

No. 674,929.

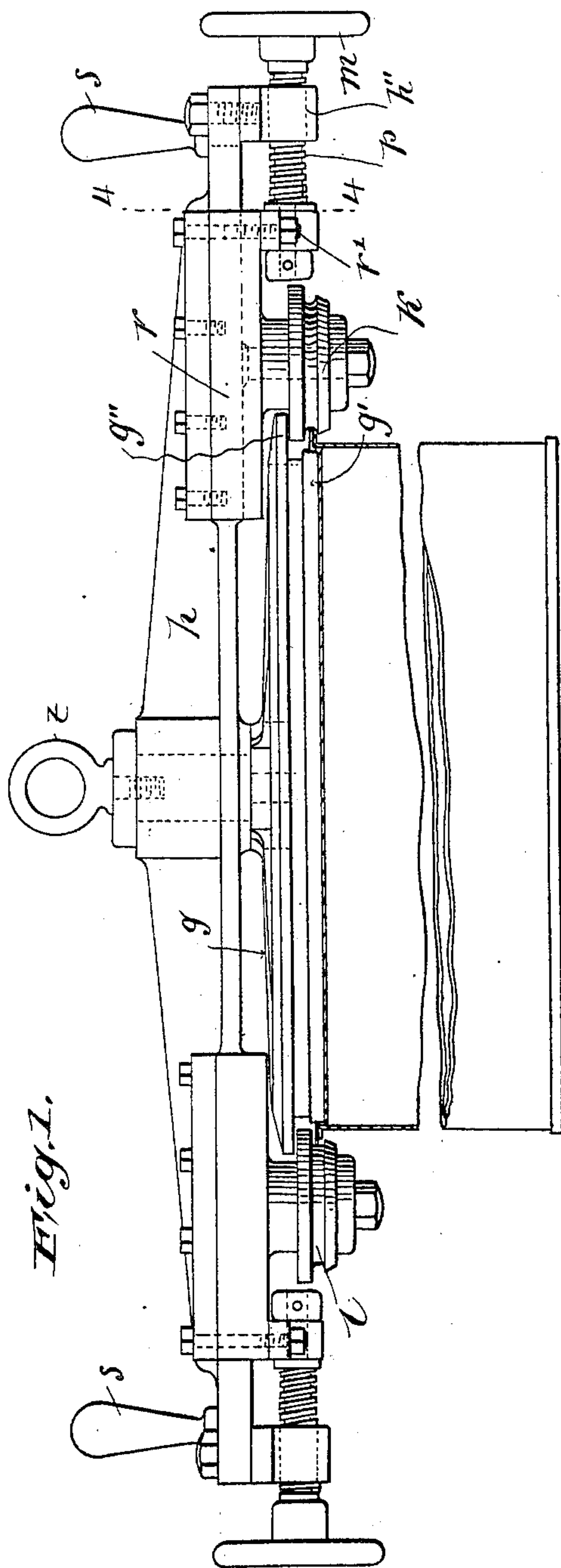
Patented May 28, 1901.

M. MAURAN.
DRUM HEADING MACHINE.

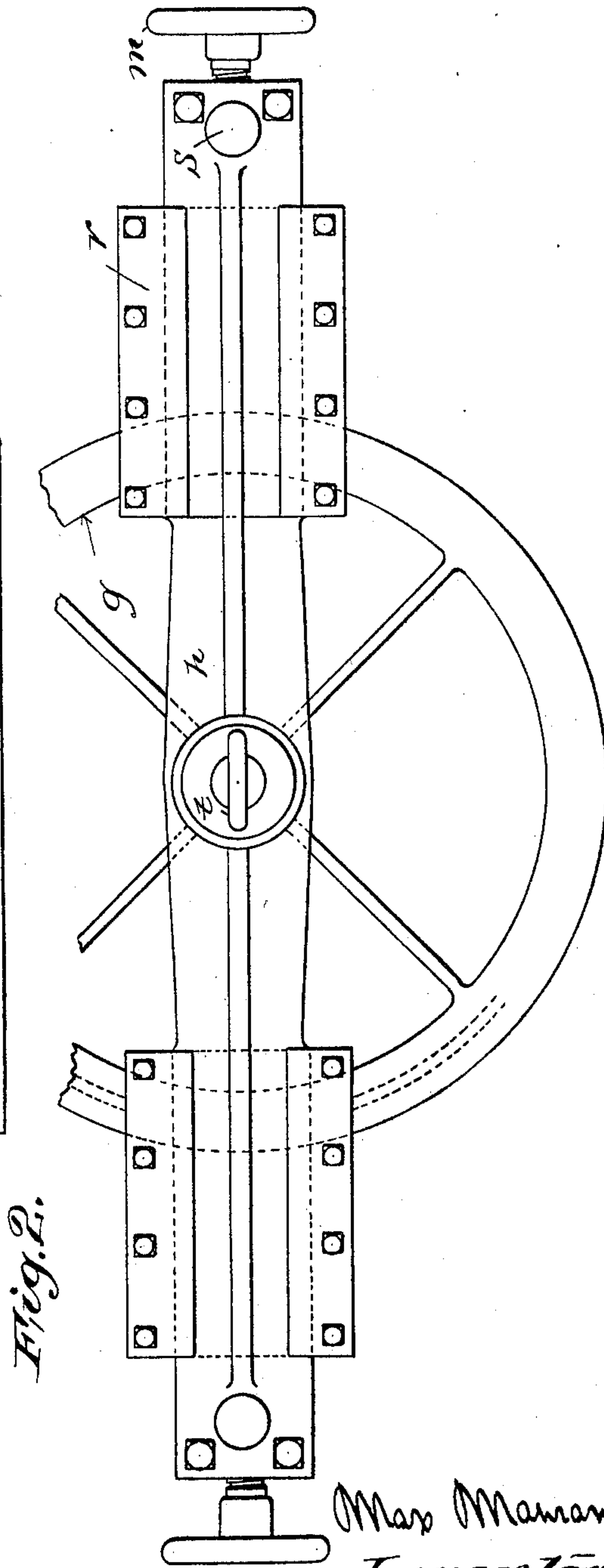
(Application filed Mar. 22, 1900.)


