

E. J. GRANGER & H. S. SMITH.

Barrel-Head Adjuster.

No. 162,230.

Patented April 20, 1875.

Fig. 1.

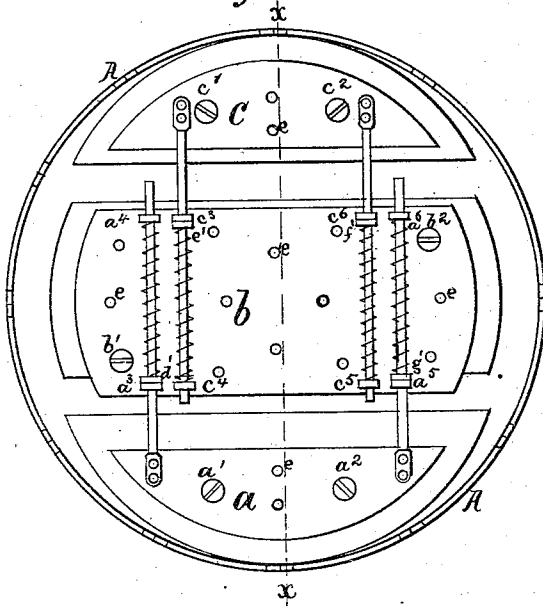


Fig. 3.

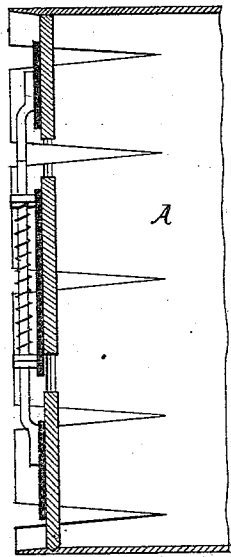
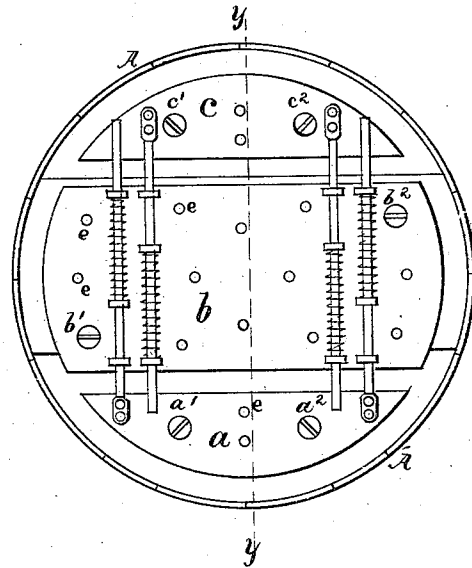


Fig. 2.

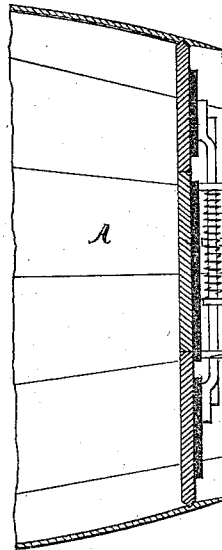


Fig. 4.

Witnesses.

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UNITED STATES PATENT OFFICE.

ELIHU J. GRANGER, OF BROOKLYN, AND HEMAN S. SMITH, OF SOUTHFIELD,
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IMPROVEMENT IN BARREL-HEAD ADJUSTERS.

Specification forming part of Letters Patent No. **162,230**, dated April 20, 1875; application filed
January 9, 1875.

To all whom it may concern:

Be it known that we, ELIHU J. GRANGER, of Brooklyn, New York, and HEMAN S. SMITH, of Southfield, New York, have invented certain Improvements in Barrel-Head Adjusters, of which the following is a specification:

The object of our invention is to hold the several pieces (two or more in number) which form the head of a barrel in the same plane during the act of hooping the barrel, so that these pieces so held may be placed in position to engage the groove on the inside of the barrel-cylinder, when the staves or sheets of wood of which the barrel-cylinder is formed are convergently compressed and hooped.

Our invention consists of two, or, preferably, three plates, which may be severally secured to the pieces forming the head of the barrel, and which are held in the same plane by sliding bolts, or in any other convenient way, and are sprung apart by expanding-springs.

The operation of our device may be clearly seen from the drawings, which are as follows:

Figure 1 is an end view of a barrel-cylinder before compression or hooping, showing the three pieces forming the head of the barrel secured to the three plates of our adjuster, and held apart by the expanding-springs on the sliding bolts. Fig. 2 is a vertical section of the same, through the line *xx* on Fig. 1. Fig. 3 is an end view of a hooped barrel, showing the head-pieces in place, and the consequent compression of the springs on the adjuster; and Fig. 4 is a transverse section of the same, through the line *yy* on Fig. 3.

Our invention is useful as a means of holding the head-pieces during the ordinary process of hooping a barrel, but is especially designed for use in connection with a barrel compressing and hooping machine, substantially like that described in Arealous Wyckoff's patent, dated December 19, 1865.

The three plates of our adjuster, preferably

of sheet-iron, *a b c*, are provided with holes *e e e*, &c., for the admission of screws, by which they are severally fastened to the head-pieces of a barrel. In the drawing, such screws are shown at *a¹ a²*, *b¹ b²*, *c¹ c²*. Each of the outer plates of the adjuster, *a* and *c*, is provided with two bolts, which are firmly secured to them, and which project, respectively, across the middle plate *b* in opposite directions. These bolts slide in the stationary collars or bearings *a³ a⁴ a⁵ a⁶* and *c³ c⁴ c⁵ c⁶*, affixed to the middle plate *b*. The bolts, respectively, are provided with the fixed collars *d' e' f' g'*.

The barrel-cylinder *A* in the drawing is represented as composed of a notched sheet of wood in Figs. 1 and 2, and of staves in Figs. 3 and 4, the operation of our device being precisely the same in both cases. The expansion of the head-plates causes the outer edges of the outer head-pieces to engage the groove inside the cylinder at two points before the compression or hooping of the cylinder, so that when that operation takes place, the whole of the periphery of the head is presented in the proper position to engage the groove all the way around. As the staves converge the springs yield, allowing the head-pieces to come together, but maintaining them in the same plane.

Upon the completion of the operation the adjusting-plates are detached, and are then ready to be applied to another set of head-pieces.

We claim as our invention—

The combination of two or more plates capable of being applied to the head-pieces of a barrel, and connected by guiding-bolts, substantially such as described, with expanding-springs, substantially as and for the purpose set forth.

E. J. GRANGER.
H. S. SMITH.

Witnesses:

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