

No. 716,979.

Patented Dec. 30, 1902.

H. B. ARNOLD.

APPARATUS FOR AGITATING AND SEPARATING ARTICLES.

(Application filed Dec. 12, 1901.)

(No Model.)

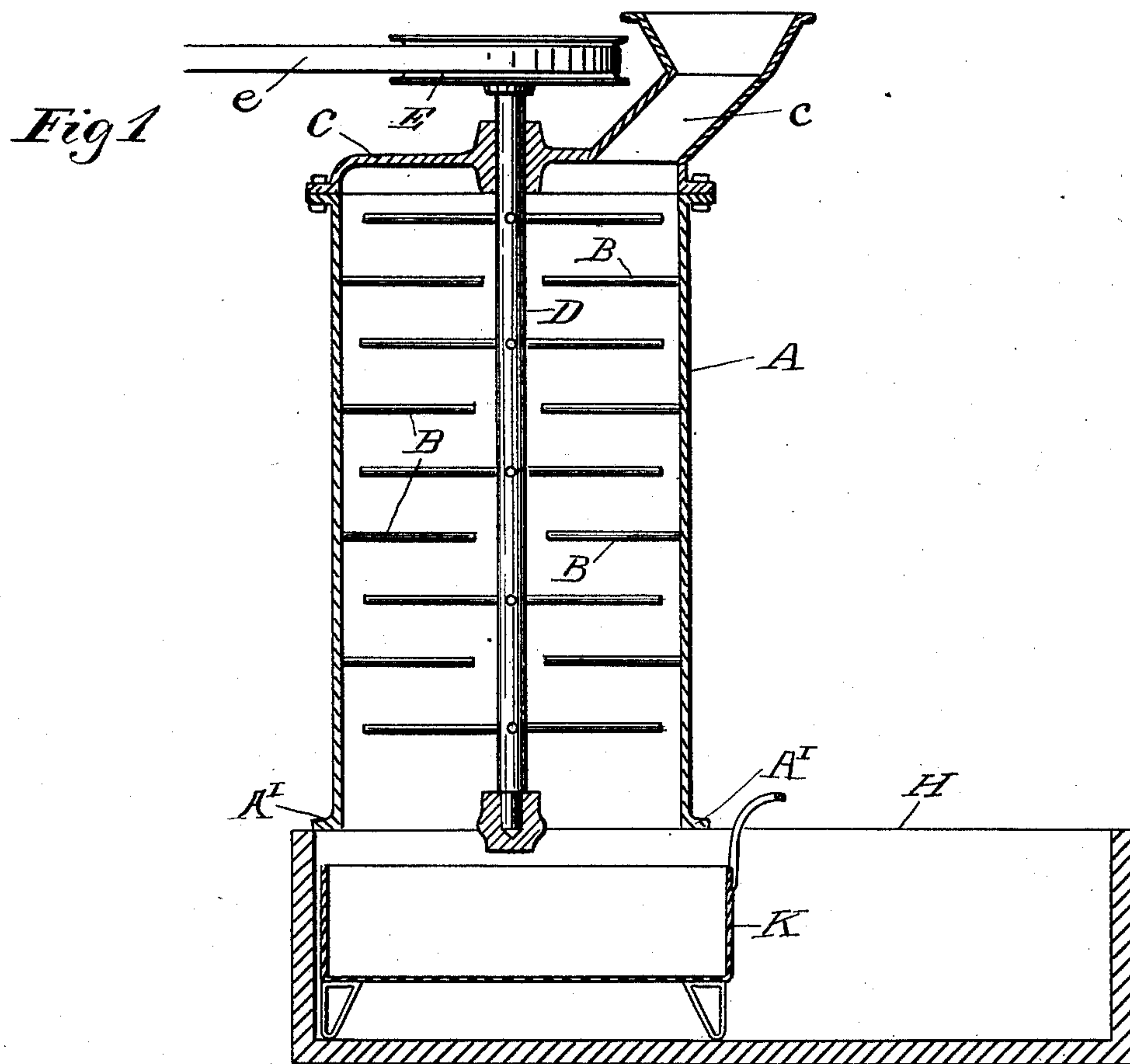
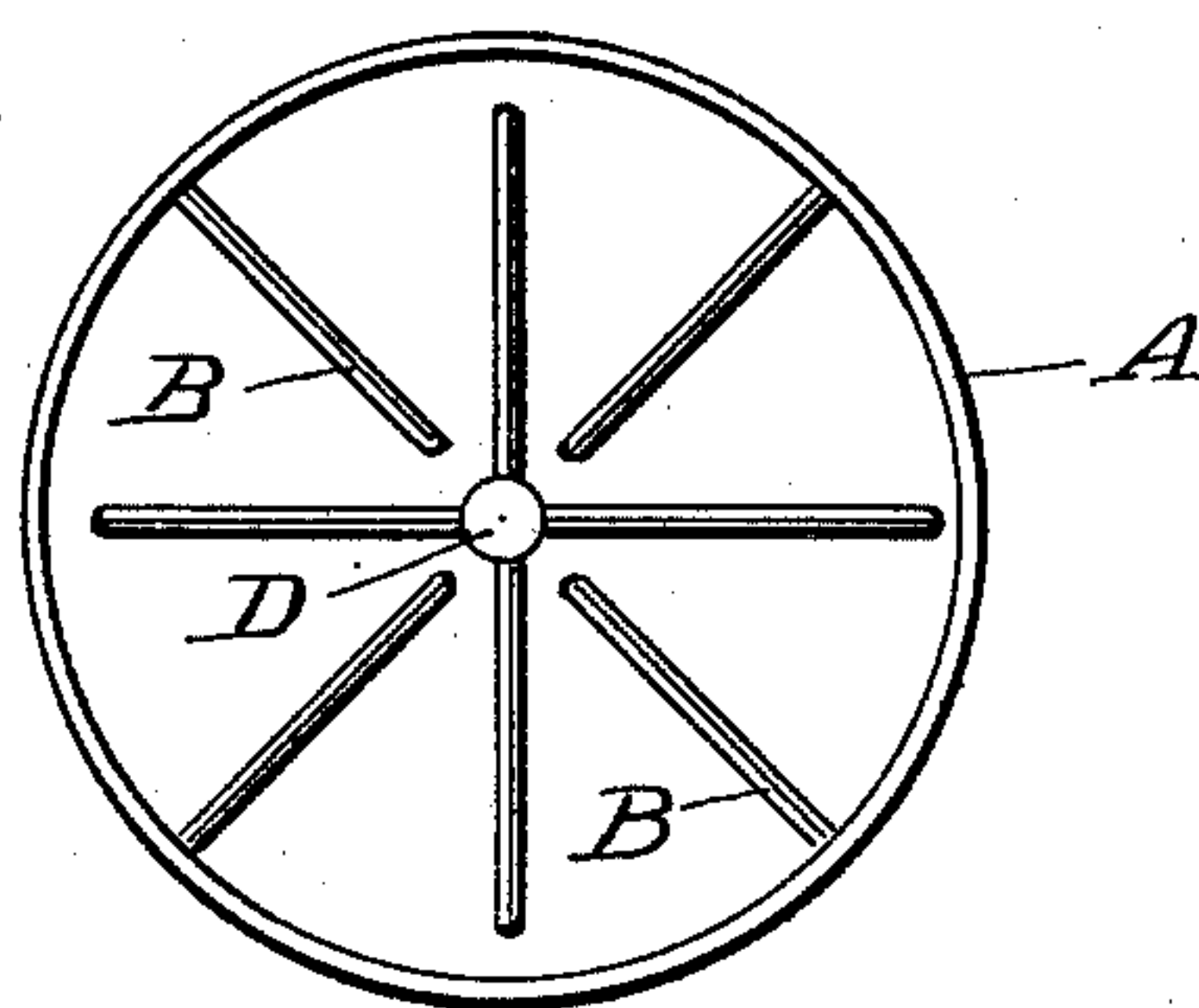


