

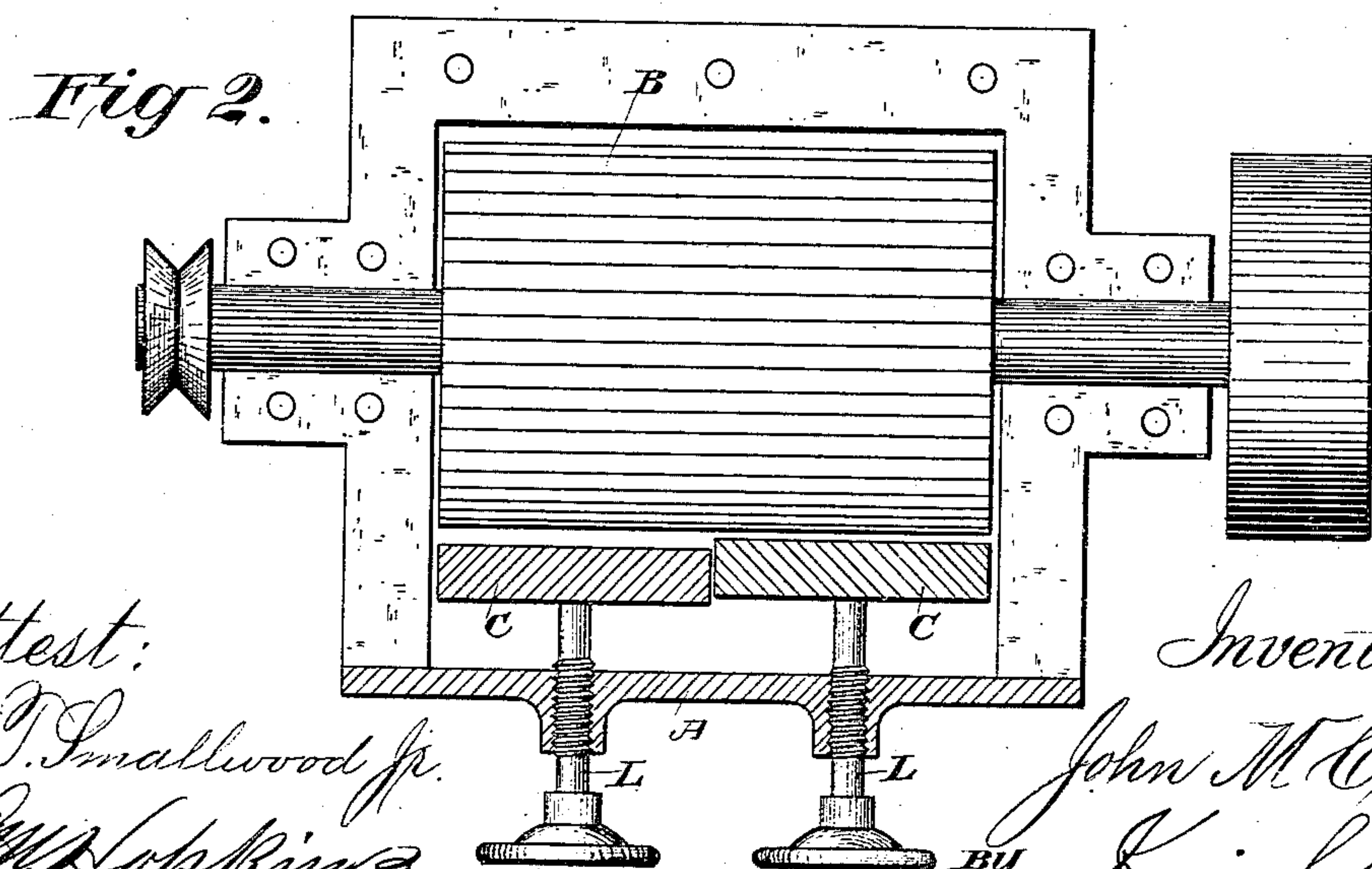
