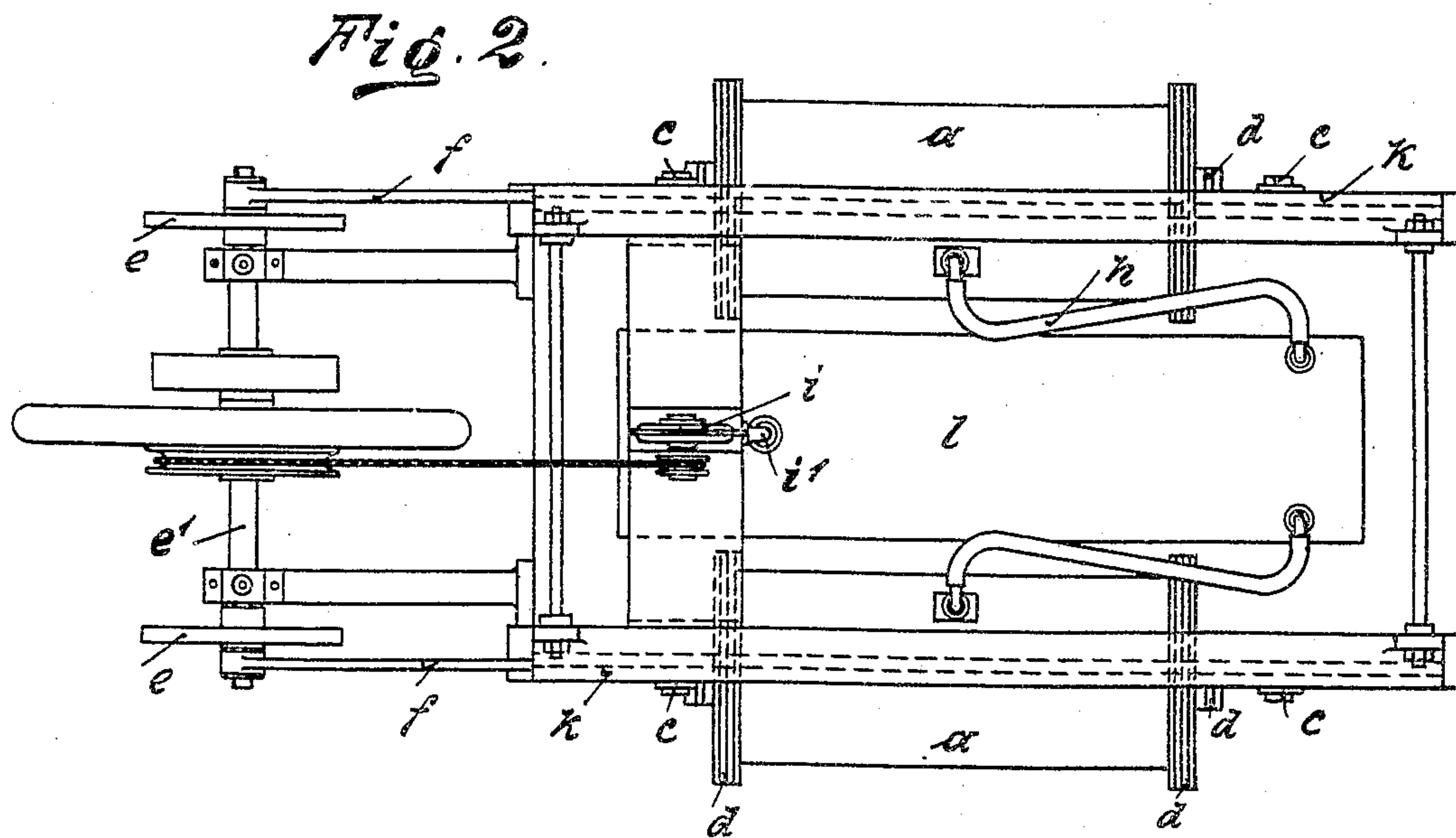