(No Model.)

2 Sheets—Sheet 1.



attest;
C. W. Benjamin
Henry L. Morton



Max Mamane
Inventor;
by  atty

No. 674,929.

Patented May 28, 1901.

M. MAURAN.
DRUM HEADING MACHINE.

(Application filed Mar. 22, 1900.)

(No Model.)

2 Sheets—Sheet 2.

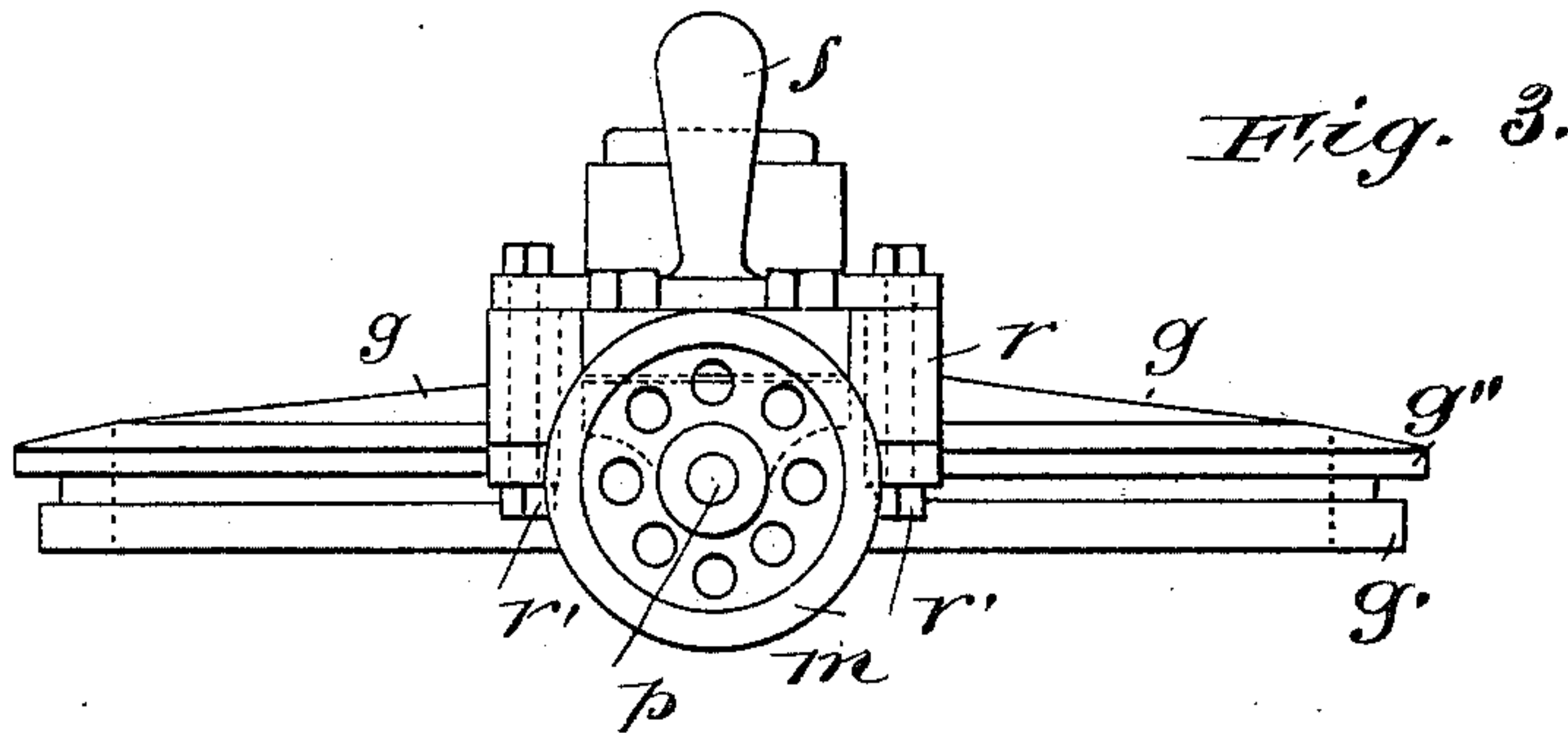


Fig. 3.

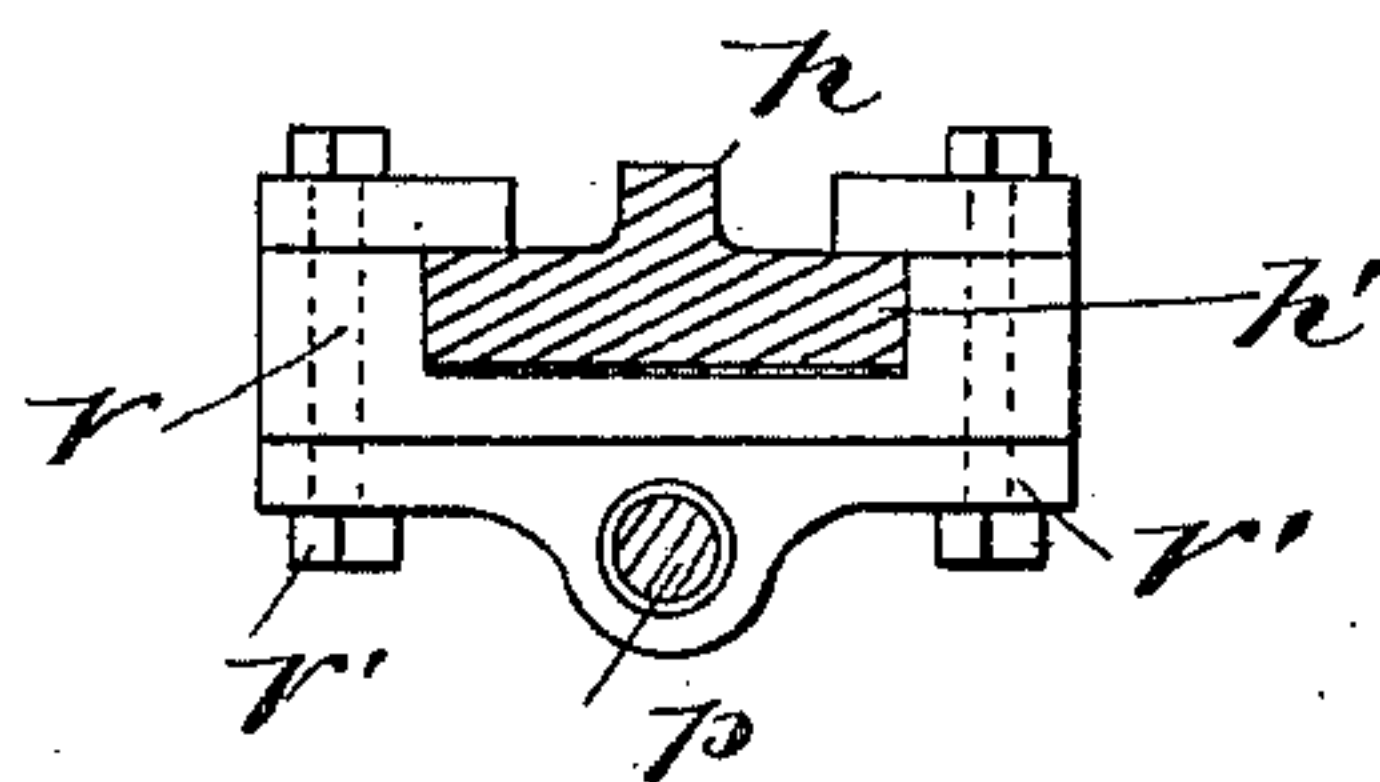


Fig. 4.

Fig. 5.

