

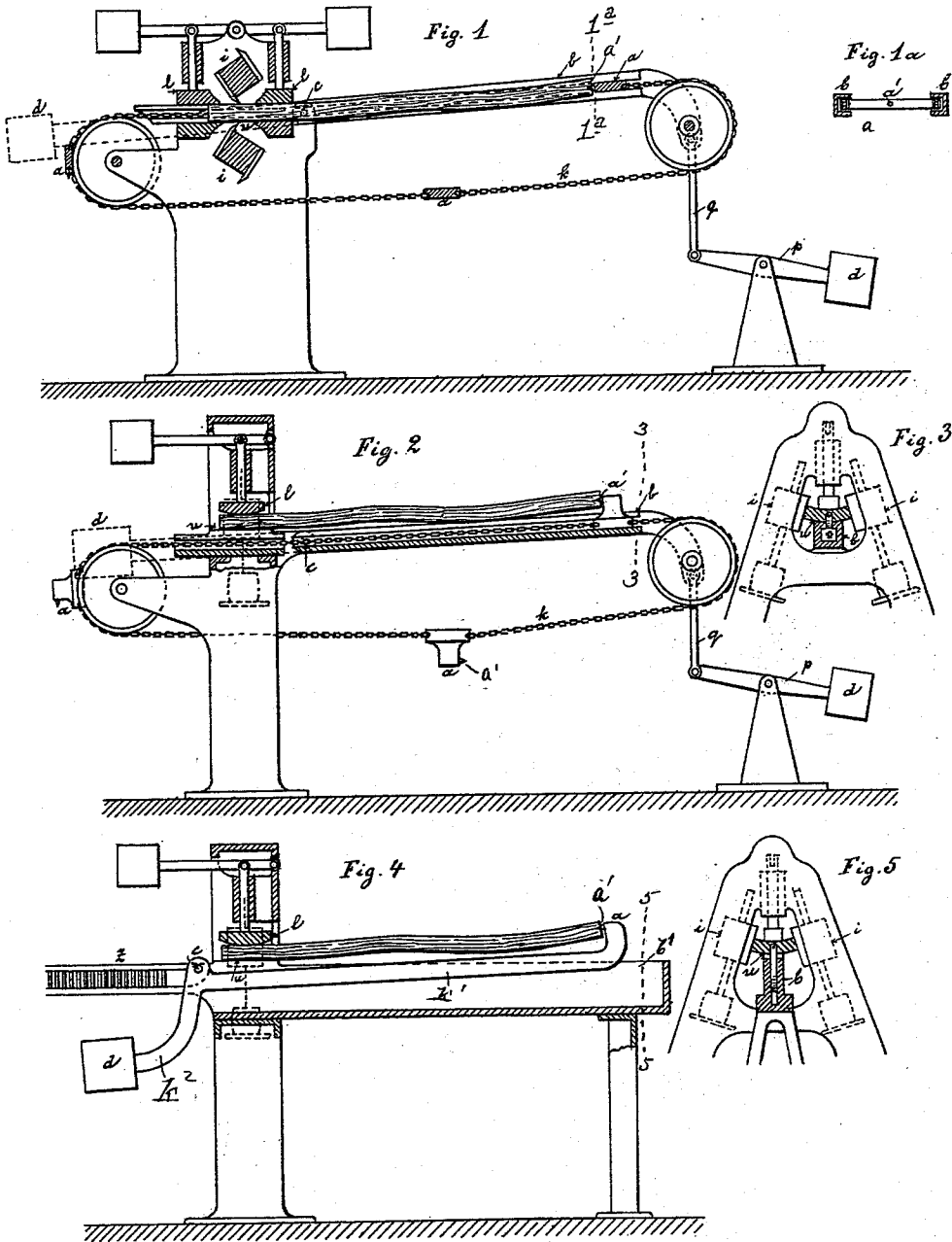
(No Model.)

J. ANTHON.

MACHINE FOR PLANING AND JOINTING BARREL STAVES.

No. 439,089.

Patented Oct. 28, 1890.



Witnesses:  
Richard Wigan  
Harro Schulze

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# UNITED STATES PATENT OFFICE.

JOHANN ANTHON, OF FLENSBURG, GERMANY.

## MACHINE FOR PLANING AND JOINTING BARREL-STAVES.

SPECIFICATION forming part of Letters Patent No. 439,089, dated October 28, 1890.

Application filed April 17, 1889. Serial No. 307,624. (No model.) Patented in Germany February 12, 1889, No. 49,812, and in England March 25, 1889, No. 5,121.

