No. 832,075. PATENTED OCT. 2, 1906.

E. MOXHAM.

MACHINE FOR CRIMPING OR BENDING THE BODIES OF PULP KEGS OR PACKAGES.

APPLICATION FILED MAR. 17, 1905.

2 SHEETS—SHEET 1.

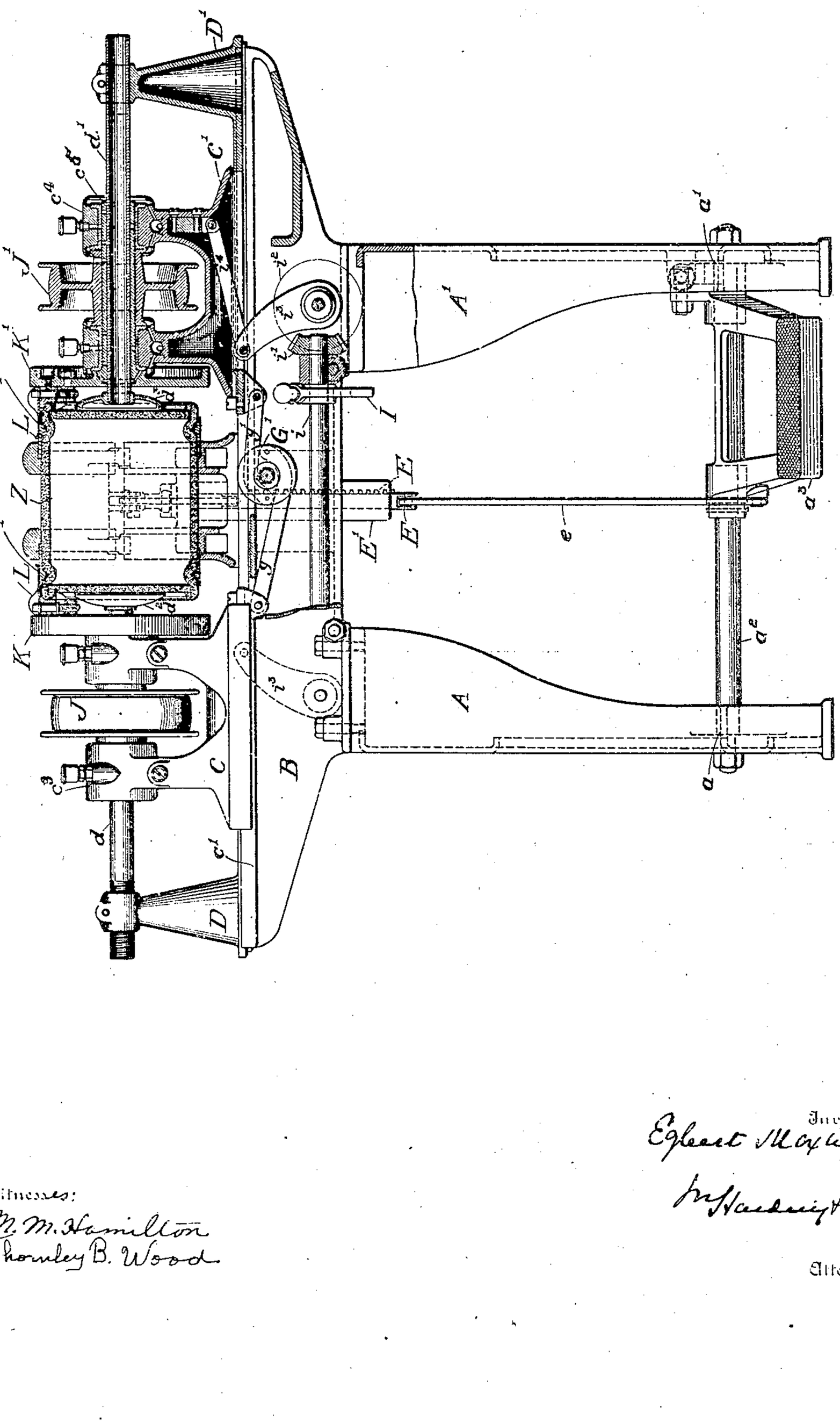

Fig. 1.