Fig. 2



Witnesses
C. F. Kilgore
A. Kreimendahl

Inventor
Harry B. Arnold
J. Arnold & Co.
Attorneys

UNITED STATES PATENT OFFICE.

HARRY B. ARNOLD, OF NEW BRITAIN, CONNECTICUT.

APPARATUS FOR AGITATING AND SEPARATING ARTICLES.

SPECIFICATION forming part of Letters Patent No. 716,979, dated December 30, 1902.

Application filed December 12, 1901. Serial No. 85,651. (No model.)

To all whom it may concern.

Be it known that I, HARRY B. ARNOLD, of New Britain, county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Devices for Agitating and Separating Articles that Pass Through the Same, of which the following is a full, clear, and exact description.

This invention is particularly adaptable for use in connection with tinning and galvanizing plants, and especially where articles of small size are coated or plated.

The zinc or tin used in the ordinarily-known galvanizing process acts substantially as a solder, and it is very often the case when a large number of small pieces are galvanized that a greater percentage of them stick together, and it is necessary to sort out these pieces and again dip them in the plating solution to separate them, repeating this operation as long as any of the pieces are stuck or soldered together, which is a very laborious and expensive operation.

The object of this invention is to provide a device in which small articles which have been galvanized or tinned shall be separated from one another and delivered into a cooling solution.

The device is clearly illustrated in the drawings, in which—

Figure 1 is a sectional view. Fig. 2 is a plan view with the top removed.

In the embodiment of my invention shown in the drawings, A denotes a cylindrical body having a series of fingers B secured to the inside thereof and projecting toward the center. C denotes a cover for this cylindrical body provided with the chute c.

D is a shaft mounted in suitable bearings and located within the cylindrical body. Projecting radially from this shaft are a series of fingers which reach almost but not quite to the inner wall of the cylindrical body. These fingers on the shaft are staggered vertically, with the fingers projecting from the interior wall of the body, as shown in Fig. 1. This shaft is driven by any suitable means, as by the pulley E and the belt e.

At its lower portion the tank A is provided with an outwardly-extending flange A'. This flange serves to space the interior of the

body A from the one end of a tank H, which contains a cooling solution, this tank having a box K therein to receive the pieces after the separation. By means of this flange it will be noted that the one end of box K may lie beneath the same, and consequently the articles or pieces will be prevented from falling outside the box K. At its other end the box K extends for a distance beyond the interior of body A, assuring the reception of all falling pieces in the box. The cover is provided with an outwardly-extending flange, which seats on a correspondingly-formed flange on the upper end of body A, the flanges being secured by any suitable means. The chute extends beyond the body A, having a flaring mouth and a passage-way with inclined parallel side walls, having a tendency to direct the articles or pieces toward the agitator. As is well known, a large number of these pieces are placed in a gauze basket and dipped into the tinning or galvanizing solution a sufficient length of time to get the required coating. They are then removed and shaken thoroughly to throw off any superfluous metal and are then dumped into the chute c, dropping through the chute into the cylindrical body. The shaft is revolved at a high rate of speed, and as the pieces fall into the cylindrical body they are thrown about between the fingers or blades on the shaft and the stationary blades on the interior of the cylinder. This results in effectually separating the pieces one from another, so that they drop into the box K free from one another.

I do not wish to limit myself to the particular device shown in the drawings, as it is evident that the arrangement and construction of the device may be modified without departing from the spirit of my invention.

I claim as my invention—

1. In an agitating and separating device, the combination with a tank and a removable box having a foraminous bottom within the tank, of a stationary body having an outwardly-extending flange setting on the upper edge of the tank and spacing the interior of said body from the end of said tank, the body being directly above the box, with the one end of the latter extending beneath the flange and the other end thereof extending beyond

the said body, a shaft rotatably mounted in the body and carrying radially-extending fingers, substantially as described.

2. In an agitating and separating device,
5 the combination with a cylindrical body carrying a series of inwardly-projecting fingers, of a shaft mounted in the body and carrying a series of radially-extending fingers, the upper end of the body carrying an outwardly-
10 extending flange, a cover carrying an outwardly-extending flange secured to said first-

named flange, a chute having parallel side walls formed integral with the cover, with said walls inclined with relation to the cover, a flaring mouth on the chute, an outwardly-
15 extending flange on the body, and a tank receiving said last-named flange, substantially as described.

HARRY B. ARNOLD.

Witnesses:

OTTO BURCKHARDT,
MAUD E. HACKNEY.