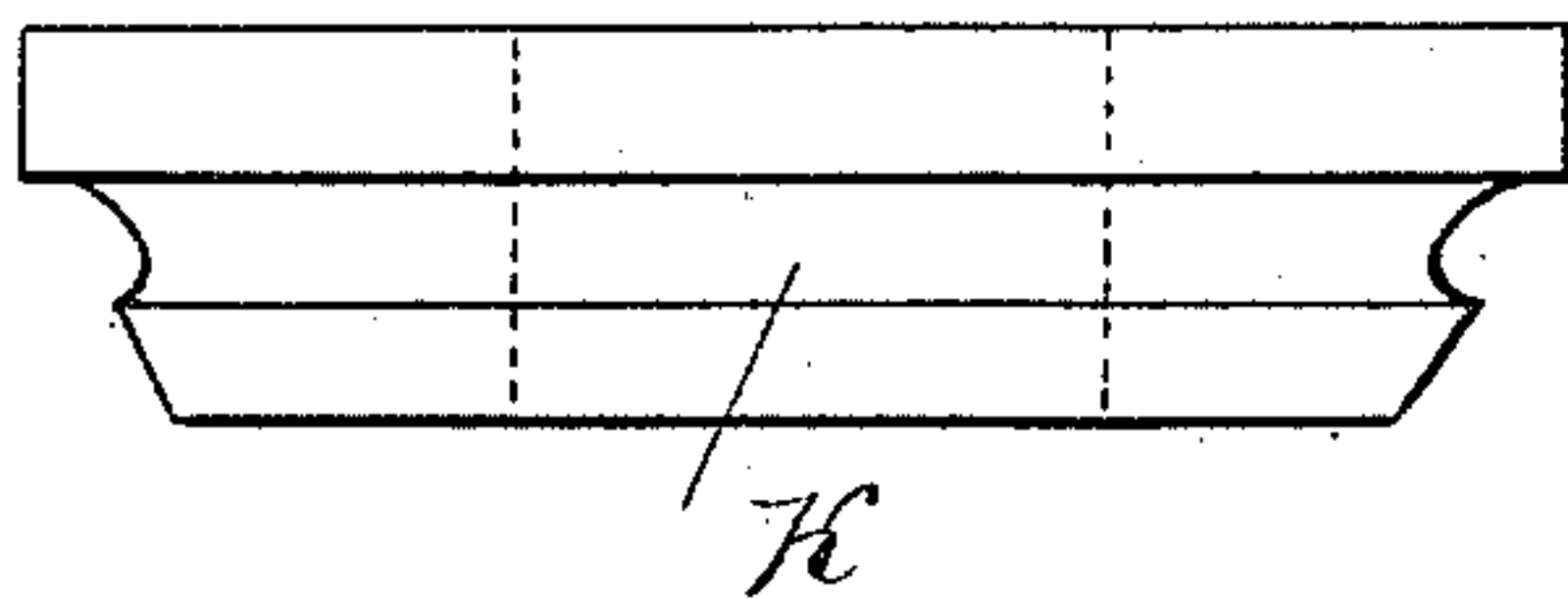


Fig. 6.

