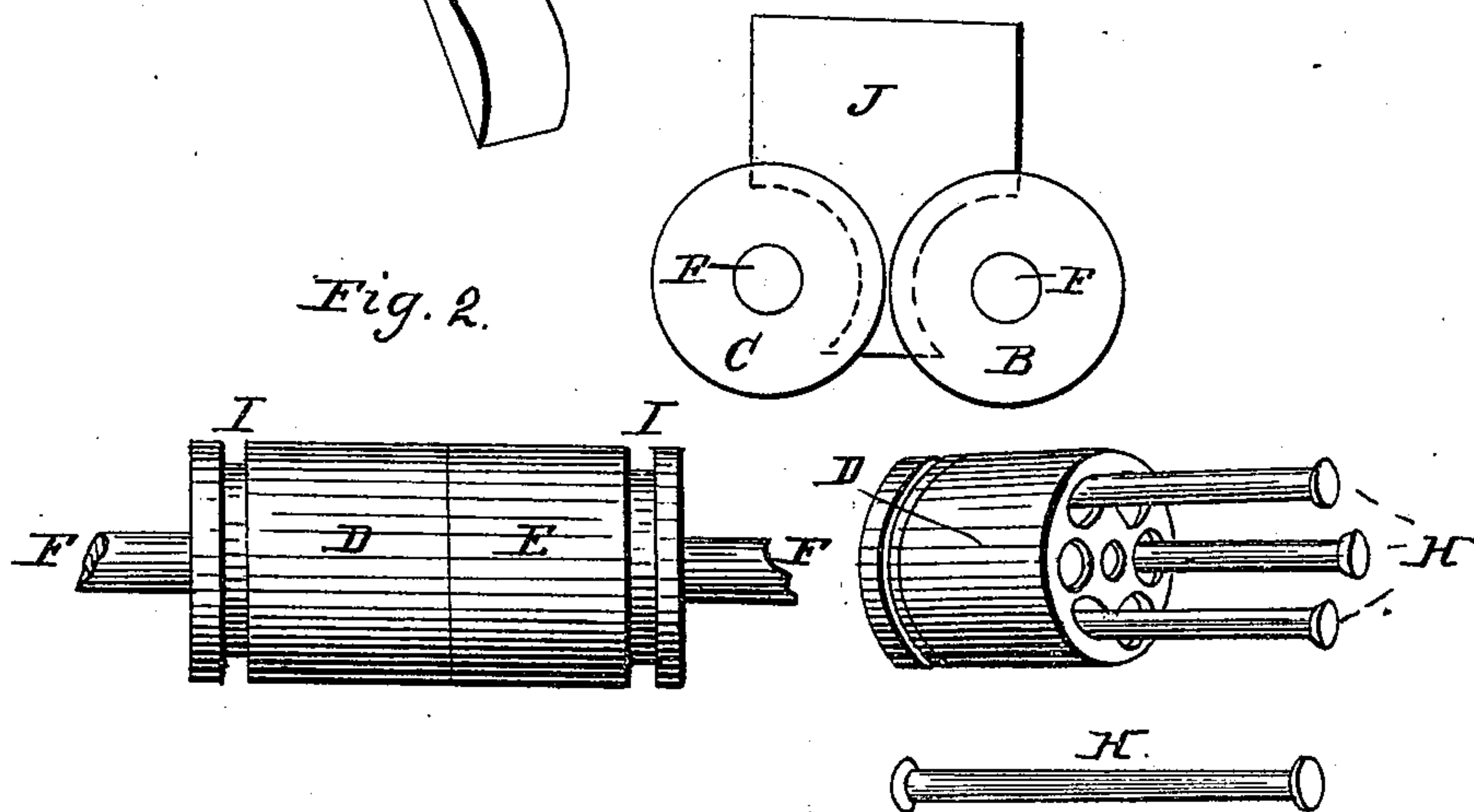
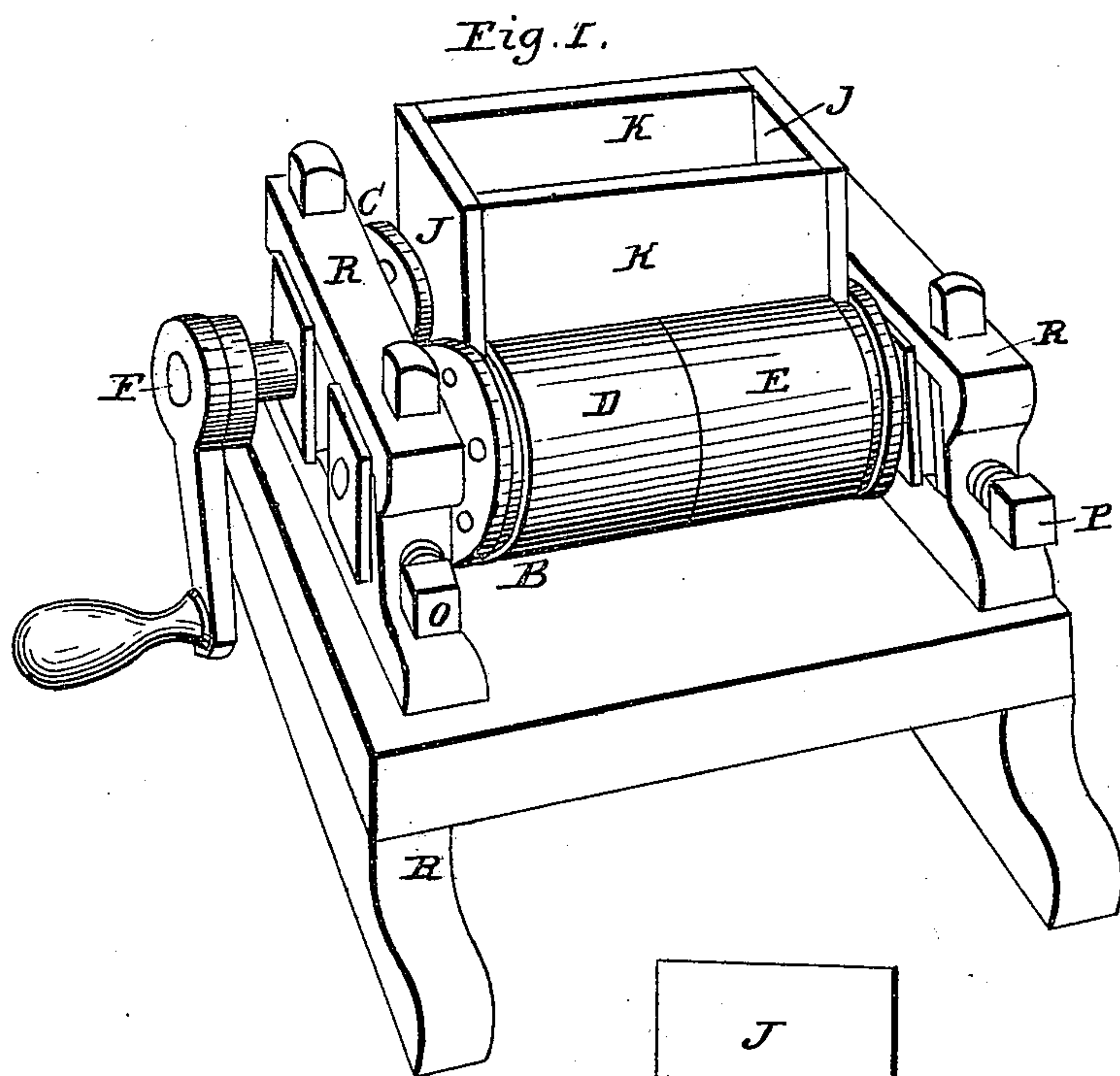


