

No. 749,819.

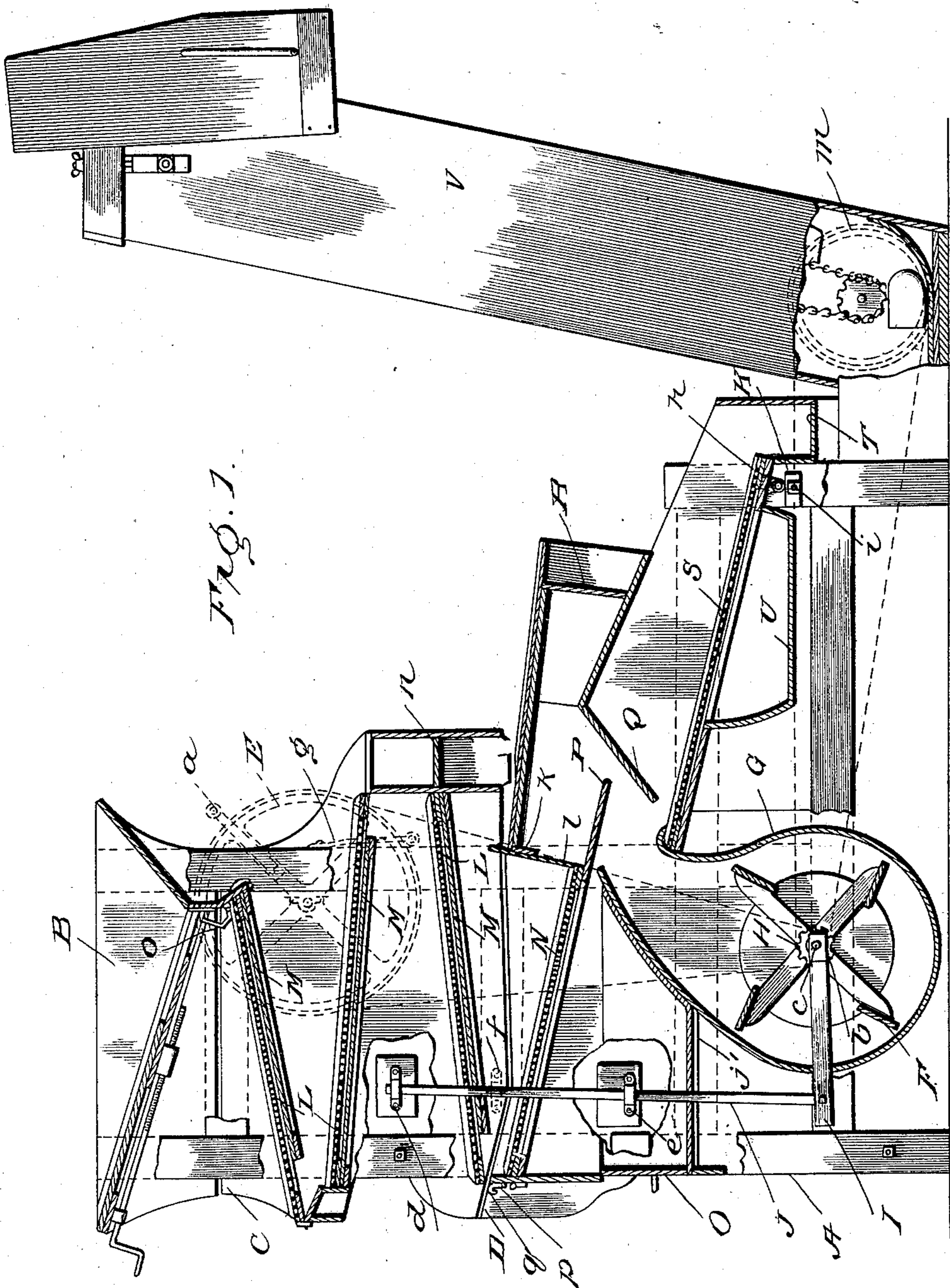
PATENTED JAN. 19, 1904.

W. J. HAMMILL.
FANNING MILL.

APPLICATION FILED FEB. 24, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

J. Stewart Rice
Donna J. Matthews

INVENTOR

William J. Hammill
BY *Ridout & Mayhew* Attorneys

No. 749,819.