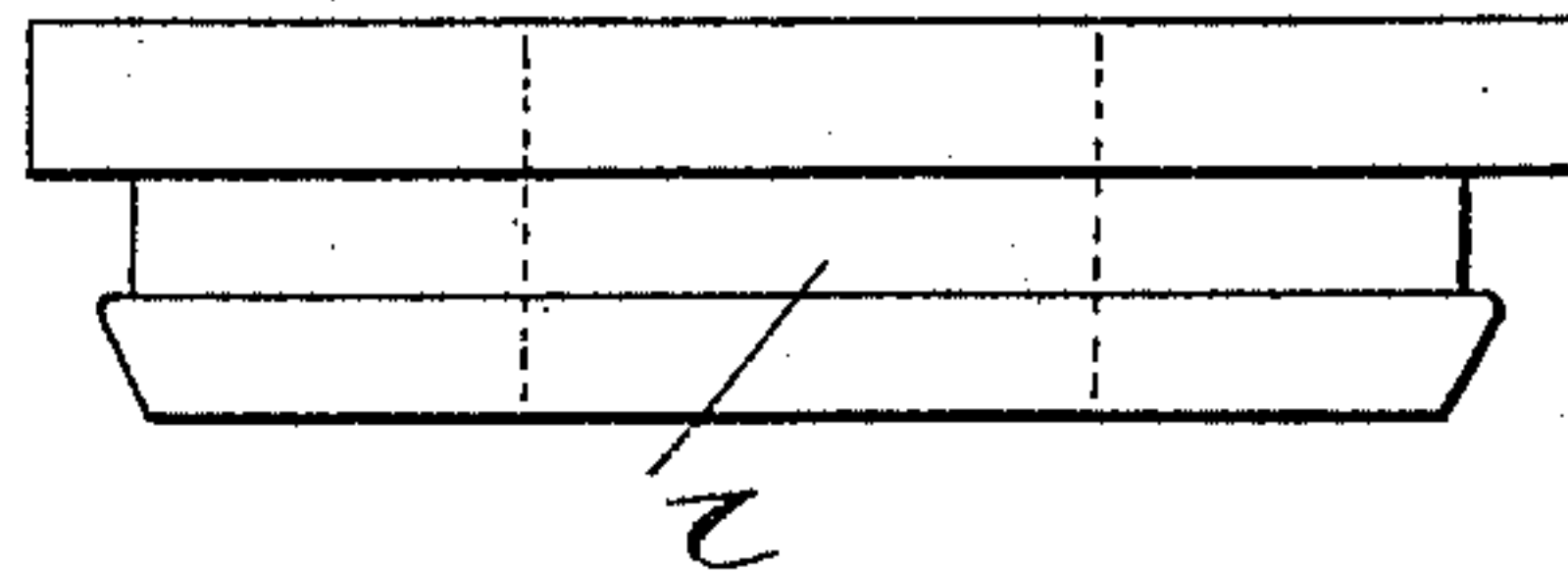


Fig. 7.

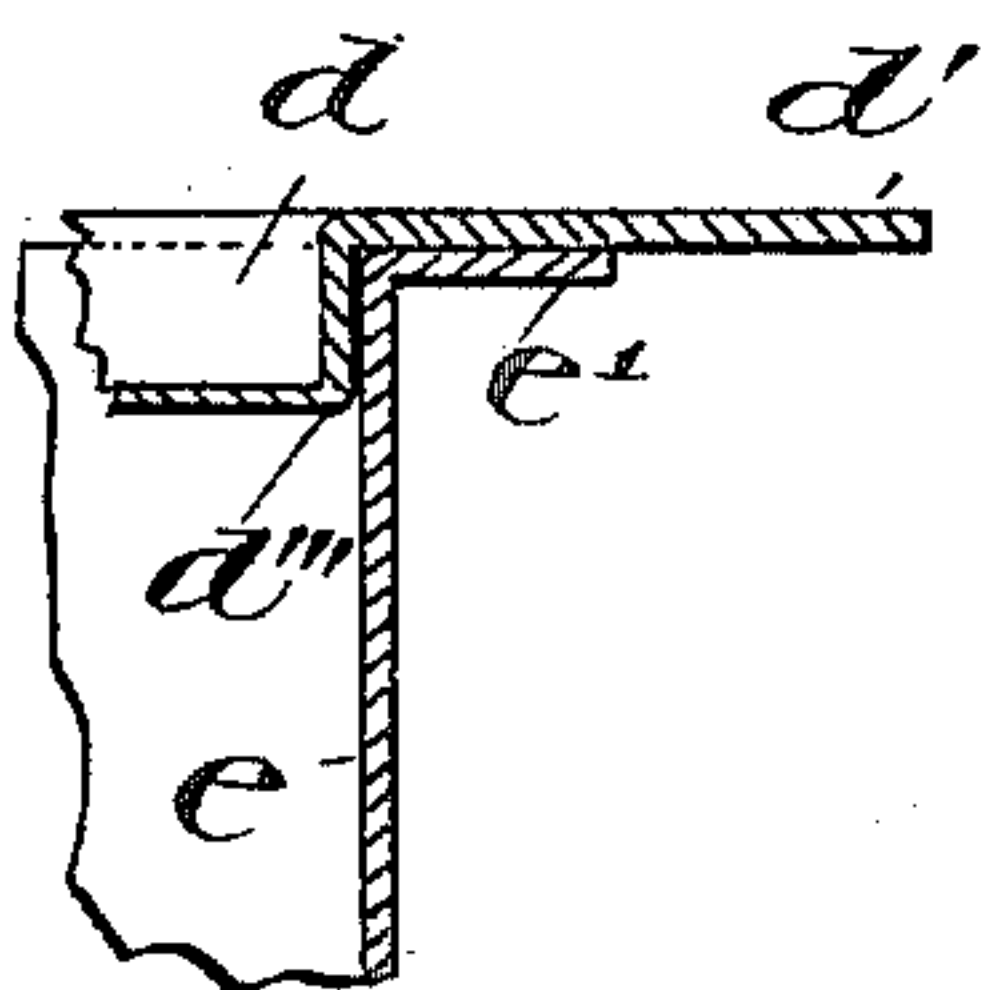


Fig. 8.

