

1893

1933

26

1833

COUNTRY



*f* PROGRESS *i*  
PULVERIZING

## IN ALL AGES



Pulverizing has been one of the basic industries. It has served the vital needs of man from the beginning of time, and contributed to the march of progress toward higher standards of living. The first "reduction mill" was merely a shallow stone crock in which grain was pounded into meal for the preparation of food.

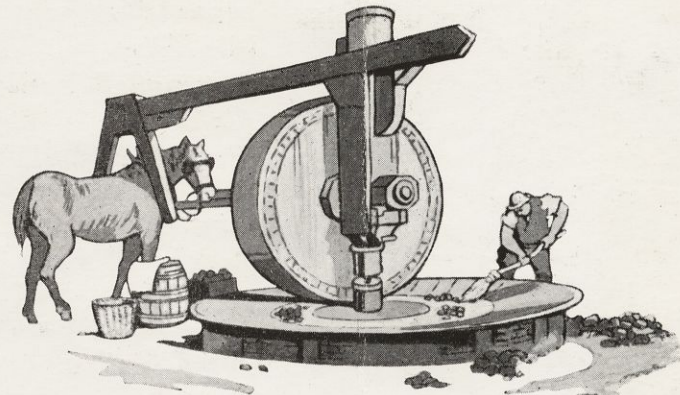
Records of ancient Egyptian civilization show a more advanced type of grinding vessel with heavy tamping rods, wielded by hand. From this developed the familiar pestle and mortar, brought into use by the ancient alchemists and apothecaries—perhaps the humble origin of the modern "attrition mill."



In very early times, the Chinese took the initiative in building larger types of grinding units, using huge mill-stones operated by "coolie power." But their efforts stopped short of modern improvements and, to this day, similar machines may be seen at work in remote sections of Mongolia.



1833



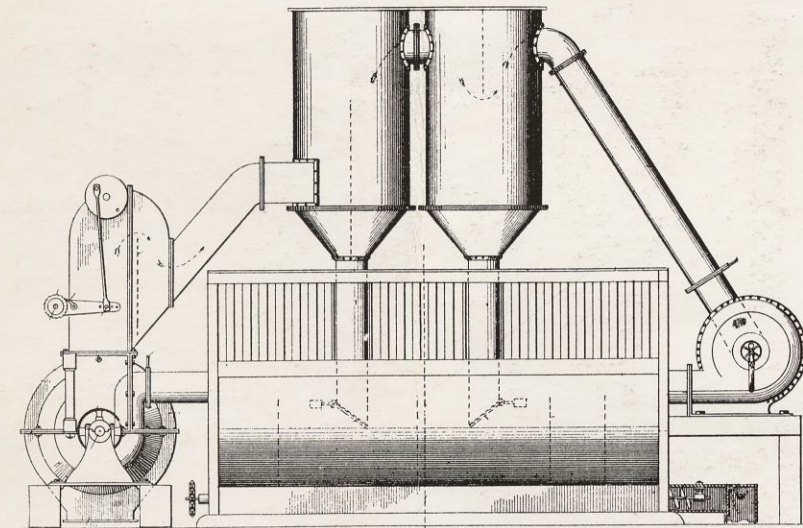
One of the many forms of mill stones in use a century ago. A typical example of the "slow motion" methods commonly employed for grinding up flints, preparatory to glass making.

### An Early Type of Mill

ONE hundred years ago, pulverizing methods were still in a crude state of development. Horse-power and water-power had taken the place of man-power which was typical of earlier times, but the equipment remained almost as cumbersome and inefficient as ever.

With wages less than a dollar a day, it cost more than to produce a ton of powdered material on those old style machines, than it does today on modern mills with labor earning several times as much.

1883



The first Raymond Pulverizer with Air Separating Equipment.—From the original patent drawings of the Raymond "reducing machine," August 7, 1888.