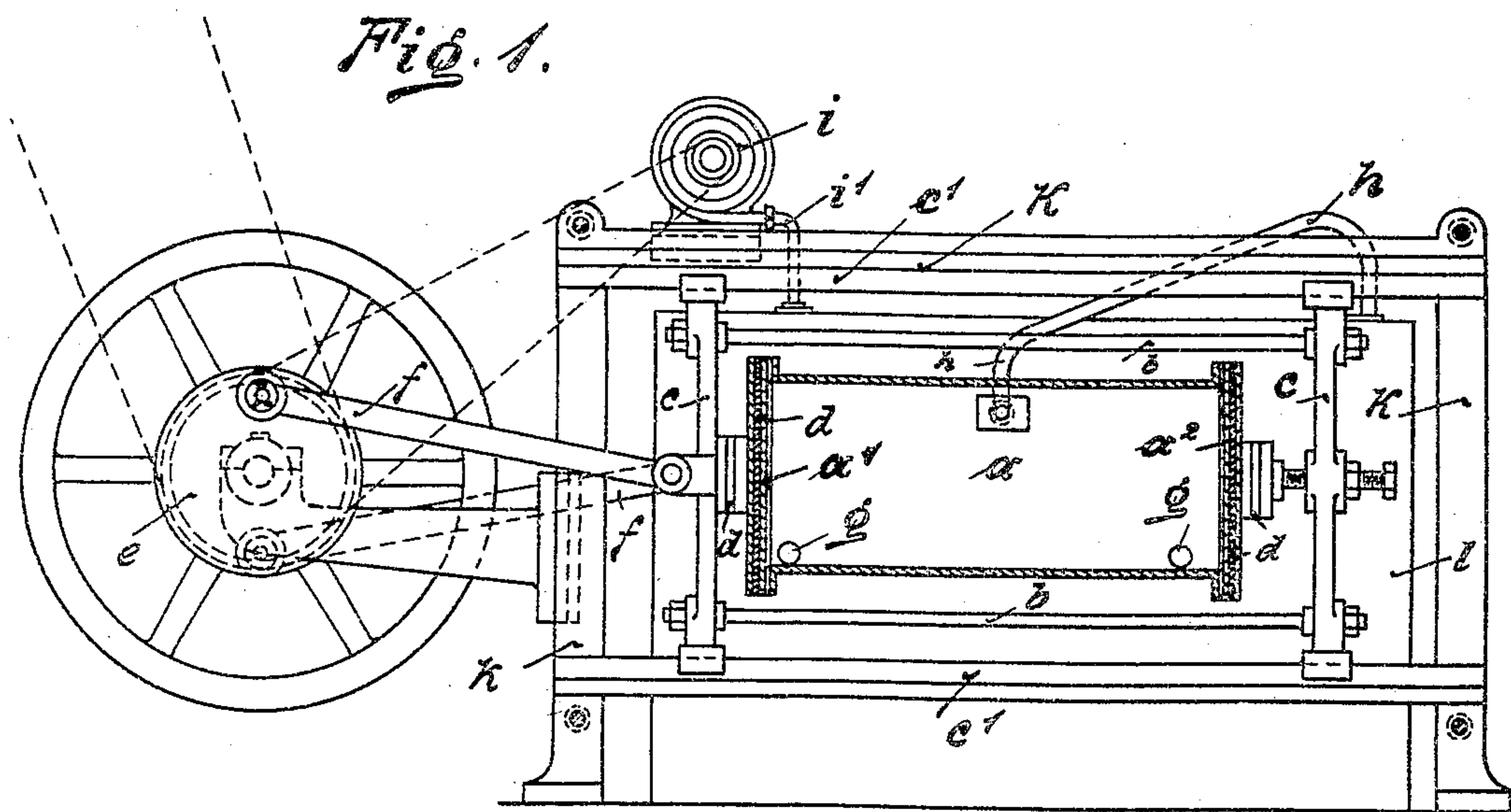


