

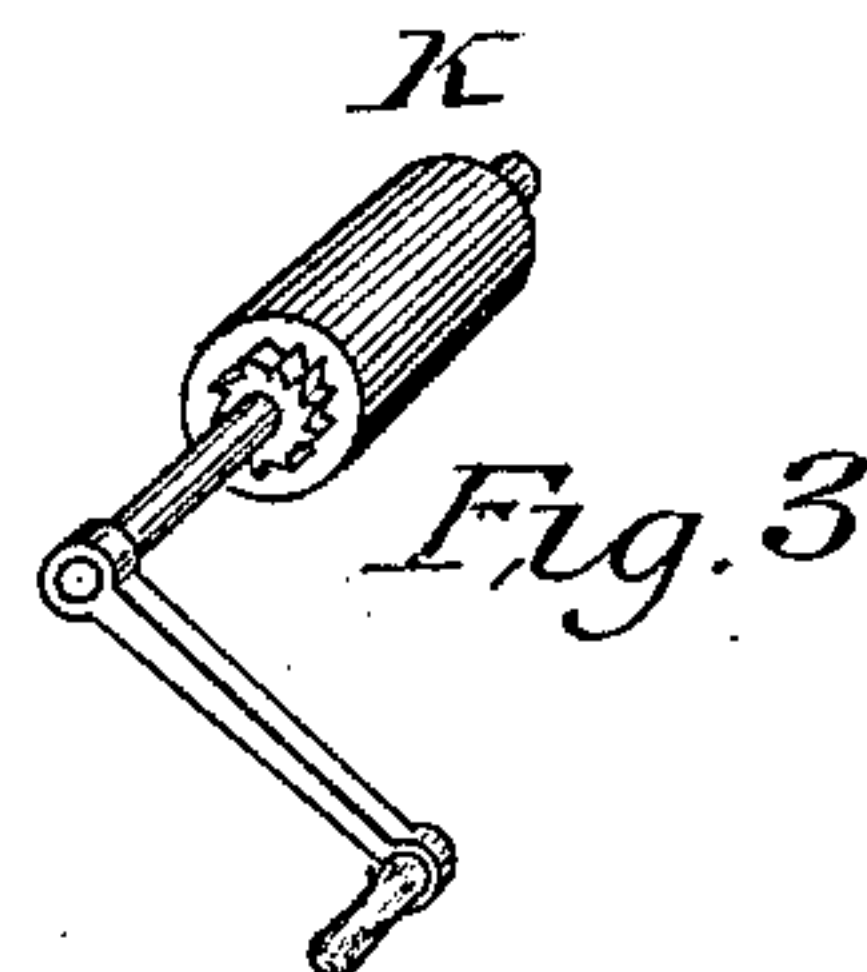
