

No. 722,186.

PATENTED MAR. 3, 1903.

T. F. ROWLAND, JR. & W. H. DEMING.

FLANGING MACHINE.

APPLICATION FILED NOV. 14, 1902.

NO MODEL.

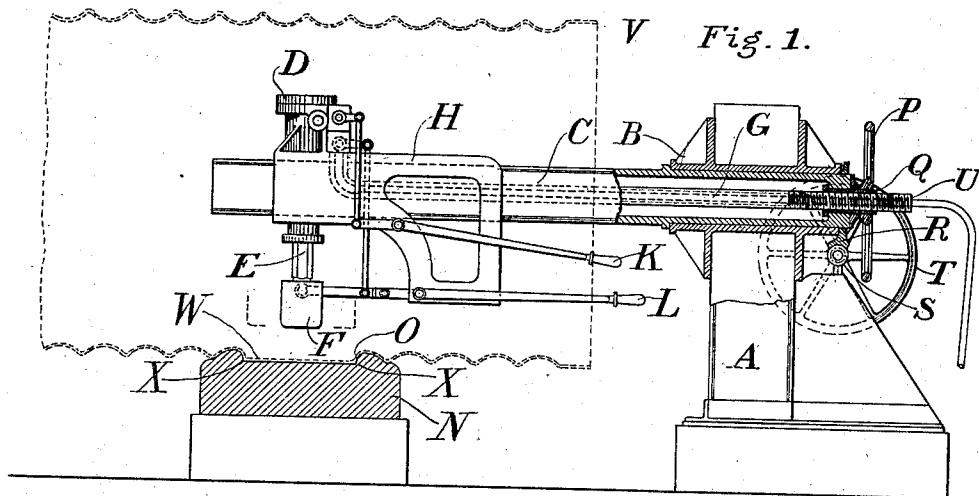


Fig. 3.

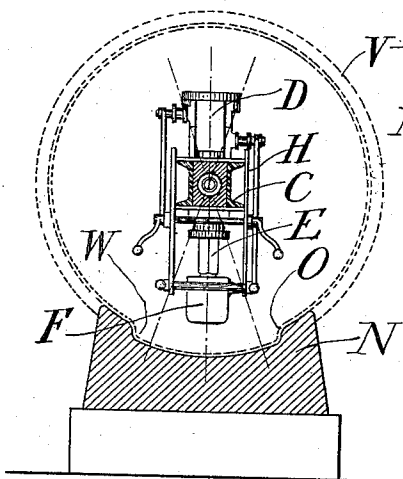


Fig. 2.

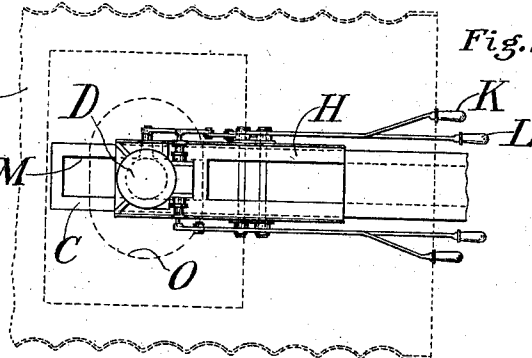


Fig. 5.

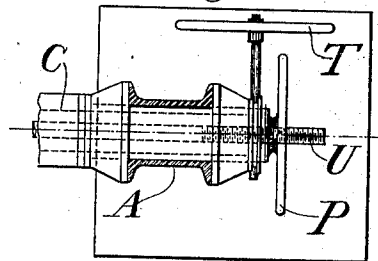
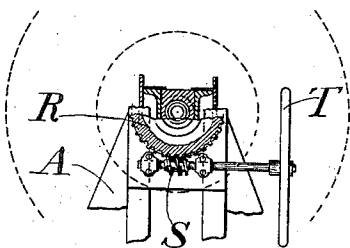


Fig. 4.



Witnesses.

Alexander Mitchell
Jessie B. Kay.

Thomas F Rowland Jr
& William H Deming
Inventors

By
Hume & Hume
Attorneys

UNITED STATES PATENT OFFICE.

THOMAS F. ROWLAND, JR., AND WILLIAM H. DEMING, OF NEW YORK, N. Y.,
ASSIGNORS TO THOMAS F. ROWLAND, SR., OF NEW YORK, N. Y.

FLANGING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 722,186, dated March 3, 1903.

Application filed November 14, 1902. Serial No. 131,304. (No model.)

To all whom it may concern:

Be it known that we, THOMAS F. ROWLAND, Jr., and WILLIAM H. DEMING, citizens of the United States, and residents of New York city, in the borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Flanging-Machines, of which the following is a specification, taken in connection with the accompanying drawings, which form a part of the same.

This invention relates to flanging-machines, and relates more especially to machines for flanging out portions of cylindrical or curved articles.

In the accompanying drawings, in which the same reference-letter refers to similar parts in the several figures, Figure 1 is an elevation, partly in section, of one embodiment of this invention. Fig. 2 is a top view of part of the same. Fig. 3 is a sectional end view. Figs. 4 and 5 show details of construction.

In the embodiment of the invention shown in the drawings the solid support A is preferably provided, having at its upper end the heavy bearings B, in which the arm C of the flanging apparatus is preferably revolvably mounted and at the same time rigidly supported. The arm C, as is shown in Fig. 2, may be slotted at its outer end, and the hammer-cylinder D may project through the slot in the arm and be rigidly supported by means of the hammer-frame H, so that the whole hammer mechanism can be traversed longitudinally of the arm C.

