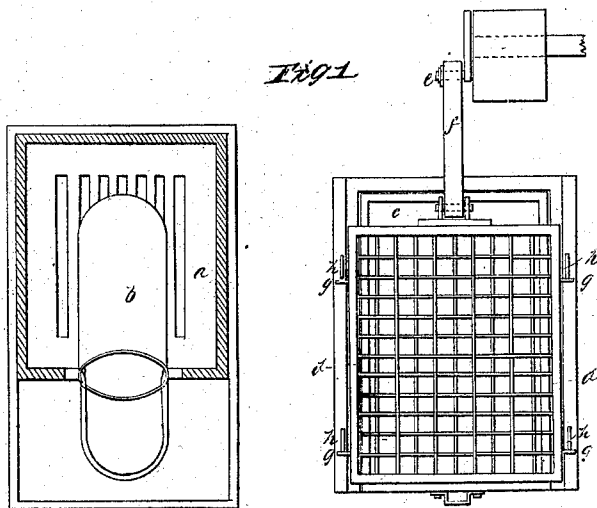
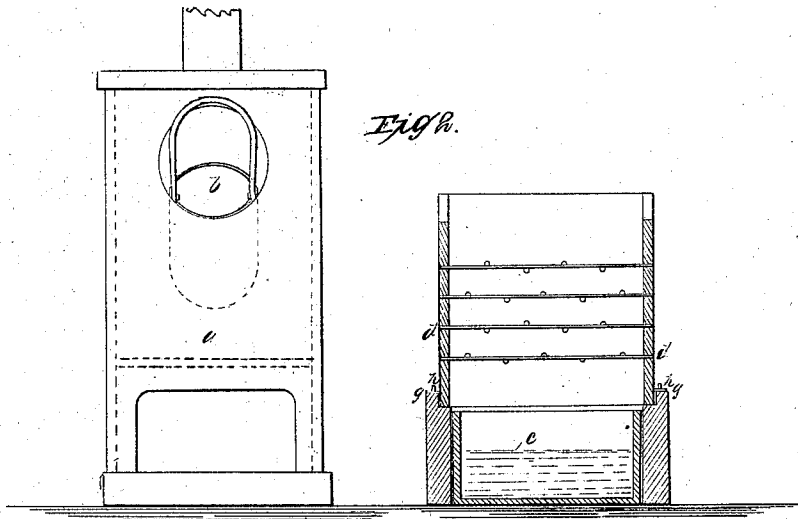


T. Fowler,
Coating Pins.

N^o 31,408.

Patented Mar. 19, 1861.



Witnesses.
Harris B. Munson
G. B. Elliott

Inventor.
Thaddeus Fowler

UNITED STATES PATENT OFFICE.

THADDEUS FOWLER, OF SEYMOUR, CONNECTICUT.

IMPROVED DEVICE FOR COATING PINS.

Specification forming part of Letters Patent No. 31,708, dated March 19, 1861.

To all whom it may concern:

Be it known that I, THADDEUS FOWLER, of Seymour, in the county of New Haven and State of Connecticut, have invented, made, and applied to use a new and useful Method of Coating Pins and other Articles with Tin or other Ornamenting Metal; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a plan of my apparatus used in coating said pins or other articles, and Fig. 2 is an elevation of the furnace with the separating apparatus in section.

Similar marks of reference denote the same parts.

Various articles—such as rivets, hooks, &c.—have heretofore been protected from rust by a coating of tin, zinc, or other metal. For this purpose it has been usual to dip them into the melted metal or cause the same to flow over their surface and then agitate the mass until gradually cooled. This operation could not be performed on pins or such light articles, because they would not have weight enough in themselves to fall apart when simply shaken, and, besides, the articles cooling when more or less in contact prevents them from being smooth and glossy, as would be the case if the coating-metal were flowed over the surface in a melted state; and another serious difficulty has heretofore arisen in consequence of the coating-metal becoming oxidized by contact with the air while gradually cooling.

The nature of my said invention consists in separating the coated pins or other articles while in the act of falling by agitation applied in such a manner that the pins or other articles are knocked or thrown apart while the coating-metal is in a melted state, so that the smoothness and gloss of the coating-metal is not injured by contact with the other pins or articles, and each one being detached cools much more readily than when in a mass, and for this purpose I allow said articles to fall into water or other fluid.

To accomplish the aforesaid result, I make use of any suitable fire or furnace, illustrated in the drawings at *a*, and *b* is a pot

into which the pins are placed after having been dipped in muriate of zinc or similar flux, and the proper amount of granulated or ground tin or other coating-metal is introduced, and the kettle or pot *b* is agitated and heated until the coating-metal is melted and has flowed uniformly over all the pins or other articles. If preferred, the pins or other articles may be dipped into the melted metal while in a wire basket; but I prefer the manner before specified, because a regular and definite amount of metal can be apportioned to coat a certain weight of pins or other articles. So soon as coated, as aforesaid, I turn the mass of pins or other articles out of the kettle or receptacle, and while falling into the water-box *c*, I separate the pins by agitation, and for this purpose I have represented a box *d*, containing cross-wires or riddles, which box is rapidly vibrated by the crank *e* and pitman *f*, and by causing the pins *g g* to run over inclines *h h* the box *d* is further shaken. The mass of pins, being turned onto these vibrating riddles or wires while the coating-metal is in a melted state, is separated and the pins or other articles knocked apart while falling into the box *c* of water or other fluid, and the smoothness and brilliancy of the coating-metal is not impaired, as aforesaid.

It will be evident that the riddles or wires that come in contact with the coated pins or other articles as they fall might be fitted and vibrated in any desired manner to perform the aforesaid operation.

It will be seen that by increasing the number of riddles, wires, or rods the pins will be agitated to a greater extent and receive as they fall a greater number of concussions or blows, so that the smallest pins will be entirely separated before they reach the water.

I am aware that nails and other articles that have been coated with metal have been agitated by allowing the mass to fall in such a way that the articles scatter about and thus separate; and I am also aware that agitation has been applied to the mass while in a ladle or perforated receptacle; but

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

The method herein specified of separating

pins and other articles so soon as thoroughly covered with the coating-metal by the use of a series of riddles, wires, or rods to which a vibration or motion is communicated to produce a series of blows or concussions upon the articles as they fall from the successive riddles, wires, or rods, and thereby insure the entire separation of the articles while the

coating-metal is in a melted state, as set forth.

In witness whereof I have hereunto set my signature this 8th day of December, 1860.

THADDEUS FOWLER.

Witnesses:

HARRIS B. MUNSON,

G. R. ELLIOT.