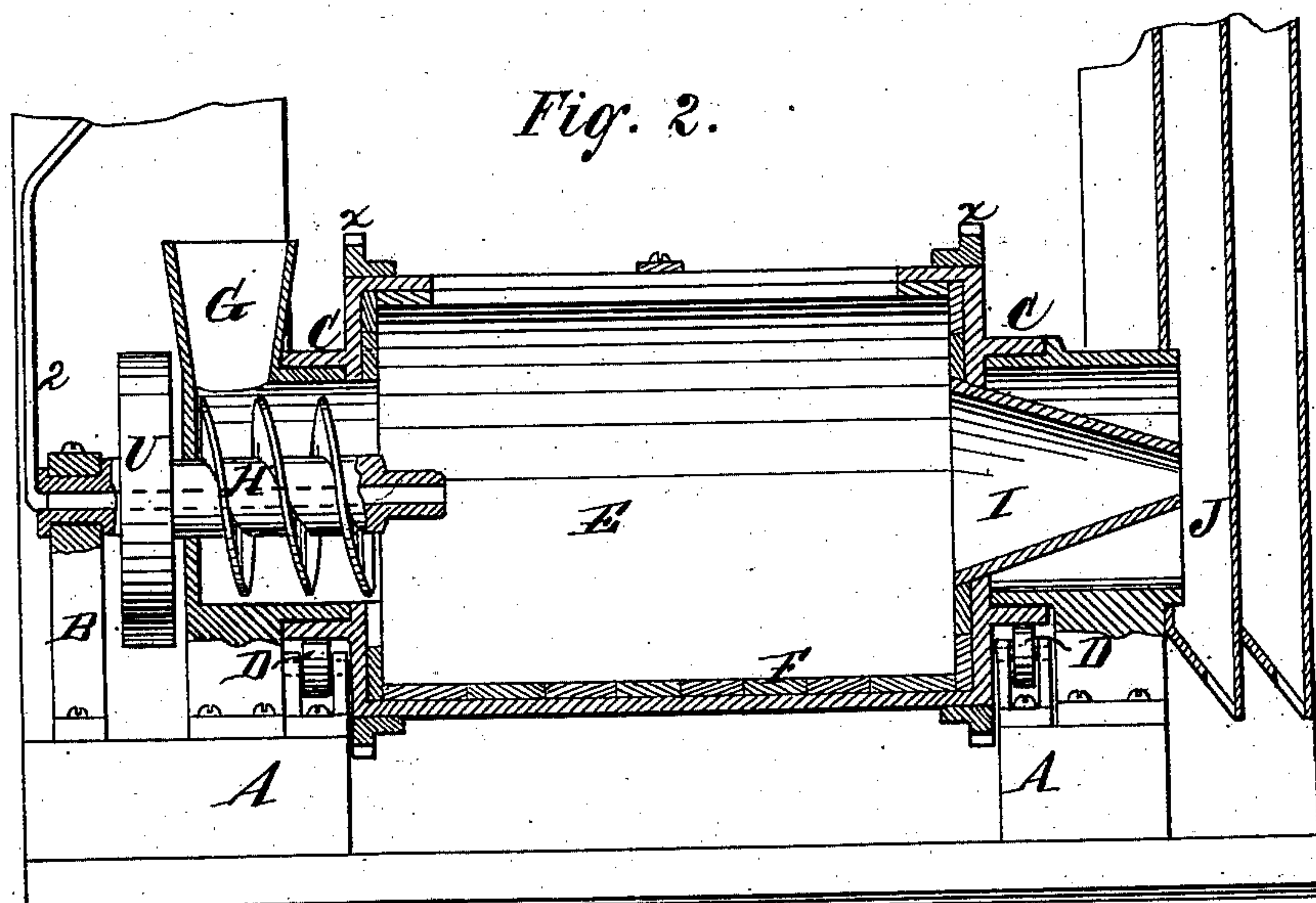