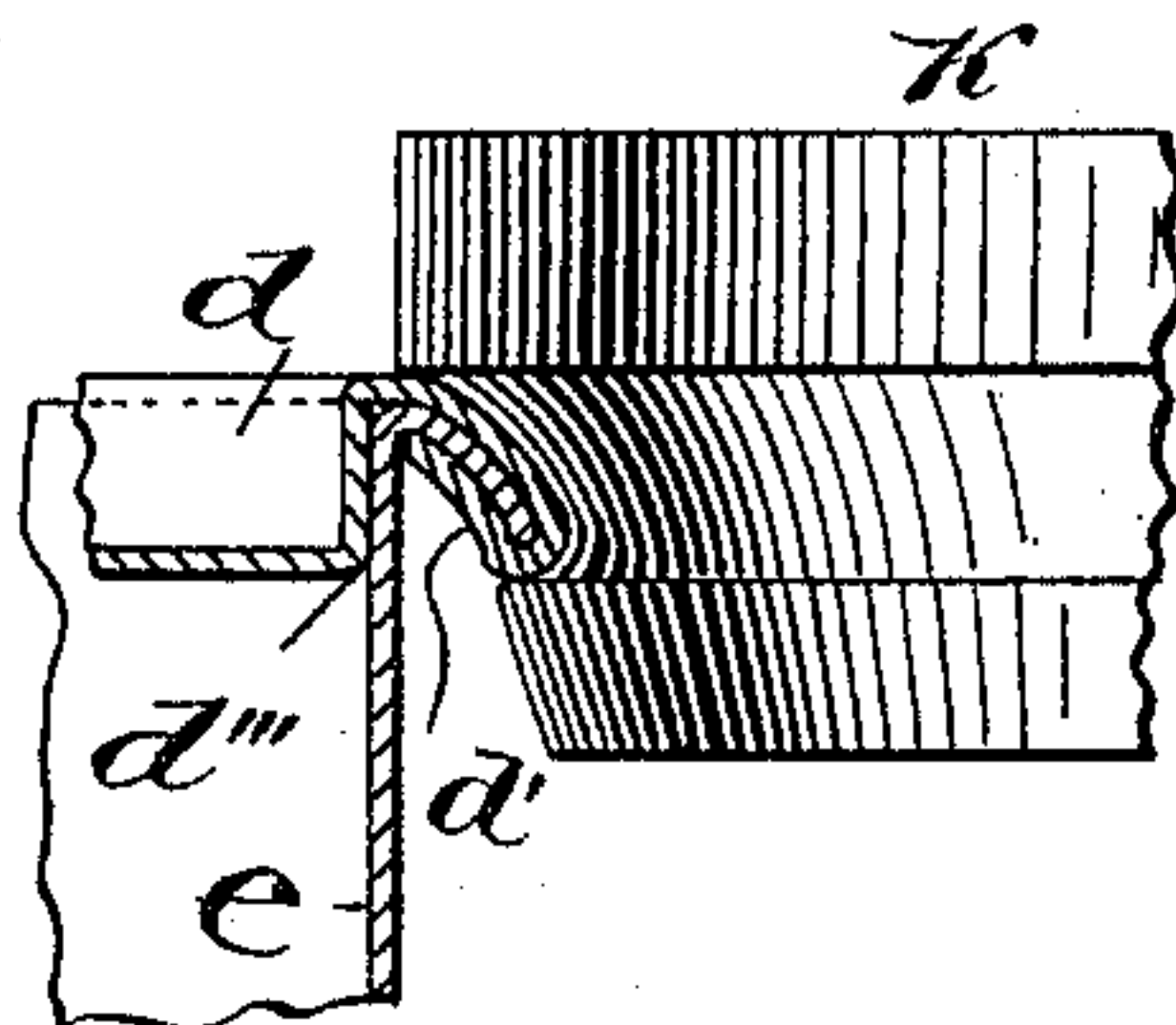
