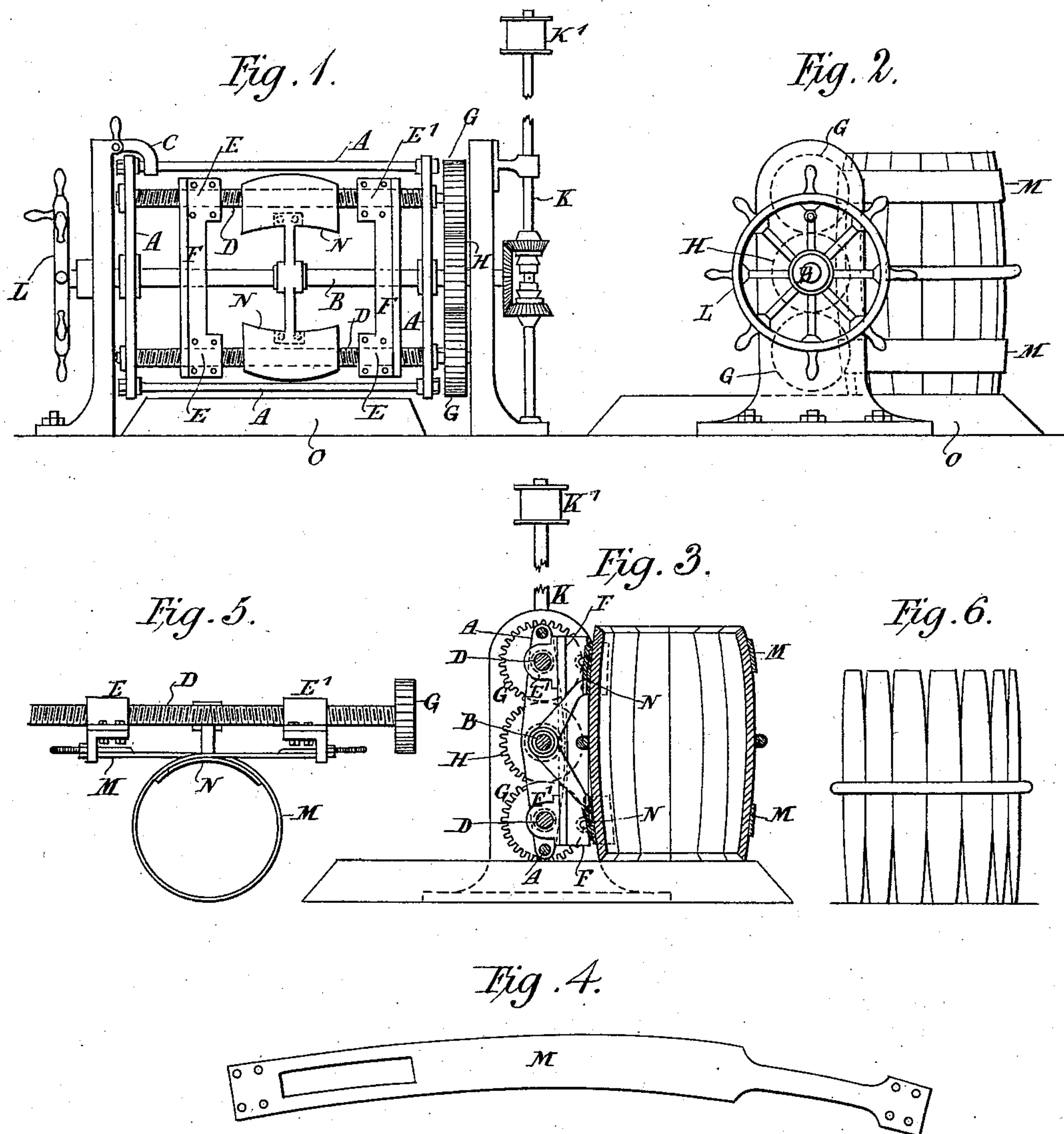


(No Model.)

T. G. STEVENS & J. BAKER.
MACHINERY FOR MANUFACTURING CASKS.

No. 522,537.

Patented July 3, 1894.



Witnesses.
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UNITED STATES PATENT OFFICE.

THOMAS GEORGE STEVENS, OF SWANSCOMBE, AND JOSEPH BAKER, OF GREENHITHE, ASSIGNORS TO THE STEVENS CASK AND BARREL COMPANY, LIMITED, OF LONDON, ENGLAND.

MACHINERY FOR MANUFACTURING CASKS.

SPECIFICATION forming part of Letters Patent No. 522,537, dated July 3, 1894.

Application filed January 22, 1894. Serial No. 497,692. (No model.) Patented in England August 17, 1891, No. 13,842; in Germany February 23, 1892, No. 66,560, and in France June 24, 1892, No. 222,569.

