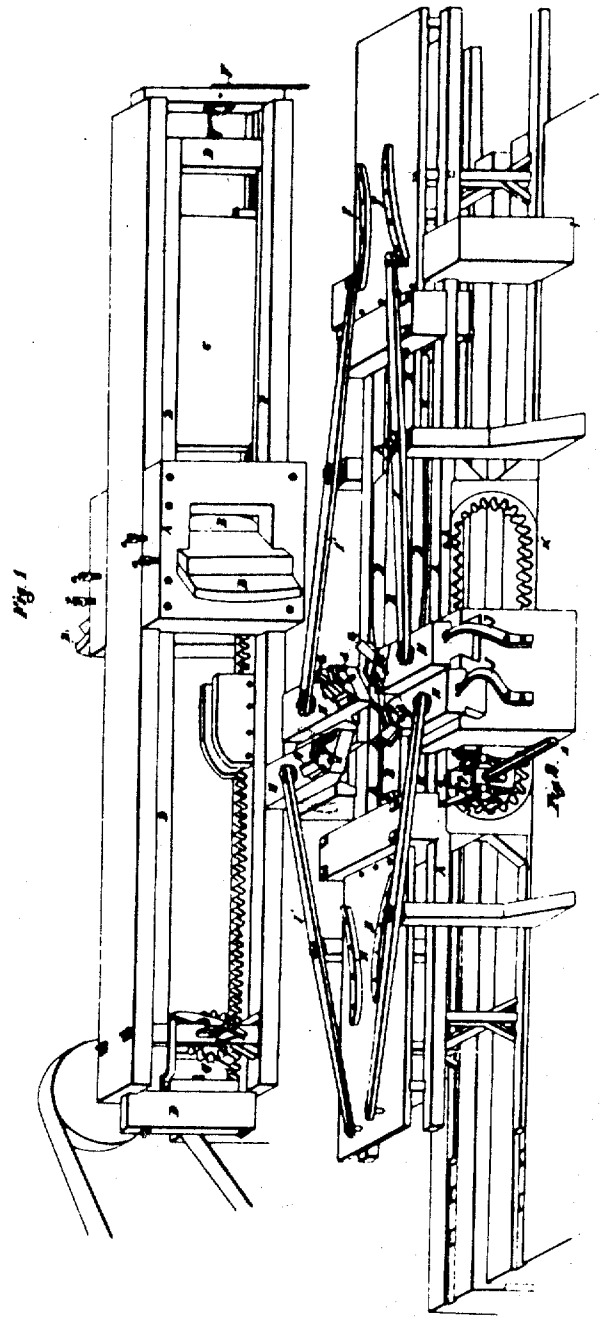
1539 V

3 Sheets-Sheet 1.

Langden & Morry,

Jointing Staves.

Patented June 20, 1811.



1539X

2 Sheets, Sheet 2.

Langden & Morry,

Jointing Staves.

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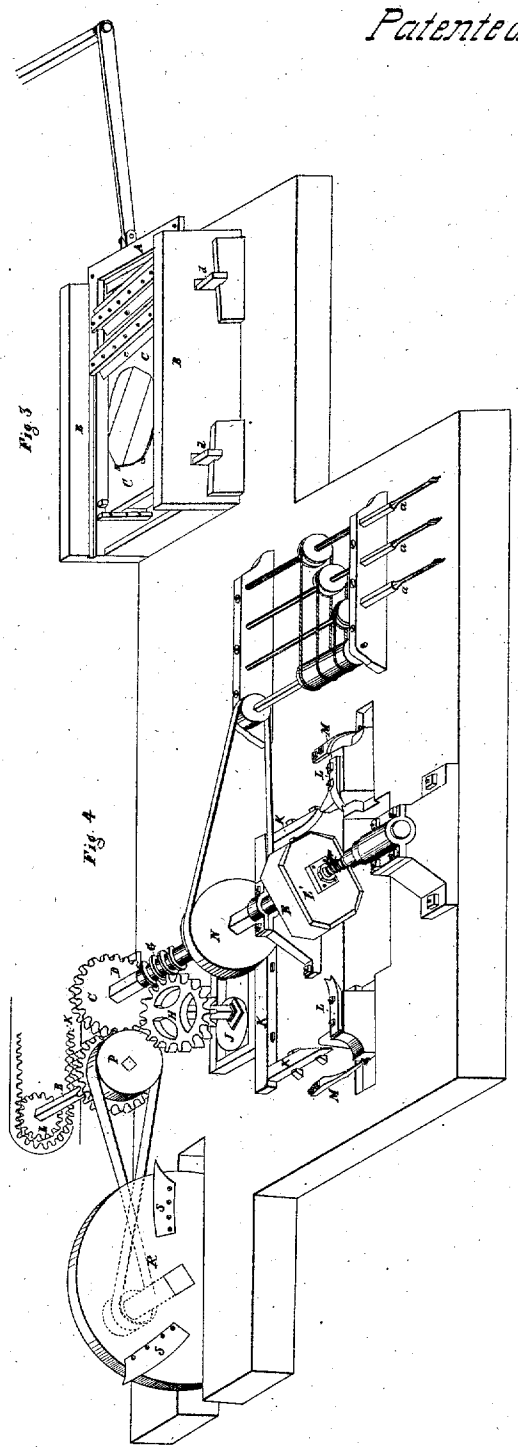


Fig 3

Fig 4

AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

Barnabas Langdon and William Mowry.

Letters Patent.

The schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Barnabas Langdon and William Mowry themselves of their Machine, for shaving, jointing, and forming the staves and heads of barrels &c.

