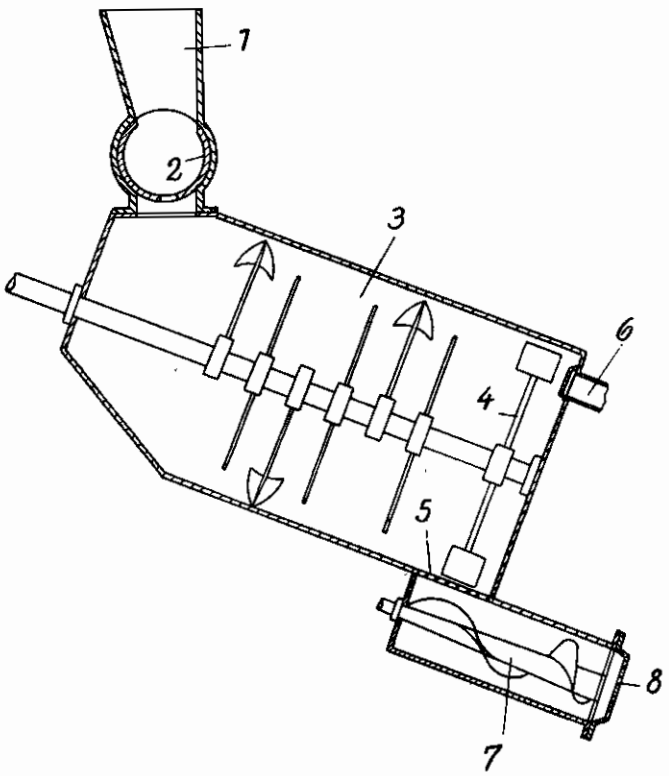
PUBLISHED
APRIL 27, 1943.
BY A. P. C.

O. MANFRED

METHOD FOR THE MANUFACTURE OF PENCIL-LEADS

Filed June 7, 1940

Serial No.
339,371




Inventor:
OTTO MANFRED
By
Young, Emery & Thompson
ATTYS.

Published Apr. 27, 1943

Serial No. 339,371

# ALIEN PROPERTY CUSTODIAN

## METHOD FOR THE MANUFACTURE OF PENCIL-LEADS

Otto Manfred, Brunn, Moravia; vested in the Alien Property Custodian

Application filed June 7, 1940

The invention concerns the manufacture of pencil-leads (Graphite-clay-leads, copy-leads, coloured-leads, and others) and consists intrinsically therein that the preparation of the raw material by airing and the moulding of the plastic material with air take place in direct succession.

In the manufacture of pencil-leads, it is known how to remove the air contained in the lead material before and during the pressing of the lead. In contrast to this, according to the proposed method, both the raw material during preparation and the lead mass made plastic by compression and moulding are continually aired. And the manner of working is so regulated that preparation plus airing and moulding plus airing occur in a continuous, uninterrupted working procedure.

The diagram illustrated in schematic delineation an apparatus serviceable for the execution of the invention in which known elements and new constituents are united in a complete aggregate.

In the manner already known, a slantingly placed mixing drum **3** is connected at the upper end with the feeding funnel I by a clough **2** and at the lower end with the ejection apparatus **7**. Besides that it is supplied with an air exhaust pipe **8** in the lower front face.

According to the invention, a screw-propeller **4** is placed on the drum axle near the low laid end of the same. The arrangement is so prepared that the screw-propeller is situated in the precincts of a holed or slit dividing-plate **5** which is inserted in the lower end of the drum between the drum and the ejection apparatus.

The execution of the invention, with the help of the delineated and described apparatus, occurs in the following way:

The raw material, compounded and prepared in the usual way, is caught by the entry clough **2** on the way through the feeding funnel I and is transported in bits to the mixing drum. In the working up of the material taking place there, a continuous airing occurs while the mass is repeatedly broken up by the mixing implements and the air is sucked out of the drum through the pipe **6**. Thereby not only the inner space of the drum is aired but also the material coming into the drum to be broken up. With the entry of the material, a new quantity of air is admitted to the drum.

The prepared material arriving at the lower end of the drum is caught there by the screw-propeller **4** and pressed continuously through the dividing-plate **5** in order to reach the ejection apparatus **7**. On entering this apparatus, the prepared material is broken up into thin skeins corresponding to the passage's transverse diametre of the plate **5**. Now the skeins of material are caught by the volute working in the ejection apparatus, assembled and extensively compressed. Before the assembling and compression, the skeins of material are aired again. For that purpose, there is an air drain, not shown on the diagram, which branches off from the ejection apparatus **7** underneath the dividing-plate **5** and empties outside the drum in the exhaust pipe **6**.

On the lower end of the ejection apparatus **7** a matrice die **8** is arranged through which the material is squeezed in order to be pressed into staves of the lead strength in the usual way.

The manner of working described takes place in an uninterrupted procedure. The raw material conducted from the feeding funnel I is prepared in the drum **3** and worked up into plasticity in the ejection apparatus between the dividing plate **5** and the matrice die **8**. During the course of work which forms a closed whole, the material is aired continually at the time it is being prepared. The material already prepared arriving at the matrice die **8** is in a state of being extensively aired and hence in a state of high compression and can be pressed through the matrice die with comparatively small pressure supply in order thereby to form the desired leads.

OTTO MANFRED.