To all whom it may concern:

Be it known that we, THOMAS GEORGE STEVENS, engineer, residing at Esther Villa, Swanscombe, Kent, and JOSEPH BAKER, engineer and cooper, residing at 6 Sunset View, Knockhall Chase, Greenhithe, Kent, England, subjects of the Queen of Great Britain, have invented certain new and useful Improvements in Machinery for the Manufacture of Casks, (for which we have received Letters Patent in Great Britain, No. 13,842, dated August 17, 1891; in France, No. 222,569, dated June 24, 1892, and in Germany, No. 66,560, dated February 23, 1892,) of which the following is a specification.

For trussing and hooping casks we construct a machine in which is a frame carrying two right and left hand screws parallel the one to the other. These screws serve to simultaneously tighten two steel bands around the cask while the same stands upon end and rests also against a suitable support. Hoops are applied while the staves are drawn together and the cask is held by the bands. When hoops have been put on at one end of the cask it is inverted without releasing it from the machine and the other end is hooped. To permit of the cask being so turned end for end, the frame carrying the screws and the steel bands is itself mounted upon a horizontal shaft carried by standards to which the frame can be locked and so held fast while the trussing operation is performed. After the hoops have been applied at one end the frame is unlocked from the standards and turned over; it carries with it the screws, the bands and the cask support together with the cask which is held compressed by the bands. The cask is then hooped at the other end and finally released from the machine.

The machine is geared so that power may be applied to simultaneously turn the screws. Power may also be applied to invert the cask.

In the drawings annexed Figure 1 is a front elevation of a machine in accordance with our invention. Fig. 2 is a side elevation and Fig. 3 is a transverse section of the same.

Fig. 4 shows separately one of the metal bands. Fig. 5 shows the band and part of the mechanism for tightening it around the cask. Fig. 6 shows a "raise" of light staves ready to go into the machine.

A is a rectangular frame free to turn about the shaft B but normally prevented from turning by the latch C. The latch is connected by a strong joint to a standard at one end of the machine. The latch is forked at the end and embraces the rod which forms the upper member of the frame A.

D D are right and left hand screws mounted in the frame A. They have nuts E E' upon them. The nuts E E and E' E' are respectively connected by angle iron bars F F. The screws D D have each at one end a pinion G gearing with a pinion H fast upon the shaft B.

K is a vertical axis supported by one of the standards and driven by a belt passing around the pulley K'. The axis K has upon it a pair of beveled pinions either of which can be made to engage with a wheel fast upon the shaft B to turn the shaft one way or the other as may be required. The shaft B can also be turned by the hand wheel L upon it.

M M are thin steel bands; they have each an elongated hole near one end and near the other end the width of the band is reduced until it can be passed through the hole, thus forming the band into a loop. The extremities of the bands M may either be bolted directly to the angle iron bars E E' as suggested by Fig. 4 or the connection may be made in the manner indicated in Fig. 5.

N is a support for the cask; it is mounted loosely upon the shaft B.

The bands M where they cross and for a considerable portion of their length rest upon the surface of the cask support and this being of smooth metal the bands slide upon it with much less friction than if they were throughout their entire length in direct contact with the staves of the cask or barrel.

O is a platform upon which the cask stands while being operated upon.

It will be seen that the effect of rotating

the shaft B while the latch C prevents movement of the frame A is to cause the screws D to turn and the loops of the bands M to be either contracted or enlarged according to the direction of the movement. On the other hand when the latch C is raised out of the way, and the frame A is free, it turns with the shaft B carrying with it the cask held by the band M and the cask is thereby inverted.

10 The mode of operation is then as follows:—
The staves to the number required are assembled as is shown at Fig. 6 in the usual way to form a "raise" and they are fired. Then when the staves are in a pliable state
15 the "raise" is brought to the machine and the two ends of the cask are simultaneously closed by tightening the bands uniformly around them. In some cases the heads or ends of the cask are put in at the same time that the
20 staves are drawn together; the heads then are supported in their proper positions relatively to the staves and these are suitably grooved at their ends to receive the heads; the staves on being closed in catch and hold the
25 heads. A hoop or hoops are then put on to the upper end of the cask; next the latch C is lifted, and the frame A with the cask is inverted and the other end of the cask being

now the upper is in turn hooped. Finally the cask is released from the bands M M. 30

What we claim is—

1. In machines for trussing and hooping casks, the combination of a shaft, a frame mounted to turn on the shaft, means for holding the frame stationary, two screws working in bearings on the frame, and movable bodily therewith about the shaft, gearing whereby the two screws are simultaneously driven by the shaft, nuts upon the screws and two bands having their ends attached to the nuts. 35 40

2. The combination of a frame mounted to turn about a horizontal axis, screws arranged side by side in the frame and mounted to turn therein, means for revolving the screws and means for turning the frame and screws about the horizontal axis, nuts mounted on the screws and adapted to move endwise thereon, and bands for encircling the cask and connected with the nuts. 45

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