

No. 641,730.

Patented Jan. 23, 1900.

W. ROGERS.
APPARATUS FOR TREATING PLATES.

(Application filed Mar. 19, 1898.)

(No Model.)

Fig. 2.

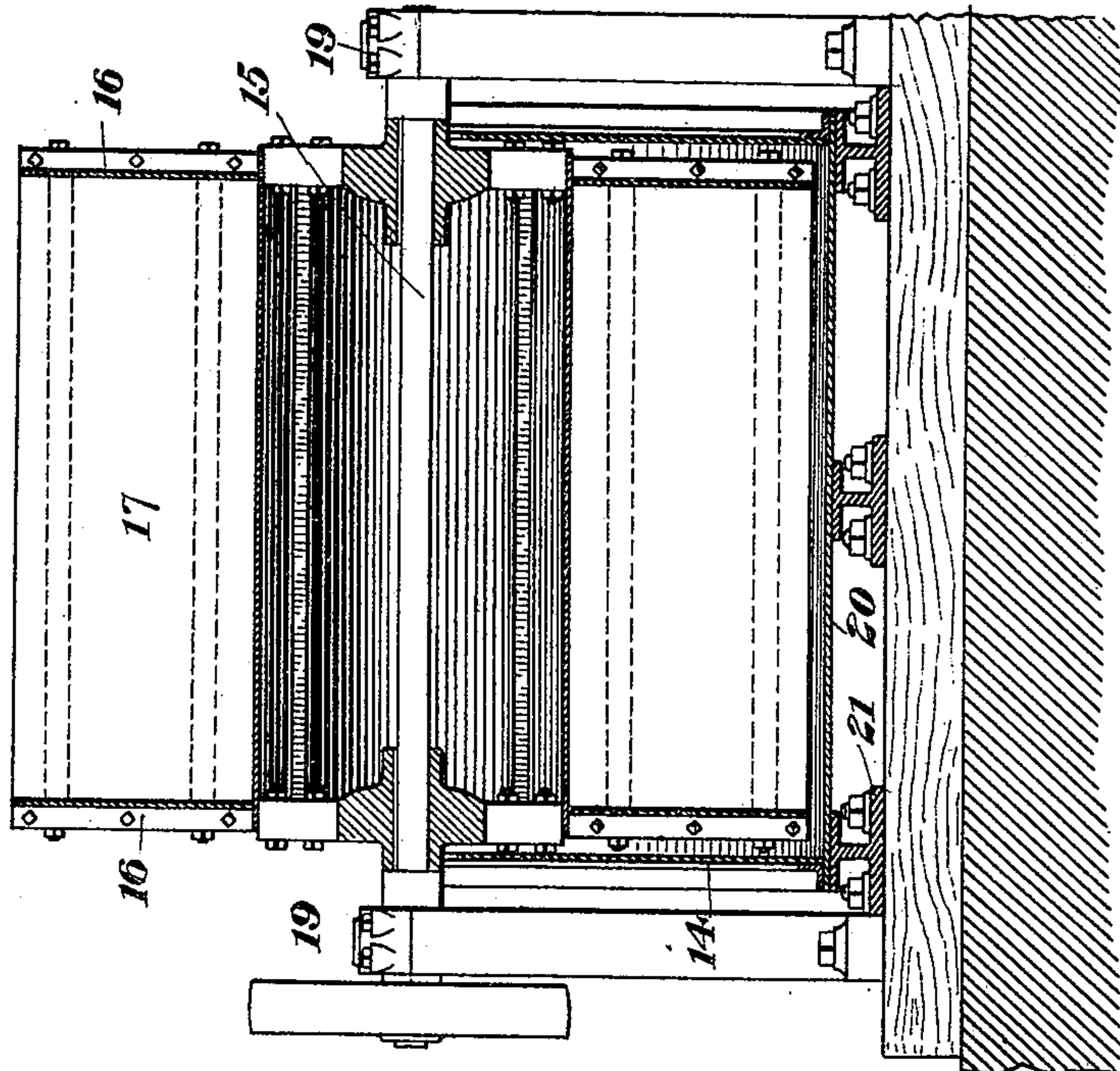
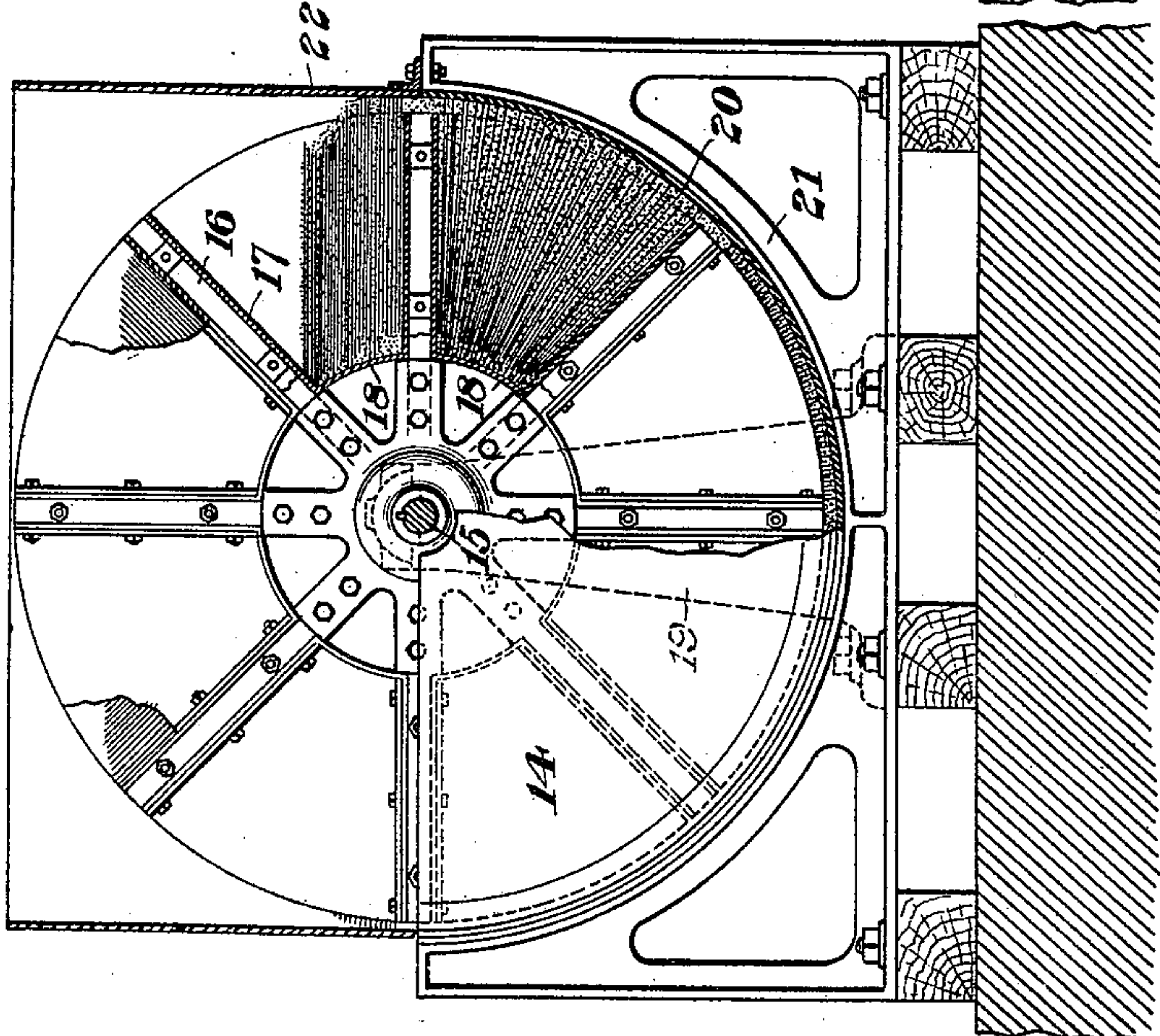