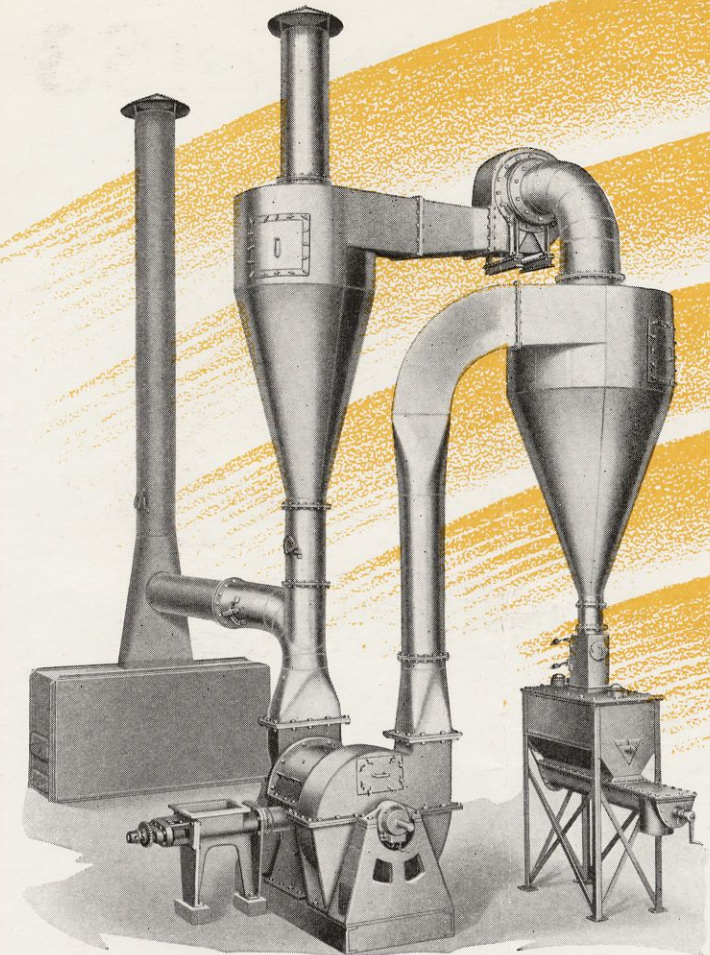
### The Origin of Air Separation

IN the early 80's came the first great advancement in grinding methods. Up to that time, "sifting" was the only means known for controlling fineness. The use of open screens and bolting cloths resulted in dusty and wasteful production.

All this was changed when the process of "separating by air" was introduced by Albert and George Raymond, founders of the present company. They originally applied this revolutionary principle in the operation of a specially built grinding mill or "reducing machine," as illustrated above.

The Raymond Impact Pulverizer with Vacuum Separator, patented August 7, 1888, was first prize winner at the Chicago World's Fair in 1893. By a half century of constant improvements and refinements, the "First of its line" has become the last word in modern pulverizing machinery. Today it is the standard method of producing powdered materials of extreme fineness and uniformity by dustless, automatic operation.