No. 778,510.

PATENTED DEC. 27, 1904.

G. E. SCHMIDMER.  
APPARATUS FOR REDUCING BRONZE TO POWDER.  
APPLICATION FILED FEB. 16, 1903.



Witnesses:  
Alex. Hill.  
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# UNITED STATES PATENT OFFICE.

GEORG E. SCHMIDMER, OF NUREMBERG, GERMANY.

## APPARATUS FOR REDUCING BRONZE TO POWDER.

SPECIFICATION forming part of Letters Patent No. 778,510, dated December 27, 1904.

Application filed February 16, 1903. Serial No. 143,643.

To all whom it may concern:

Be it known that I, GEORG E. SCHMIDMER, a subject of the King of Bavaria, and a resident of No. 150 Exercierplatzstrasse, Schweinau, Nuremberg, Bavaria, Germany, have invented certain new and useful Improvements in Apparatus for Reducing Bronze to Powder; and I do hereby declare the following to be a full, clear, and exact description of my invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to an apparatus for producing bronze powder in such a manner that the metal to be treated is worked in a drum or quadrangular box reciprocating with a very great speed, one or several metallic balls or bars in this drum or quadrangular box causing the comminution of the metal consisting of tinsel shavings, wasters, and the like.

The accompanying drawings show the improved apparatus furnished with two drums.

Figure 1 is a longitudinal section of, and Fig. 2 a view from above of, the apparatus.

The tinsel shavings, wasters, and the like to be treated are brought into the drums *a*, each of them being arranged between two cross-heads *c*, removably connected together by rods *b* and also to the drum by elastical disks *d*. These bearings are slidable on guide-bars *e'*, one being above and the other below the drum. *k* is the frame of the apparatus. In accordance with my invention each drum is moved by an eccentric *e*, fixed on a driving-shaft *e'* and connected to the drum by a rod *f*. The drum incloses several metallic balls *g*. The shaft *e*, rotating the drum driven by the eccentric *e* and rod *f*, will be reciprocated with a very strong speed, whereby the balls *g* are thrown against the bottoms *a'* and *a''* of the drum and will fly back therefrom, thus efficiently treating the metal in the drum.

The produced bronze powder is sucked out of the drums by an exhaustor *i*, operated by the driving-shaft *e'*. This exhaustor is connected to a box *l* by means of a tube *i'*, the said box placed between the drums *a* and communicating with them by means of flexible tubes *h*. The exhaustor produces a vacuum in the box *l*, and the air in the drums *a* will enter through the flexible tubes *h* into the

box, this air taking the bronze powder abroad with it into the box, wherein the powder settles down.

In consequence of the efficient treating of the metal shavings to be pulverized the production of the bronze powder results in a much shorter time than hitherto, and no preceding preparation of the metal shavings is wanted.

Having now described my invention, what I claim is—

1. In an apparatus for producing bronze powder, the combination of non-rotary receptacles *a* inclosing metal shavings to be treated and also metallic bodies *g*, supporting means for said non-rotary receptacles, of an eccentric *e* on a driving-shaft *e'*, connected to the said receptacles by a rod *f* and causing the former to reciprocate rapidly, whereby the said bodies are thrown against the bottoms of the said receptacles and fly back therefrom thus efficiently treating by impact solely the metal shavings of the receptacles.

2. In an apparatus for producing bronze powder, the combination of a non-rotary receptacle, cross-heads, guide-bars for said cross-heads, connections between the cross-heads and receptacle and embodying elastic disks, bodies *g* within said receptacle, and means for rapidly reciprocating the receptacle to treat the material solely by impact of said bodies.

3. In an apparatus for producing bronze powder, the combination of non-rotary receptacles for inclosing metal shavings to be treated, metallic bodies in said receptacles, supporting means for said receptacles, means for rapidly reciprocating the receptacles to treat the material solely by impact of said bodies and cause them to be rapidly thrown against the ends of the receptacles, a stationary receptacle, flexible connections between the same and the reciprocatory receptacles, and an exhaustor connected with said stationary receptacle.

In testimony whereof I affix my signature in presence of two witnesses.

GEORG E. SCHMIDMER.

Witnesses:

ALEX WIELE,  
MAX SCHNEIDER.