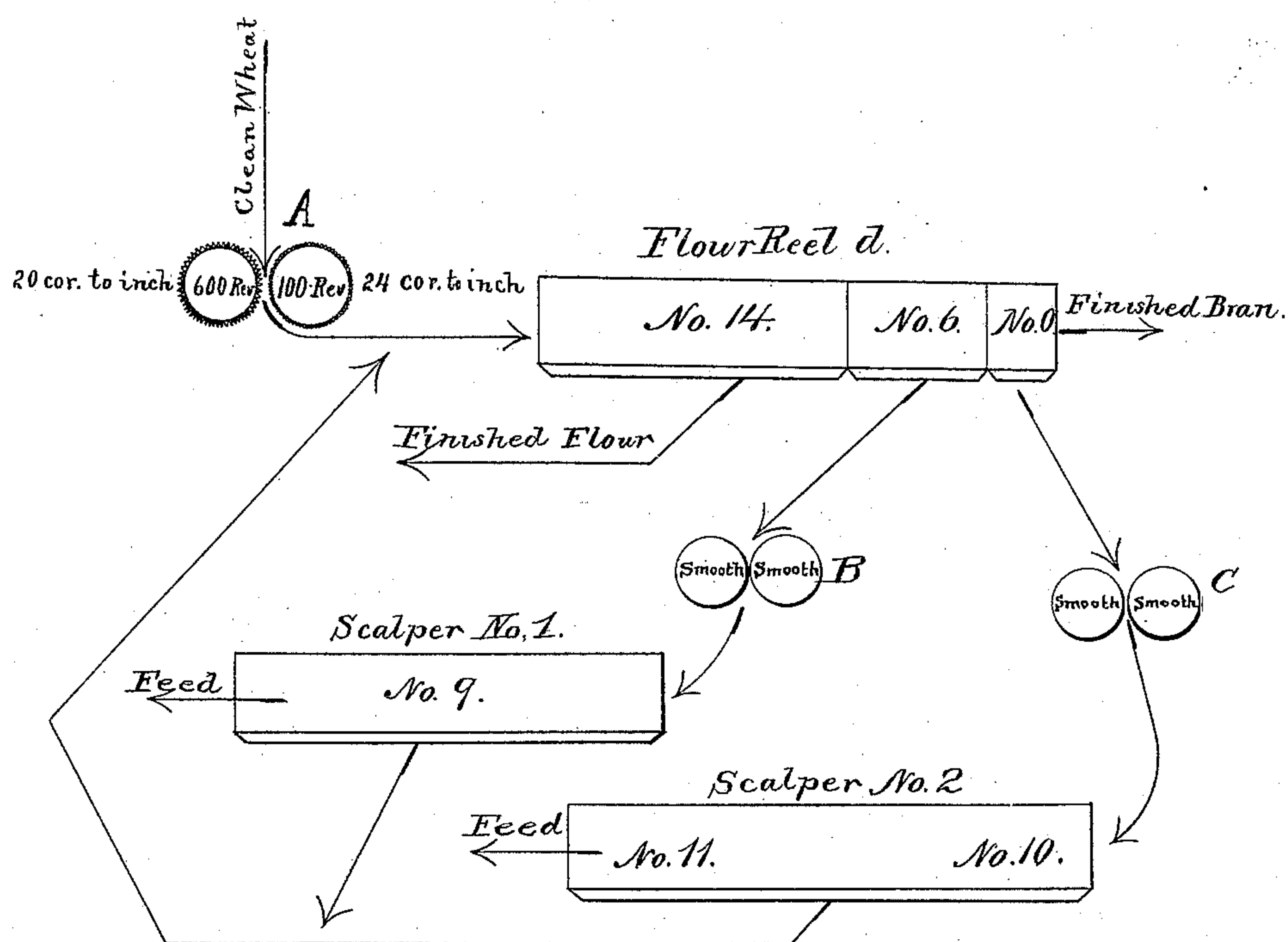


(No Model.)

O. C. RITTER.  
PROCESS OF MILLING WHEAT.

No. 405,506.

Patented June 18, 1889.



Witnesses:  
Harvey Ritter  
J H Doran

Inventor  
Oliver C. Ritter

# UNITED STATES PATENT OFFICE.

OLIVER C. RITTER, OF SPRINGFIELD, MISSOURI.

## PROCESS OF MILLING WHEAT.

SPECIFICATION forming part of Letters Patent No. 405,506, dated June 18, 1889.

Application filed October 23, 1888. Serial No. 288,987. (No model.)

*To all whom it may concern:*

Be it known that I, OLIVER C. RITTER, a citizen of the United States, residing at Springfield, in the county of Greene and State of Missouri, have invented certain new and useful Improvements in the Process of Milling Wheat; and I do declare the following to be a full, clear, and exact description of the invention, which will enable others skilled in the art to apply and use the same.

Usually the methods of manufacturing flour with roller-machines have been by a "break" or "gradual-reduction" system, employing from two to six breaks on the wheat reductions, thereby producing a large amount of middlings. Said middlings being subjected to many separations, necessitated a series of reductions on smooth rolls, entailing complication and expense to produce a "finished" flour, so much so as to be practically beyond the reach of small mill-owners. This break method being an indirect process of securing a finished flour through the medium of middlings, I find by experiment it can be simplified by a direct method of milling for flour; and the objects of my invention are, by the use of higher differential than that previously used and the adoption of fine cut for slow roll, with coarser for fast, to grind the grain in one operation between two corrugated rolls, so that the bran may be finished or secure a finish on the bran-machine, and the separating of the middlings in two grades and reducing them on their respective smooth rolls, thus enabling the small miller to operate his mill successfully with, say, three sets of rolls. While exact cuts and differentials are not absolute, non-spiral corrugations are less comminuting in effect, and the mechanism described in Patent No. 389,247, issued to me September 11, 1888, is reasonably effective.

In the drawing shown the figure is a diagrammatic view of my process.

In order to carry my invention into operation, I will follow the flow of the stock through the mill, all necessary mechanism for aiding

in the manipulation being supposed in the diagrammatic view illustrating my improved process, which forms a part of the specification.

The clean wheat is fed to the corrugated rolls A, (being cut about twenty for fast roll and twenty-four corrugations per inch for slow roll,) the "chop" passing direct to flour-reel *d*, clothed with Nos. 14, 6, and 0, respectively, the flour being cut off on the finer cloth. The coarser particles or middlings are graded, those from No. 6 carried to smooth roll B, and the products of No. 0 cloth to smooth roll C. These separate reductions, going to their respective scalpings No. 1 and No. 2, are bolted of their impurities, which "tail off" to feed, while the bolted products are returned to flour-reel *d* for rebolting, in the case of "straight-grade" products, or to a separate reel (not herein shown) if two or more grades are desired. This identical "flow" is given more especially to illustrate the simplicity of the reduction method, as most operatives desire to "scalp" the "break-chop" or further purify the middlings before reduction, in order to secure the best results.

Having thus described my invention, what I desire to claim is—

The art of manufacturing flour, consisting, essentially, in crushing or grinding the wheat in one operation between two corrugated rolls running at high differential speed, using fine corrugations for slow roll, with coarser for fast, bolting out the finished flour, separating the middlings in two grades and tailing off finished bran, regrinding said grades of middlings on separate machines, rebolting the middlings-chop on separate scalpings to tail off the "fluff" or feed-product contained therein, and rebolting these valuable portions of the middlings with the first-break flour in straight-grade work or on separate reel.

OLIVER C. RITTER. [L. s.]

Witnesses:

A. S. JUSTIS,  
H. S. REEVES.