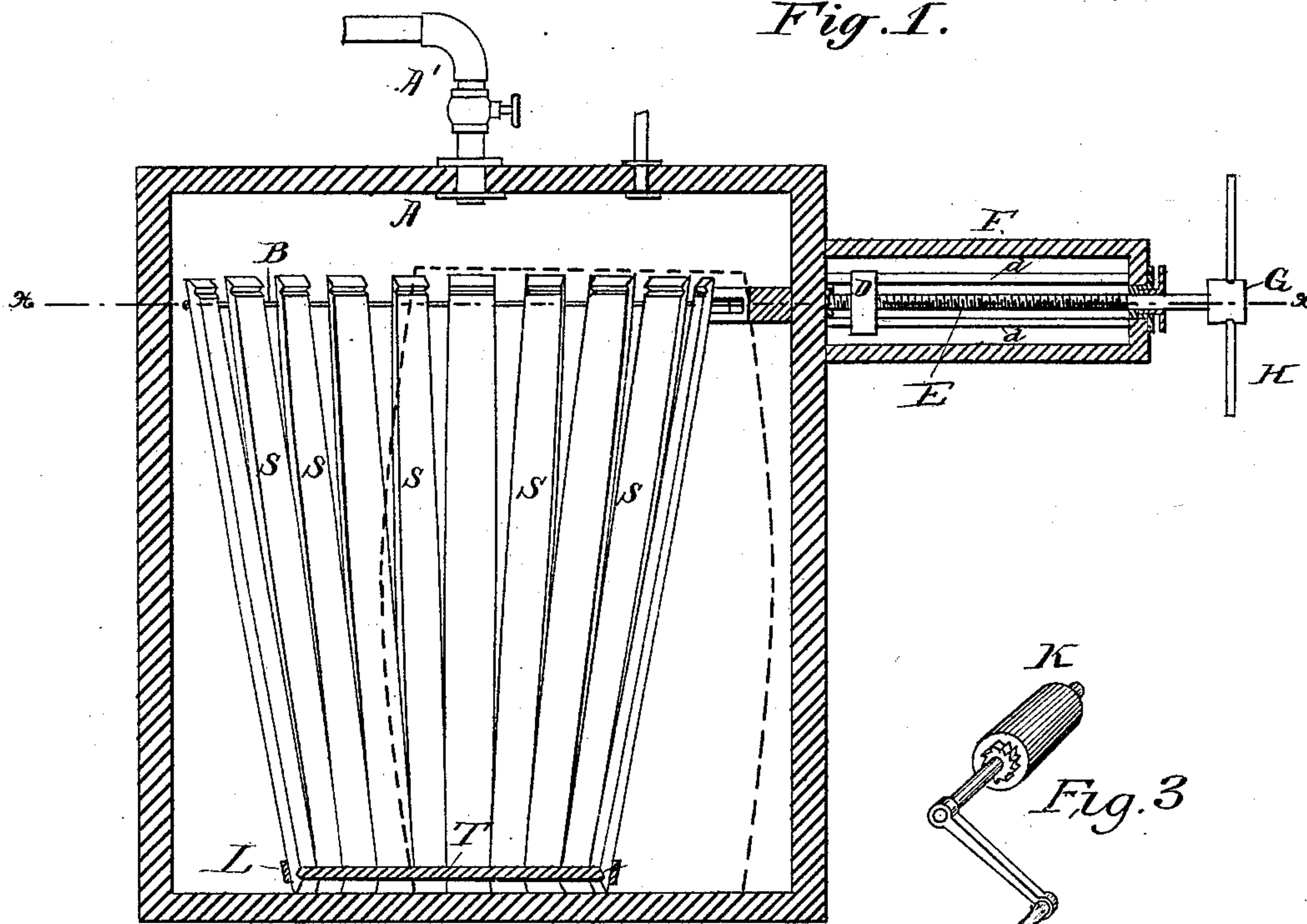
(No Model.)