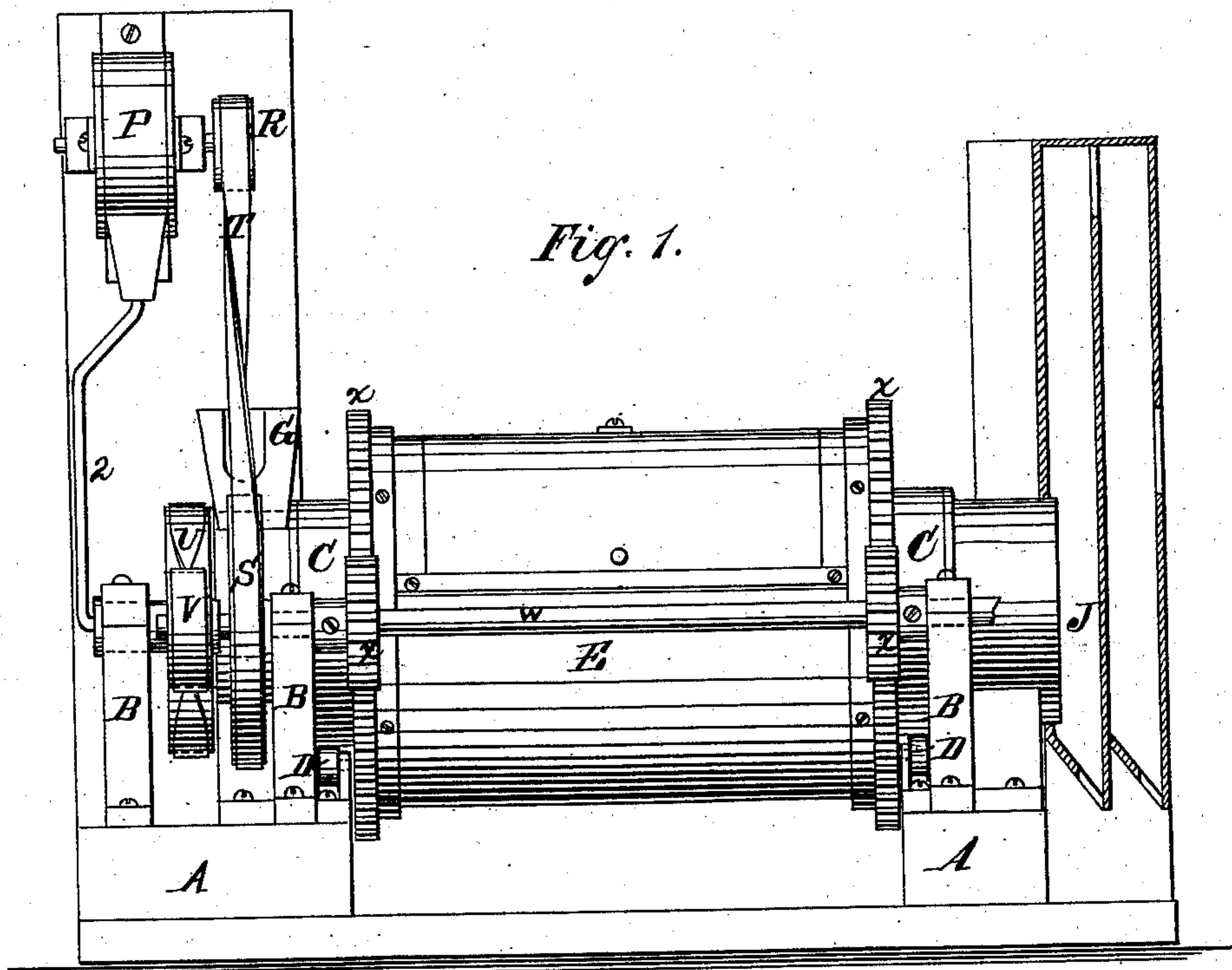


