

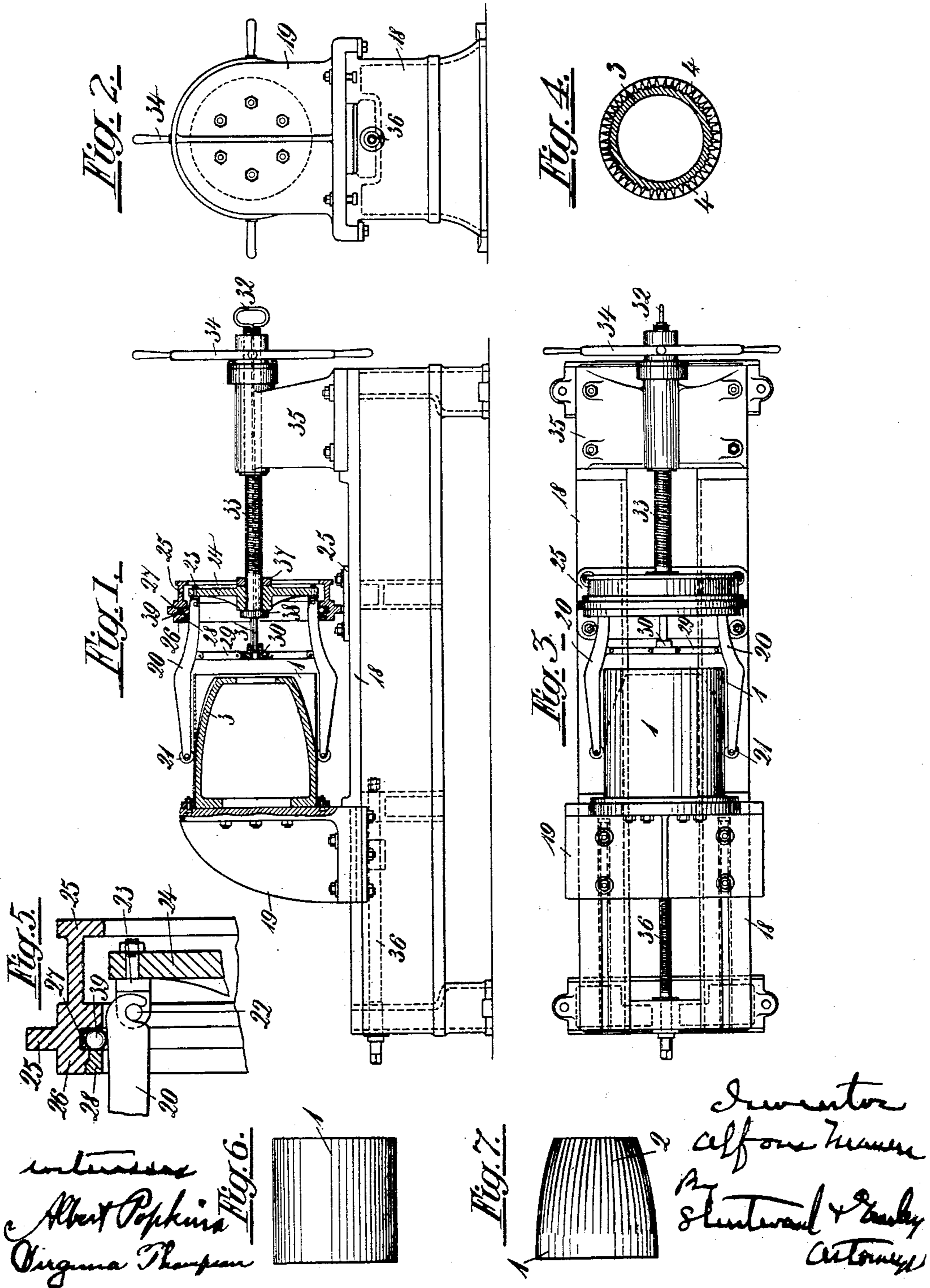
No. 733,241.

