

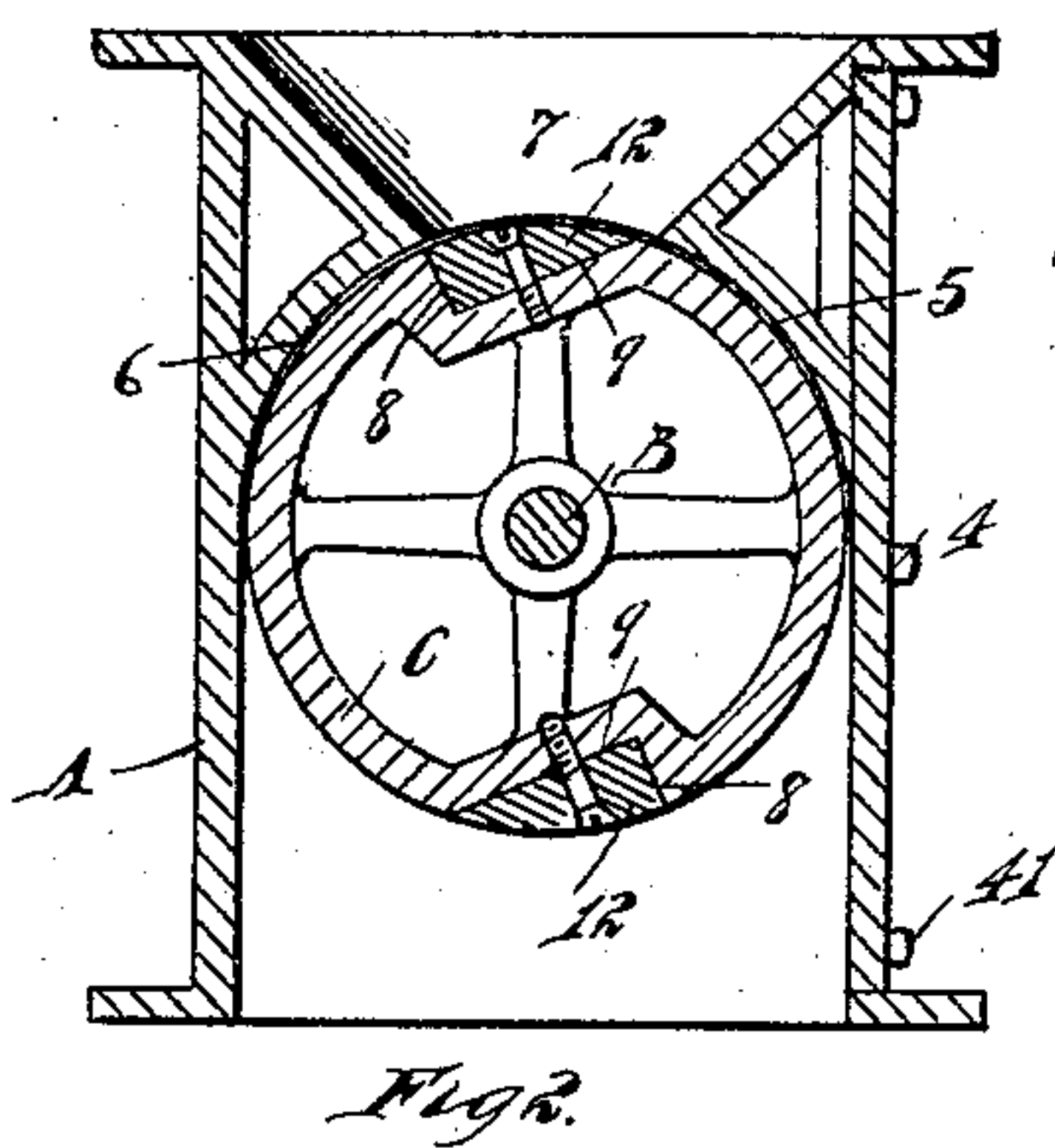
