D. Drawbaugh,

Jointing Staves.

No. 8,505. Patented Nov. 11, 1851.

Fig. 1.

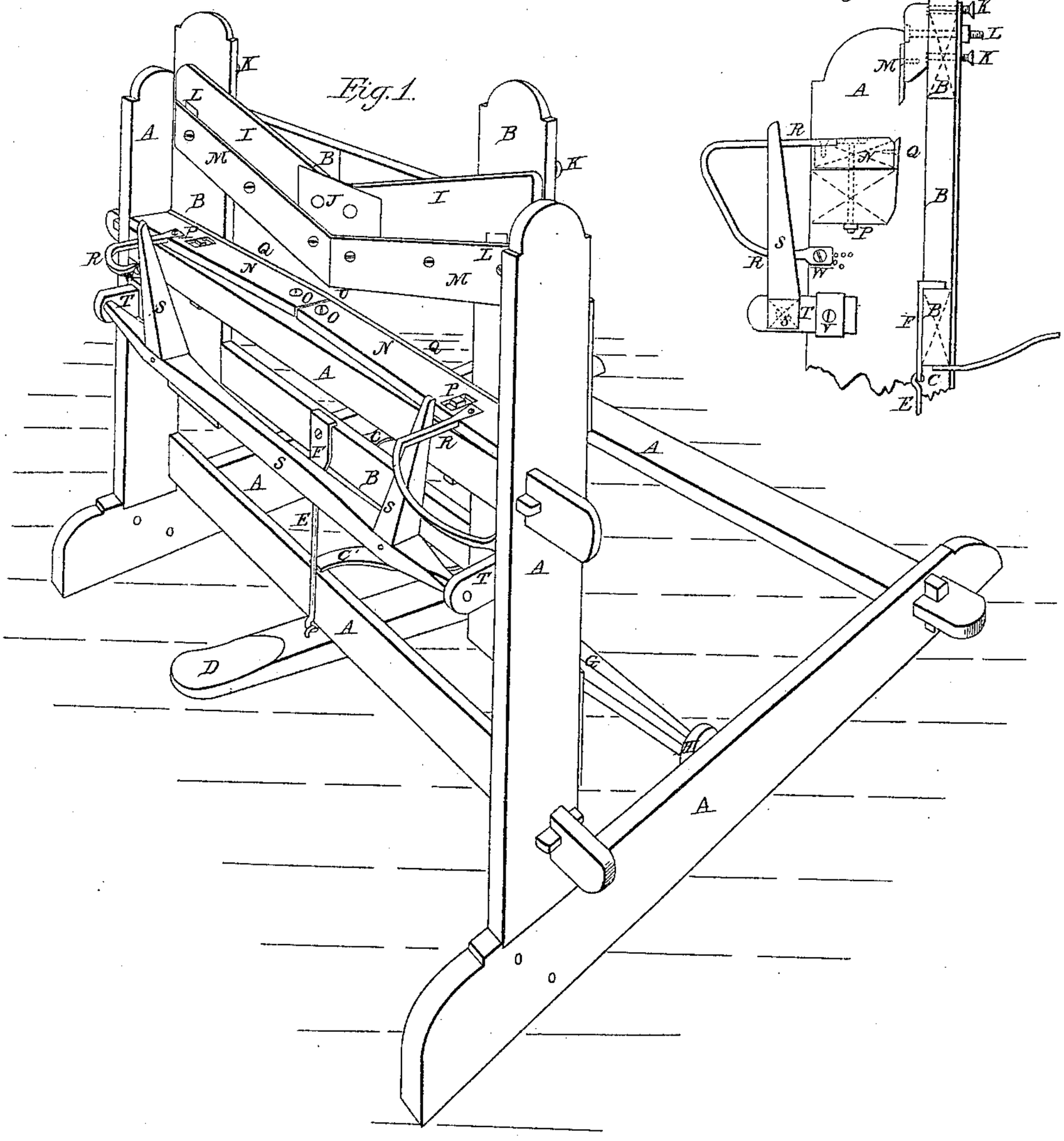

Fig. 2.

UNITED STATES PATENT OFFICE.

DANIEL DRAWBAUGH, OF WHITE HILL, PENNSYLVANIA.

STAVE-JOINTING MACHINE.

Specification of Letters Patent No. 8,505, dated November 11, 1851.