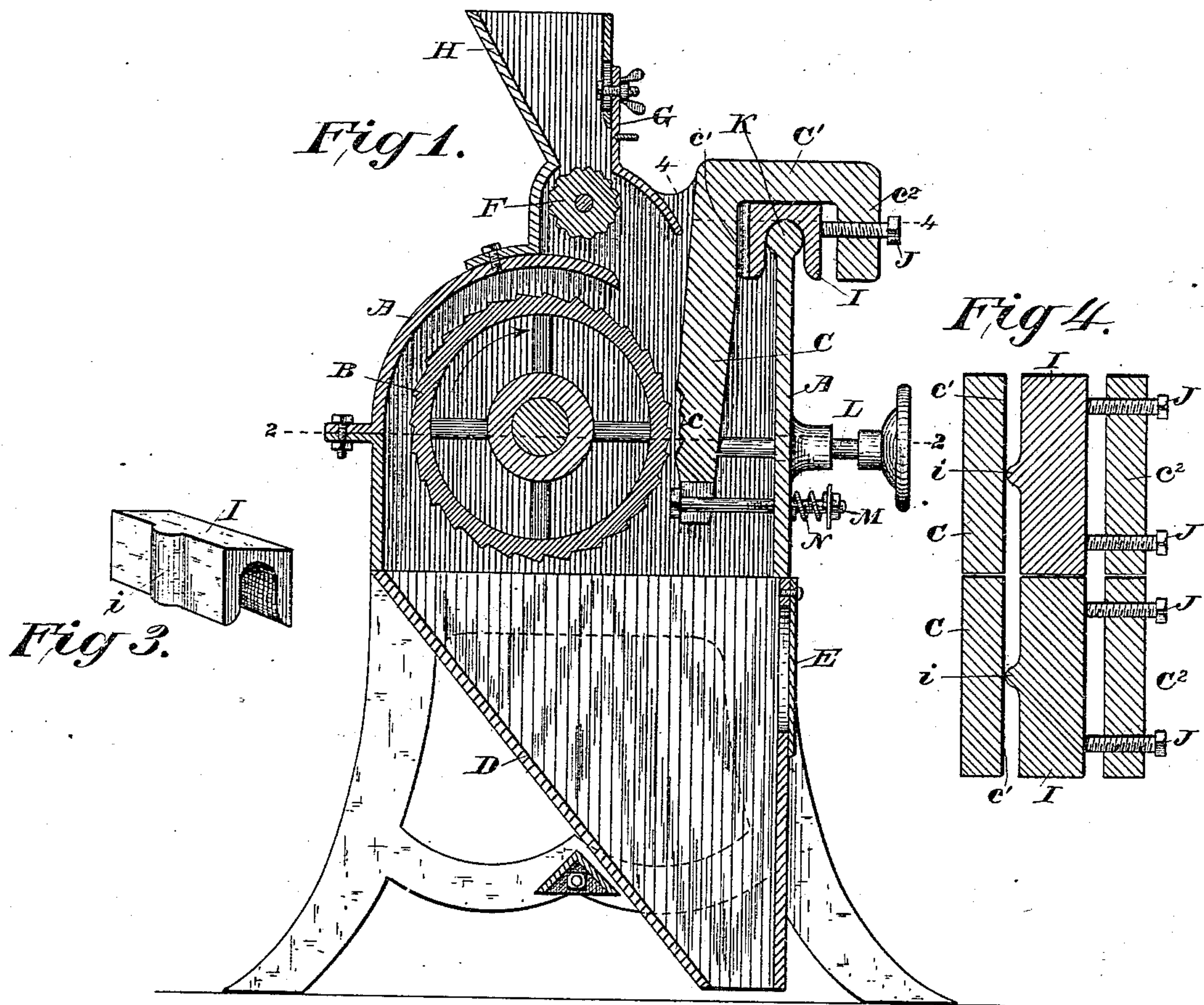
(No Model.)