This Machine consists of the following parts viz. The machinery for shaving and dressing the staves; - the machinery for jointing; - and the machinery for dressing the swelling or bulging called the heading -

The machinery for shaving and dressing staves is composed of two plane stocks standing vertically, with any number of plane-irons either double or single, the irons on one side rounding the outer side of the staves, and the irons on the other side following it agreeably to the dish of the cask or barrel to be formed. The rough staves being placed on its edge on a sliding carriage which traverses by means of a double rack & pinion between, or by means of a single rack or slide carried back by a weight or, by the operation of these plane irons, dressed into its proper form and thickness by one operation, or once passing between the stocks. The stocks in which the plane irons are placed, may be made of Metal, or other sufficiently strong material; and the plane irons are fixed and adjusted in them by screws descending from the upper surface upon their edges.

The machinery for jointing is placed in the same line with the former, so that a carriage moved by the same rack and pinion may answer, or if circumstances render it more convenient, a separate rack and pinion, and carriage may be used, at the option of the constructor.

Perpendicularly over the rack, and attached thereto, is the carriage for receiving and holding the stave to be jointed. The carriage stands vertically, and has a moveable upper jaw extending its whole length between which and a fixed horizontal under jaw the stave is laid with the convex side downwards, it is kept in this position by a wedge, screw or cam. On the upper part of this carriage are gauges formed corresponding to the curve or bilge

of the stave, so that as the carriage is passed along with the stave, it shall
and may raise the stave at one end and as the carriage passes it may
other end. This is effected by plane irons on each side standing in jointly
upright but adjustable by screws to such inclination as shall give the proper bea
to the edge of the stave, according to the diameter of the barrel or cask. The iro
being fixed and adjusted by screws and depressed in shaving by which effe
towards each other as the operation is performing. The jointing and the bottom
long cask are moved by balanced levers guided by guages in which the staves
stand, and particularly described above. After the staves have passed through
between the jointing irons one way, the side and irons connected therewith which
have reduced the staves are thrown back by a spring; and as the carriage & staves
return again the contrary direction these jointers are released and another
commences their operation, so as to joint and taper the other end of the staves in
same manner. The backs of the sliding carriages which support the joint
may be regulated by screws, to the width of certain descriptions of staves, as
the staves sorted accordingly: or they may be so fixed that when the staves is fi
on the carriage, its width shall operate on levers connected with the backs of the
jointers, so as to move them to suit the width of the stave, and staves of any
width may be admitted indiscriminately without previous assortment.

The rack and pinion by which these carriages are moved are of a pec
liar construction it will be necessary to particularly describe them.

There are two parallel racks of teeth in the same forme and facing eac
other, connected at their ends by semicular teeth in part of a circle & corres
ponding with the teeth of the pinion, so that the two racks and their con
necting ends form a long parallelogram with teeth in straight rows above
and below and in portions of a circle at the end. After the pinion has been a
ting on the lower rack or side of the parallelogram and reaches the end of
the rack, the teeth of the pinion begin to act on those in the portion of a
circle, and leading the two racks by which means the pinion is raised & mad
in the teeth of the upper horizontal rack, and the axis of the pinion is by
at that elevation by a spring and catch or jog, which locks into a shal
bar that supports the axis of the pinion. The revolutions of the pinion
by its teeth working with those of the upper rack, give the rack a con

stant

motion to the pinion extremely. when a pin throws the wheel one step only pinion and by the teeth on the face of the pinion the pinion demands a the same track, and is fixed again by a detent or pig in the first position. thus by an unformality rendering motion of the pinion the rack knocks alternately each way & heard the carriages with the plane accordingly.

A pitman connected with the rack above described extends to a sliding knife frame which moves horizontally in a box wide enough to contain the heading stuff. This is laid flat on a sizing bench within the box so that when the heading is placed on the bench it can be raised at pleasure and the sliding knives passing over it, will shave off what is any required thickness. These knives may be placed with any degree of obliquity, and although it is mentioned that this is moved by the rack before described yet it may be a separate machine or connected with any other of the movements and worked separately. The same machinery by adding gauges to raise the bench and by substituting the proper planes, will serve to plane chip for hats, splits for bonnets & other purposes and we hereby describe it accordingly.—— On the same axis of the pinion which moves the rack is a spur wheel, the teeth of which turns a nother spur wheel pinion or rounds head on a horizontal mandrill, having at its end a flat clamp nearly of the size of the head to be cut, and against which the head is placed to be cut to the proper size. In the same line with this mandrill is a second mandrill or follower with a similar flat clamp, so that the heading is securely held between them and revolving with the mandrel, on this horizontal mandrill is an endless screen which gives motion to a horizontal wheel, that has on its axis a snail, cam or bow wheel, that as the horizontal wheel revolves, advances the cutters together, and the head is cut out truly circular and with the proper bevel edge. These cutters are placed opposite to each other and are kept asunder by springs except when pressed together by the snail above mentioned.

On this horizontal mandrill is a whirl or spur wheel which gives motion to the dowelling bits, by a band or otherwise. Another wheel or whirl placed on the extremity of the pinion axis communicates motion to the shaft of a large wheel which has 16 fine brass knives fixed or hatchet

for the purpose of trimming any kind of Cotton stuff

We prefer the foregoing Machinery, or machinery of the same
plug, or parts thereof, to the cutting and preparation of every description
Cotton stuff, and consider the same as part of our discovery and in

Witness

William Thornton
Geo Lyon

Barnabas Langdo
William Mowry

Ea
Cl. W.

Drawing Made

Rec'd