

(No Model.)

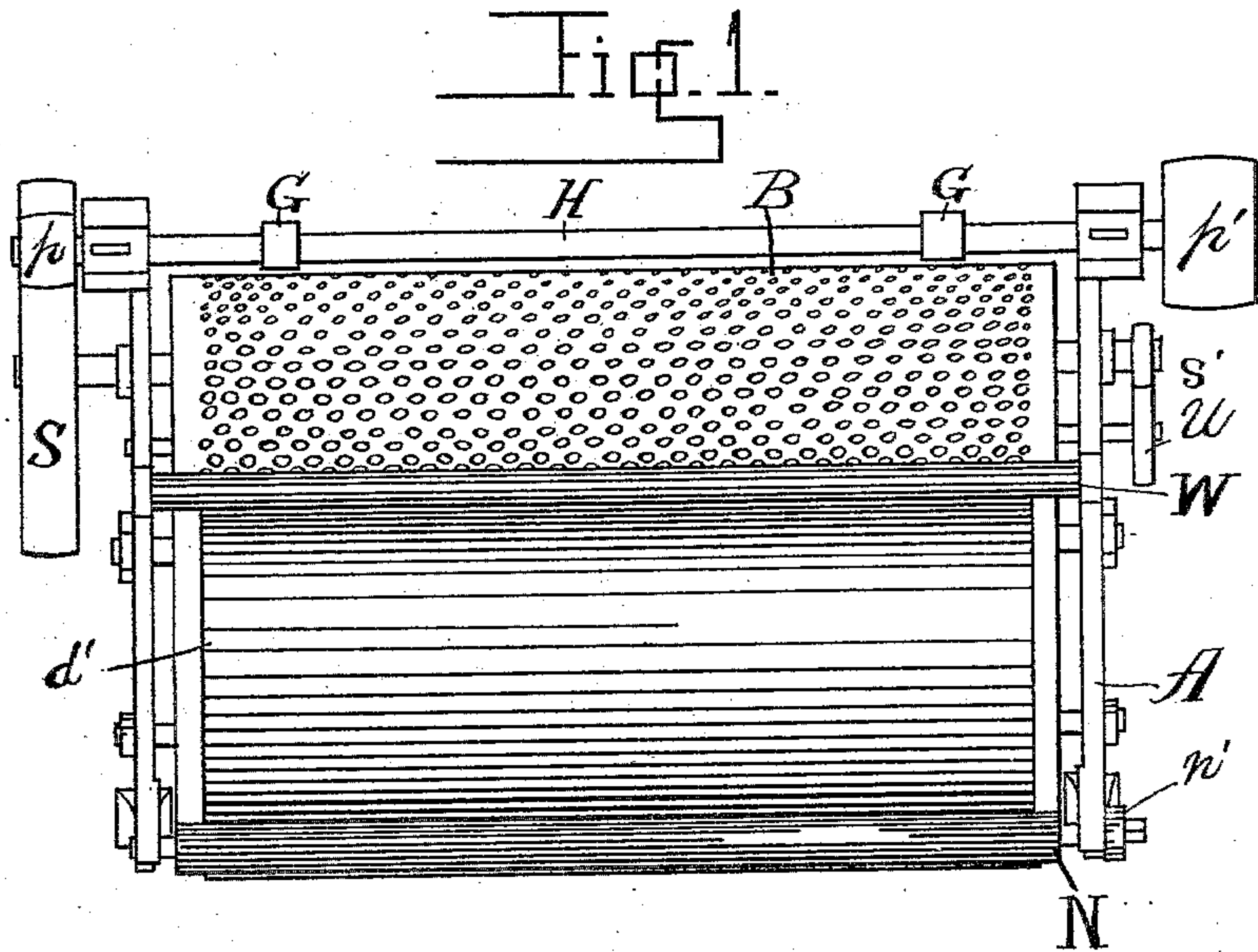
3 Sheets—Sheet 1.

J. B. DISHMAKER.

GRAIN SEPARATOR.

No. 303,217.

Patented Aug. 5, 1884.



Witnesses;
J. H. Blackwood
R. G. DuBois

Inventor;
John B. Dishmaker
by W. M. O'Connell,
Attorney.