1933



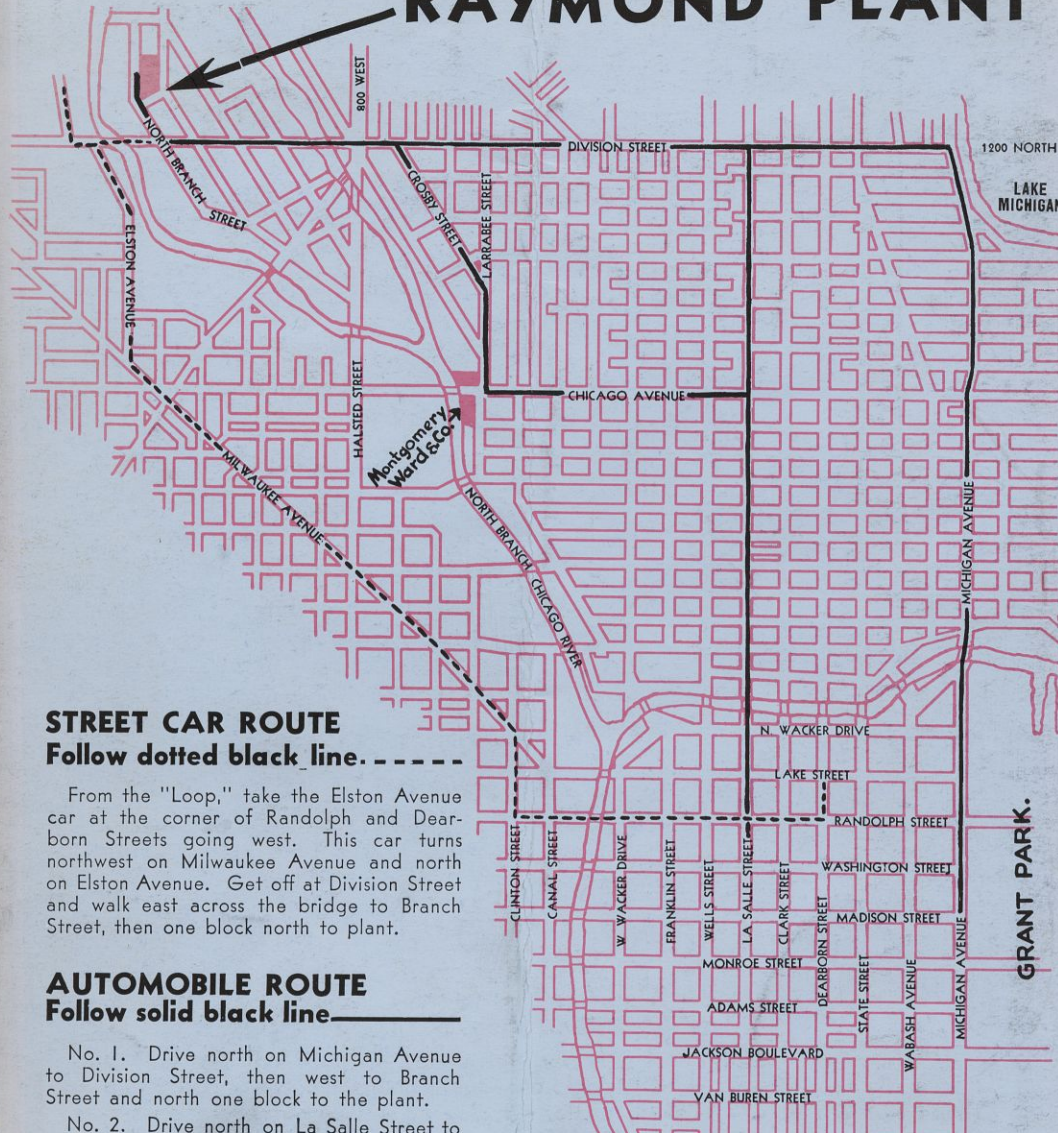
### Latest Type of RAYMOND AIR DRYING PULVERIZER

with  
**Stainless Steel Construction**

TODAY one machine does the work of two. This advanced mill dries and grinds in a single continuous operation. Equipped with a heater attachment and an air separating system, it converts wet solids into dry powder, and automatically classifies the material to a superfine product, free of moisture. This is the first pulverizer ever built entirely of stainless steel for handling corrosive chemicals. It may be made of galvanized metal for certain wet products, or lined with bronze parts when grinding combustible materials. Standard steel construction is used in ordinary operations, such as drying and pulverizing filter-press products.

▲ **STONE-STONES IN THE DEVELOPMENT OF PULVERIZING MACHINERY**

While in Chicago Visit the  
**RAYMOND PLANT**



**STREET CAR ROUTE**  
Follow dotted black line. - - - -

From the "Loop," take the Elston Avenue car at the corner of Randolph and Dearborn Streets going west. This car turns northwest on Milwaukee Avenue and north on Elston Avenue. Get off at Division Street and walk east across the bridge to Branch Street, then one block north to plant.

**AUTOMOBILE ROUTE**  
Follow solid black line. \_\_\_\_\_

No. 1. Drive north on Michigan Avenue to Division Street, then west to Branch Street and north one block to the plant.  
No. 2. Drive north on La Salle Street to Chicago Avenue, west to Montgomery Ward & Company and turn north on Larrabee Street, northwest on Crosby Street, then west on Division Street to Branch Street and north to the Raymond plant.

**RAYMOND**  
**BROS. IMPACT PULVERIZER CO.** 302 North Branch Street, CHICAGO

1893



**Highest Award**  
**WORLD'S COLUMBIAN**  
**EXPOSITION**

**F**ORTY years ago, at Chicago's first great World's Fair, one of the original types of the Raymond Impact Pulverizer with Air Separating Equipment was entered for exhibit in the machinery exposition.

It received highest honors, and was awarded the Gold Medal.

