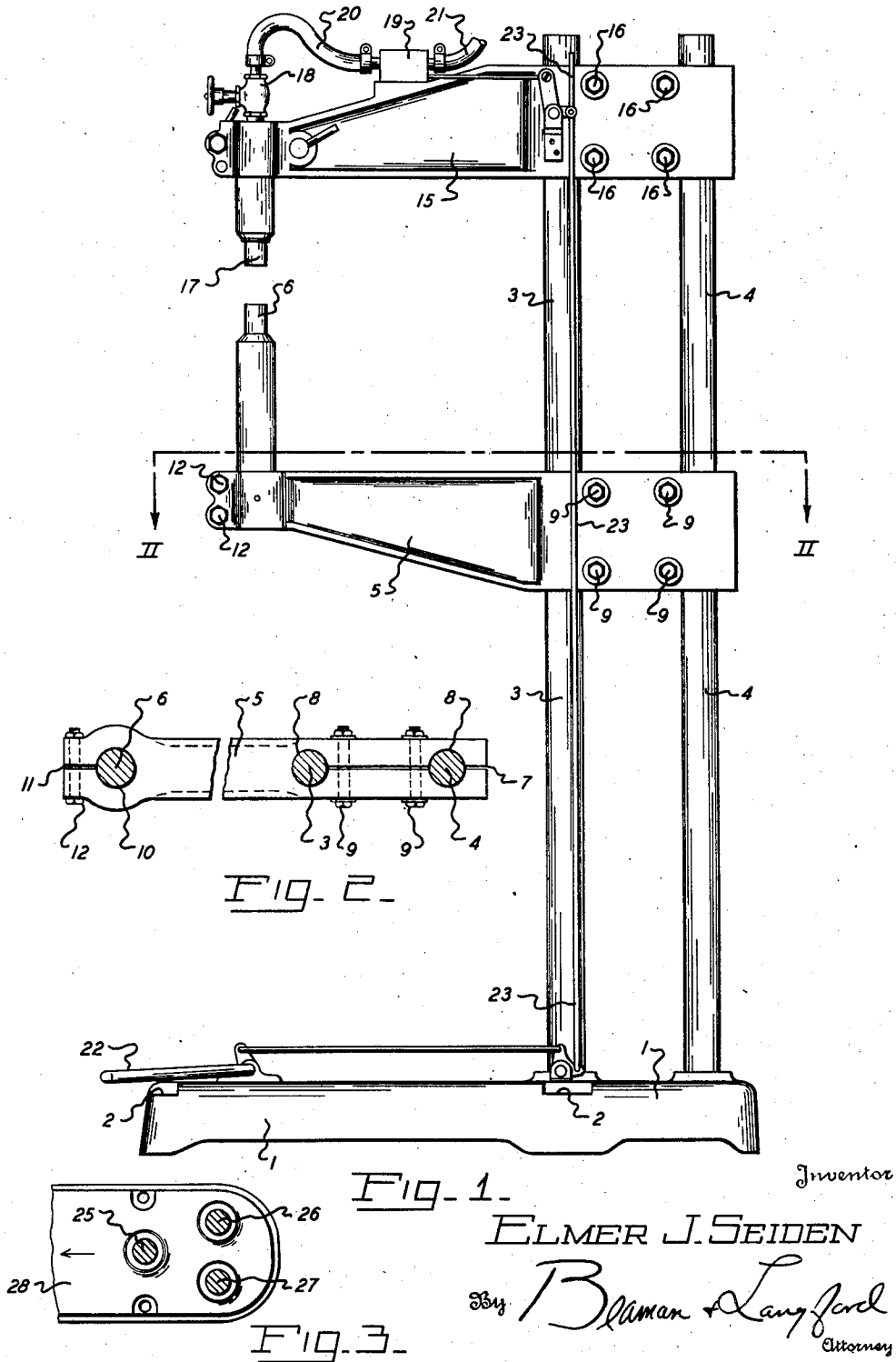
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PLANISHING HAMMER SUPPORT

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PLANISHING HAMMER SUPPORT

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The present invention relates to percussion tools, and more particularly to a stand for supporting a planishing hammer.

Stands according to prior art for supporting planishing hammers conventionally consist of a base, which supports a vertical column. The column supports an anvil and the planishing hammer. The objection to this type of stand resides in the fact that for cylindrical columns which are conventionally employed to permit easy vertical adjustment of the hammer and the anvil, there is a period of vibration, with the result that when the hammer reciprocates at a certain rate, the column will vibrate interfering with the operation of the hammer. The vibration of the column results in the hammer striking the work at a rate substantially less than the rate of reciprocation of the hammer, thus slowing up the hammering and introducing an irregularity in the hammering which makes impossible the production of work with a finished appearance.

According to present invention, the foregoing difficulties have been eliminated by providing two columns disposed one behind the other with respect to the hammer for supporting the hammer.

Accordingly, an object of the present invention is to provide two columns, one disposed behind the other with respect to the hammer and its anvil.

Another object of the invention is to provide a stand for percussion tools and the like, having a base from which two columns project and supporting structure clamped to said columns, the supporting structure serving to rigidly space the columns.

These and other objects residing in the arrangement, combination, and construction of the parts will be apparent from the following specification when taken with the accompanying drawing in which:

Fig. 1 is a side elevation of a percussion tool stand according to the present invention, and

Fig. 2 is a section on the line II—II of Fig. 1, and

Fig. 3 is a general section illustrating a three column stand.