J. M. ROBINSON.  
BARREL SHAPING MACHINE.

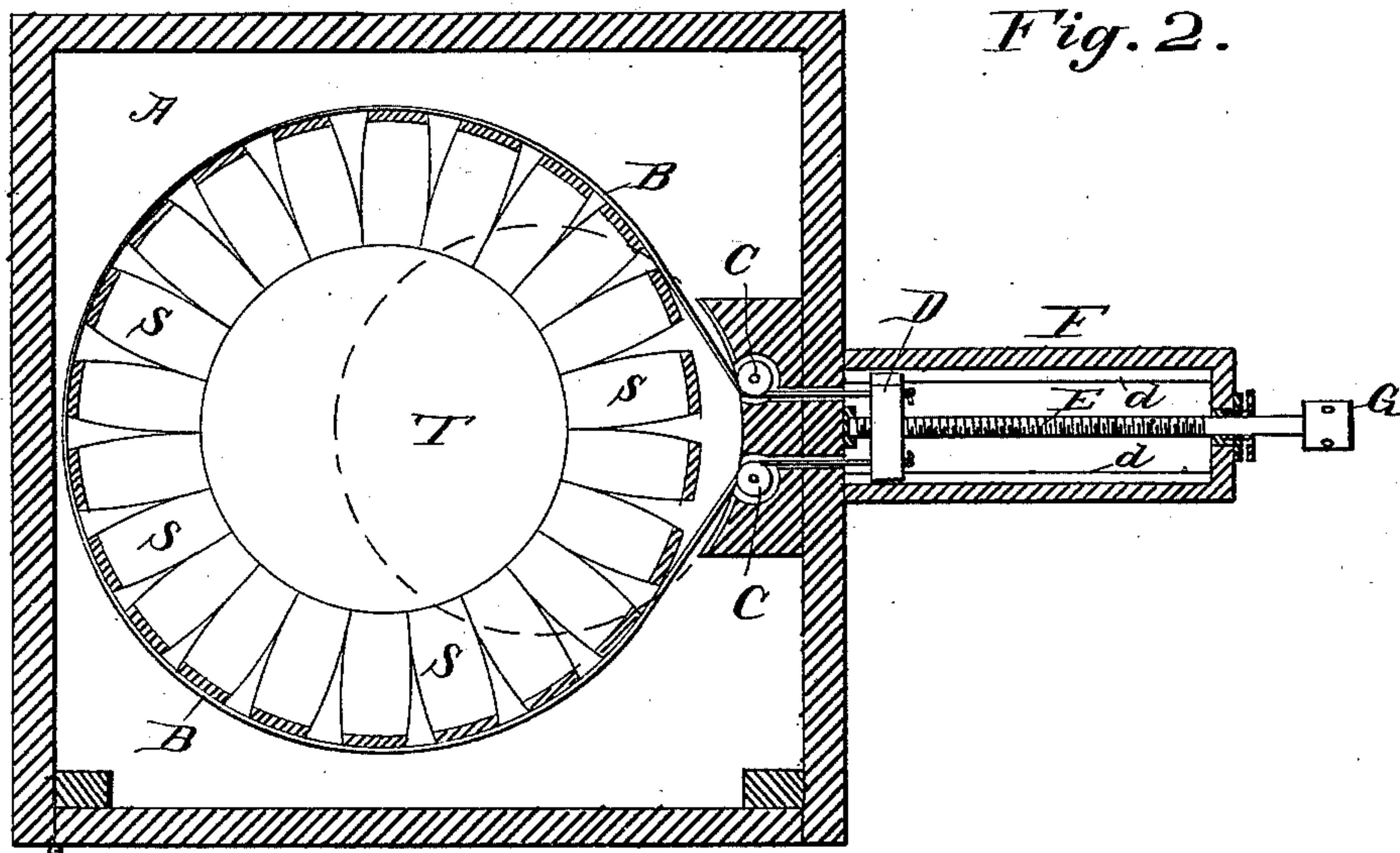
No. 297,010.

Patented Apr. 15, 1884.

*Fig. 1.*



*Fig. 2.*



Witnesses.

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# UNITED STATES PATENT OFFICE.

JOSEPH M. ROBINSON, OF BROOKLYN, NEW YORK.

## BARREL-SHAPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 297,010, dated April 15, 1884.

Application filed December 28, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH M. ROBINSON, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Barrel-Shaping Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to the apparatus employed in steaming and shaping casks or barrels; and the object of my improvement is to facilitate drawing in and shaping the steamed staves to form the cask, preparatory to heading the same.

It consists in combining with the steaming-box a cord or wire loop or band adapted to be slipped over the upper free ends of the staves after they have been set up around one head of the cask, the loop being arranged to be so drawn and tightened by means of a screw or equivalent mechanical device, operated from the outside of the box, as to bend in and draw the staves together after they have been softened by the steam, and thus form and unite them into the shape required in the finished cask.

In the accompanying drawings, Figure 1 is a vertical central section through the improved steaming-box; Fig. 2, a transverse section in line *xx* of Fig. 1, and Fig. 3 a view in perspective of a winding-drum constituting an equivalent for a traveling nut in drawing up the forming-loop.

A represents a steaming-box, of any approved construction, adapted to receive the shook after the staves *SS* have been set up in position around the lower head, *T*.