*To all whom it may concern:*

Be it known that I, JOHANN ANTHON, machine-maker, residing at Flensburg, in the Province of Schleswig-Holstein, Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Machines for Planing and Jointing Barrel-Staves, (patented in Germany February 12, 1889, No. 49,812, and in England March 25, 1889, No. 5,121.) of which the following is a specification.

The object of my invention is to provide a machine for planing on both sides or jointing barrel-staves of an irregular, winding, or crooked shape, as they are rived from the block, thus obviating the necessity of having an extra machine for straightening said staves before they are operated upon.

With this object in view my invention consists in the combination, with the planing-cutters, of a free or yielding holder and carrier adapted to engage the stave and movable in directions transverse to the line of feed or approach to the cutters to accommodate the requirements of the stave.

In order to make my invention more clearly understood, I have shown in the accompanying drawings means for carrying the same into practical effect.

In said drawings, Figure 1 is a side view, partly in section, of a machine embodying my invention, having therein a stave in position for being planed. Fig. 1<sup>a</sup> is a sectional view of the guide-bars for the tappets of the endless chain on line 1<sup>a</sup> 1<sup>a</sup> of Fig. 1. Fig. 2 is a view of another machine also embodying my invention and having a single downhold or presser for the stave, and provided with jointing-cutters and with a slightly-modified form of carrier and carrier-guide. Fig. 3 is a sectional view on line 3 3, Fig. 2. Fig. 4 is a modification of the construction shown in Fig. 2, comprising a reciprocating carrier. Fig. 5 is a sectional view looking from the right of Fig. 4.

Referring to the said drawings, *z z* represent rotary cutters or planing-knives, which may be arranged for operating upon the top and bottom of the stave, as in Fig. 1, or upon the edges, as in Figs. 2, 3, 4, and 5. These

cutters are mounted upon a suitable frame and actuated by any desired or usual mechanism.

The free or yielding holder and carrier is shown at H, and it or a part thereof is adapted to move in planes or in directions transverse to the line of feed. This movement is preferably an oscillation upon a fixed or movable pivot *c*. This holder or carrier may consist of an endless belt or chain *k*, Figs. 1 and 2, a portion of which runs in an oscillatory guide *b*, and provided with stave holding or engaging portions *a*, or it may consist of a reciprocating carriage *b'*, the stave-holder *a* of which is oscillatory or otherwise freely movable in or on the carriage. In the first instance the stave-holders *a* are formed by tappets secured to and carried by the endless chain, while in the second instance, Fig. 4, there is but one such holder *a* formed by the upturned end of a lever *k'*. This lever is mounted upon the pivot *c*, which is mounted in and moves or reciprocates with the carriage *b'*, and consequently renders the holder *a* freely movable. The carriage *b'* slides in a suitable guide or frame and may be reciprocated through a rack *z* and a pinion (not shown) engaging the same.

In Fig. 1 the chain is double and the tappets are in the form of transverse bars secured to and between the parts of the chain, and the guide *b* is also double, as clearly seen in Fig. 1<sup>a</sup>, and mounted on pivot or hinge *c*.

In Fig. 2 the chain is single, lying directly under the stave, and the tappets are in the form of blocks secured to the chain and having upwardly-extending parts adapted to engage the rear ends of the staves. In this construction the oscillatory guide is also single, inclosing the chain and forming a slide for the tappets, as seen in Fig. 3.

*d* is a counterbalancing-weight which tends to support the weight of the holder and stave without interfering with its freedom of movement. This weight may be connected with the holder *a* through the medium of a lever *p*, rod *q*, and the guide *b*, as in Figs. 1 and 2, or by being secured to an extension *k<sup>2</sup>* of the lever *k'*, Fig. 4, when the latter form of the

invention is employed. The weight  $d$  may also be applied to an extension of the guides  $b$ , as shown in dotted lines in Figs. 1 and 2.

$u$  indicates the support for the stave at the point where it is operated on by the cutters, upon which support it is held by the presser or clamping plate or plates 1, which bear against the stave with a yielding pressure, so as to keep it firmly in place without impeding its feed.

The stave-holder is provided with suitable means for engaging the stave, such as a point  $a'$ .

What I claim is—

1. In a machine for planing or jointing

staves, the combination, with the cutters, of a freely-yielding holder and carrier adapted to engage the stave and movable transversely to the direction of the feed or longitudinal movement of the stave, substantially as set forth.

2. The combination, with the cutters, of an endless carrier or belt provided with means for engaging the stave, and a freely-yielding guide for the belt, substantially as set forth.

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Witnesses:

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