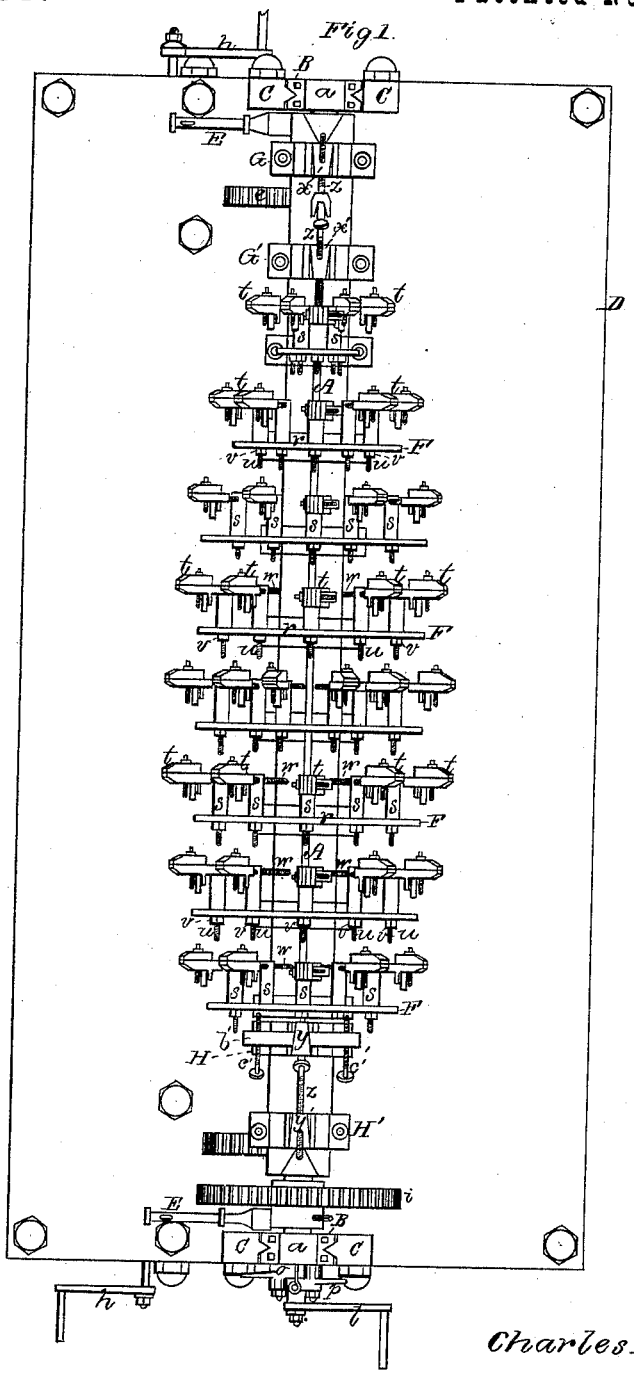
3 Sheets—Sheet 1.

C. BARTLETT.

MACHINES FOR FRAMING BOATS.

No. 169,334. Patented Nov. 2, 1875.

Fig 1.



Witnesses.

S. N. Pipin

L. W. Miller

Charles Bartlett.

by his attorney.

