

(No Model.)

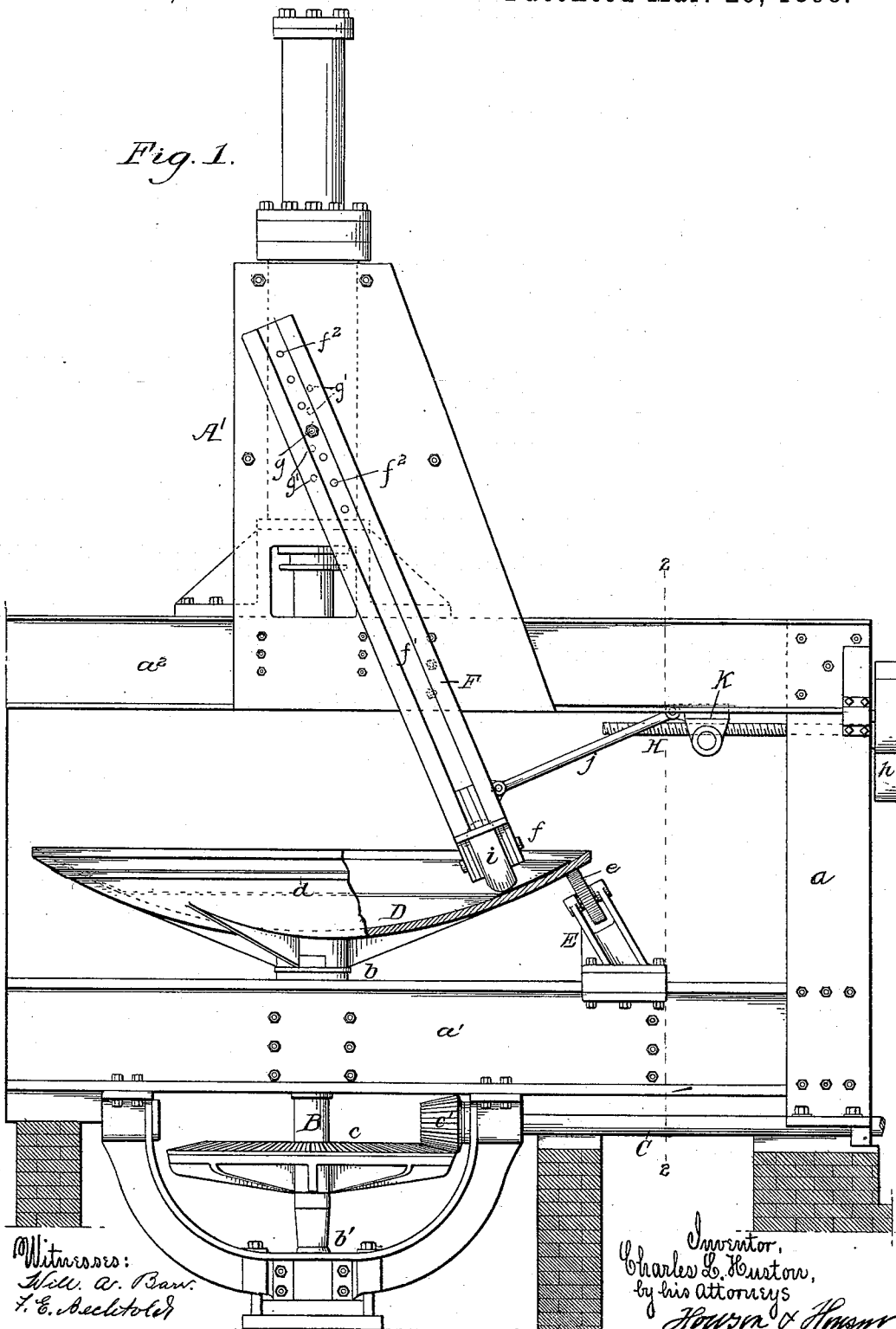
2 Sheets—Sheet 1.

C. L. HUSTON.  
MACHINE FOR DISHING PLATES.

No. 601,566.

Patented Mar. 29, 1898.

*Fig. 1.*



(No Model.)

2 Sheets—Sheet 2.

C. L. HUSTON.  
MACHINE FOR DISHING PLATES.

No. 601,566.

Patented Mar. 29, 1898.

