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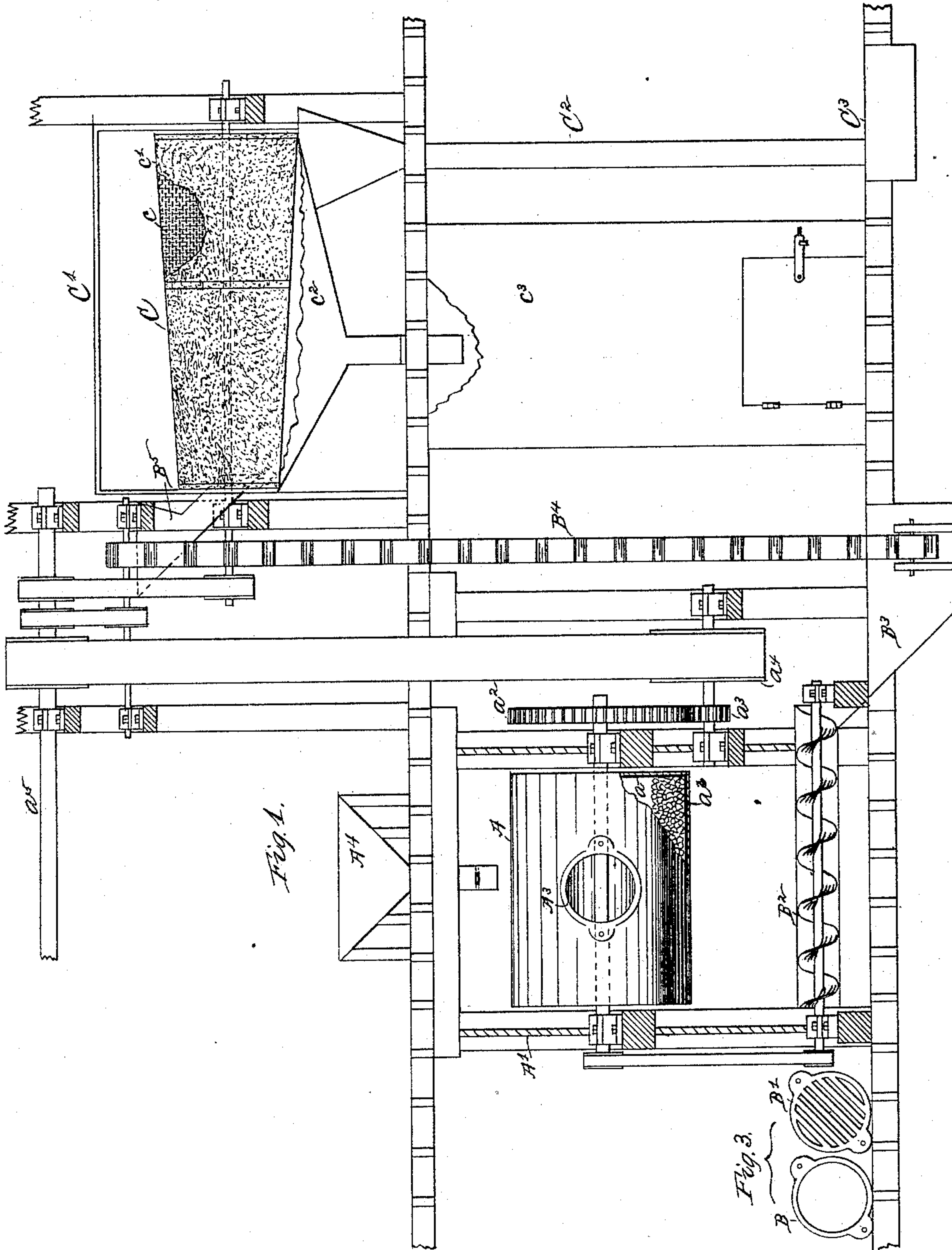
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R. W. F. ABBÉ.

PROCESS OF TREATING OXIDIZED OR CORRODED LEAD.

No. 485,730.

Patented Nov. 8, 1892.