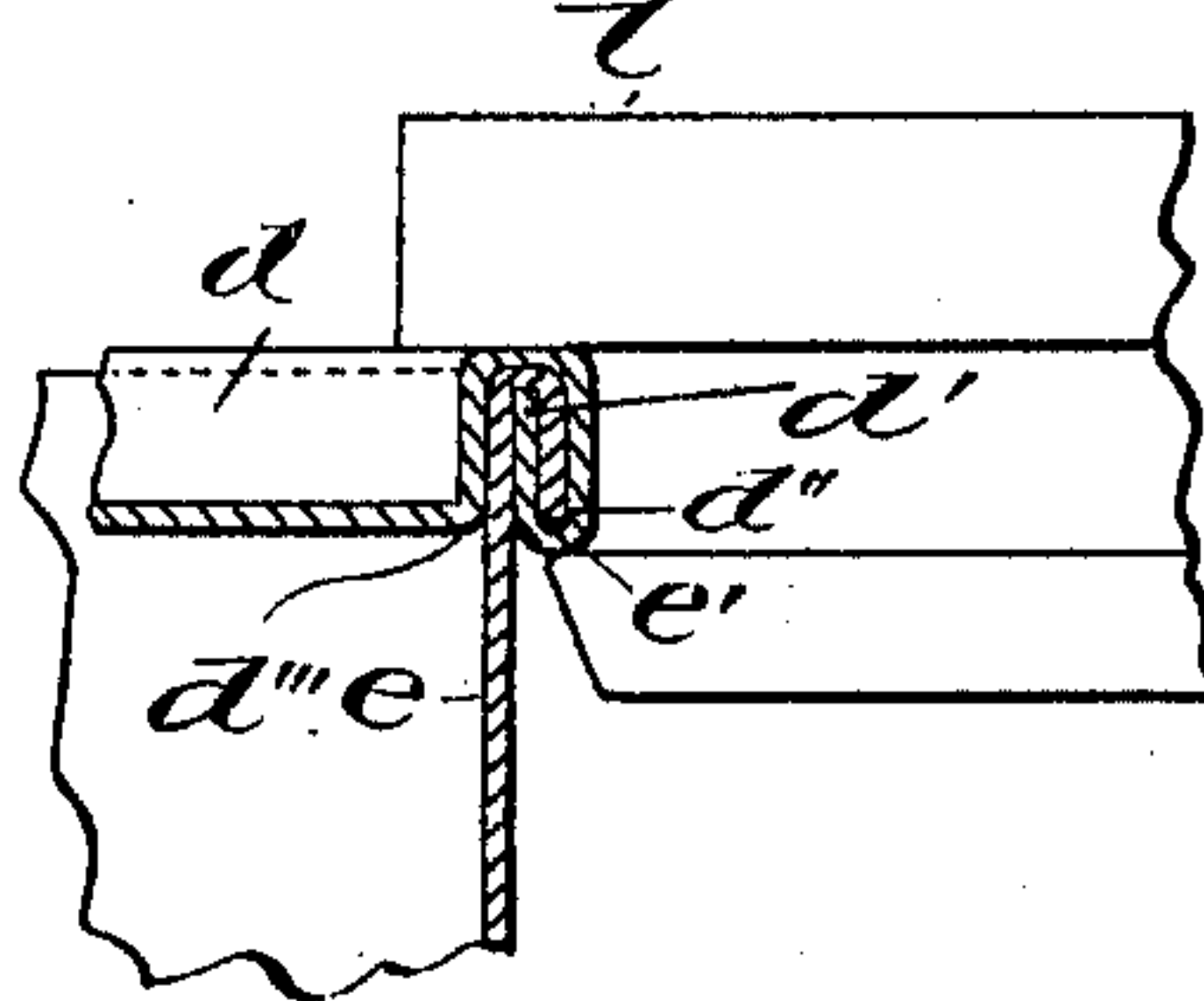