*Fig. 2.*

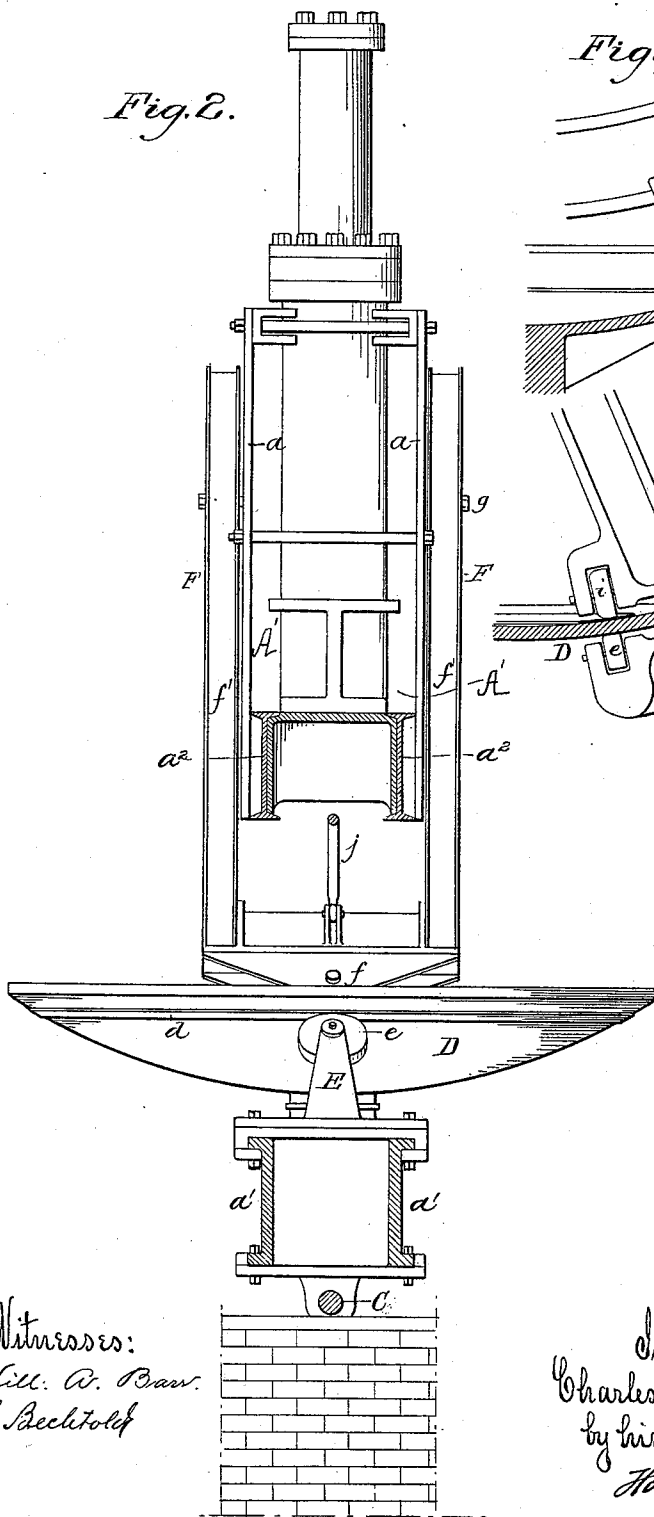


*Fig. 3.*

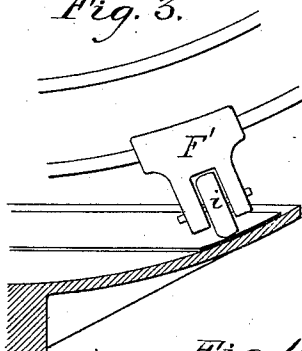


*Fig. 4.*

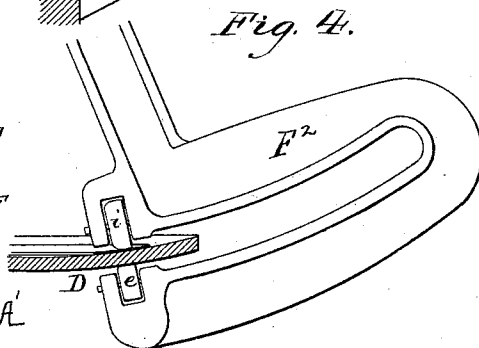
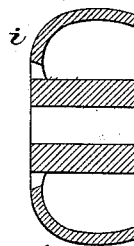


*Fig. 5.*



Witnesses:  
Will. A. Brown.  
F. E. Bechtold

Inventor,  
Charles L. Huston,  
by his Attorneys,  
Horn & Horn

# UNITED STATES PATENT OFFICE.

CHARLES L. HUSTON, OF COATESVILLE, PENNSYLVANIA.

## MACHINE FOR DISHING PLATES.

SPECIFICATION forming part of Letters Patent No. 601,566, dated March 29, 1898.

Application filed September 20, 1897. Serial No. 652,299. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES L. HUSTON, a citizen of the United States, and a resident of Coatesville, Pennsylvania, have invented certain Improvements in Machines for Dish-  
ing Plates, &c., of which the following is a specification.