J. M. CASE.

GRAIN REDUCTION MACHINE.

No. 259,480.

Patented June 13, 1882.



Attest:
Geo. T. Smallwood Jr.
J. M. Knight Bros.

Inventor.
John M. Case.
BY Knight Bros
attys

UNITED STATES PATENT OFFICE.

JOHN M. CASE, OF COLUMBUS, OHIO, ASSIGNOR TO THE CASE MANUFACTURING COMPANY, OF SAME PLACE.

GRAIN-REDUCTION MACHINE.

SPECIFICATION forming part of Letters Patent No. 259,480, dated June 13, 1882.

Application filed February 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. CASE, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Grain-Reduction Machines, of which the following is a specification.

My machine is constructed with a horizontal cracking-roll and a grinding-plate of peculiar construction, or preferably a series of two or more of such grinding-plates resting at top on saddle-pieces, to which they are fastened, and which afford the necessary movement to the lower end of the grinding-plates to and from the surface of the roll for adjustment for grade of cracking, the said saddle-pieces having on one face a projecting rib, which affords a vibration or adjustment on a vertical axis to the grinding-plates for tramming them relatively to the roll. This tramming adjustment is produced by two set-screws passing through the rear part of the yoke-shaped upper end of the grinding-plate and bearing against the back of the saddle-piece, as hereinafter described. The adjustment for grade is accomplished by a set-screw bearing against the back of the grinding-plate near its lower end, a rod and spring being employed to hold the lower end of the grinding-plate away from the face of the roll in contact with the end of the set-screw. By the use of two or more of these adjustable grinding-plates hinged independently to a common frame and adjustable independently with reference to a common cracking-roll, I am enabled in a single machine to crush or crack the grain in different grades. My invention thus constitutes a very effective and accurately-adjustable gradual-reduction machine within compact dimensions and at moderate cost. The working-face of the grinding-plate is chilled in casting in order to render it hard, thereby increasing its durability, while the cost of its production is much less than that of a grinding-plate made of or faced with steel. The construction permits the ready lifting out of any one of the grinding-plates, even while the machine is in operation.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a vertical transverse section of a machine illustrating the invention. Fig. 2 is a plan of the lower part of the same, the hopper and upper portion of the casing and the feed mechanism being removed, and the grinding-plates and means for adjusting the same shown in section on the line 2 2, Fig. 1. Fig. 3 is a perspective view of one of the saddle-pieces detached. Fig. 4 is a horizontal section on the line 4 4, Fig. 1.

A represents the casing of the machine, in which is mounted a horizontal ribbed or toothed roll, B, which in operation is revolved in the direction indicated by the arrow, so as to crack the grain in conjunction with a series of any desirable number of grinding-plates, C, two being shown in the present illustration.

D represents a discharge-spout below, and E a shutter closing an opening through which the hand of the miller may be introduced for inspecting the grits or cracked grain.

F represents a feed-roll; G, a gate adjustable relatively thereto, and H a suitable hopper.

Each of the grinding-plates C is formed at its upper end in the shape of a yoke, C', resting upon an independent saddle-piece, I, which saddle-pieces are mounted in line on a cross-bar, K, formed to receive them on the upper edge of the casing A. On the center of the face of each saddle-piece I is a vertical convexity or rib, *i*, adapted to bear against the rear side, *c'*, of the grinding-plate C, while the downwardly-projecting rear part, *c''*, of the yoke C' receives set-screws J J, one near each edge, bearing against the rear face of the saddle-piece I, and serving to adjust the entire grinding-plate on the rib *i* as a vertical axis for the purpose of tramming the face *c* of the grinding-plate C relatively to the surface of the cracking-roll B. The working-face of the grinding-plate C is adjusted and held at the proper proximity to the surface of the cracking-roll B by a set-screw, L, bearing against the back of said grinding-plate near its lower end, while at the extremelower end thereof is a rod, M, pressed outward by a spring, N, for the purpose of holding the back of the grinding-plate firmly against the end of the set-screw, which thus forms a stop.

My improved construction of grinding-plate

permits of its ready removal, as it is merely hung on the casing; and to remove it it is only necessary to lift it off, when another plate having the desired surface can be substituted therefor.

It will be understood that at the first break grinding-plates are employed having a flat polished surface, as such surface does not cause so many of the grains of wheat to be broken crosswise but to be split through the seam.

The following is claimed as new in the above-described invention:

1. The grinding-plate C, constructed with a yoke-shaped top, C', downwardly-projecting part c², and a chilled working-face, c, in combination with the casing and roll, the said grinding-plate being adapted to be hung on and lifted off the casing while the machine is in operation, substantially as herein described.

2. The saddle-piece I and support K, in combination with a grinding-roll and a grinding-plate, C, having yoke C', as set forth.

3. The saddle-piece I, formed with a rib or projection, i, in combination with means for supporting the same, grinding-plate C C', and set-screws J J for tramming the said grinding plate relatively to the cracking-roll B, as set forth.

4. In a gradual-reduction machine, the combination of cracking-roll B and a series of two or more grinding-plates, C, having yokes C', means for independently adjusting said plates relatively to the cracking-roll, and a support common to all said grinding-plates, substantially as described.

5. The combination, with the grinding-plate C, having yoke C', saddle-piece I, and means for supporting said saddle-piece, of the rod M, spring N, and set-screw L, forming a stop to the grinding-plate, as set forth.

JOHN M. CASE.

Witnesses:

OCTAVIUS KNIGHT,
L. M. HOPKINS.