To all whom it may concern:

Be it known that I, DANIEL DRAWBAUGH, of Cedar Springs, (White Hill Post Office,) Cumberland county, and State of Pennsylvania, have invented a new and useful Machine for Jointing Staves; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a perspective drawing of the whole machine, and Fig. 2, a vertical section, showing the relative arrangement, of the sliding frame, sheering knives, and adjustable guides and gage, the same letters referring to like parts of both figures.

A, A, A, A, A, A are the pieces forming a strong wooden main frame, which is portable and stands upon a floor.

B, B, B, B, are the pieces forming a strong wooden frame which is made to slide up and down on cast iron guides, between the vertical posts of the main frame, by means of a spring C′, C, which is attached to the upper edge of a crosspiece of the main frame at C′, and to the under edge of the sliding frame at C; and a treadle D, which connects with the sliding frame by means of a pivoted iron rod E, and plate D. This treadle is connected with a crosspiece G, which works on journals, as fulcra, let into blocks H, which are secured to the insides of the sills of the main frame.

On the front side and near the upper end of the sliding frame B, are two adjustable pieces of hard wood I, I, connected by means of a thin flexible iron plate J. These pieces are secured to the sliding frame, so as to be adjustable to any angle required for the tapering ends of the stave by means of set screws K, K, and drawbolts L, L. There being also two like draw bolts through the plate J, for securing the center. Besides the obtuse angle at which the two pieces are adjustable in regard to each other, they are also permanently secured to the sliding frame by means of the same set screws and draw bolts, at another angle, so that the two connecting ends shall be several inches below the outside ends. To the lower sides of these two pieces (I, I.) the upper, steel sheering knives M, M, are let in nearly flush with the pieces I, I, and secured thereto by screws.

Upon the upper crosspiece of the main frame A, there are two adjustable pieces N, N, made of hard wood, which are secured to the cross piece, at their inner ends, by means of screws O, O, and at their outer ends by means of draw bolts P, P, the heads of which are let into a mortise so as to be flush on the top—the stems of the bolts passing through oblong holes in the pieces N, N, and are thus capable of being set to suit the angle of the upper knives M, M. On the edges of these two adjustable pieces the lower steel knives Q, Q, are secured by screws, their cutting edge being level with the upper sides of the pieces N, N.

Near each outer end of the adjustable pieces (N, N,) there is permanently secured an iron guide R, R, which connects at its lower end (by an adjustable screw V, V,) to the main frame. The crosspiece upon which the pieces N, N, rest is slightly beveled on the upper side, or, the pieces N, N, are beveled so that the latter may be adjusted by means of set screws P, P, and the guides R, R, to suit the radial bevel required on the edges of the stave in accordance with the intended diameter of the barrel. In front, and some distance below the beveled pieces N, N, a revolving gage S, S, is secured upon journals at the ends, in adjustable bearing pieces T, T, secured by a screw V, and plate.

The two projections on the upper side of this gage, pass up a little above the guides R, R, and are placed, each, so as to guide the proper width of each end of the stave to be jointed.

The mode of operation of this machine is as follows: After the upper sheering knives M, M, are adjusted to suit the taper required on the stave, the lower sheering knives Q, Q, are adjusted to match them, and so that, upon the descent of the upper knives, sheering contact of the edges of the two sets of knives shall commence at the angle U, and gradually extend toward each outer end, until their whole cutting edges have passed each other. In order to give the proper radial bevel to the edges of the stave, in accordance with the required diameter of the barrel, the beveled pieces N, N, are also adjusted at the same time (by means of the adjustable guides R, R, and screws W,) so as to suit this required bevel. The machine being now ready for use, the workman takes one or more staves, and places them along on the pieces N, N, and with his hand at each end, bring them in contact with the upper projections of the movable gage;

holding the connections firmly, the staves are slid along on the guides and pieces N, N, over the lower knives. His foot is then pressed down firmly and quickly upon the treadle D, when the sliding frame and its knives are brought down, draw-cutting or sheering the edges of the staves from their middle toward their ends. The staves are now reversed, and the opposite edges cut or jointed in the same manner.

What I claim as my invention, and desire to secure by Letters Patent, is—

The adjustable knife in combination with the adjustable rest as described to adapt them to the jointing of staves for casks of different bilge.

DANIEL DRAWBAUGH.

Witnesses:

THOMAS ELDER, Junr.,

BENJ. MORISON.