R. G. FAIRBANKS & D. E. BREINIG.

Pulverizing Apparatus.

No. 227,970.

Patented May 25, 1880.



WITNESSES:

John W. Ripley
Eugene H. Eliot

Reuben G. Fairbanks INVENTORS.

David E. Breinig

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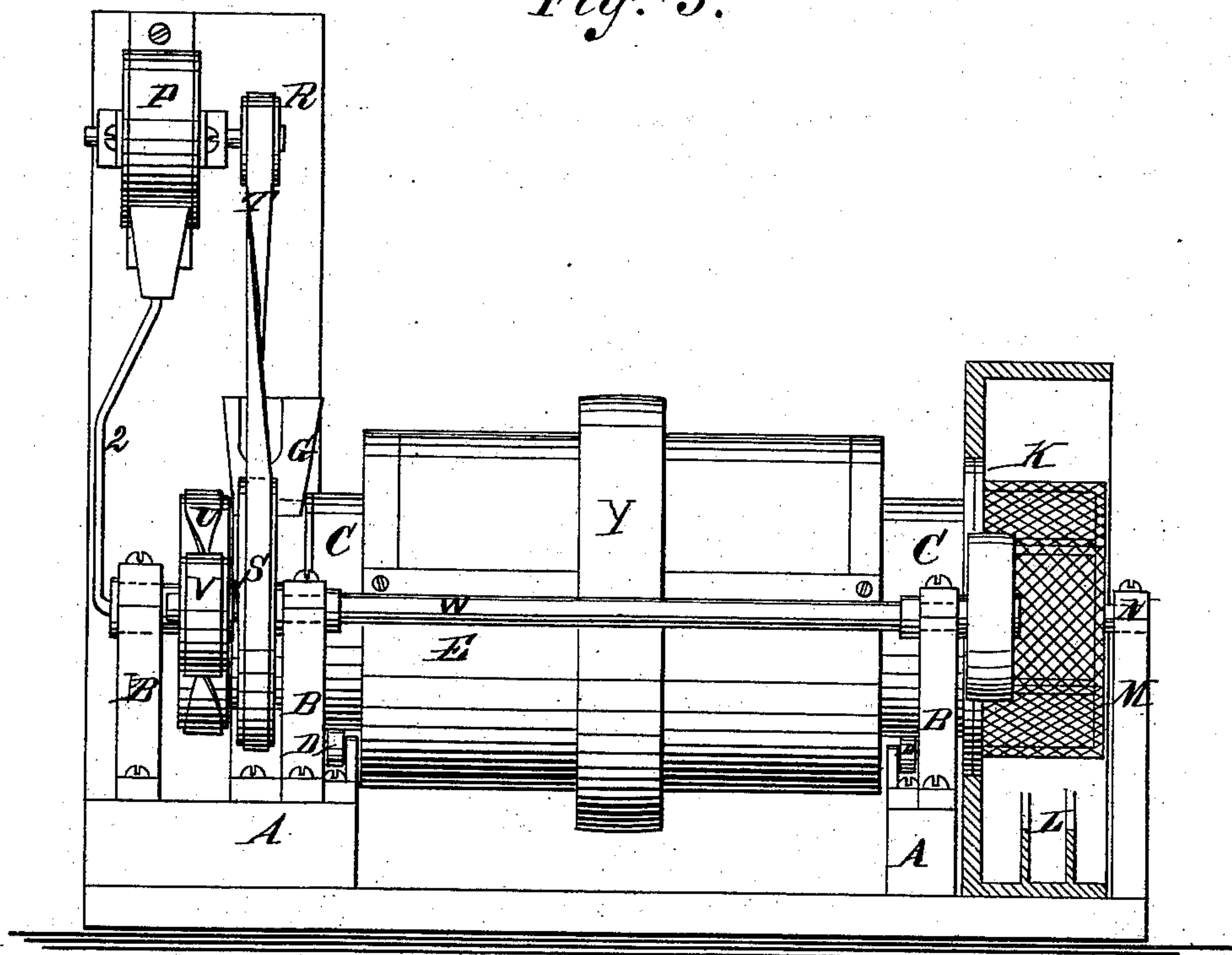
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Fig. 3.



