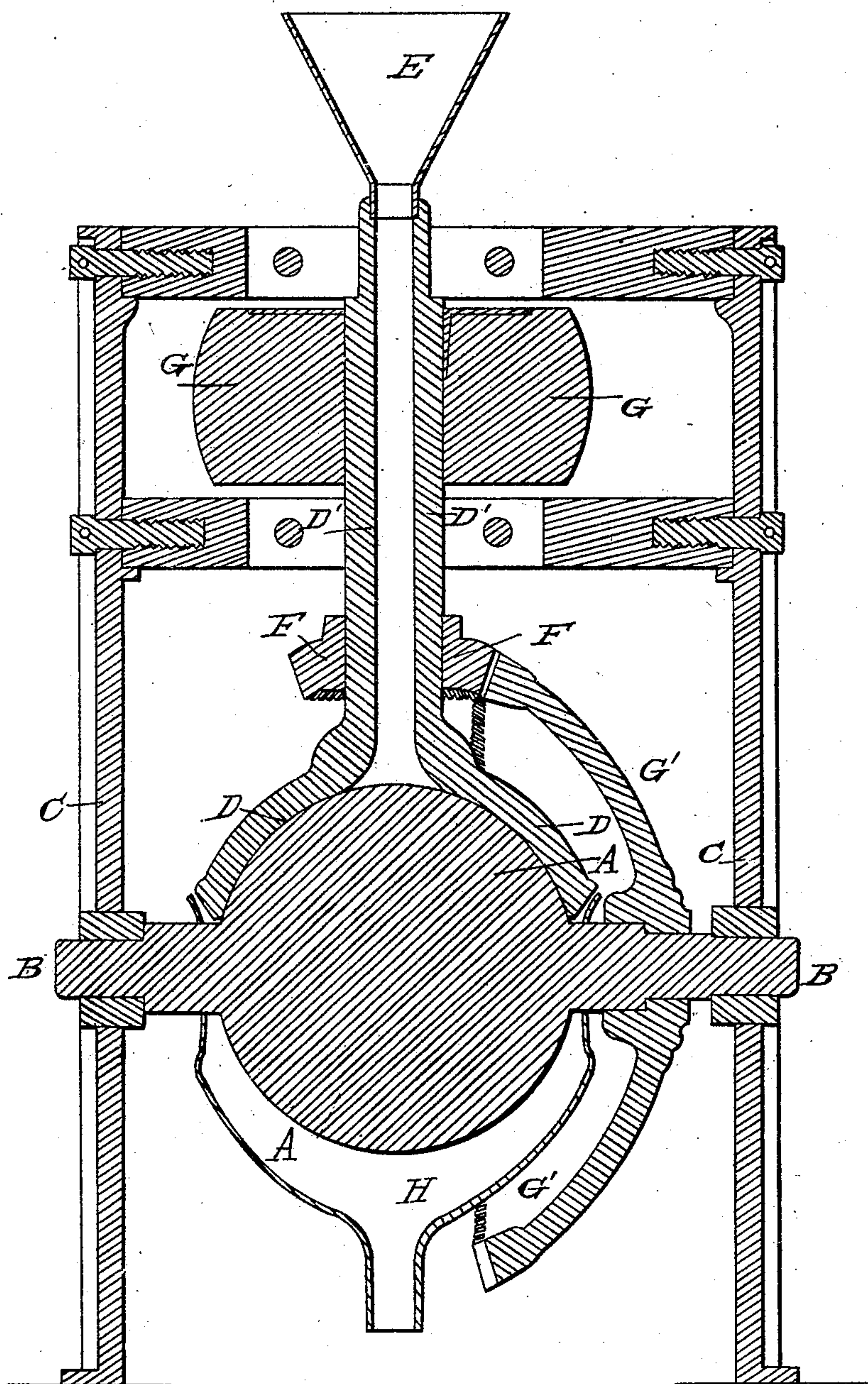


W. B. NORTH.

Metallic Mill.

No. 5,831.

Patented Oct. 3, 1848.



UNITED STATES PATENT OFFICE.

WM. B. NORTH, OF JERSEY CITY, NEW JERSEY.

MILL FOR GRINDING.

Specification of Letters Patent No. 5,831, dated October 3, 1848.

To all whom it may concern:

Be it known that I, WILLIAM B. NORTH, of Jersey City, in the county of Hudson and State of New Jersey, have made a new and
5 useful Improvement in the Manner of Constructing Metallic Mills for the Grinding of Paint and a Variety of other Articles, Both Wet and Dry; and I do hereby declare that the following is a full and exact de-
10 scription thereof.

The grinding part of my mill consists of a sphere and of a hemisphere of iron, steel, or other suitable metal, or material. The spherical part is affixed to, and made to re-
15 volve with, a shaft placed horizontally, and the hemispherical portion on a shaft that revolves vertically; this hemispherical portion is concave, and embraces the upper portion of the revolving sphere. The hemi-
20 sphere so called, is not, in fact, technically such, but is somewhat less than a half sphere, as it must revolve free of the shaft on which the sphere revolves.

The accompanying drawing is a representation of my mill, in a vertical section
25 through its axis, showing all the necessary working parts.

A, is the revolving sphere, and B, B, its shaft, or axle, running in suitable bearings
30 in the frame C, C.

D, D, is the hemispherical cup, that embraces the upper portion of the sphere; and D', D', its shaft, which is hollow, and is surmounted by a funnel, or hopper E,
35 through which the material to be ground is fed in.

G, is a whirl by which motion may be communicated to the shaft D'. To this shaft

is made fast a toothed wheel F, that gears into a wheel G', on the shaft of the spherical
40 grinder A. The wheel F, may be varied in size so as to adapt it to any change that may be desired in the relative motions of the sphere and its cup. The hemisphere, or cup, may be pressed down by means of a
45 spring, or weight, bearing on its upper end, or elsewhere, according to the nature of the stuff to be ground. The ground article, as it leaves the mill, falls into a casing H, within which it is conducted down into any
50 proper receptacle.

It will be seen that under this arrangement of the respective parts the sphere and cup will in all their parts move in directions at right angles to each other, and it has
55 been found in practice that these two simple motions produce all the good effect which has been sought by those which are more complex, while the mill may be made at less cost, and is not liable to get out of order. 60

Having thus fully described the manner in which I construct my mill for grinding paint, and a variety of other articles, both wet and dry, what I claim therein as new, and desire to secure by Letters Patent is— 65

The combining of a spherical body revolving on a horizontal axis, with a hemispherical cup embracing the upper portion of said sphere, and made to revolve on a vertical axis under an arrangement of parts, 70 and for the purpose herein made known.

WILLIAM B. NORTH,

Witnesses:

J. W. SCUDDER,

JOHN H. VOORHEES.