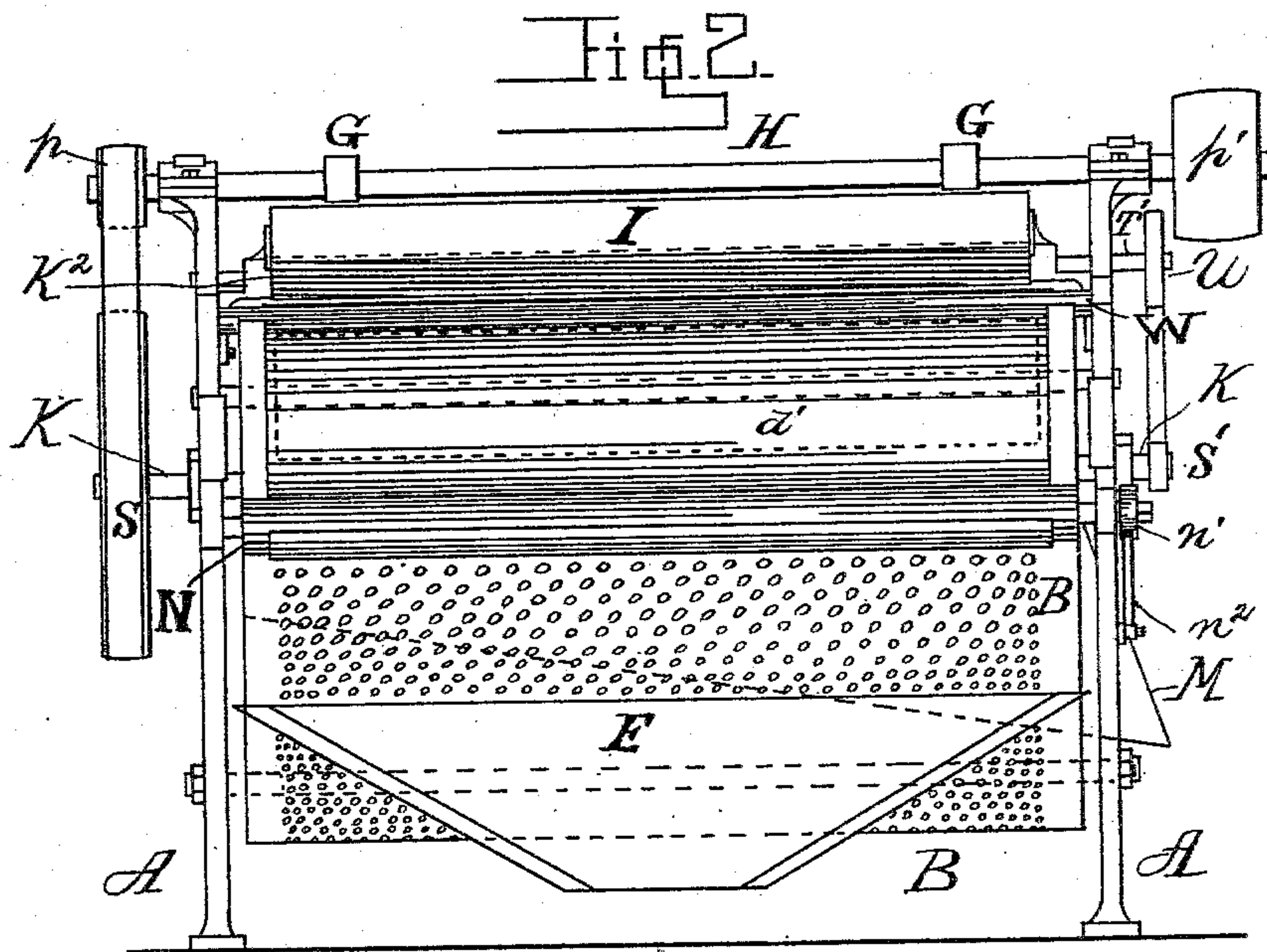
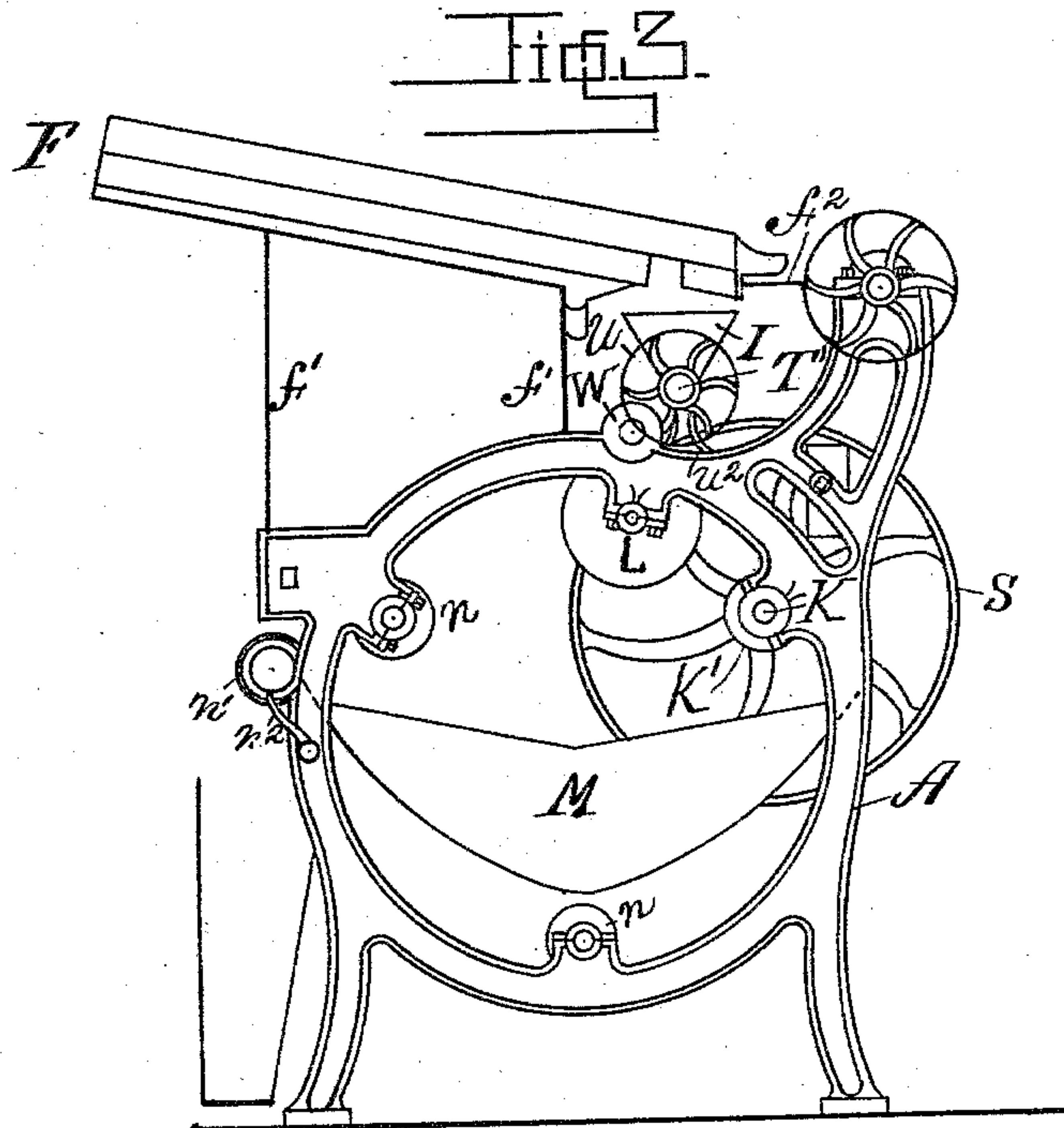