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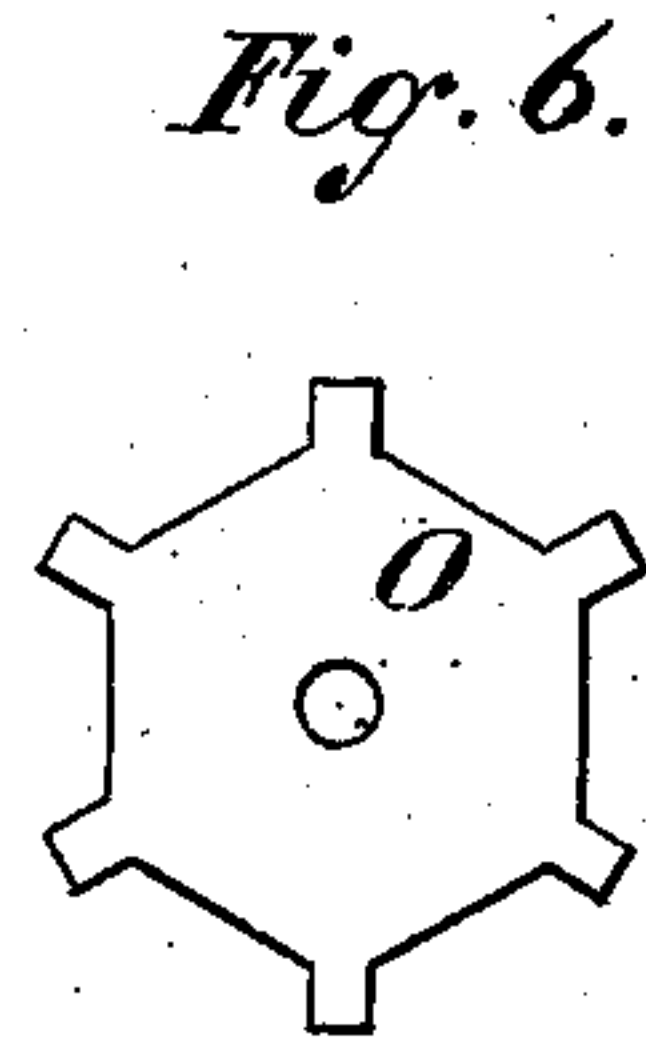
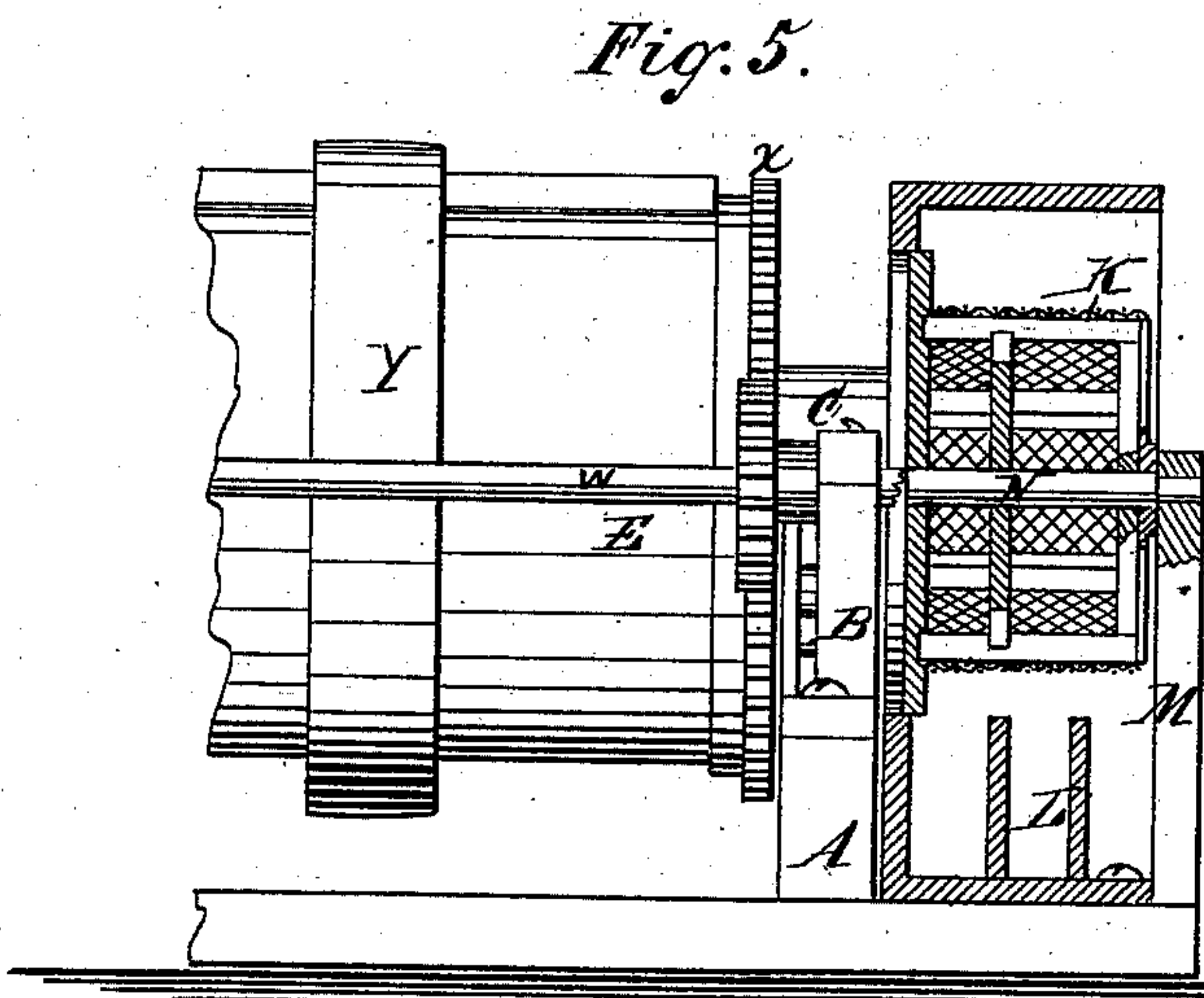