R. H. Eddy

3 Sheets—Sheet 2.

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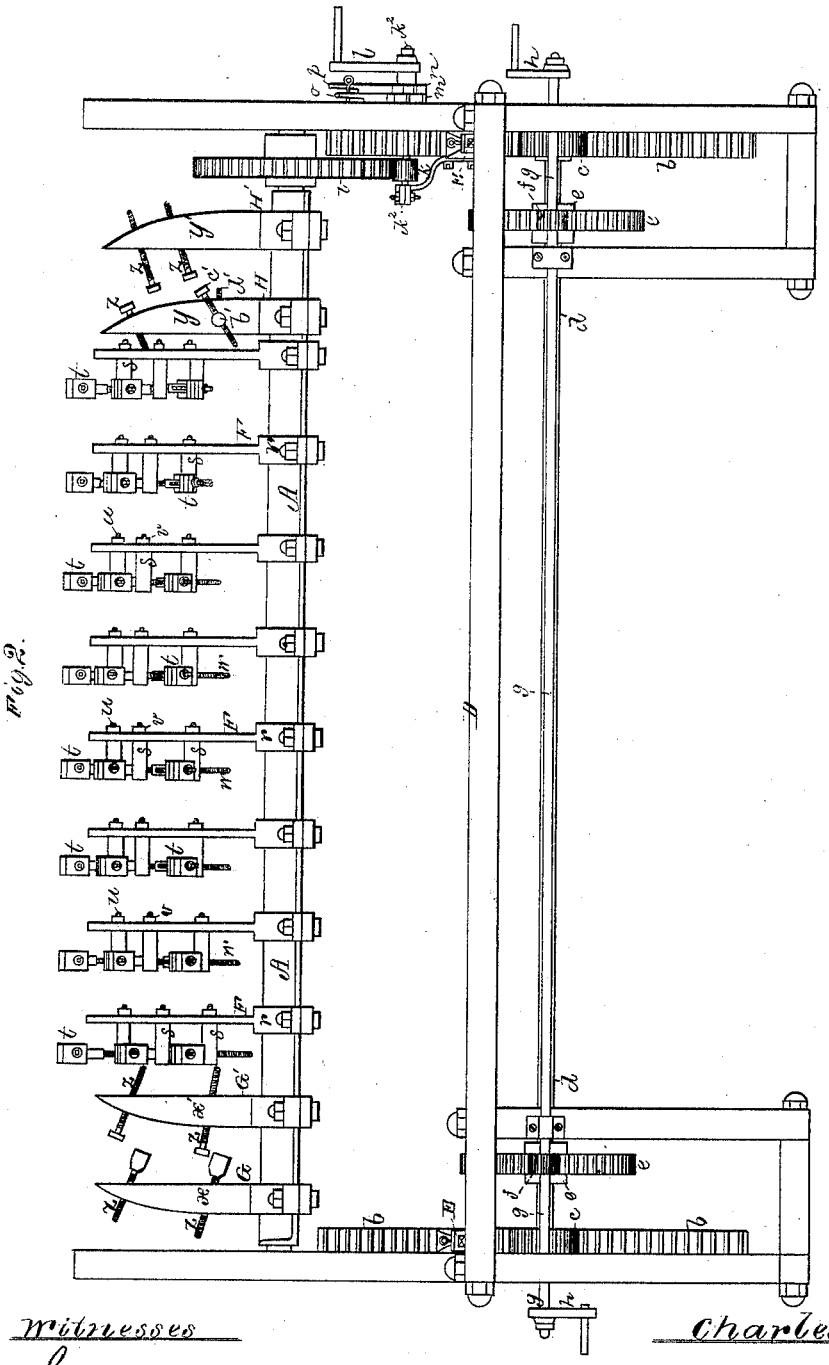

Witnesses

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3 Sheets—Sheet 3.

C. BARTLETT.

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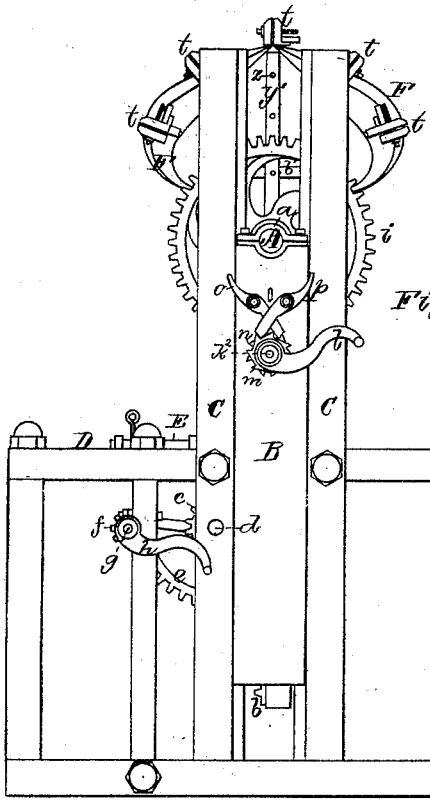

Fig. 3.