Fig. 1.



WITNESSES

L. A. [Signature]
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INVENTOR

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UNITED STATES PATENT OFFICE.

WILLIAM ROGERS, OF LEECHBURG, PENNSYLVANIA.

APPARATUS FOR TREATING PLATES.

SPECIFICATION forming part of Letters Patent No. 641,730, dated January 23, 1900.

Application filed March 19, 1898. Serial No. 674,476. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ROGERS, of Leechburg, in the county of Armstrong and State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Treating Plates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

10 Figure 1 is a sectional end elevation of my improved rotary cleaning apparatus, and Fig. 2 is a longitudinal section of the same.

My invention relates to the treating of plates, and is designed to provide apparatus 15 for cleaning and treating them which may be used either with or without a liquid-bath.

As shown in the drawings, the apparatus consists of a shaft 15, having radially-extending arms 16, between which are secured radial vanes or wings 17, forming a series of segmental chambers bounded at their inner ends by extensions 18. The shaft is supported in suitable bearings 19, and the lower portion of the drum is inclosed in a semicylindrical 20 receptacle 20, secured upon the framework 21.

22 is an upwardly-extending guard-plate at the front end of the machine and which prevents curling or sliding out of the sheets from the drum.

30 In using this apparatus it is slowly revolved, and the compartments being preferably supplied with an abrading material—such as magnetic iron ore, sand, emery, or similar material—the sheets are fed into each 35 compartment at the upper part of its path. As the drum rotates clockwise the sheets slide back and forth upon each other, being held in place first by the guard-plate and thereafter by the receptacle 20, and as they rub 40 against each other and against the abrading material which sifts between them their surfaces will be cleaned of the loose powdered scale which may form thereon. Each compartment is preferably several inches longer 45 than the sheets, so that they may slide loosely back and forth therein. The contact of the outer edges of the plates with the receptacle will tend to open the pack and pull the sheets apart, so as to aid the action of the abradant. 50 In Fig. 1 I have exaggerated the distance between the sheets, so as to show the abrading material between them. After passing

through the receptacle the sheets are removed from the chambers and are then taken to an oil-bath, which is of substantially the same 55 construction as the cleaner just described. The shaft-bearings in this case are packed in any suitable way to prevent leakage of the oil, and the receptacle being filled with oil the sheets are supplied to the compartments 60 and passed through the receptacle in the same manner as in the cleaner. The oil serves to soften any remaining scale upon the sheets, which is rubbed off in this oil-bath. The sheets then being removed from the bath are 65 taken to a rotary tinning apparatus, which is of substantially the same construction as the oil-bath, a layer of powdered dolomite or some similar material being preferably used upon the surface of the molten tin, so as to prevent 70 its ignition.

The apparatus when used as a cleaner may have sides of less height, if desired, than when used with oil or a tin bath.

The advantages of my invention will be apparent to those skilled in the art. 75

The peculiar construction of the cleaners enables them to thoroughly remove the loose powdery oxid, and any remaining particles are softened and removed in the oil-bath. 80 The rotary tinning apparatus enables the sheets to be coated in large quantities and very rapidly without handling of each sheet.

I have found in practice that the rubbing of the sheets upon each other as they pass 85 through the rotary cleaner softens them by the removal of the contained oxygen, leaving a practically pure iron, which causes the tin to adhere with great tenacity and, in fact, alloy or amalgamate with the plates. 90

Many changes in the form and arrangement of the parts may be made by the skilled mechanic without departure from my invention, since

What I claim as new, and desire to secure 95 by Letters Patent, is—

1. A plate-cleaner comprising an endless carrier, having compartments each arranged to receive a series of plates endwise, and a support arranged to contact with the ends of 100 the plates during at least a portion of their travel; substantially as described.

2. A plate-cleaner consisting of a rotary drum having radial compartments, each ar-

ranged to receive a series of plates, and a support partly encircling the drum and arranged to contact with the ends of the plates; substantially as described.

5 3. The combination with a cylindrical drum, having vanes forming compartments, each arranged to receive a set of plates, of a curved shield having closed ends forming a case partially surrounding the drum and contacting
10 with the ends of the plates; substantially as described.

4. The combination with a receptacle ar-

ranged to contain a liquid-bath, of an endless carrier movable therethrough and having compartments each arranged to receive a series of plates, and a support arranged to contact with the ends of the plates; substantially
15 as described.

In testimony whereof I have hereunto set my hand.

WILLIAM ROGERS.

Witnesses:

JAMES B. KIFER,
L. A. KIFER.