As is seen in Fig. 1, the piston E is connected with the cylinder in the ordinary manner, and upon the lower end of this piston the hammer F is secured, preferably, in a removable manner, so that any desired shape of hammer may be readily used. This hammer mechanism is of well-known construction, the hammer being preferably operated by any operating fluid, such as compressed air or steam or other fluid means supplied through the tubular traverse-rod G, the pipe for supplying this operating-fluid being indicated at the outer end of this traverse-rod. The throttle-levers K and the operating-le-

vers L control the operation of the hammer in a well-known manner. This hammer or fluid-operated pressure device coöperates with the die N, firmly supported upon a suitable foundation. This die may have an upper surface of any desired shape. In the form shown the die is provided with a suitable depression O, such as may be used in flanging out a manhole in a tubular corrugated boiler-furnace, such as is indicated at V in dotted lines. The upper surface of this die is of course suitably corrugated to support the furnace in an appropriate manner. In order that the hammer may coöperate with the various parts of the die and flange down the material throughout the whole area desired, the hammer is traversed longitudinally of the arm by suitable traverse-gear. This traverse-gear in the embodiment of the invention illustrated comprises the screw U, cut upon the outer end of the traverse-rod, and the coöperating nut Q, mounted to rotate in a suitable bearing in the end of the arm and which may be rotated as desired by the hand-wheel P. The rotation of this hand-wheel will in a well-known manner feed along the traverse-rod, and thereby traverse the hammer, so that it coöperates with the various portions of the die and crowds the material into the edges X of the opening O in the die, so as to make a manhole-flange W in the furnace of the desired shape. The hammer, together with the arm, is also oscillated by the oscillating-gear in order to have the hammer coöperate with the whole area of the die. This oscillating-gear may comprise the worm-segment R, preferably rigidly secured to the end of the arm and coöperating with the worm S. This worm is rotated by the hand-wheel T and in a well-known manner operates to give the arm and hammer a slow oscillation, so as to cause the hammer to coöperate with the various parts of the die.

In using this flanging apparatus the furnace or other article which is to be operated upon is preferably heated to render the flanging more easy and then if a cylindrical object is to be flanged is slipped over the hammer and arm, so as to properly coöperate with the die. The hammer is then set in motion

and flanges the desired portion of the material out, so that it takes the configuration of the die, and by traversing the hammer and at the same time oscillating it through the
5 traverse and oscillating gear the hammer is caused to cooperate with any desired part of the die.

It is of course understood that many modifications may be made by those familiar with
10 this art without departing from the spirit of this invention. Changes may be made in the form and proportion of parts. Portions of this apparatus may be omitted and parts of the same may be employed in connection with
15 other devices without departing from the spirit of this invention. We do not, therefore, desire to be limited to the disclosure which we have made in this case; but

What we claim as new, and what we desire
20 to secure by Letters Patent, is set forth in the appended claims:

1. In flanging apparatus, a support, an arm revolubly mounted in bearings in said support, a hammer mounted to traverse on said
25 arm, a tubular traverse-rod connected to said hammer, the outer end of said traverse-rod being threaded, a nut and hand-wheel cooperating with said threaded traverse-rod to traverse said hammer, a worm-segment and
30 a worm connected with a hand-wheel to oscillate said arm and hammer, and a die with which said hammer cooperates.

2. In flanging apparatus, a support, an arm revolubly mounted in said support, a hammer
35 mounted to traverse upon said arm, means to operate said hammer from said support by fluid-pressure, means to traverse and to oscillate said hammer during its operation and a die with which said hammer cooperates.

3. In flanging apparatus for flanging tubular articles, a die to support the article, a support, an arm revolubly mounted in said support to project within said article, a hammer mounted to traverse on said arm, means
40 to operate said hammer within said article

and means on said support to oscillate and to traverse said hammer.

4. In flanging apparatus, a die, a support, an arm extending outward from said support and firmly supported at one end therein, a
50 pressure device mounted to traverse on said arm and operating at an angle thereto, means to operate said pressure device and means to traverse said pressure device along said arm during the operation of the same.

5. In flanging apparatus, a support, provided with bearings, an arm revolubly mounted in said bearings, a hammer mounted upon said arm, to be operated from said support, oscillating-gear to oscillate said hammer during
60 its operation, and a die with which said hammer cooperates.

6. In flanging apparatus, a support provided with bearings, an arm revolubly mounted in said bearings, a hammer mounted to
65 traverse upon said arm to operate within a tubular article and means to oscillate said arm during its operation.

7. In flanging apparatus, a support, bearings in said support, a projecting arm revolubly mounted in said bearings at one end of
70 the same, a pressure device mounted to traverse on said arm, means to operate said pressure device and means to traverse and to oscillate said pressure device during its operation.

8. In flanging apparatus, a support provided with bearings, a projecting arm revolubly mounted in said bearings at one end of the same, a pressure device mounted upon said
80 arm to be operated by fluid-pressure from said support, and oscillating-gear on said support to oscillate said pressure device during its operation.

THOMAS F. ROWLAND, JR.
WILLIAM H. DEMING.

Witnesses:

AGNES A. MORROW,
GEORGE ROWLAND.