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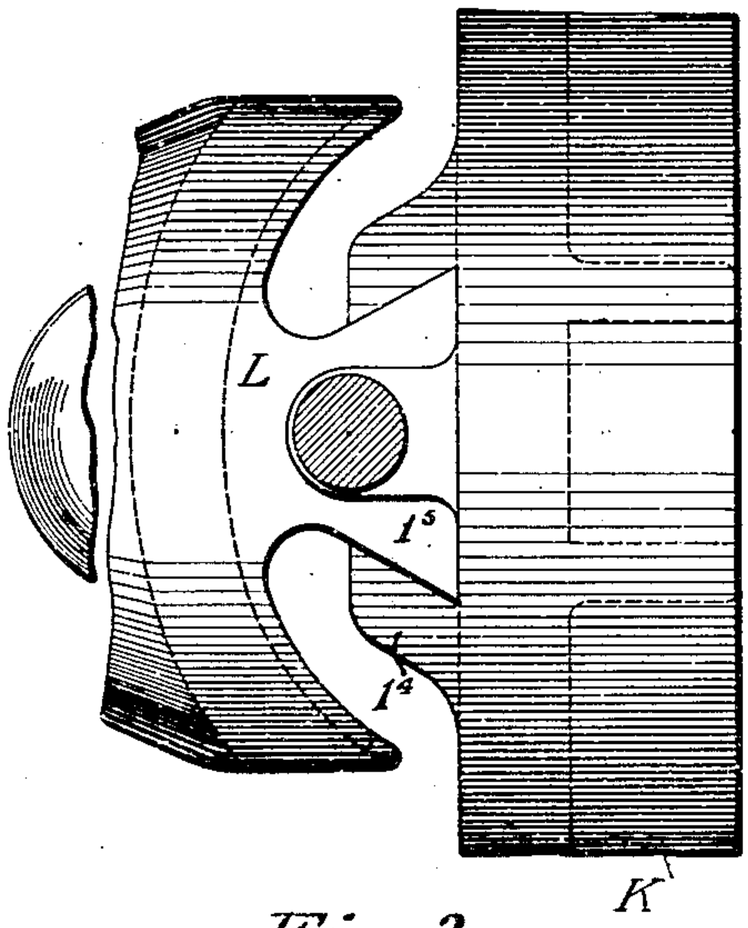
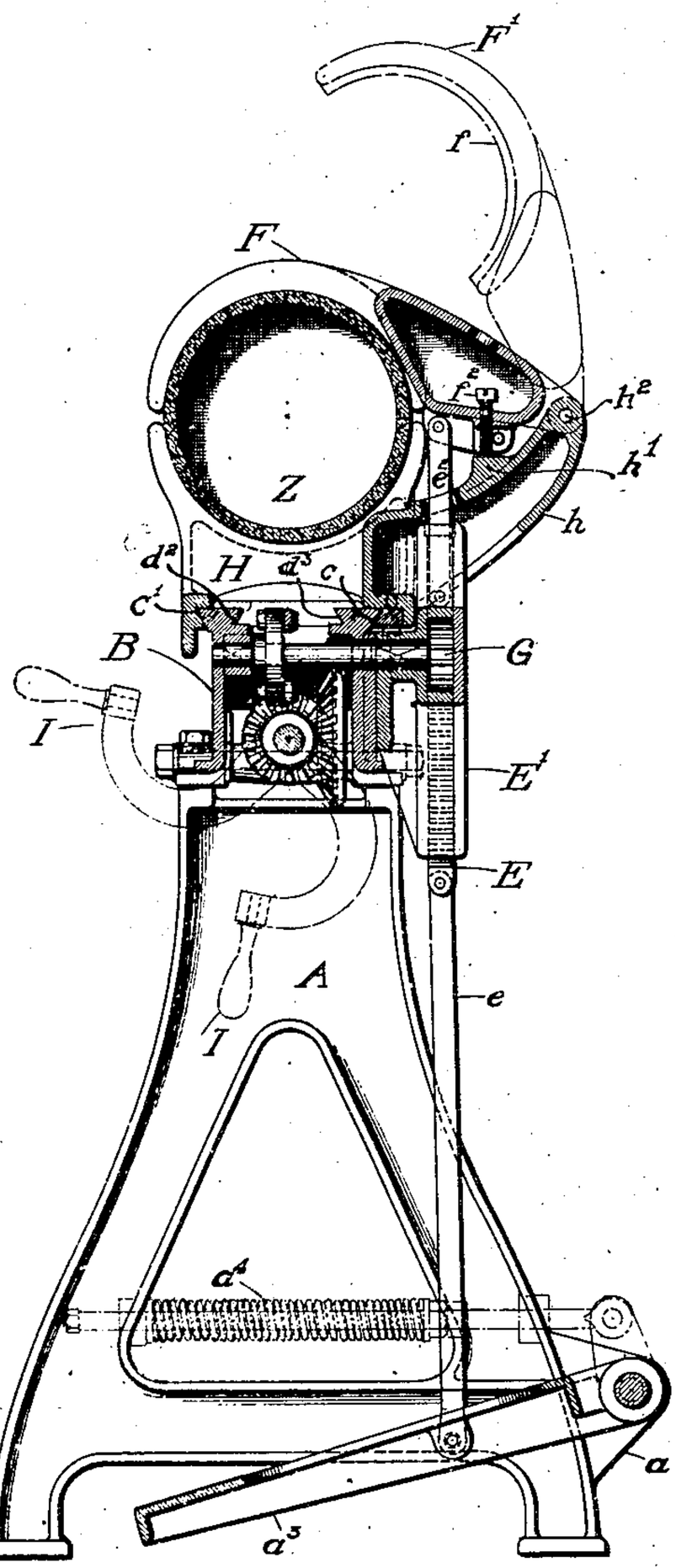


