To all whom it may concern:

Be it known that I, RICHARD D. BUNCKE, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Machines for Cleaning Sheet-Metal Plates, of which the following is a specification.

This invention relates to an improved machine for cleaning tin plates or other sheets of metal for use in lithographic printing, so that they are ready for receiving the color in the lithographic press, the machine being designed for cleaning and polishing the plates and collecting the impurities which are removed from the same without causing dust; and for this purpose the invention consists of a machine for cleaning sheet-metal plates which comprises a closed casing having an inlet-throat at one end thereof, two horizontal-rolls disposed vertically one above the other adjacent said inlet-throat adapted to rotate independently of each other at different speeds and in opposite direction, a receptacle in the front portion of said casing enclosing the lower half of the bottom roll for containing abrasive material, said lower roll being provided with a fibrous covering to take up the abrasive material on its surface, a shelf or table arranged on the front of said casing in line with the throat, and a door at the rear end of the casing, as will be more fully described hereinafter and finally pointed out in the claim.

In the accompanying drawings, Figure 1 represents a side elevation of my improved machine for cleaning sheet-metal plates. Fig. 2 is a vertical longitudinal section of the same, taken on line 2'2; Fig. 3. Fig. 3 is a front elevation of the machine, drawn on a larger scale; and Fig. 4 is a detail section of the dust-proof casing, taken on line 4'4, Fig. 2.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a casing which is preferably made of sheet metal and rectangular in cross-section. The top wall of the casing is slightly inclined toward the bottom of the same, the rear end of the casing being rounded off and provided with a hinged door A', that is secured in closed position by a locking-latch d. The side walls of the casing are connected with the top and bottom of the same by means of angle-irons a, to which the sheet-metal walls of the casing are riveted, as shown in Fig. 4.

The casing A is made dust-proof and provided at its front or ingoing end with an inwardly-projecting throat a', that is formed of inwardly-curved lips a'. Adjacent to the throat a' are arranged two horizontal cleaning-rolls B, which are disposed vertically one above the other and their contacting or working portions being located in the horizontal center plane of the throat a'. The lower roll is covered with felt or other suitable material. The shafts of the rolls are extended through the side walls of the casing and are journaled in bearings of blocks b', that are adapted to yield sufficiently for feeding a sheet-metal plate between the rolls. To the outer end of each of the shafts b b are applied a fast and a loose pulley P, so as to apply rotary motion to the rolls B by shifting the driving-belt from the fast to the loose pulley. Below the lower roll B is arranged a receptacle C, into which the lower half of the roll extends. This compartment is supplied with an abrasive material, which as the rolls rotate is taken up by the fibrous cover m of the roll. In order to guide the plates into the throat of the casing A, a table or shelf is supported in front of the throat a', with its upper surface in line with the horizontal plane of the same.

The improved machine for cleaning sheet-metal plates is operated as follows: Motion is imparted to the cleaning-rolls in opposite direction to each other, the lower roll being rotated at a greater speed, so as to produce the cleaning of the plate, while the upper roll is rotated at a slower speed in order to feed the plate. The tin or other plates are taken hold of at one end by the hands and supplied over the table D singly to the rolls, so that the under side is cleaned by the lower roll, which by virtue of its higher speed of rotation and the abrasive material carried on the surface effectively cleans the plate prepara-
tory to printing on the same in the lithographic press. After the plate is fed in as far as it can go it is withdrawn and placed on a pile alongside of the machine. The next plate is then cleaned on the underside in the same manner. One sheet after the other is then taken from the pile and subjected again to the action of the cleaning-rolls by feeding them through the throat to the inside of the casing. In this manner the plates are cleaned on both sides. The dust and other impurities are collected in the main part of the casing on the bottom of the same and is removed from time to time through the rear door A.

The cleaning of the plates is performed in a very effective manner by the machine without any annoyance by dust, the plates being ready for printing after being subjected to the action of the machine on both sides.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a device for cleaning tin or other plates, the combination of a casing inclined rearwardly at its top and having a horizontal throat in the front wall, two horizontal rolls disposed vertically one above the other adjacent said inlet-throat adapted to rotate independently of each other at different speeds and in opposite direction, a receptacle in the front portion of said casing enclosing the lower half of the bottom roll for containing abrasive material, said lower roll being provided with a fibrous covering to take up the abrasive material on its surface, a shelf or table arranged on the front of said casing in line with the throat, and a door at the rear end of the casing, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

RICHARD D. BUNCKE.

Witnesses:
C. BRADWAY,
HENRY J. SUHRBIER.