Then, as now, Raymond machines consistently maintained leadership in the pulverizing industry. Constant improvements and new developments have kept Raymond mills in the van of progress for a half a century.

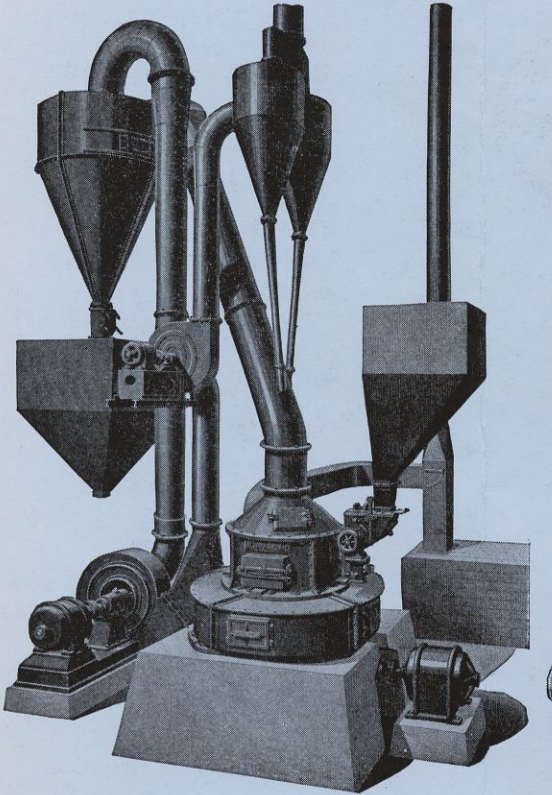


MUSEUM OF SCIENCE AND INDUSTRY  
Jackson Park at Fifty-seventh Street—South of World's Fair Grounds  
Raymond Kiln Mill Exhibit

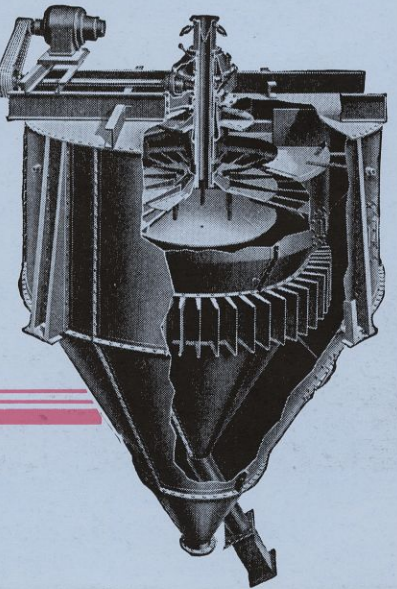
1933

**RAYMOND EXHIBIT**  
at the  
**Museum of Science**  
**and Industry**  
during the  
**Chicago 1933 Century**  
**of Progress**

This display shows a working model of the Raymond Roller Type KILN MILL in actual operation, drying and grinding a wet material, and producing the finished product in dry powdered form. Such materials as slate, kaolin, limestone, gypsum, coal and other non-metallic minerals may be ground on this type of machine.



Roller Type KILN MILL  
for drying and grinding in one  
continuous operation. Built in sizes  
from one to forty tons per hour  
capacity.



Mechanical Air Separator  
with patented whizzer for clas-  
sifying powdered materials to  
extreme fineness and uniformity.

**RAYMOND PRODUCTS**

- Roller Mills
- Super Mills
- Kiln Mills
- Automatic Pulverizers
- Air Drying Pulverizers
- Imp Pulverizers
- Screen Pulverizers
- Mechanical Air Separators
- Vacuum Separators
- Dust Collecting Systems