Fig. 3



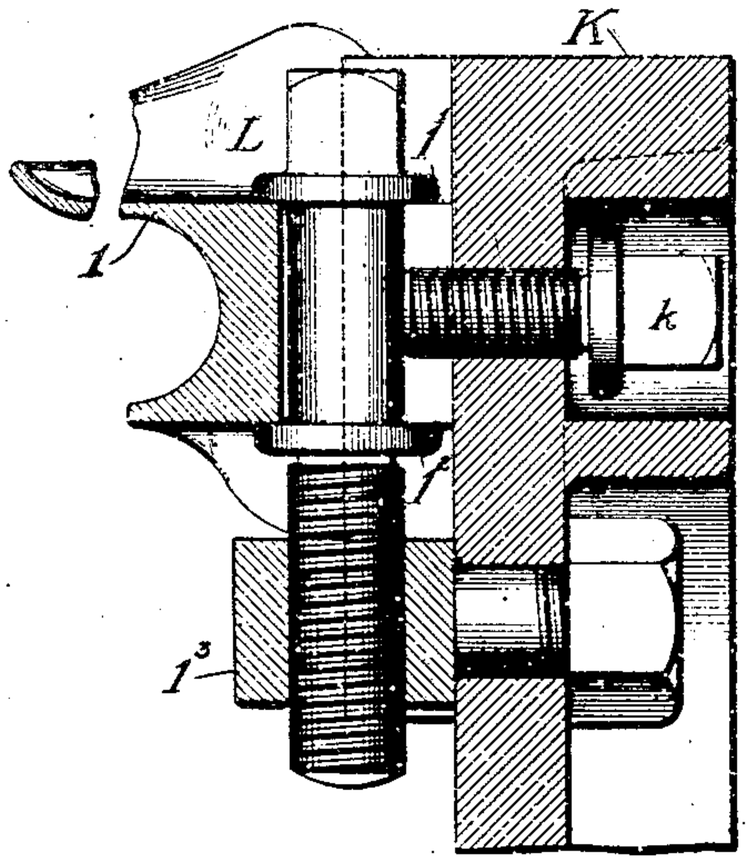


Fig. 4.

Fig. 2.

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MACHINE FOR CRIMPING OR BENDING THE BODIES OF PULP KEGS OR PACKAGES.

No. 832,075. Specification of Letters Patent. Patented Oct. 2, 1906.

Application filed March 17, 1905. Serial No. 250,549.

To all whom it may concern:

Be it known that I, EGBERT MOXHAM, a citizen of the United States, residing at Wilmington, county of Newcastle, and State of Delaware, have invented a new and useful Improvement in Machines for Crimping or Bending the Bodies of Pulp Kegs or Packages, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to a new and useful machine the object of which is to turn over or crimp the ends of the body portion of a keg or vessel formed of pulp, paper, or similar material.

My machine specifically may be used, and I have illustrated it for this purpose, to crimp or bend over the projecting ends of the body in order to lock the heads in position. The body is first formed with an internal seat or projection near each end, upon each of which seats a head is placed and the body beyond the heads bent or crimped against its corresponding head.

I will first describe the embodiment of my invention illustrated in the accompanying drawings and then point out the invention in the claims.