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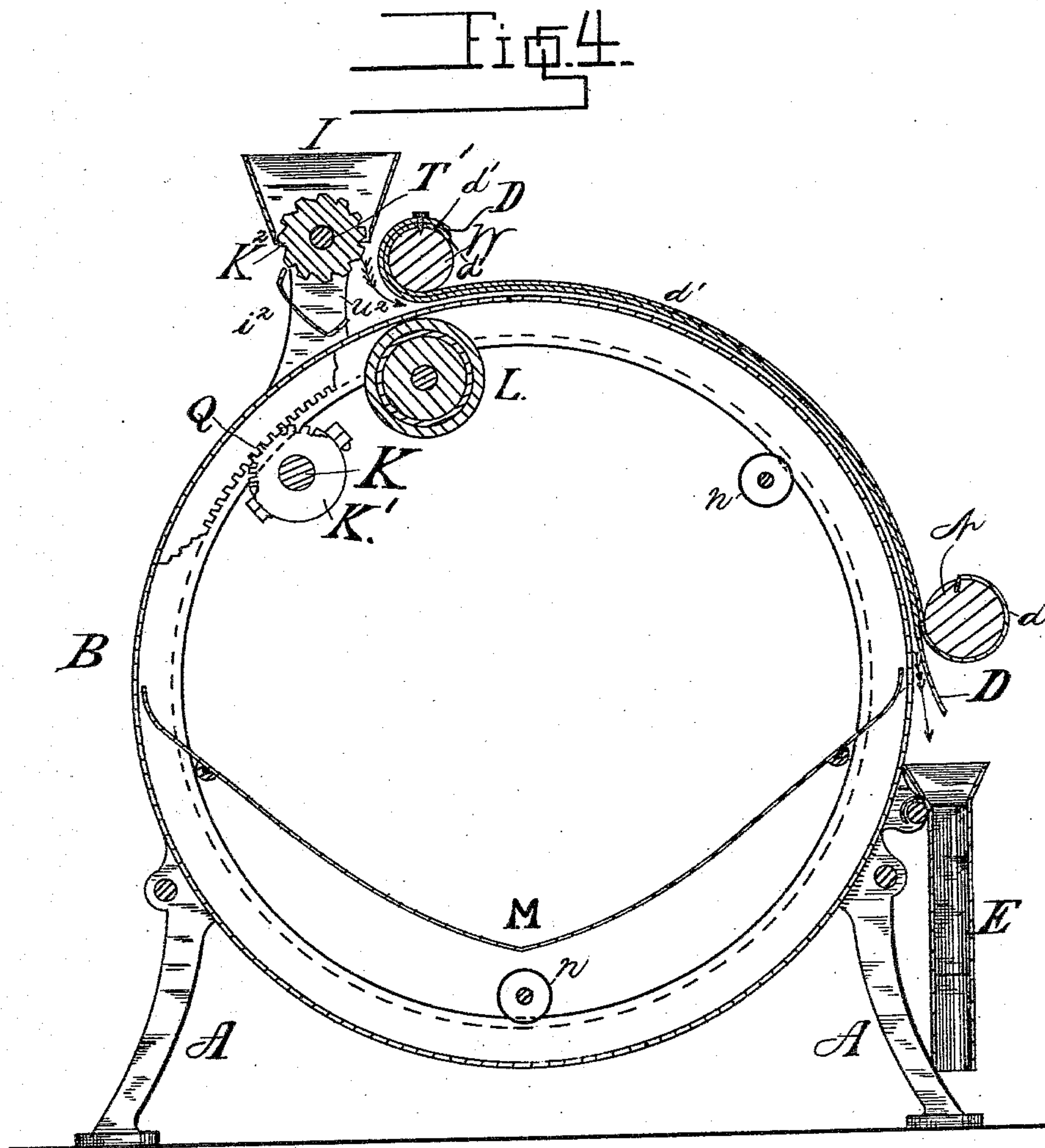
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WITNESSES:

J. B. Blackwood
R. G. DuBois

INVENTOR

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UNITED STATES PATENT OFFICE.

JOHN B. DISHMAKER, OF CARLTON, WISCONSIN.

GRAIN-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 303,217, dated August 5, 1884.

Application filed March 17, 1884. (No model.)

To all whom it may concern.

Be it known that I, JOHN B. DISHMAKER, a citizen of the United States, residing at Carlton, in the county of Kewaunee and State of Wisconsin, have invented certain new and useful Improvements in Grain-Separators; and I do hereby 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 appertains to make and use the same.

My invention relates to a machine for separating oats, cockle, garlic, wild peas, and other small seeds from wheat; and it consists in the construction and combination of parts, as hereinafter described and claimed, by which the different grains are passed between a stationary stretched canvas and a perforated revolving drum, being pressed upon the drum by the canvas, whereby the larger grains are carried outside of said drum, while the smaller grains are made to fall through its perforations into a suitable receptacle for carrying them away.

My improvements are illustrated in the accompanying drawings, in which Figure 1 is a plan view; Fig. 2, a front elevation; Fig. 3, a side elevation, and Fig. 4 a vertical sectional view showing the construction of the principal parts.

In the drawings, A is the frame-work, of any suitable construction.

B is a revolving perforated cylinder, constructed preferably of zinc, the perforations in which are round and smooth, and of such size as to permit the escape through them of the cockle or smaller or shorter grains or seeds, and prevent the escape of the larger ones. It rests within the frame and turns upon rollers *n n*, supported by short brackets from the frame-work, and is provided at its opposite ends with internal gearing, Q.

H is the main driving-shaft, journaled on brackets extending up from the frame-work, and is driven by a band on pulley *p'*. The drum is driven by means of a band from pulley *p* on the opposite end of shaft H, running over large pulley S on a shaft, K, carrying the gear-wheels K', which engage with the gearing Q.

D is a canvas secured by screws to roller

W, and stretched over and extending part way around the perforated drum. To the same roller W, and secured thereto by the same means, is a thin metal covering, *d'*, which extends over about one-fourth of the area of the drum, covers the canvas for that distance, and is secured to a lower roller, N. This roller is provided with ratchet-wheels *n'* at its opposite ends, with which engage pawls *n''*, by which the metal cover *d'* is stretched and tightened upon the canvas. The pressure of the canvas upon the drum is thus made adjustable. The cover *d'* is to be made of thin metal, and zinc is preferred for this purpose.

F is a set of ordinary vibrating sieves, resting on elastic supports *f' f'*, attached to the frame-work, and connected by flexible rods *f''* to eccentrics G on main driving-shaft H. By the action of the eccentrics the sieves are shaken and given a slight to-and-fro movement on their elastic supports *f' f'*. But one sieve may be employed, if desired.

K² is a corrugated roller located a little above and in front of the canvas-roller W, and is supported upon and turned by shaft T', journaled in brackets *u''* on the frame-work. One end of shaft T' is provided with a pulley, U, and the shaft is driven by means of a band passing over U from pulley S' on the shaft K, carrying the gear-wheels K', which engage with the internal gearing, Q.

I is a hopper extending the length of the corrugated roller beneath the end of the sieve, and connected to brackets *u''*. Connected to the same brackets is a curved apron, *i''*, to direct the grain as it falls from the corrugated roll toward the canvas, in the manner shown in Fig. 4.

L is a rubber cleaning-roller, supported on a shaft journaled in the sides of the frame and pressed closely against the inner surface of the drum B at a point directly beneath the canvas-roller W. It is revolved by frictional contact with the drum, and its function is to clear the perforations of the drum by pressing outwardly any seeds that may lodge therein.

E is an ordinary form of spout extending across the machine to receive the larger grain which passes over the drum B, and between it and the canvas.

M is a spout or receptacle in the interior of the drum B, to receive the smaller grains or seeds and impurities which are pressed through the perforations in the drum, and this receptacle may be provided at its bottom with a trough and spiral conveyer to carry these seeds, &c., away. The perforations in the drum may be made larger or smaller in sections to suit the different-sized grains; or drums with one size of perforations may be employed for separating cockle from wheat, and of a larger size for separating oats or similar-sized grain or seeds from wheat.

In operation the grain and seeds of various sizes that may be mixed therewith fall from the shaker or sieve into the hopper, and thence onto the corrugated roller, by which they are evenly distributed over the surface of the perforated drum. Thence they are carried quickly forward between the drum and the stretched canvas. The pressure of the canvas, adjusted and controlled by its metallic cover, serves to press the smaller grain, &c., through the drum, while the larger grains are carried outside, as already described.

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

1. In a grain-separator, the combination of the perforated drum, the canvas, and the tightening metallic cover for the canvas, whereby the grain and other matter, in passing between the said canvas and drum, are pressed upon the drum, substantially as described.

2. In a grain-separator, in combination with a perforated revolving drum, the canvas, the thin elastic metallic cover for said drum, and the rollers to which said cover is secured and whereby the same is tightened, substantially as described.

3. In a grain-separator, the combination of the hopper, the corrugated roller, the drum, the stationary canvas, and the metallic cover, whereby the grain is evenly distributed on the drum, passed between the drum and the canvas, and pressed against the said drum by the action of the canvas and its cover, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN B. DISHMAKER.

Witnesses:

WM. H. TIMLIN,
MICHAEL RIEDY.