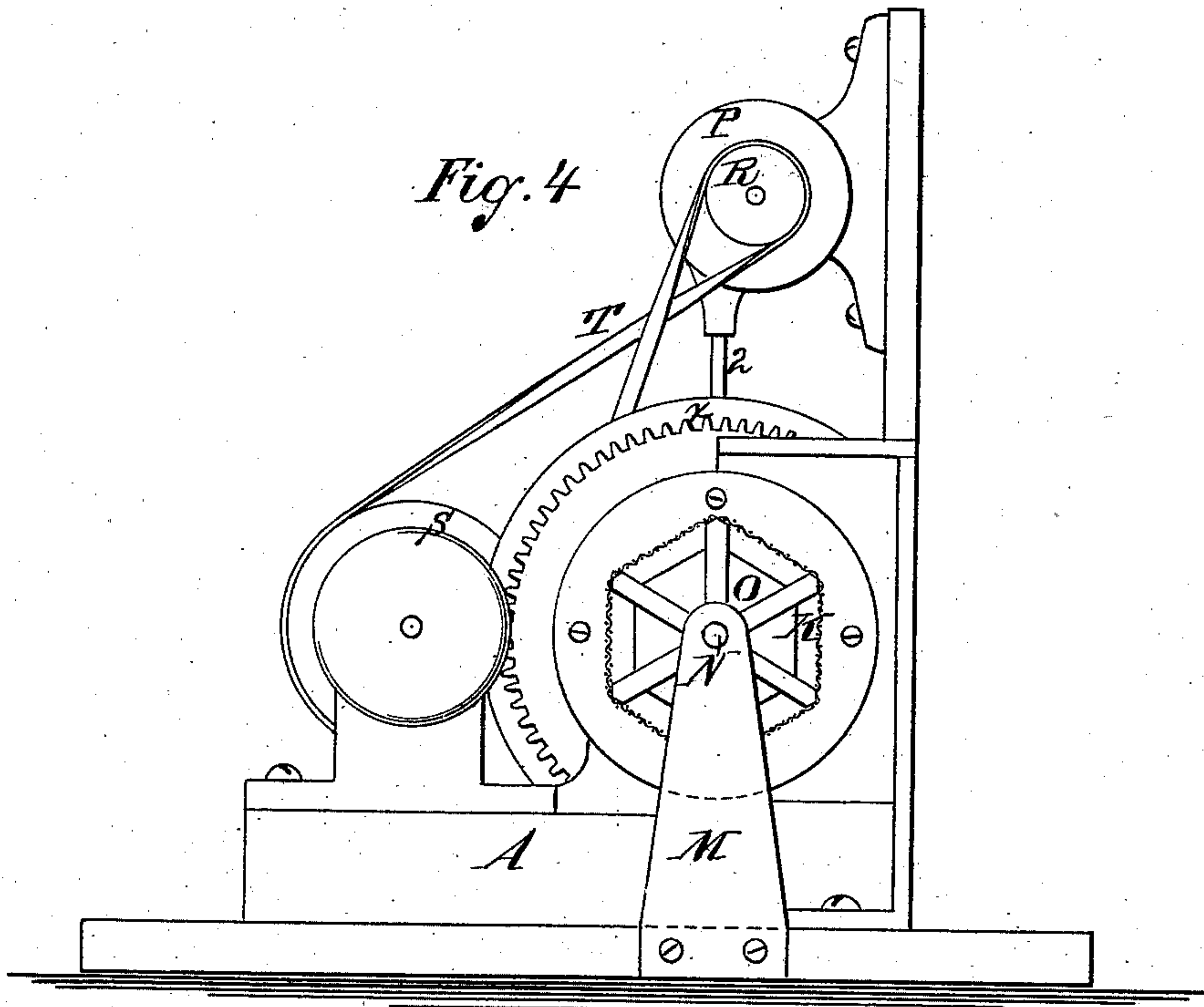
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UNITED STATES PATENT OFFICE.