In the drawings, Figure 1 is a front elevation of the complete machine, part of which is shown in section. Fig. 2 is a vertical transverse section of the complete machine. Fig. 3 is a plan view of the crimping-die. Fig. 4 is a vertical transverse section through the center of the crimping-die.

A A′ are legs supporting the bed-plate B, which has formed on its upper surface guides *c c′*, on which are the crimper-heads C C′, one at each end of the machine, and upon which guides said heads slide. The sliding brackets D D′ are free to reciprocate upon guides *c c′*. Integral with the legs A A′ are lugs *a a′*, to which is secured a rod or spreader a^2, upon which is mounted a foot-lever a^3. The foot-lever is connected, by means of a link *e*, to the rack E, which works in a guide E′. The upper end of the rack E is connected, by means of the link e^2, to the clamp F, hinged at h^2. The clamp F, as shown, is provided on its inner surface with projections *f*, which fit into and coincide with the grooves in the style of keg Z shown. The purpose of these projections is to support and hold in position these grooves during the crimping action. A spiral spring a^4 is connected with the foot-lever, as shown. When the pressure is removed from the foot-lever, the spring acts to lift the same and by means of the before-described link-and-rack connections lifts the clamp F into position, as shown in dotted lines F′, thus permitting removal or insertion of package to be crimped. The rest H is securely fastened to the bed-plate B and has integral with it a lug *h*, upon which is hinged the before-described clamp F. For the style keg shown this is also fitted on its inner surface with projections similar in shape and purpose to those described on the inner surface of the clamp F. Upon the lug *h* is cast a secondary lug *h′*, acting as a stop for the clamp F by virtue of the regulating cap-screw f^2, secured in the clamp F. The rack E, moving freely in the guide E′, as described, meshes with and turns the pinion G, thus operating the crank-disk G′, which in turn by means of the links *g* and *g′* operates the sliding brackets D and D′. In the sliding brackets D D′ are the tubes or rods *d* and *d′*, passing through the hollow shafts c^5 and carrying on their inner ends disks d^2 and d^3. The ends of the tubes *d* and *d′* are threaded, so that they may be adjusted with respect to the brackets D and D′. The crimper-heads C and C′ travel in and out in suitable guides, as described, the motion being imparted by the hand-lever I, which is secured to the shaft *i*, passing through the bevel-pinions *i′*, thus operating the bevel-gearing i^2, to which are secured the levers i^3, which are connected to the crimper-heads by means of the links i^4.

J and J′ are driving-pulleys securely fastened to hollow shafts c^5, surrounding the rod or tubes *d d′*. These shafts are suitably mounted in the bearings c^3 and c^4, which are integral with the aforedescribed crimper-heads. The shafts c^5 rotate in the bearings, but are moved in the longitudinal movement of the crimper-heads C and C′ with same. These hollow shafts carry on their inner ends face-plates K and K′, to which are secured one or more crimping-dies L.

Referring to Figs. 3 and 4, L is the crimping-die, flaring longitudinally and laterally and so shaped on its inner surface *l* as to conform with the desired finished crimped package. At the inner extremity of the die L is a V-shaped lug l^5, fitting into a suitable guide l^4 in the face-plate K. A set-screw *l* has collars *l′* and l^2, between which the body of the die L fits. The lower extremity of this screw is threaded and fitted into the eyebolt

l^3, securely fitted into the face-plate K. By virtue of the set-screw l the die L may be regulated to the diameter of the package to be crimped, and the set-screw k, passing through the face-plate K, serves as a clamp to hold the die L in the desired position.

The operation of the machine is as follows: The foot-lever is in its normal or raised position and is held there by the spiral spring. This throws the clamp in the position as shown by F′. The crimper-heads C and C′ and sliding brackets D and D′ being in their outer position, the package, with the heads inserted, is laid in or rested on the rest H and the foot-lever a^3 pressed down. The action of the rack E on the pinion G, as described, draws the sliding brackets D D′ toward each other and the disks d^2 and d^3 contact with the heads of the keg and hold the same tightly in position. By means of the link at the upper end of the rack the clamp F is drawn down tightly upon the package. The driving-pulleys are revolved continually from a suitable source of power, (not shown,) and thus impart a similar motion through the hollow shaft to the face-plates and crimping-dies carried thereby. The hand-lever I is now drawn up, and by means of the aforedescribed pinions, levers, and links the crimping-heads are drawn together and the crimping-die drawn against the chime or end of the package extending beyond the heads. By virtue of their shape and motion this end or chime will be turned over or crimped into the desired position. The lever I is then pressed down, carrying crimping heads and dies away from the keg, and the pressure on the foot-lever being released the sliding brackets, together with the head-holding disks, are moved out and the clamp F lifted to its normal position F′, permitting the removal of the crimped package. The keg Z, which I have shown in the machine, is shown in the condition after the complete action of the machine. The particular package shown also has circumferential grooves in which the heads are supported near the end of the keg.