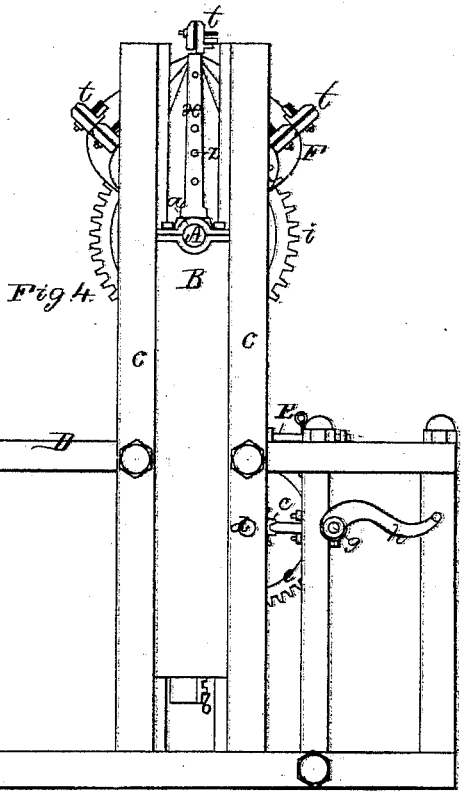

Fig. 4.

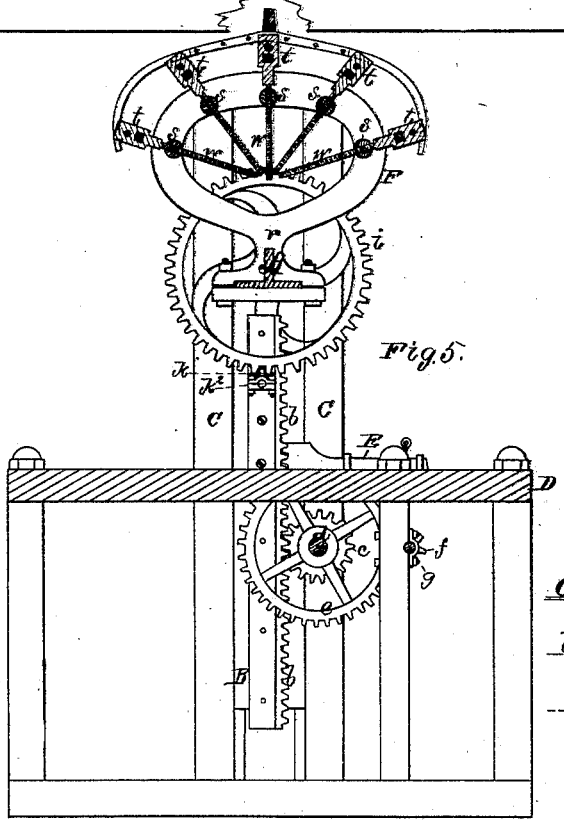

Fig. 5.

Witnesses

S. W. Pipes.

L. N. Müller.

Charles Bartlett

by his attorney

R. H. Eddy

UNITED STATES PATENT OFFICE.

CHARLES BARTLETT, OF NEWBURYPORT, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR FRAMING BOATS.

Specification forming part of Letters Patent No. **169,334**, dated November 2, 1875; application filed October 5, 1875.

To all whom it may concern:

Be it known that I, CHARLES BARTLETT, of Newburyport, of the county of Essex and State of Massachusetts, have invented a new and useful Machine for use in Boat-Building; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a front elevation, Figs. 3 and 4 end elevations, and Fig. 5 a transverse section, of it.

It is intended for arranging and holding the ribs, stem, or cutwater and stern-piece of a boat in their proper positions for and while being planked, and by its principal parts being adjustable it can be employed in the manufacture of boats of different sizes.