REUBEN G. FAIRBANKS, OF FORT ANN, AND DAVID E. BREINIG, OF BROOKLYN, NEW YORK, ASSIGNORS TO THE BRIDGEPORT WOOD FINISHING COMPANY, OF BRIDGEPORT, CONNECTICUT.

PULVERIZING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 227,970, dated May 25, 1880.

Application filed November 21, 1879.

To all whom it may concern:

Be it known that we, REUBEN G. FAIRBANKS, of Fort Ann, Washington county, and DAVID E. BREINIG, of Brooklyn, Kings county, State of New York, have invented a new and useful Improvement in Pulverizing-Mills, which is fully set forth in the following specification and accompanying drawings, in which—

10 Figure 1 is a front view of our improved mill, partially in section; Fig. 2, a longitudinal central section thereof; Fig. 3, a front view of the mill with the gearing removed, for the purpose of driving the mill by a belt, and
15 also showing a bolting apparatus for bolting the pulverized material; Fig. 4, an end view of the bolting apparatus; Figs. 5 and 6, detached views thereof.

The object of our invention is to pulverize
20 quartz and other mineral substances more perfectly than has heretofore been done in a mill into which the material is constantly fed and from which the fine powder is constantly being delivered. This is accomplished by the
25 devices which will be now explained.

A represents the foundation; B, the upright supports; C, the shaft; D, the roller-bearings; E, the cylinder; F, the lining thereof; G, the hopper; H, the screw-feed; I, the funnel-shaped outlet; J, the separating-receiver; K, the bolter; L, the receiving-box; M, the upright bolter-bearing; N, the bolter-shaft; O, the bolt-check and shaft-bearer; P, the blower; Q, the air-pipe; R, the blower-pulley; S, the
30 driving-pulley; T, the blower-pulley belt; U, the feed-screw pulley; V, the feed-screw driving-pulley; W, the driving-shaft; X X, the shaft and cylinder gears; Y, the cylinder-pulley.

40 The cylinder is lined with glass, Esopus, Arkansas, or Washita stone, and is supplied with a sufficient quantity of broken uncalcined quartz or pebbles in the usual manner, and its rotation is obtained from driving-shaft W, either by gears X X or pulley Y, as may be
45 preferred.

The operation of the mill is as follows: The

crushed material, of about sixteen-mesh size, to be pulverized is fed continuously into hopper G, falling upon feed-screw H, the revolving blades of which carry it within the cylinder, where the broken quartz or pebbles grind it by their violent contact as the cylinder is slowly rotated on shaft C, bearing on roller D. Blower P, actuated by pulleys R S and belt T, forces through pipe Q a strong blast of air within cylinder E, and, as the material gradually becomes sufficiently fine and light, blows it through funnel I into bolter K, when it strikes against bolting-check O, which so
50 55 60 65

If the separating-receiver J is used in preference to the bolter, the outcoming powder will be carried by the current of air into the first division. The coarser and heavier particles will fall into the receiving-chamber beneath, but the lighter will be carried up and over the first wall of partition, where, in the diminished current, the heavier particles will, in their turn, seek the receptacle beneath, while the lighter will pass up and over the second
70 75 80

What we claim, and desire to secure by Letters Patent, is—

The combination of a blower, a funnel-shaped
85 outlet, and a bolter provided with a check-piece, constructed and operating together, substantially as and for the purposes set forth.

REUBEN G. FAIRBANKS.
DAVID E. BREINIG.

Witnesses:

MYRON PERRY,
F. HURD.