Gabion & Whitney,

Jointing Staves.

No. 31,164. Patented Jan. 22, 1861.

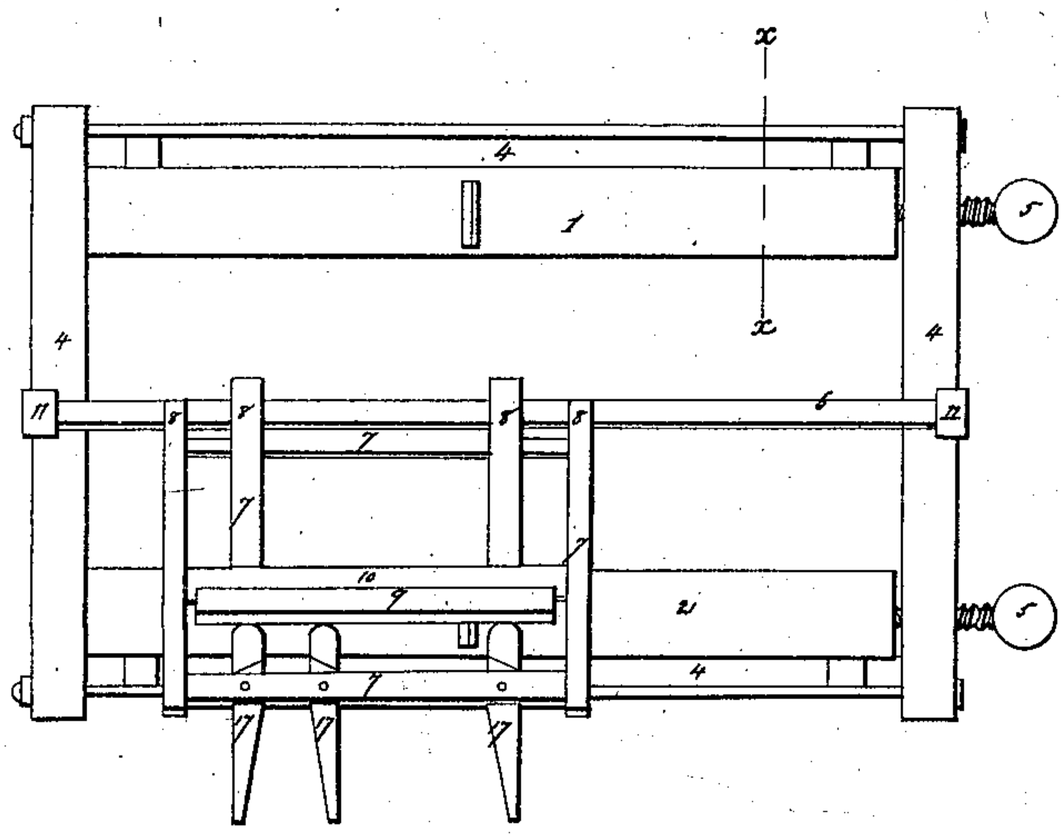

Fig. 1.

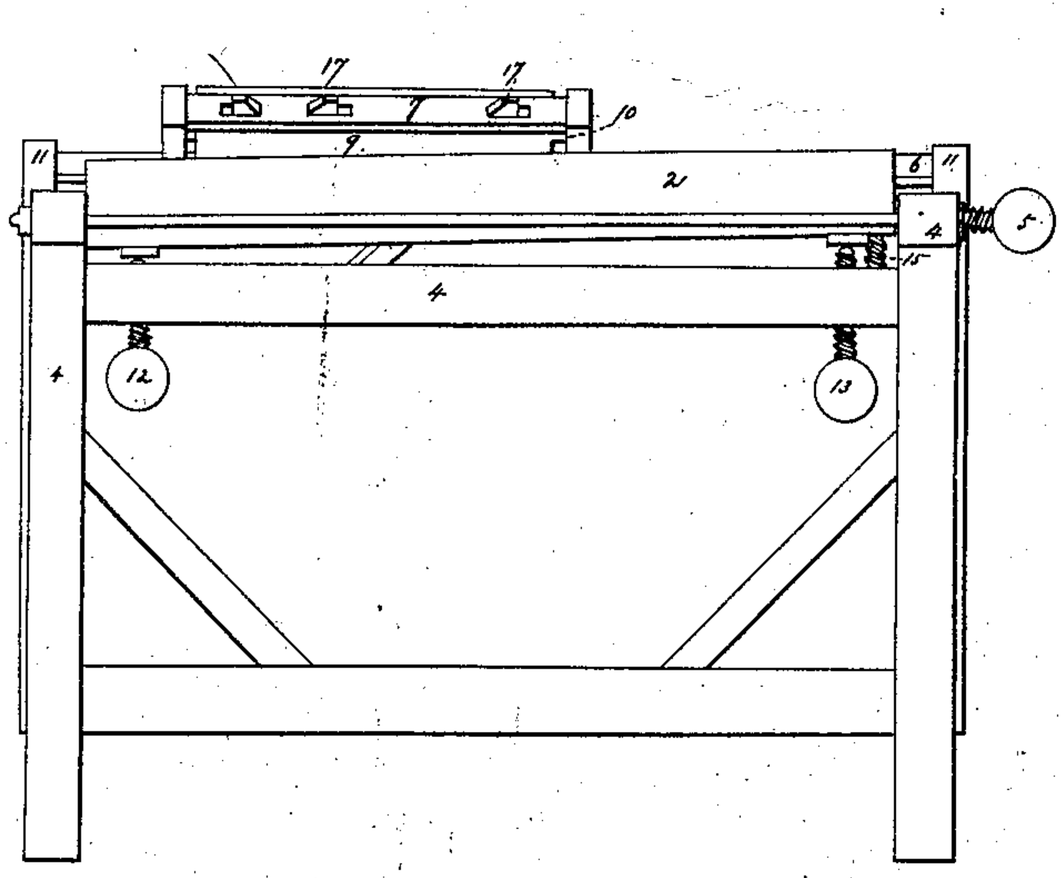

Fig. 2.