The first part of the machine is a rotary shaft, A, whose journals are supported in boxes *a a* fixed to the upper ends of two vertical slides, B B, each of which is arranged between a pair of parallel guides, C C, supported at one end of a table or frame, D. There are to the said frame two pairs of such guides, and there is fixed to each of the slides B a toothed rack, *b*. These racks engage with pinions *c c* on a horizontal shaft, *d*, upon which are gears *e e* that engage with pinions *f f* on another shaft, *g*, arranged and provided at its ends with cranks *h h*, as shown. By taking hold of and revolving either or both the cranks the shaft A will be moved either up or down. Furthermore, there is fixed to said shaft A a gear, *i*, that engages with a pinion, *k*, carried by a short shaft, k^2, extending through one of the racks and its supporting-slide, such shaft being provided with a crank, *l*, and two ratchet-wheels, *m n*. Over these latter, and to engage with them, are two lever-pawls, *o p*, which are pivoted to the slide B, all being arranged and constructed as represented. By revolving the crank *l* the shaft A may be turned in its bearings, and it may be estopped in any desirable part of its revolution in either direction by one of the ratchet-wheels and its pawl.

In order to hold the racks from accidentally being depressed there is a slide-bolt, E, to each, it being arranged as shown, and applied to the top of the table. By moving the said bolt forward it will enter between the teeth of of the rack. There is to the shaft A a series of adjustable rib-supporters, F F F, &c., each being so applied to the shaft as to be movable lengthwise thereof thereon, and clamped thereto. Each of the said rib-supporters is composed of a standard, *r*, a series of rotary vise-carriers, *s s*, &c., and a series of adjustable vises, *t t*, &c., all being arranged as represented. Each of the said carriers has a screw, *u*, projecting from one end of it, going through the standard, and provided with a nut, *v*. So each vise has a screw, *w*, extended from it, and screwed into and transversely through one of the carriers. Now, as each carrier can be revolved and clamped in position to the standard, and as each vise may, by means of its screw, be adjusted or moved inward or outward, it will readily be seen that the several vises of each standard may be adjusted to hold a rib, which is to be arranged between their jaws.

Beside the aforesaid standards there are four others—viz, *x x′ y y′*—applied to the shaft A, and arranged with the standards *r* in manner as represented. Each of the said standards *x x′ y y′* is to be movable on the shaft A, lengthwise of it, and should be provided with means of clamping it in position, and such standard is to be furnished with screws *z* arranged in it, and having heads, as represented. The heads of the screws of one of the said standards are forked or notched to receive the stem or cutwater. The inner standard of the opposite pair has a shaft, *b′*, going through it, and provided with screws *c′ c′* screwed through it transversely, there being in the standard a clamp-screw, *d′*, to hold the shaft from revolving.

This mechanism is adapted to the construction of boats with square sterns, or those with bow and stern alike, or sharp like those of whale-boats or those having center-boards. After the ribs may have been clamped in their positions in the vises of the several rib-supporters F the keel is to be applied and properly secured to them, the cutwater being held by the screws of the standards *x x′*, which, with such standards, I term the cutwater-supporters G G′, the standards *y y′* and their appliances being the stern-supporters, and marked H H′. The stern-piece of a square

stern is to be placed between the supporter H and the next adjacent rib-supporter F, and held in position by the screws of said supporter H and its shaft. If the stern is to be sharp like the bow, the stern-post may be held between standards H H′ by their screws, or others going through them, and such standards may be provided with female screws going through them to receive the necessary number of confining-screws. After the ribs, cutwater, keel, and stern of the frame of a boat may have been properly arranged and fixed in the machine the planks may be suitably applied and fastened in place, after which the shaft A may be partially revolved to enable the workmen to get at the interior of the boat to apply thereto the thwarts and seats. It will also be seen that the shaft A may be raised or lowered, or turned more or less from time to time, and stopped in position as occasion may require, to enable the workmen to conveniently apply the planks to the ribs, or for any other purpose.

I claim—

1. The combination of the series of rib, stem, or cutwater and stern-supporters F G G′ H H′, substantially as described, with a rotary shaft, A, such supporters being applied to the said shaft, essentially as set forth.

2. In combination with said shaft A and its series of cutwater, rib, and other supporters, the mechanisms for raising, lowering, and revolving said shaft, and holding it in position, such consisting of the slides B B, racks *b b*, pinions *c c*, shaft *d*, gears *e e*, pinions *f f*, shaft *g*, bolts E E, gear *i*, pinion *k*, shaft k^2, ratchet-wheels *m n*, and the pawls *o p*, all arranged and to operate essentially as explained.

CHARLES BARTLETT.

Witnesses:

R. H. EDDY,

S. N. PIPER.