H. V. DURYEA.

Cane Mill.

No. 19,289.

Patented Feb. 9, 1858.



*Inventor:*

*Hendrick V. Duryea*

# UNITED STATES PATENT OFFICE.

H. V. DURYEA, OF FULTON, NEW YORK.

## IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. **19,289**, dated February 9, 1858.

*To all whom it may concern:*

Be it known that I, HENDRICK V. DURYEA, of the village of Fulton, in the county of Oswego and State of New York, have invented a new and useful Improvement in Rolling-Mills for Crushing Grain and other Materials; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification.

The nature of my invention consists in the method, hereinafter described, of constructing rollers for crushing-mills, and connecting thereto the hopper in such manner as to prevent the escape of the material being ground.

The construction and operation of my invention are as follows: Construct the rollers B and C by casting of metal in two parts, D and E. Make each of the two parts hollow, and having a bearing for the shaft F at both the outer and inner ends of each part, making four bearings in all. Place the inner ends of the two parts, D and E, in contact, and connect them together, first, by the shaft F, running through all four of the bearings; and, secondly, by passing iron rods H lengthwise through the parts, and heading or riveting them while heated. It is obvious that after being headed the rods will contract by cooling, and thus the two parts will be firmly held together, and may then be finished by turning, &c. The purpose of making the cylinders hollow is to avoid the great weight in those of large dimensions, as those used in starch-mills, being

twenty to twenty-four inches in diameter. Near each end of each cylinder cut a groove, I, to receive the end boards, J, of the hopper A. Make the side boards, K, of the hopper to rest upon the upper surface of the cylinders, while the ends extend downward into the grooves and below the point of contact of the cylinders, and, being expanded at L, the hopper is firmly held in contact with the cylinders. This method of attaching hoppers to cylinders serves also the purpose of preventing the escape of the material being ground over the ends of the cylinders. By means of the set-screws O and P, connected with the frame-work R, the cylinders may be secured in contact with each other or at any required distance apart.

What I claim as of my own invention, and desire to secure by Letters Patent, is—

1. The method, substantially as described, of constructing metallic rollers for grinding-mills when the parts of each roller are connected by the contraction of metallic rods, as set forth.

2. The method, substantially as described, of attaching the hopper A with the rollers B and C, for the purpose mentioned.

3. The described method of attaching hoppers, in combination with rollers constructed as set forth.

H. V. DURYEA.

Witnesses:

R. F. STEVENS,  
GEO. D. COWLES.