My machine is not limited to this specific construction of keg nor any particular construction. In fact it is capable of use with respect to any cylindrical form of keg or package.

Having now fully described my invention, what I claim, and desire to protect by Letters Patent, is—

1. In a machine of the character described, in combination, a bed-plate, a bracket slidably mounted upon said bed-plate, a threaded rod working in a threaded orifice in said bracket, a head-holding disk connected to said rod, a support for the keg or vessel to be treated, means to move said bracket toward and from said support, crimping mechanism and means to move said crimping mechanism in and out of operative position.

2. In a machine of the character described, in combination, a bed-plate, a bracket slidably mounted upon said bed-plate, each bracket having a threaded orifice, a threaded rod working in each threaded orifice, a head-holding disk connected to each rod, a support for the keg or vessel to be treated, means to move said brackets toward and from said support, crimping mechanism and means to move said crimping mechanism in and out of operative position.

3. In a machine of the character described, in combination, a support for the keg or vessel to be treated, a crimper-head mounted so as to be movable to and from said support, bearings carried by said crimper-head, a hollow shaft rotatably mounted in said bearings but movable with said crimper-head, means to revolve said shaft, a bracket mounted so as to move to and from said support, a head-holding disk, a rod or tube connected to said head-holding disk, said rod passing through said hollow shaft and having a threaded end, there being a threaded orifice in the bracket in which said threaded end works.

4. In a machine of the character described, in combination, a fixed rest on which the article to be treated is adapted to be placed, a clamp or cover for said support, a bracket mounted so as to be movable to and from said support, a head-holding disk connected with said bracket, a foot-lever and connection between said foot-lever and the clamp and bracket, whereby, in the movement of the foot-lever, the clamp and bracket are simultaneously moved, crimping mechanism and means to move said crimping mechanism in and out of operative position.

5. In a machine of the character described, in combination, a fixed rest on which the article to be treated is adapted to be placed, a clamp or cover for said support, a bracket mounted so as to be movable to and from said support, a head-holding disk connected with said bracket, a rack, connection between said rack and clamp, a pinion operated by said rack, a crank-disk operated by said pinion, connection between said crank-disk and said bracket, and means to operate said rack, crimping mechanism and means to move said crimping mechanism in and out of operative position.

6. In a machine of the character described, in combination, a fixed rest on which the article to be treated is adapted to be placed, a clamp or cover for said support, a bracket mounted so as to be movable to and from said support, a head-holding disk connected with said bracket, a rack, connection between said rack and clamp, a pinion operated by said rack, a crank-disk operated by said pinion, and connection between said crank-disk and said bracket, a foot-lever and connection between said foot-lever and rack, crimping mechanism and means to move said

crimping mechanism in and out of operative position.

7. In a machine of the character described, in combination, a face-plate having a guide, a die having a projection or lug corresponding to said guide, a set-screw having collars between which the body of the die rests, an eyebolt having a threaded orifice, secured to the face-plate in which orifice the set-screw works, a locking-screw carried by the face-plate, crimping mechanism and means to move said crimping mechanism in and out of operative position.

8. In a machine of the character described, in combination, a support for the article to be treated, a clamp, for securing said article on said support, movable to and from said support, a head-holding disk movable to and from said support, a face-plate carrying a die or dies movable to and from said support, means to revolve said face-plate, and means to simultaneously move said clamp and said head-holding disk.

9. In a machine of the character described, in combination, a support for the article to be treated, a clamp, for securing said article on said support, movable to and from said support, a head-holding disk movable to and from said support, a face-plate carrying a die or dies movable to and from said support, means to revolve said face-plate, means to simultaneously move said clamp and said head-holding disk, and means to independently move said face-plate.

In testimony of which invention I have hereunto set my hand at Philadelphia on this 14th day of March, 1905.

EGBERT MOXHAM.

Witnesses:
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THORNLEY B. WOOD.