*A'* is the steam-supply pipe for the box, and *A''* the exhaust-pipe.

*B* is a strong loop or flexible band—preferably of wire—long enough to encircle the free ends of the staves in the shook when set up. The two ends of this loop are brought near together and passed each around a friction-roller, *C*, Fig. 2, journaled at the side of the box on a level somewhat below the upper ends of the staves, and are led out to a traveling nut, *D*, which is fitted upon a screw, *E*, mounted to rotate in a lateral recess or chamber, *F*,

formed on the side of the steaming-box. The rotation of the nut is prevented by the lateral longitudinal guide-strips *dd*, upon which it is free to traverse. The outer end or shank of the screw *E* extends outwardly through a suitable gland or stuffing-box in the end of the chamber *F*, with a steam-tight joint, and terminates in a head, *G*, adapted to be engaged by a rod or lever, *H*, or which may be fitted with a crank, to facilitate its rotation.

As an equivalent for the traveling nut upon the screw *E*, a rotating drum or pulley, *K*, (see Fig. 3,) may be mounted in the lateral chamber *F*, and the ends of the loop or band *B* secured thereto, so that by rotating the drum the cord or wire constituting the loop, being wound up thereon, will be tightened and contracted about the staves, as required. The drum may be rotated by a crank fitted upon the end of its axle or shaft, made to project outside of the chamber *F*, and its reverse movement in winding the loop be prevented by a pawl and ratchet.

In the use of my improved forming apparatus, the straight staves of the cask are set up in the usual manner around the lower head and confined by means of a band or hoop, *L*, and the shook thus set up is placed within the steaming-box *A*. The flexible forming-loop or contractile band *B* is then passed over the upper ends of the staves *SS*, to encircle and embrace them. The box is then closed and steam admitted thereto through the pipe *A'* until the staves have become sufficiently softened to readily bend. The loop *B* is then drawn up or tightened around the staves by a rotation of the screw *E*, actuating the traveling nut *D*, to which the ends of the loop are secured, or by a rotation of the drum *K*, if that be employed. As the nut *D* moves outward or the drum *K* rotates, the loop *B*, closing and contracting around the staves, will draw them closely together edge to edge, their form producing, when they are thus united, the proper bulge or outward curvature required in the finished cask. When the staves are thus fully drawn up and tightly closed together, they are confined by means of a clamping-hook until the cask is removed from the box and finally hooped in the usual manner.

It is evident that various devices adapted to



be operated from outside the steaming-box may be employed for contracting the loop B around the staves after they are steamed, and I contemplate the use in this connection of any  
5 of these well-known mechanical appliances.

Heretofore the shook, after being set up and steamed, has been removed from the steaming-box, in order to draw up and bend and close the staves together. My improved method of  
10 bending and closing up the staves within the steaming-box obviates all the difficulties which attended the old process, because of the rapid cooling of the staves after their removal and the loss of time attendant upon the opening  
15 and consequent cooling of the box required to ascertain whether the staves have attained a proper condition for removal, or in waiting a longer time than necessary to insure positively such a proper condition. By closing the staves  
20 within the box I am enabled to perform the operation at the earliest possible moment, and the operation having been commenced it may be continued without interruption or failure and without any unnecessary delay in each  
25 case until fully completed.

I claim as my invention—

1. The method herein described of forming casks, which consists in submitting the straight staves, when set up around one of the heads of the cask, to the action of steam in a steaming-  
30 box, drawing and completely closing the softened staves together to form the cask while still inclosed within the steaming-box, and binding and securing the free ends of the closed staves in position before removing the cask  
35 from the box.

2. The combination, with a steaming-box adapted to receive the set-up shook of a cask, of a flexible contractile loop or band fitted within the box in position to encircle the  
40 staves of the shook, and arranged to be contracted by suitable mechanical devices operated from without the box, substantially in the manner and for the purpose herein set  
45 forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH M. ROBINSON.

Witnesses:

P. ELBERT NOSTRAND,  
A. W. STEIGER.