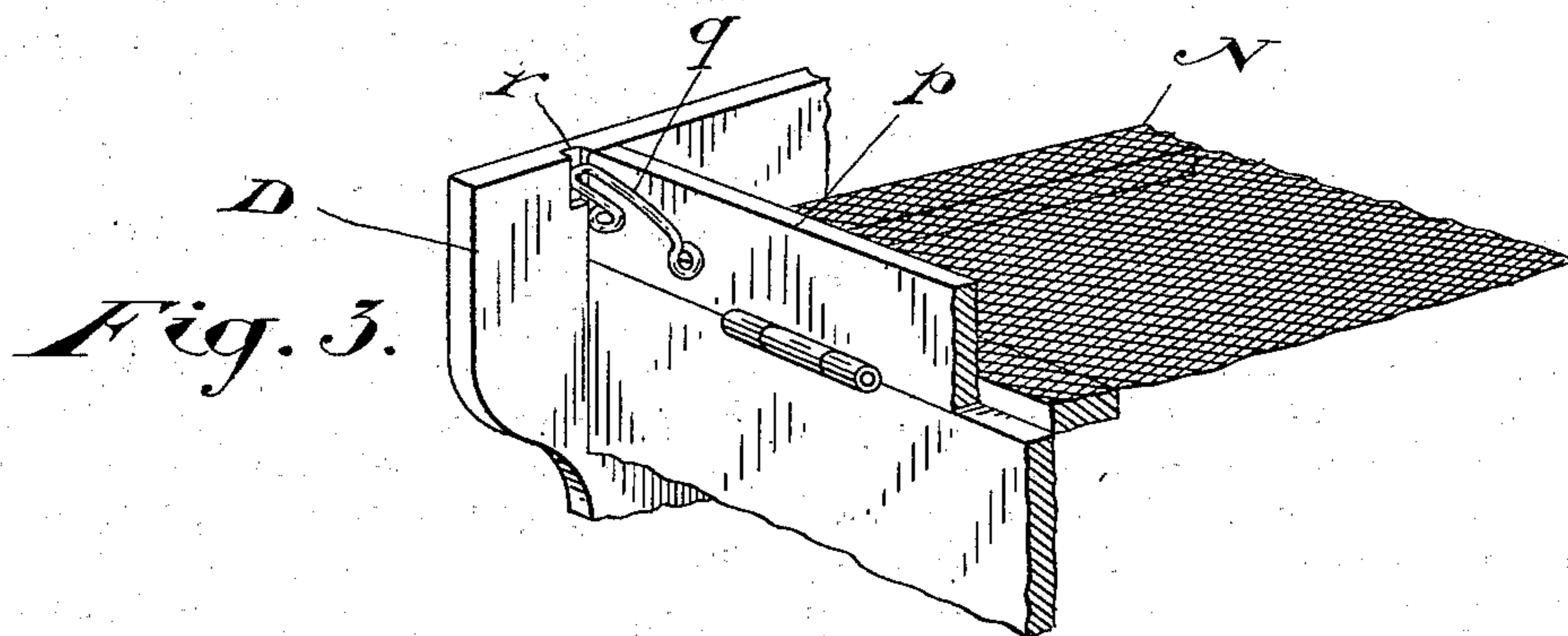
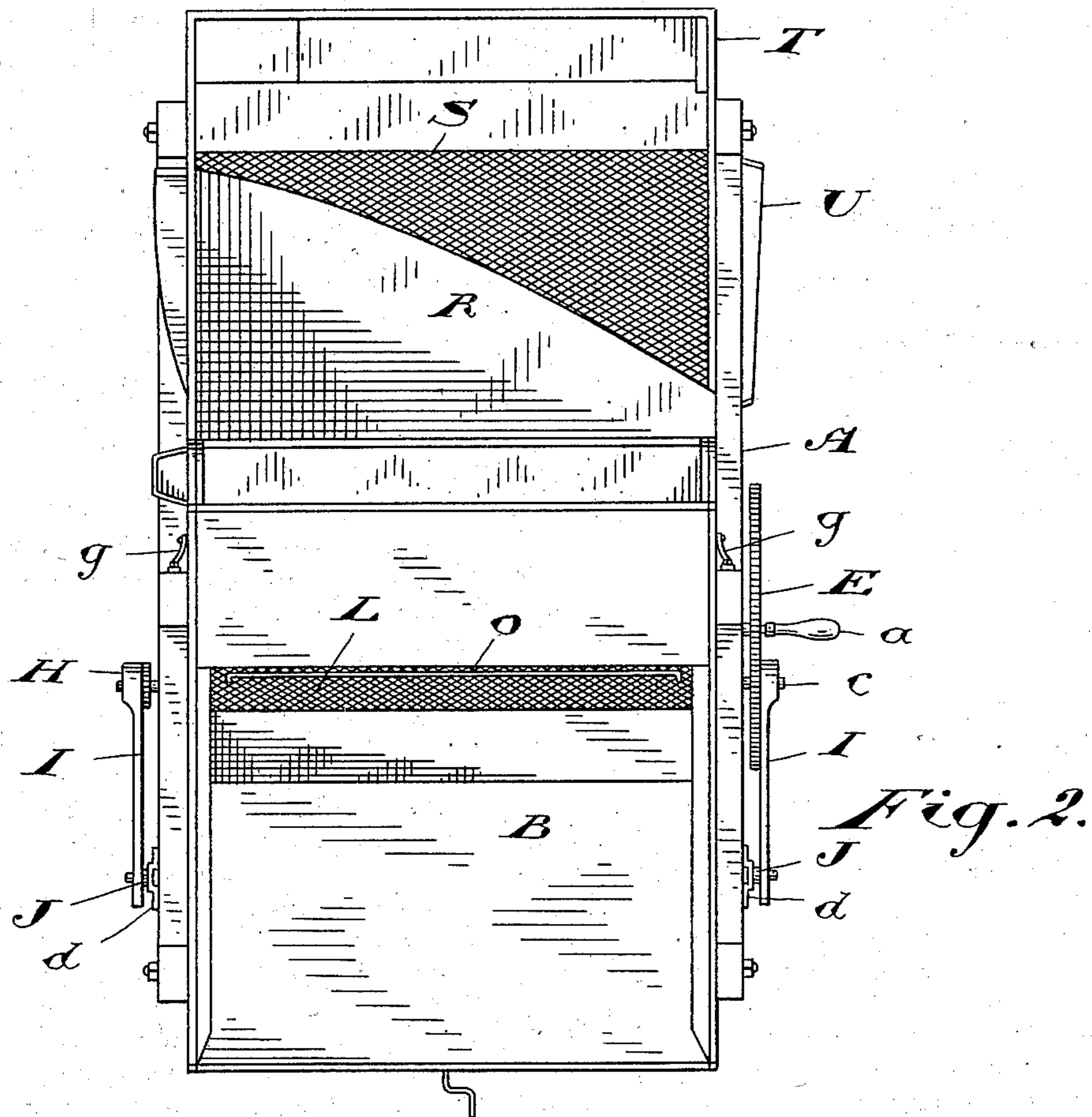
PATENTED JAN. 19, 1904.