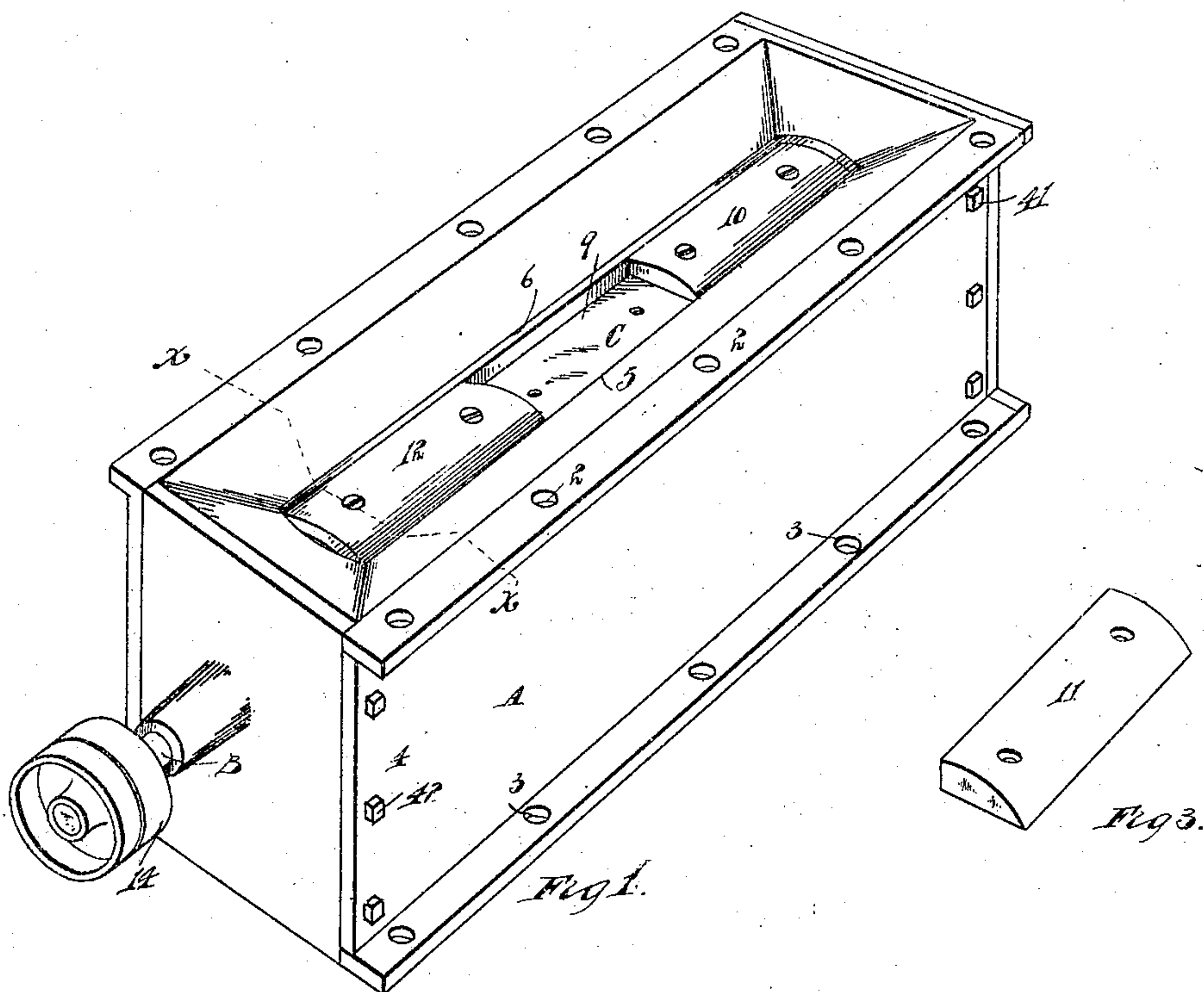
No. 774,684.