Fig. 9.



Attest;
C. W. Benjamin
Henry I. Martin.

Max Mauran
Inventor;

by 
att'y

UNITED STATES PATENT OFFICE.

MAX MAURAN, OF NIAGARA FALLS, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO CASTNER ELECTROLYTIC ALKALI COMPANY, OF VIRGINIA.

DRUMHEADING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 674,929, dated May 28, 1901.

Application filed March 22, 1900. Serial No. 9,682. (No model.)

To all whom it may concern:

Be it known that I, MAX MAURAN, engineer, a citizen of the United States, with residence and post-office address at Niagara Falls, in the county of Niagara and State of New York, have invented certain new and useful Improvements in Machines for Heading Drums and Similar Packages, of which the following is a description accompanied by illustrative drawings.

The improvement relates to a machine for closing and heading up sheet-metal drums or packages for chlorid of lime and other substances from which it is desired to exclude air and moisture. The invention is not limited to these uses, but, on the contrary, is applicable to many other uses.

The embodiment of the invention as shown in the accompanying drawings is specially designed for securing sheet-metal heads to cylindrical sheet-metal drums, cases, or packages after they are filled. The sheet forming the head is flanged over and interlocked with the edge of the cylindrical drum, so as to make a tight, and, if necessary, an air-tight, joint.

Among other objects accomplished by the improvement are portability, lightness, and quickness and ease of operation.

The drum when ready for the operation of the machine will have a horizontal flange, and the sheet-metal head will be somewhat larger than the diameter of the said flange, and its edge will be first turned down under the said flange, after which the flange, together with the turned-under portion of the head, will be turned down and pressed flush against the cylindrical surface of the drum.

The accompanying drawings show one embodiment of the invention designed for heading a drum in the manner just indicated.

Figure 1 is an elevation of the machine in position to be lowered upon the drumhead and drum, which are shown in section. Fig. 2 is a plan view of the machine; Fig. 3, an elevation of the machine, showing the rotary arms in end view. Fig. 4 is a cross-section on the plane 4-4 of Fig. 1. Figs. 5 and 6 are elevations of the two wheels that accomplish the upsetting and turning down of the metal

flanges; and Figs. 7, 8, and 9 are sectional views, on full-sized scale, showing the manner of upsetting, flanging, and turning of the edge of the drumhead.

Throughout the figures like letters of reference indicate like parts.

