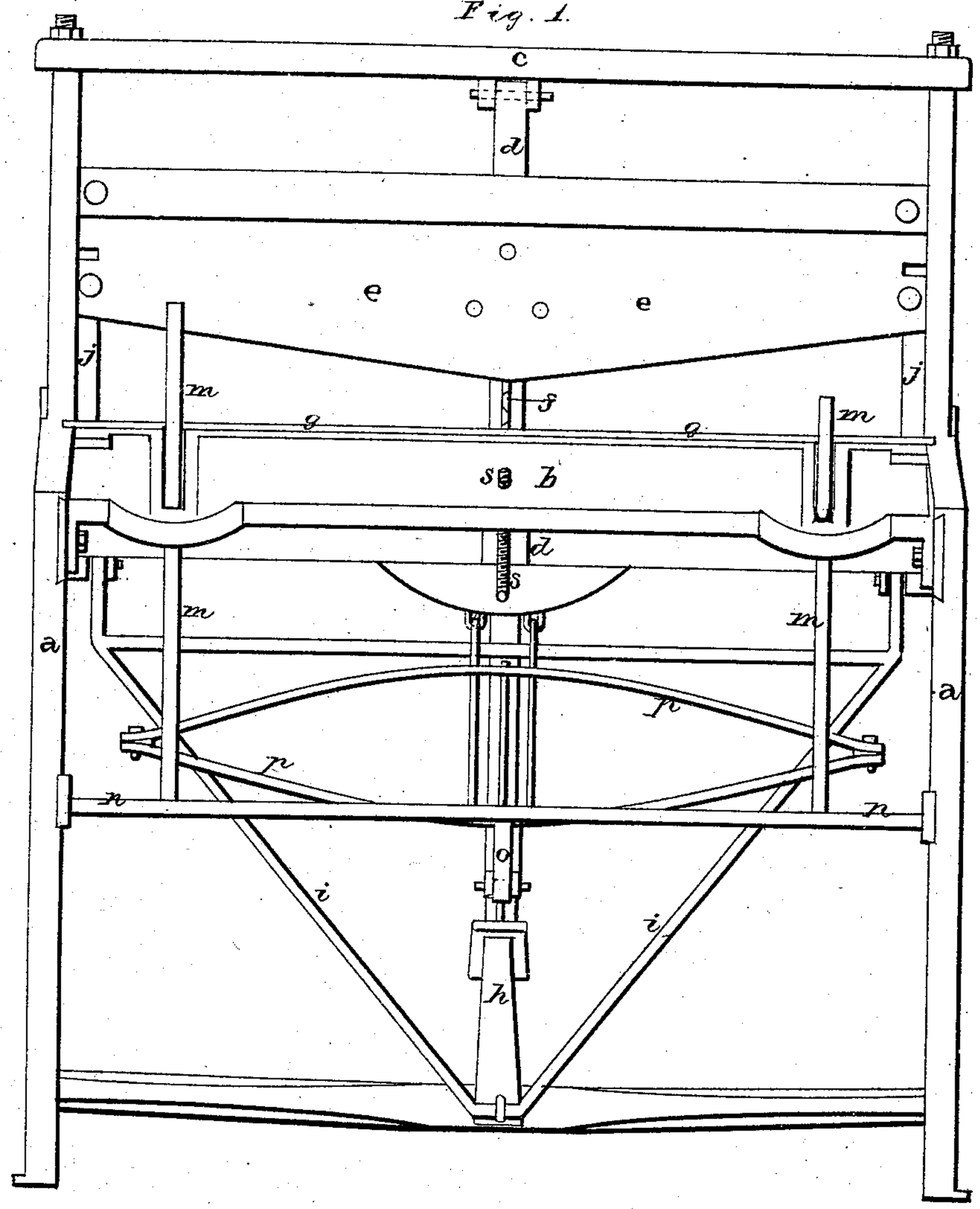
2 Sheets--Sheet 1.

J. C. WOODMANSEE.

Machines for Jointing Staves.

No. 150,501. Patented May 5, 1874.

Fig. 1.



Witnesses.
J. Wm. Farner.
Edwd. S. Sparrow.

Inventor.
J. C. Woodmansee
per
F. A. Lehmann, Atty.

AM. PHOTO-LITHOGRAPHIC Co. N.Y. (OSBORNE'S PROCESS.)