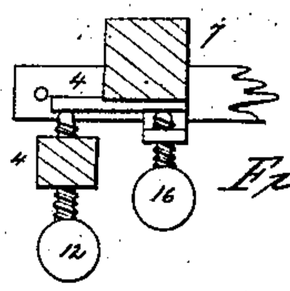

Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

G. G. GABRION AND N. B. WHITNEY, OF COPENHAGEN, NEW YORK.

STAVE-JOINTER.

Specification of Letters Patent No. 31,164, dated January 22, 1861.

To all whom it may concern:

Be it known that we, GILBERT G. GABRION and NATHANIEL B. WHITNEY, of Copenhagen, in the county of Lewis and State of New York, have invented a new and Improved Machine for Jointing Staves, the construction and operation of which we have described in the following specification and illustrated in its accompanying drawings with sufficient clearness to enable competent and skilful workmen in the arts to which it pertains or is most nearly allied to make and use our invention.

Our said invention consists in the combination of two jointer planes, secured in each side of a suitable frame, with a sliding carriage, jack, or frame for holding (and, when the stave is for a vessel having a bilge, for bending) the stave; the said carriage, jack, or frame being hung at its inner edge, on an axis, on which it is made to work, or slide back and forth, thus forcing the stave over the plane, and jointing it, the said planes being supported upon an axis and provided with set screws or other equivalent means of adjustment, in such a manner that the said planes may be adjusted for different kinds of staves, by the partial rotation of the planes on an axis, by which the stave is jointed for a larger or smaller vessel, and by the raising of one end of each plane, by which the proper taper, for forming tubs, pails, keelers, and other like vessels, is given.

In the accompanying drawings, Figure 1 is a plan of our jointer. Fig. 2 is a side elevation of the same. Fig. 3 is a transverse, vertical section, made by a plane passing through the line *x*, *x*, and showing the adjusting screws at one end of one of the planes, and a portion of the frame. Fig. 4 is an end elevation, of one of the planes.

1, and 2, are the planes, secured in the frame 4, by the thumb screw 5, at one end, by unscrewing which the plane may be taken out, and at the other end by a pin or pivot which prevents any lateral motion but allows it to be rotated for purposes of adjustment.

6, is a square bar, or shaft, on which the carriage 7, slides. 8, 8, are the bearings of the said carriage.

17, 17, 17, are levers or cams, by which the stave 9, is forced down to, and held in close contact with, the bed piece 10, during the operation of jointing. The bar or shaft 6, is held in its place by round mortises, or journals at 17, 17, which allow it to be rotated nearly half way around, permitting the stave 9, to come in contact with each of the planes 1, and 2.

The planes 1, and 2, are adjusted, with reference to the size of the vessel to be made, by the screws 12, and 13, one of which is shown at 12, in Fig. 3, and the operation is there more clearly suggested. It will easily be seen, that, raising the outer edges of the planes 1, and 2, the carraige 7, remaining in the same position, will cut off the outer corner of the stave 9, and thus adapt it for making a joint, in a larger circle. The reverse,—that is,—lowering the said outer edge of the planes 1, and 2, must, necessarily, cut off the inner corner of the stave, in a greater degree, and thus make a stave suitable for smaller work. This would be all the adjustment that would be necessary for the purpose of changing the bevel of the joint for different sizes of vessels. But there are two other modifications which are necessary, and which we accomplish in the following manner: First,—the change in the amount of bilge, to be given to the cask, is made by changing the bed piece 10, for one of such a form, as will give the required amount of bilge, and give it in the right place. Second,—when jointing staves for such vessels as pails, tubs, and keelers, where there is a flare, but no bilge, it is often found necessary to change the taper of the staves; sometimes in order to use narrower staves, and consequently more of them, and at other times it is desirable to alter the flare of the vessel. This change, in the taper of straight staves is accomplished by elevating, or depressing, one end of each of the planes 1, and 2, by means of the set screws 15, and 16, one of which is more clearly shown in Fig. 3.

In order to joint a stave in our machine, the planes 1, and 2, are first adjusted, and the stave 9, secured in the carriage 7, by the cams, or levers 17, 17, 17. The stave is then brought into contact with one of the planes, or jointers 1, or 2, and one of its edges is planed down, till an edge proper for a joint is obtained. The carriage, with the stave in it, is then rotated in the direction of the other plane, and the same operation performed, when the jointing of the stave may be considered as finished.

Having thus fully described our inven-

tion, and the manner of using it, we claim as original, and desire to secure by Letters Patent:

The combination of the planes 1, and 2, secured in the frame 4, and made adjustable in the manner described with the carriage 7, sliding on the rod, or shaft 6, all being constructed, arranged, and operated, substantially as herein set forth.

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Witnesses:
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