PATENTED JULY 7, 1903.

A. MAUSER.  
MACHINE FOR THE MANUFACTURE OF CASINGS.

APPLICATION FILED OCT. 28, 1902.

NO MODEL.



# UNITED STATES PATENT OFFICE.

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## MACHINE FOR THE MANUFACTURE OF CASINGS.

SPECIFICATION forming part of Letters Patent No. 733,241, dated July 7, 1903.

Application filed October 28, 1902. Serial No. 129,129. (No model.)

*To all whom it may concern:*

Be it known that I, ALFONS MAUSER, a citizen of the German Empire, residing at Cologne-Ehrenfeld, in the Province of the Rhine, Germany, have invented certain new and useful Improvements in Machines for the Manufacture of Casings, of which the following is a description, reference being had to the accompanying drawings, and to the figures of reference marked thereon.

This invention relates to an apparatus for manufacturing extremely light and yet resistant vessels or casings, preferably of thin sheet-iron, aluminium, or the like, specially adapted for providing cheap, light, and handy cases for transporting carboys and bottles of acid, valuable liquids, and the like. The wall of the casing or vessel is tapered and rounded to correspond with the downwardly-tapering form of such a carboy or the like, and a machine for manufacturing such casings without waste by the impression of grooves of various depths in the prepared prismatic or cylindrical casing constitutes the essential object of this invention.

My invention will be fully understood with reference to the accompanying two sheets of drawings, in which—

Figure 1 is a side elevation of my improved machine, partly in section. Fig. 2 is an end view thereof. Fig. 3 is a plan view of the machine illustrated in Fig. 1. Fig. 4 is a section of the core and rounded vessel; Fig. 5, an enlarged detail view of a part of the machine as per Fig. 3. Figs. 6 and 7 represent a vessel in two successive stages of manufacture.

A flat sheet for the vessel to be formed is cut out from the material—sheet metal, for example—and brought in the ordinary manner into a round or prismatic form. (Shown in Fig. 3.) This vessel then is provided with grooves 2, Fig. 7, by the machine illustrated in the drawings.

The machine for impressing the grooves in the aforementioned manner is shown in Figs. 1 and 3 of the accompanying drawings, the core over which the casing is pressed being in this case in a horizontal position. On a bed 18, provided with a carriage-guide, is mounted a bracket-carriage 19, adapted to be traversed by means of a threaded spindle 36.

On this carriage 19 is fixed the core 3 actually employed. A spindle-stock 35 is mounted at one end of the bed 18, and through this stock passes an axially-movable screw-spindle 33, which may be traversed by means of a hand-wheel 34, acting as a nut. This hand-wheel is mounted so as to be revoluble but not axially displaceable in the spindle-stock 35. At the end of the spindle 33 is a disk 24, between a ring 38 and a set-ring 37, and on this disk a number of stirrup-lugs 23 are screwed. Each of these lugs has a cross-pin 22, over which are engaged the hook-shaped ends of the pressing-arms 20, which at their free ends carry steel rollers 21. These pressing-arms are longitudinally moved with the spindle 33 and are compulsorily guided at the outside in a cylinder 25, which is screwed to the machine-bed 18, and a ring 26 is secured to or formed on the cylinder 25, in the interior of which ring lies another ring 27, composed of hard material, on which balls or the like 39 rest for the outer sides of the levers 20 to bear against. These balls 39 are prevented from falling out by a ring 28, screwed to the ring 27 and projecting somewhat over them in front.

The pressing-arms 20 are of such an external form that when the arms are drawn forward the rollers 21 are pressed into the grooves 4 of the core—that is to say, the grooves are impressed in the casing 1, lying between the rollers and the core.