WITNESSES:

C. R. Ferguson
Wm. M. Cluff

INVENTOR

Richard W. F. Abbé

BY

Edwin H. Brown

HIS ATTORNEY

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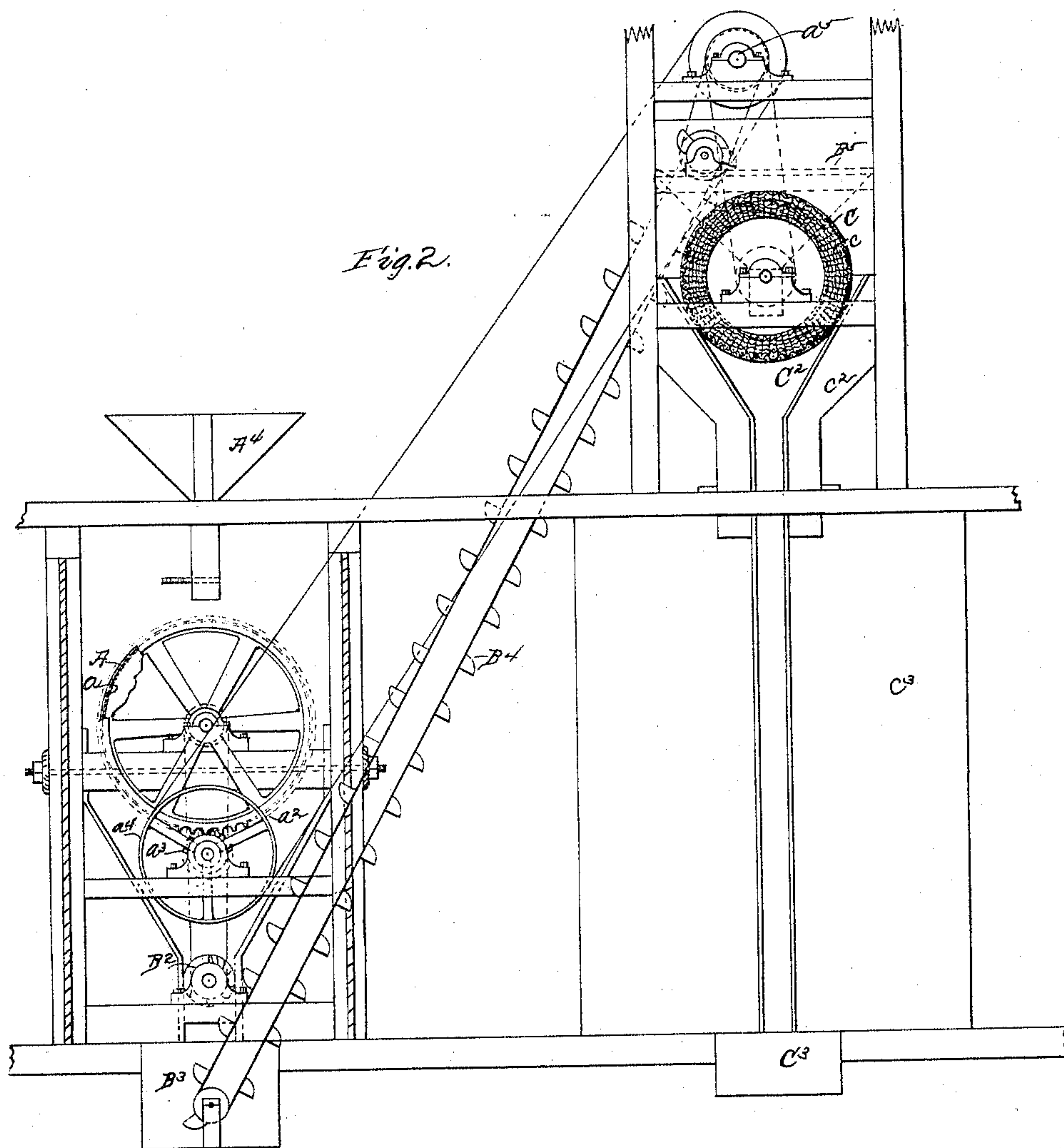
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UNITED STATES PATENT OFFICE.

RICHARD W. F. ABBÉ, OF BROOKLYN, ASSIGNOR TO THE J. R. ALSING COMPANY, OF NEW YORK, N. Y.

PROCESS OF TREATING OXIDIZED OR CORRODED LEAD.

SPECIFICATION forming part of Letters Patent No. 485,730, dated November 8, 1892.

Application filed March 20, 1891. Serial No. 385,727. (No specimens.)

To all whom it may concern:

Be it known that I, RICHARD W. F. ABBÉ, of Brooklyn, county of Kings, and State of New York, have invented a certain new and useful Improvement in the Process of Treating Oxidized or Corroded Lead, of which the following is a specification.