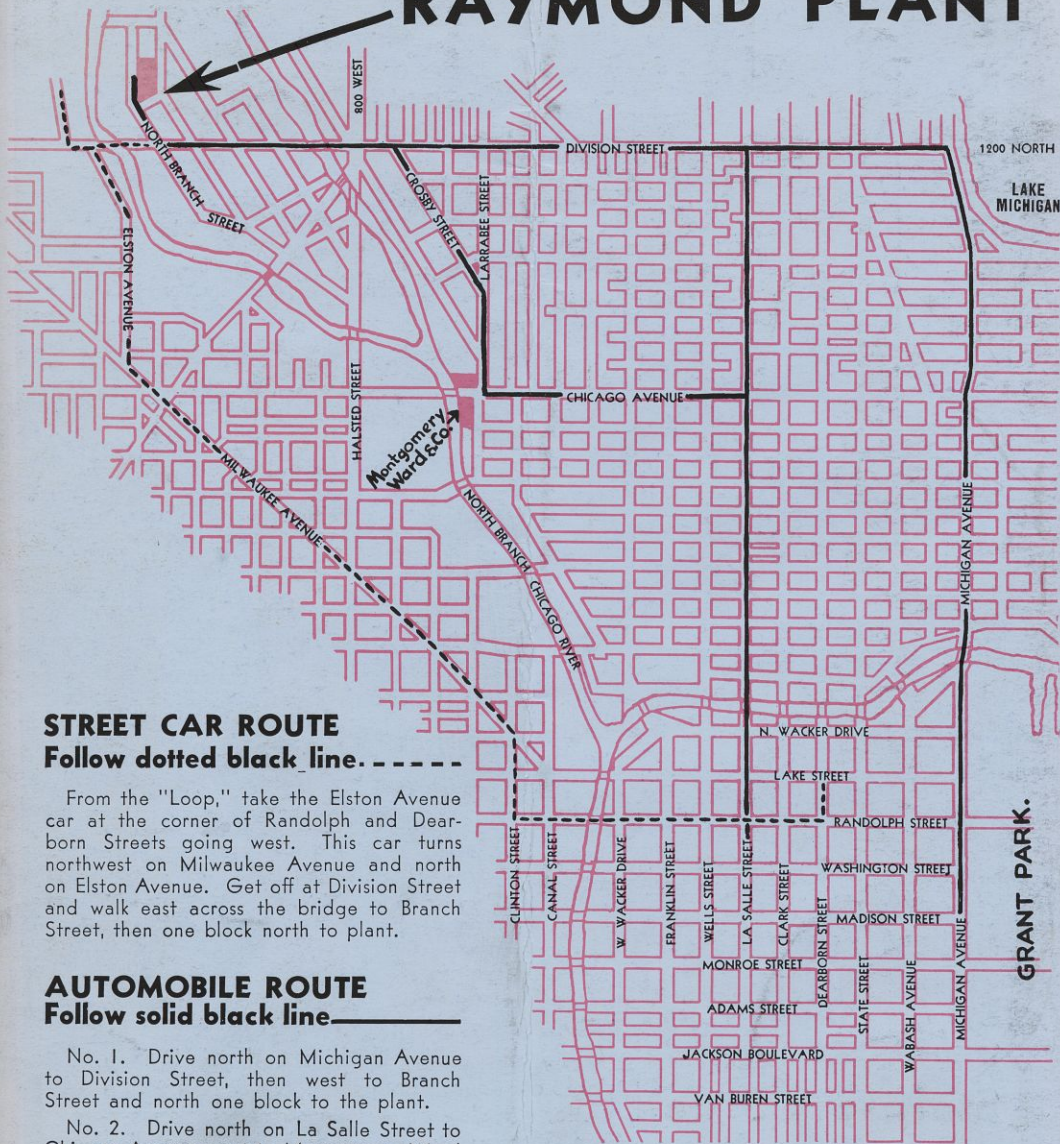
Write for Catalogs of  
equipment in which you  
are interested.

CUMMINGS

PROGRESS in  
PULVERIZING

While in Chicago Visit the

# RAYMOND PLANT



## STREET CAR ROUTE

Follow dotted black line. - - - -

From the "Loop," take the Elston Avenue car at the corner of Randolph and Dearborn Streets going west. This car turns northwest on Milwaukee Avenue and north on Elston Avenue. Get off at Division Street and walk east across the bridge to Branch Street, then one block north to plant.

## AUTOMOBILE ROUTE

Follow solid black line. —————

No. 1. Drive north on Michigan Avenue to Division Street, then west to Branch Street and north one block to the plant.

No. 2. Drive north on La Salle Street to Chicago Avenue, west to Montgomery Ward & Company and turn north on Larrabee Street, northwest on Crosby Street, then west on Division Street to Branch Street and north to the Raymond plant.



CHICAGO  
WORLD'S FAIR  
GROUNDS

# RAYMOND

# BROS. IMPACT PULVERIZER CO