W. BRUCKNER.

REVOLVING ORE-ROASTER.

No. 185,163. Patented Dec. 12, 1876.

Fig. 1.

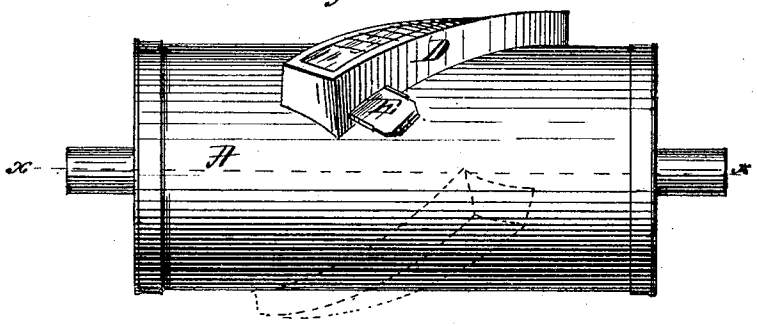
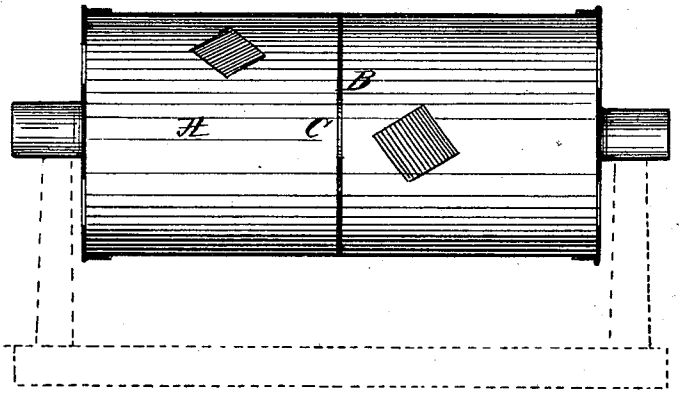


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM BRÜCKNER, OF CINCINNATI, OHIO.

IMPROVEMENT IN REVOLVING ORE-ROASTERS.

Specification forming part of Letters Patent No. **185,163**, dated December 12, 1876; application filed September 1, 1876.

To all whom it may concern:

Be it known that I, WILLIAM BRÜCKNER, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Cylinders for Roasting Ores; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention consists, first, of rotating cylinders, divided into two or more compartments; and, secondly, of one or more spiral and external conveyers or passages, in combination with a rotating cylinder, for the purpose of roasting ores.

In the accompanying drawings, Figure 1 is a top view of a rotating cylinder having my improvements. Fig. 2 is a vertical longitudinal section of the same.

In roasting pyrites and other sulphurous ores, and for making sulphuric acid, I prefer to divide the cylinder A into two compartments by the central division B, which has a hole, C, in the middle, to allow the passage of gases, smoke, and air. This cylinder A is made of cast-iron, and lined with brick in the usual way, to prevent corrosion. The cylinder may be large enough to contain two tons of ore, or one ton in each end or chamber. Exterior to the cylinder is a spiral conveyer or passage, D, each end of which is connected with a hole in wall of the cylinder, and one end is provided with a slide or door, E. By opening this slide, and the rotation of the cylinder in the direction of the arrow, the ore falls into the conveyer on the left hand, and is carried into the other chamber of the cylinder on the right hand. Now, if a new charge of ore is put into chamber thus emptied, this new ore will become ignited by the fire produced by the burning sulphur passing through the hole C, thus avoiding the necessity of other fuel to ignite the sulphurous ore or pyrites. This is very important in making sulphuric acid.

In some cases, I may use more than one division, and also two or more conveyers. For simply roasting ore, I may use a reverse spiral conveyer, as shown in dotted lines at Fig. 1, and not have any division in the cylinder. In such case the ore is conveyed to the right by one conveyer and to the left by the other, and thus carried from end to end of the cylinder.

The external conveyers give an advantage over the inclined partition or diaphragm, and also the internal spirals formerly patented by me, as neither of those can be used in making sulphuric acid.

The cylinder may be provided with manholes, in the usual way, and the sulphurous-acid gas is carried off and converted into sulphuric acid in the ordinary manner.

The conveyers may be made of cast-iron, and provided with holes for cleaning.

The air for combustion is admitted on the right hand through the hollow axle of the cylinder, and the smoke and sulphurous-acid gas escape on left hand, also through the hollow axle.

Having described my invention, I claim—

1. The hollow cylinder A, in combination with one or more transverse divisions and a spiral conveyer, substantially as set forth.

2. The hollow cylinder A, in combination with one or more spiral conveyers, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM BRÜCKNER.

Witnesses:

DANIEL BREED,

THOMAS C. CONNOLLY.