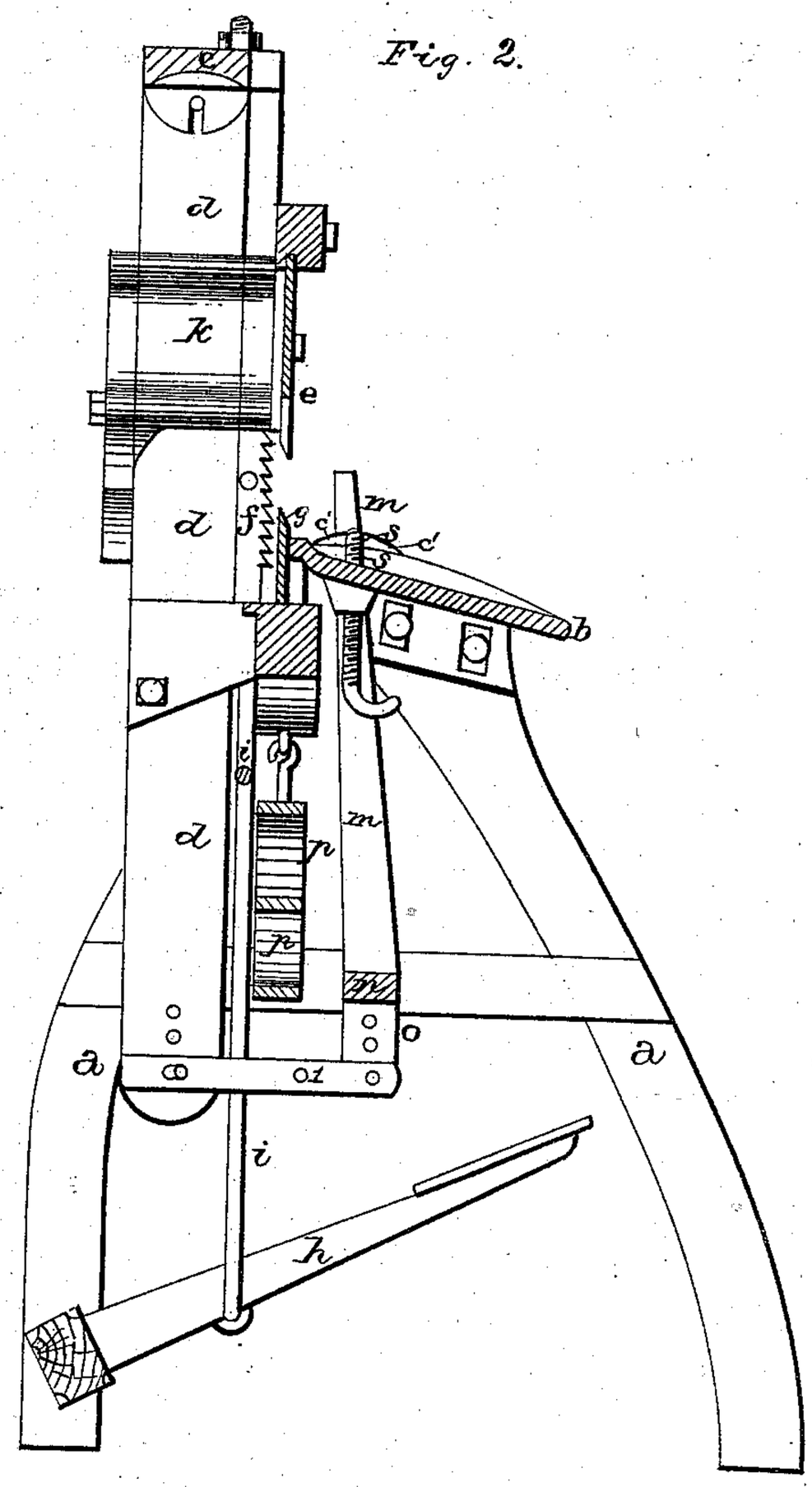
2 Sheets--Sheet 2.

J. C. WOODMANSEE.

Machines for Jointing Staves.

No. 150,501. Patented May 5, 1874.

Fig. 2.



Witnesses.
J. Wm. Garner.
Edwd. F. Kaiser.

Inventor.
J. C. Woodmansee
per
F. A. Lehmann, Atty

AM. PHOTO-LITHOGRAPHIC Co. N. Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

JULIUS C. WOODMANSEE, OF CARRSVILLE, KENTUCKY.

IMPROVEMENT IN MACHINES FOR JOINTING STAVES.

Specification forming part of Letters Patent No. **150,501**, dated May 5, 1874; application filed March 25, 1874.

To all whom it may concern:

Be it known that I, JULIUS C. WOODMANSEE, of Carrsville, in the county of Livingston and State of Kentucky, have invented certain new and useful Improvements in Machine for Jointing Staves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

The nature of my invention relates to an improvement in stave and head jointing machines; and it consists in the arrangement and combination of devices which will be more fully set forth hereafter, whereby the staves are cut at any desired bulge and bevel, proportioning the bulge and bevel according to width of stave.