It will be convenient first to consider the manner in which the metal drumhead and drum are acted upon to form the joint between them, and then the construction and operation of the machine will be more readily apparent.

Figs. 7, 8, and 9 show, respectively, in sectional view a portion of the drumhead d lying in place upon the drum e ; secondly, the condition when the extreme outer edge of the drumhead d has been upset and turned back under the flange e' of the drum, and, thirdly, the final condition when the turned-over edge d' , interlocked with the flange e' , has been turned down against the cylindrical portion of the drum and the joint completed. Preferably the central portion of the drumhead d is dished, so as to lie within the end of the drum e , as indicated at d'' . The advantages of this are twofold, for it contributes greater strength to the closed drum, and, secondly, it permits the insertion of a backing or anvil, against which the turned-over flanges $d' e'$ can be firmly pressed in the process of closing and heading the drum.

The heading-machine while portable as a whole consists when in use of the stationary member g , which lies in the dished central portion of the drumhead d , and a pair of rotary arms h , which are centered in the stationary member or false head g and carry the upsetting and flanging wheels k and l . These wheels are mounted upon cross-heads or slides, so as to be radially adjustable in the arms h by means of the hand-wheels m and screw p . The false head g should fit with fair accuracy the recessed or dished portion of the head d , so as to support the head d and wall of the drum e against the inward pressure of the wheels k and l . For this reason the false head g has a cylindrical face g' , which fits within the drumhead and in addition to so supporting the drum and drumhead serves to accurately center the false head g . The

arms *h* are carried by a vertical stud on the false head *g* and are free to turn thereon on a horizontal plane, thereby carrying the wheels *k* and *l* around the periphery of the drumhead. Each of the wheels *k* and *l* is mounted on a depending stud-shaft, carried by a slide *r*. This slide partially embraces the rectangular end *h'*, Fig. 4, of the arm *h*. The extreme ends of the arms *h* each carry a dependent bracket *h''*, through which the screw *p*, carrying the hand-wheel *m*, is threaded. The inner end of the screw *p* passes through a depending bracket *r'* on the slide *r* and is secured by collars, so as to turn freely thereon, but not to move endwise. Consequently by turning the hand-wheel *m* the slide *r* is caused to move slowly along the arm *h* and feed the wheel *k* or *l* toward the drumhead. To relieve all upward strain which might otherwise be transmitted from the wheels *k* or *l* to the arms *h*, the false head *g* is provided with a flange *g''*, which lies directly upon the upper face of the respective wheels *k* and *l* and receives any upward thrust that may occur during the operation. Handles *s* are provided, so that they may be grasped by one hand of the workman using the machine.

The operation of the machine is as follows:
 Upon the drum filled with the material to be inclosed the head *d* is laid, as in Fig. 1, and then the heading-machine is brought into position and set down upon the head *d*, as shown in Fig. 1, the wheels *k* and *l* having previously been withdrawn toward the extreme ends of the arms *h* by turning the hand-wheels *m* left-handedly. Either one or two operators may then grasp the handles *s* and walk around and around the drum, bearing down upon and turning the arms *h*, at the same time adjusting the roller *k* until it comes into contact with the extreme edge *d'* of the drumhead *d*, whereupon the edge is turned over little by little as the arms *h* revolve and as the wheel *k* is gradually adjusted or fed toward the center of the drumhead until the parts

are in the position shown in Fig. 8. Thereupon the other wheel *l* is brought into play and gradually advanced until the overturned edge *d'* and the flange *e'* are finally turned down in the position shown in Fig. 9. Thereupon the wheel *l* is withdrawn clear of the work, and the machine may be raised and removed, if too heavy to lift by hand, by hoisting apparatus supplied to the ring *t*. The finished drum may then be removed, another one brought into place, the machine lowered down upon it, and the heading operation repeated.

It will of course be understood that many modifications of the minor details of the machine will readily suggest themselves according to the varying mechanical conditions, and in the following claims I point out the characteristic novelties that distinguish the invention.

I claim—

1. In combination in a drumheading-machine, a circular base, a rotary arm centrally pivoted to said base, an upsetting or flanging mechanism mounted on said arm the same comprising a slide moving in a right line, and an adjusting-screw therefor mounted in said arm and positively moving said slide in both directions, substantially as set forth.

2. In combination in a drumheading-machine, a circular base which also constitutes a false head or center and is adapted to be carried and supported by the article to be headed, a rotary arm centrally pivoted to said base or false head, an upsetting or flanging mechanism mounted on said arm the same comprising a slide moving in a right line, and an adjusting-screw therefor mounted in said arm and positively moving said slide in both directions, substantially as set forth.

Signed this 28th day of February at city of Niagara Falls, New York.

MAX MAURAN.

Witnesses:

EUGENE R. WHITE,
G. M. TUTTLE.