PATENTED NOV. 8, 1904.

J. MAURICE.  
FEED REGULATOR FOR MILLS.

APPLICATION FILED DEC. 16, 1903.

NO MODEL.



WITNESSES  
*T. H. Massey*  
*May E. Kott*

INVENTOR  
*John Maurice*  
By *Park & Burton* Attorneys.



# UNITED STATES PATENT OFFICE.

JOHN MAURICE, OF ECORSE, MICHIGAN, ASSIGNOR OF ONE-HALF TO  
RICHARD F. FURGASON, OF ECORSE, MICHIGAN.

## FEED-REGULATOR FOR MILLS.

SPECIFICATION forming part of Letters Patent No. 774,684, dated November 8, 1904.

Application filed December 16, 1903. Serial No. 185,364. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MAURICE, a citizen of the United States, residing at Ecorse, county of Wayne, State of Michigan, have invented  
5 a certain new and useful Improvement in Feed-Regulators for Mills; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make  
10 and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to feed-regulators for mills; and it has for its object an improved  
15 feeding device which can be regulated to determine the amount of material fed through it in a given time and at a given rate of speed and can be easily and readily changed to make such regulation.

20 In the drawings, Figure 1 is a perspective showing the regulator-roll and the casing which contains it. Fig. 2 is a cross-section at the line *x x* of Fig. 1. Fig. 3 is a perspective of a detached block used to regulate the feed.

25 At the bottom of a hopper (which is not shown) is secured a casing A, through which extends a shaft B, on which there is mounted a feed-roll C, provided with pockets to receive and transfer the grain from the bottom or  
30 spout end of the hopper to the spout leading into the roll below. The casing is secured in any suitable manner to the hopper, as by bolts or screws through the holes 2, and is secured to the conduit that leads to the mill by similar bolts through the holes in the flange 3.  
35 The casing itself is made with a detachable side 4, through which access may be had to the interior of the casing and to the roll contained therein without removing the casing from either the hopper or the mill. A feed-roll C extends longitudinally of the casing beneath two arched surfaces 5 and 6, each of which extends from a line on a horizontal plane with the shaft upward and curves over  
40 the roll to a mouth-opening 7, that is spaced for about one-sixth of the periphery of the feed-roll. The feed-roll itself is provided with a longitudinal pocket or trough or with several longitudinal pockets or troughs, which

extend from end to end of the roll and each of 50 which is somewhat triangular in cross-section, having one side, 8, substantially along a radius of the roll and a side 9, which is inclined to a radius. The pocket is open along the third side. There may be several and should be at 55 least two such pockets. The open side of each pocket, however, is less in extent than the arched surface 5 or the arched surface 6. The side 9 of the pocket is provided with threaded screw-holes, and filling-blocks 10 11 12 are 60 placed in the pockets and secured in place by screws which pass through holes in the filling-block. The screws employed have their heads sunk below the surfaces of the block. The detachable side 4 is secured in place by bolts or 65 screws 41 42. If all the filling-blocks are in place, the roller will form practically a complete cylinder and will not feed; but if any one of the filling-blocks is removed there will be a pocket into which material can drop and 70 in which the material can be carried from the hopper-spout into the passage below the feed-roll, whence it will drop into the mill, and one or more of the blocks can be removed, as may be desired, to regulate the amount of feed, 75 taking into consideration the speed of rotation of the roll, which rotation is produced by power applied at the wheel 14.

Preferably the plate having the arched surface 5 and the roll should be made of hard 80 substance that will break or crush any portion of the material that may be so large that it would otherwise catch against the radial surfaces 8 and the edge of the part 5. Generally the material fed through a feeder of 85 this kind should be prepared previously, so that no such part will be found; but should a part too large be received in the pocket it will be broken by the hard edge. As soon as the roll ceases revolving the feed stops, as no part 90 of the feed can escape around the roll except it be carried in a moving pocket.

What I claim is—

1. A feed-regulator for mills, having in combination a casing adapted to be secured to the 95 spout of a hopper on the under side thereof and to a mill-conduit on the upper side thereof, provided with a detachable side adapted to be

removed to afford access to the interior of the casing, a roll journaled lengthwise of said casing, having longitudinally-extending troughs cut in its surface and a plurality of independent and removable filling-blocks in each of said troughs adapted to be removed therefrom in proportion as and when the carrying capacity of each of said troughs is desired to be increased, and said casing having interior portions provided with curved surfaces engaging over and against said roll at the sides of the mouth-opening at the top thereof, substantially as described.

2. A feed-regulator for mills having in combination a casing provided with a detachable side adapted to afford access to the interior thereof, a rotatable roll journaled lengthwise

thereof, the surface of said roll being provided with a plurality of longitudinally-extending troughs, and a plurality of independent and removable filling-blocks placed end to end in each of said troughs, whereby the capacity of each trough may be regulated, said casing having interior portions provided with hardened curved surfaces engaging over and against said roll at the sides of a longitudinally-extending mouth-opening on the upper side of said casing, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

JOHN MAURICE.

Witnesses:

CHARLES F. BURTON,  
MAY E. KOTT.