The accompanying drawings represent my invention.

a represents a frame of any suitable shape or construction, which is provided on its front side with a table, *b*, which table is made adjustable up or down at pleasure, by means of slotted ears or screws, as shown, or by any other suitable devices. Pivoted between ears projecting from the under side of the cross-bar *c*, which extends across the top of the machine, is the bar *d*, which bar serves as a guide to the sliding knife *e*, and to which the knife *e*, saw or chisel *f*, and stationary knife *g* are secured; the knife *g* being rigidly secured at its center to the guide *d*, while the saw *f* and knife *e* slide freely up and down, being operated by the foot-treadle *h*, to which they are connected by the rods *i*. The ends of the sliding knife *e* are fastened to the sliding frame *j*, while the center is secured to the guide *d* by means of a sliding guide-lug, *k*, so that when the guide *d* is forced backward, as will be more fully described below, it curves or bends both the knives *e* and *g* backward with it, so as to suit the bulge to the proportion of the width of stave. Screwed in the sliding lug *k* is a saw or chisel or other cutting device, *f*, just below the movable knife, and which moves up and down with the knife *e*, and cuts the chip in two, as the edge of the pieces is being cut away, thereby facilitating the cutting of the knife. In the lower end of the guide *d* are a number of perforations, by means of which the connecting-rod can be adjusted up and down so as to curve the two knives to any desired extent. Working back and forth in a slot at each end of the table *b* is a lever or stop gage, *m*, which holds the required bulge in the knives to which the stave is to be cut, also gaging each end of the stave alike in width. As these levers or stops *m* are drawn outward, the curve or bulge in the knives *e* and *g* increases according to width of stave in the machine, one of the levers being provided with a handle or other device, for the purpose of opening them outward. These levers extend downward, and have their lower ends secured to a rocking shaft, *n*, from the under side of which shaft projects a bar or lever, *o*, through which are a number of perforations. By means of the perforations in the lever *o* and bar *d*, the connecting rod or link can be adjusted so as to cause the knives to assume any curve desired. The knives being flexible and being bent out of line, they act as springs to close the levers or stop gages *m* inward after they have been released. In cutting the stave it is placed on top of the table *b*, inside of the levers *m*, which hold the stave, and press it against the saw or chisel, when, by a downward pressure upon the treadle, the movable knife is brought down, cutting the edge of the stave to its proportional bulge and bevel at the same time. As soon as the treadle *h* is released, the spring *p*, which is held in position by the rods, returns the knife *e* to position for another cut. By adjusting the outer edge of the table *b* to a higher position the bevel is decreased, and vice versa, the bevel being graduated according to width of stave. The circular ridges on both sides of the slots in the table *b* form a section of the circle of a barrel. The wedge-shaped pieces *c*, that rest on the circular ridges, and through which the levers or stops *m* pass, are for the purpose of holding the outer edge of the stave up from the said ridges upon which they rest, while the other edge is being cut away.

When it is desired to joint pieces for the head of a barrel, the connecting-pin in the connecting rod or link and bar or lever *o* is taken

out, and the levers *m* moved out to their full extent, and the lower end of the guide *d* drawn forward, and the lever *o* fastened to the connecting link or bar in the hole 1, by which means the knives are drawn forward until they are perfectly straight, and the screw *s*, passing up through the table *b*, is run up until its upper end is on a level with the sharp bar or stationary knife. The piece that is to be jointed for a head is then rested upon the top of the set-screw and the stationary knife *g*, and when the knife *e* is forced down it cuts the edge straight and square. The knife *e* is wider in the center than at any other point, and has a lug rigidly fastened to its rear side in the center, which contains holes for screws.

If so desired, this knife can be lowered on the frame by means of the slots in its ends, and by putting the holding-screws in other holes in the stationary lug by which the knife is secured to the guide *d*. By having the sharp bar or knife *g* rigidly fastened to guide *d*, and the sliding knife *e* fastened to the sliding lug *k* or guide *d*, the two always retain the same relative position, whether straight or curved. Staves of unequal width are cut with proportional bulge and bevel without altering the machine.

Having thus described my invention, I claim—

1. The combination of a sliding flexible knife, *e*, a flexible stationary knife, *g*, and the bar or guide to which both are attached so as to always retain them in the same relative position, whether straight or curved, substantially as set forth.

2. The combination of the saw *f*, attached to the sliding lug *k*, guide *d*, knives *e g*, levers *m*, rocking shaft *n*, lever *o*, and connecting rod or link, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 17th day of March, 1874.

JULIUS C. WOODMANSEE.

Witnesses:

ROBERT F. AGNEW,

PRESLY A. THRELKOLD.