In order that all the pressure-levers 20 may be quickly returned to their original positions when the impression of the grooves is completed, all the levers are connected by links 29 with a disk 30, mounted on the end of a rod 31, passing through the hollow threaded spindle 33, which rod carries a handle 32 beyond the end of the screwed spindle 33. A pressure on this handle suffices to push the rod 31 toward the core and to extend the link-pieces 29 after the pressing is completed from their oblique position to that shown in Fig. 3. In order to remove the finished impressed casing, the bracket-carriage 19 is so far traversed by the spindle 36 that the finished casing can be removed and a fresh one placed on the core, after which the carriage 19 is again returned to the working position. In similar manner the spindle 33, disk 24, and

the pressure-levers 20, mounted thereon, are again returned to the initial working position by means of the hand-wheel 34.

By the impression of the grooves the wall 5 of the casing is gradually stiffened, while owing to the fact that any waste of material is avoided less material is necessary than was hitherto the case for forming a smooth tapered vessel.

10 Vessel casings or walls formed in the manner hereinbefore described are provided with a bottom for the purpose of forming a cask or basket, and, if desired, also provided at their upper flat edges with wire insertions 15 and a flange, and in this manner, for instance, a transport vessel of handy form, of extreme lightness, and great strength is obtained.

Having now particularly described and ascertained the nature of my said invention 20 and in what manner the same is to be performed, I declare that what I claim is—

1. The combination with a tapering grooved core, of a series of pivoted longitudinally-movable levers, adapted to engage the material around the larger portion of the core, and 25 force it into the grooves, means for moving the series of levers bodily longitudinally toward the smaller end of the core, and an operating device engaging the series of levers 30 for simultaneously and automatically forcing their operating ends inwardly toward the core, as said levers are drawn longitudinally of the core; substantially as described.

2. The combination with a grooved tapering 35 core, a series of longitudinally-movable levers, arranged around the core to force the material into the grooves, a head or disk to which the levers are pivoted at their ends, means for moving the head and its series of 40 levers longitudinally along the core, and an operating device engaging the series of levers for automatically pressing the free ends of the levers into the core-grooves as the levers are drawn toward the smaller end of the core.

45 3. The combination with a grooved tapering core, and a stationary ring in advance thereof, of a head or disk, a series of levers pivoted at one end to said head or disk and extending

thence through the ring and alongside the core, and a screw-shaft for drawing the head 50 and its series of levers through the said ring; the outer edges of the levers being inclined or cam-shaped to engage the ring and be automatically forced inwardly thereby.

4. The combination with a grooved tapering 55 core, and a stationary ring in advance thereof, of a head or disk, a series of levers pivoted at one end to said head or disk, and extending thence through the ring and alongside the core, and a screw-shaft for drawing the head 60 and its series of levers through the said ring; the outer edges of the levers being inclined or cam-shaped to engage the ring and be automatically forced inwardly thereby, and means 65 throwing all of the levers outwardly to their original position.

5. The combination with a grooved tapering core, and a stationary ring in advance thereof, of a head or disk, a series of levers pivoted at one end to said head or disk, and extending 70 thence through the ring and alongside the core, and a screw-shaft for drawing the head and its series of levers through the said ring; the outer edges of the levers being inclined or cam-shaped to engage the ring and be au- 75 tomatically forced inwardly thereby, and a rod passing through the screw-shaft, and hinged at its inner end to all of said levers.

6. The combination with a grooved tapering core, and a stationary ring, in advance there- 80 of, of a head or disk, a series of levers pivoted at one end to said head or disk and extending thence through the ring and alongside the core, and a screw-shaft for drawing the head 85 and its series of levers through the said ring and a rotary operating-nut engaging the screw-shaft for imparting longitudinal movement to it; the outer edges of the levers being inclined or cam-shaped to engage the ring and 90 be automatically forced inwardly thereby.

In testimony whereof I affix my signature in presence of two witnesses.

ALFONS MAUSER.

Witnesses:

CARL SCHMITT,  
GUSTAV GINNOLD.