My invention relates to certain improvements in machines for dishing metal plates; and the object of my invention is to simplify the construction of such machines and to roll the plate into dish form by simple mechanism, as fully described hereinafter, reference being had to the accompanying drawings, in which—  
Figure 1 is a side view of sufficient of a machine to illustrate my invention. Fig. 2 is a sectional view on the line 2 2, Fig. 1. Figs. 3 and 4 are views of modifications of the device, and Fig. 5 is a view of the roll I prefer to use.

I have illustrated my invention in connection with the frame of a hydraulic flanging-machine. By this combination I am enabled to use the base of a flanging-machine to carry the dish-shaped former, and I am also enabled to use the standard which supports the hydraulic pressing-cylinders as the bearing to which the swinging frame is pivoted. It will be understood, however, that a special machine may be constructed independent of the flanging-machine; but I find that in iron or steel works the two machines would be very seldom used together, and in order to economize in space and also in the cost of machines I have attached my improved dishing device to the flanging-machine.

A is the frame of the machine, consisting of uprights  $a$ , lower longitudinal members  $a'$ , and upper longitudinal members  $a^2$ . In the present instance these members are made of I-beams of suitable strength. Adapted to a bearing  $b$  in the lower member  $a'$  and in a step-bearing  $b'$  below the frame is a vertical shaft B, carrying the concave or dish-shaped former D. On this shaft B between the two bearings is a bevel-wheel  $c$ , which meshes with a bevel-pinion  $c'$  on the driving-shaft C, driven in any suitable manner so that the former D will be rotated at a given speed.

Secured to the lower members  $a'$  of the frame is a bearing E, carrying a wheel  $e$ , which rests against the under side of the

former D near its outer edge, as indicated in Fig. 1, so as to support the former against the pressure of the forming-roll described hereinafter.

I preferably rib the dished former at  $d$  and finish this rib, so that the former will have a good bearing against the roll  $e$ .

Pivoted to the standard  $A'$ , projecting from the frame A, is an arm F, having at its lower end a bearing  $f$  for the dishing-roll  $i$ . This dishing-roll is rounded at its forward end and is of the shape clearly shown in detail view, Fig. 5. The roll is free to turn in its bearing as the plate and the dishing-former rotate under it. In the present instance the arm F has two members  $f'$ , one extending on one side of the standard  $A'$  and the other on the opposite side, and these two members are secured to the bearing  $f$ . In each member is a series of holes  $f^2$ , to any one of which are attached the pivot-pins  $g$ , which are also adapted to any one of the series of holes  $g'$  in the standard  $A'$ , so that the arm can be adjusted to dish the plate on any curve desired by simply adjusting the pivot-pins. The arm is moved toward and from the center of rotation of the former by means of a driven screw H, adapted to bearings in the frame of the machine and having at its outer end a gear-wheel  $h$ , through which it is driven, and adapted to slide upon the member  $a^2$  of the frame is a slide K, which slide has a screw-threaded opening through which passes the screw-threaded shaft H. As the shaft H is turned the slide is moved forward or returned, according to the direction of rotation of the shaft. The slide is connected to the arm F by a rod  $j$ , so that as the slide is reciprocated the arm is vibrated on its pivot.

The operation of the machine is as follows: A flat plate or ring is placed upon the former D, and after the arm F has been set to the radius of the former the machine is placed in motion. The former is then rotated, and the arm carrying the dishing-roll is moved from a point at the outer edge of the plate to be dished toward the center, forcing the plate or ring down upon the former D, and thus making it conform to the shape of the former.

In some instances I may dispense with the pivoted arm carrying the forming-roll, and when a permanent dishing-former is used I

may make a curved guideway conforming to the face of the former and mount the forming-roll carrier  $F'$ , Fig. 3, on this curved guideway and drive it over the former in any suitable manner.

I may make the bearing-roll  $e$  travel with the forming-roll, in which case I simply make the carrier in the form of a yoke  $F^2$ , Fig. 4, mounting the supporting-roll on one arm of the yoke and the dishing-roll on the other arm of the yoke.

I claim as my invention—

1. The combination in a machine for dishing metal plates, of the concave former, means for rotating the former, a pivoted arm, a roll carried by the said arm and means for moving the arm over the former, substantially as described.

2. The combination in a machine for dishing plates, &c., of the concave former, means

for rotating said former, a pivoted arm, a dishing-roll carried thereby, a slide, means for reciprocating said slide and a rod connecting the slide to the arm so that the arm will be vibrated as the slide is reciprocated, substantially as described.

3. The combination in a dishing-machine, of the concave former, a pivoted arm, a dishing-roll carried thereby, a slide, a rod connecting the slide to the carrying-arm and a driven screw-shaft adapted to a screw-threaded opening in the slide, substantially as described.

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

CHAS. L. HUSTON.

Witnesses:

O. F. SPACKMAN,  
JOS. HUMPTON.