Referring particularly to the drawing, the reference character 1 indicates a base having recesses 2 for receiving the heads of bolts employed to secure the base 1 to the floor. Projecting upwardly from the base 1 are columns 3 and 4, secured to the base 1 and being disposed in parallel relation. The columns 3 and 4 may be of the same or different diameters.

Clamped to the columns 3 and 4 is a bracket 5

supporting an anvil 6. As shown particularly in Fig. 2, the bracket 5 is provided at one end thereof with a split 7 passing through bores 8. The columns 3 and 4 are disposed in the bores 8 and bolts 9 are employed to clamp the bores 8 against the sides of the columns 3 and 4, the split 7 permitting the clamping action. The anvil 6 is similarly secured in a bore 10, disposed at the opposite end of the bracket 5 and having communicating therewith a split 11. Bolts 12 are employed to clamp the bore 10 against the anvil 6. It will be appreciated that the bracket 5 may be slid vertically along the columns 3 and 4 by loosening the bolts 9 and then tightening them again when the bracket 5 has been moved to its adjusted position.

Clamped to the columns 3 and 4 above the bracket 5 is a bracket 15. The bracket 15 is similar to the bracket 5 in that it is provided with bores for receiving the columns 3 and 4 corresponding to bores 8 in the bracket 5, and a split corresponding to the split 7 in the bracket 5, so that the bracket 15 may be clamped to the columns 3 and 4 by bolts 16. Suitably secured to the outer end of the bracket 15 is a pneumatic hammer 17. Communicating with the hammer 17 is a compressed air valve 18 for controlling the rate of flow of compressed air to the pneumatic hammer 17. Mounted on the bracket 15 is a shut-off valve 19 connected to the valve 18 by a conduit 20 and to a source of compressed air by a conduit 21. The shut-off valve 19 is controlled by a foot pedal 22 through a system of links and levers 23, not a part of the present invention.

It is thought that the above described irregular operation of a pneumatic planishing hammer similar to that disclosed, but provided with only one column instead of the two columns 3 and 4, is due to the fact that the reciprocation of the hammer 17 and the impact of the same against the anvil 6 causes the single column to vibrate when the rate of reciprocation of the hammer 17 is equal to the natural period of vibration of the single column or some multiple thereof, and that the anvil is thus caused to vibrate through its connection with the single column. It is further thought that due to the weight of the anvil bracket and the position of the anvil at one side of the single column, the work, which is supported by the anvil, and the hammer, engage at some beat frequency. At any rate at critical rates of reciprocation of the hammer, the hammer does not engage the work at the rate of reciprocation of the hammer, but at a very much

slower rate. By providing the two columns 3 and 4, according to the present invention, one behind the other, a rigidity is obtained which prevents the vibration of the columns 3 and 4 and yet maintains the ease of vertical adjustment of the brackets 5 and 15 by simple sliding.

While the foregoing specification has described the brackets 5 and 15 as clamping the columns 3 and 4 together in fixed, spaced and rigid relation, it will be understood that either one or both of the brackets 5 and 15 may be supported solely from the column 3 while other means are provided to clamp the columns 3 and 4 rigidly together. For instance, the bracket 15 might be employed as shown while the bracket for the anvil 6 is clamped only to the column 3 to permit sidewise swinging of the same. Accordingly it is contemplated that such arrangements may be employed with the scope of the present invention.

Another embodiment of the invention is disclosed in Figure 3 wherein a three column stand is disclosed. In this form of the invention three columns, 25, 26 and 27, are employed, secured to a base 28. It will be observed that each of the rear columns 26 and 27 are generally behind the front column 25, thus obtaining generally the same results as are obtained with the structure of Figures 1 and 2. Associated with the columns 25, 26 and 27 are appropriate brackets, not shown, for supporting hammer 17 and anvil 6, each of the brackets extending substantially in the direction of the arrow in Figure 3.

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

1. A stand for a high speed percussion tool or the like comprising a base, a pair of upright structural columns in spaced relation, vertically spaced horizontally extended members cantilevered at one end and rigidly mounted upon and supporting said columns in spaced relation at the other end, said members being disposed in substantially the same general vertical plane and in the same general plane as said upright columns,

and percussion tool receiving portions in vertical alignment at the cantilevered ends of said members.

2. A stand for a high speed percussion tool and the like comprising a rigid base, a plurality of upright structural columns rigidly supported from said base and upstanding therefrom in spaced apart relation with one of said columns disposed forwardly from the other, a pair of supporting brackets each provided with clamping means toward one end and supporting means at the opposite end, means rigidly clamping the clamp means of one of said brackets on said upstanding spaced columns near the upper end thereof with the supporting end thereof extending in cantilevered relation, and means rigidly clamping the second bracket on said upstanding columns below the first-mentioned bracket with the supporting end thereof also cantilevered and substantially vertically spaced below the cantilevered end of the upper bracket, the supporting ends of said brackets being adaptable to one mount a percussion tool or the like and the other mount an anvil on their cantilevered ends.

3. A stand for high speed percussion tools and the like comprising a rigid base, a pair of upright structural columns upstanding in substantially spaced relation from said base, a pair of substantially horizontally disposed bracket members each provided adjacent to one end with openings receiving the spaced upstanding structural columns, said brackets being provided adjacent to their opposite ends with percussion tool and anvil supporting portions, and means rigidly mounting said bracket members on the upper portions of said upstanding structural columns in vertically spaced relation with the supporting portions thereof outstanding laterally from said structural columns in substantially vertically spaced relation, said brackets each being rigidly assembled and held upon both of the upstanding structural columns.

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