This invention relates to a process of treating oxidized or corroded lead by what I term a "dry process," in contradistinction to the old process, in which the product is separated from the blue lead in vats of water, entailing a subsequent drying of the product, and consequently a loss of time and labor. In the old process the bar-lead is oxidized or corroded in the usual manner and is then conveyed to rollers. After passing through the rollers the material is conveyed to a screen, in which the flattened blue lead is separated from the oxidized or corroded lead. The rolling process is objectionable, as it makes too compact a mass, so that the screening separates a portion only of the litharge or lead, while a great portion of it is pressed into and remains in the blue lead and comes out as tailings, requiring the process to be repeated; also, in the old process the litharge or lead is taken from the screen to burr-stones or chasers and ground, then to vats of water, where the blue lead still retained in the screening sinks and the litharge or lead is floated off into other vats. Of course the product must then go through a drying process. The old process is objectionable on account of the time and labor consumed in the operation, and I obviate the objections by producing the product by a very much simplified process.

In my process the bar-lead is first oxidized or corroded, and after being sufficiently oxidized or corroded it is fed by an elevator or otherwise to a pulverizing apparatus.

I prefer the pulverizer to be of the class having a revolving cylinder lined with a suitable material to prevent contact of the material to be ground with contaminating substances, such as iron. This cylinder is partially filled with loose pulverizers, either pebbles, balls, or rollers, and revolved at a slow speed. By this means the oxidized or corroded lead is liberated by abrasion of the loose pulverizers from the "blue lead," by which I

mean the lead which is not oxidized or corroded, and the blue lead flattened by pebbles, balls, or rollers. After discharging out of the cylinder the material is conveyed by any suitable means at once to a bolter, in which the blue lead is easily separated from the oxidized or corroded lead. It is easily separated in the bolter because the blue lead is in a flat state and the oxidized or corroded lead is reduced to a fine powder, which is forced through the bolter. The material forced through the bolter is the desired product. The material or tailings remaining in the bolter can be again oxidized, if desired.

Having described the process, I will now describe an apparatus by which it may be carried out, reference being had to the accompanying drawings, in which—

Figure 1 is a diagrammatic view, partly in section, of such an apparatus. Fig. 2 is an end view thereof, and Fig. 3 shows covers for the pulverizer.

A designates a rotary pulverizing-cylinder arranged within a suitable closed casing A' and having an opening A³, through which the material to be pulverized may be fed from the hopper A⁴. This cylinder is preferably lined with a suitable material *a*—such as porcelain—to prevent contact of the material with the iron of the cylinder, and is partially filled with pulverizers *a*⁶ in the form of balls, pebbles, or the like. The shaft of the cylinder A projects outside the casing A' and is provided with a gear-wheel *a*², meshing with a gear-wheel *a*³ on the shaft of the band-pulley *a*⁴, which is driven by a band from the main shaft *a*⁵ and consequently rotates the cylinder. When material to be pulverized is within the cylinder A, it is tightly closed by means of the close cover B. When the material is sufficiently pulverized, the cover B is removed and the grate-cover B' is put in its place. As the cylinder is again rotated the pulverized material will fall through the openings of the cover B' to the bottom of the casing A', from which it will be discharged by a worm-conveyer B² into a bin B³. From the bin B³ the material will be carried by a bucket elevator B⁴ and discharged into a hopper B⁵, and thence into a rotary bolter C, arranged within a closed casing C'. It will be seen that both the ele-

vator B⁴ and the bolter C are driven from the main shaft a⁵. The bolter is tapered from end to end, the larger end being over a chute C², and is open at its ends. The bolter has a
5 body portion c of wire-sieve material and an outer covering of bolting cloth c'. The rotation of the bolter C forces the fine product through the bolting cloth into the hopper c², from which it falls into the closed bin c³. The
10 tailings work down to the larger end of the bolter and discharge into a receiver C³ through a chute C².

Having described my process, what I claim is—

15 The process of obtaining the powdered

product of oxidized or corroded lead, consisting in abrading a mass of such lead by rolling contact with loose bodies other than the lead itself until the powder is wholly detached from the blue lead, and in subsequently transferring all of the blue lead and powder to a bolter and bolting the powder from the mass of blue lead, substantially as specified.

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

RICHARD W. F. ABBÉ.

Witnesses:

C. R. FERGUSON,

S. O. EDMONDS.