W. J. HAMMILL.
FANNING MILL.

APPLICATION FILED FEB. 24, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses

G. J. Colbourne
J. H. Webster

Inventor

William J. Hammill
by Radout & Maybee
Attys

UNITED STATES PATENT OFFICE.

WILLIAM JOHN HAMMILL, OF GUELPH, CANADA, ASSIGNOR OF ONE-HALF
TO ABRAHAM GROVES, OF FERGUS, ONTARIO, CANADA.

FANNING-MILL.

SPECIFICATION forming part of Letters Patent No. 749,819, dated January 19, 1904.

Application filed February 24, 1902. Serial No. 95,303. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JOHN HAMMILL, of the city of Guelph, in the county of Wellington, Province of Ontario, Canada, have invented certain new and useful Improvements in Fanning-Mills, of which the following is a specification.

The object of my invention is to devise a simple and effective fanning-mill for farmers' use; and it consists, essentially, of the construction and arrangement of parts hereinafter more specifically described and then definitely claimed.

Figure 1 is a sectional side elevation of my machine. Fig. 2 is a plan view of the machine. Fig. 3 is a perspective detail of the flap at the head of the first sieve of the lower shoe.

In the drawings like letters of reference indicate corresponding parts in the different figures.

A is the frame of the machine, suitably shaped to support the different parts. On this frame are supported the hopper B and the two sieve-shoes C and D.

Journaled at the side of the machine on a bearing which is preferably made vertically adjustable is a sprocket-wheel E, provided with a crank-handle *a*.

Journaled at the bottom of the frame is the shaft *b* of the fan F, located within the fan-casing G.

The shaft *b* has a small sprocket-wheel H secured thereto, which is driven by a suitable sprocket-chain from the sprocket-wheel E.

A crank-pin *c* is secured to the sprocket-wheel H, on which is journaled a pitman I, the other end of which is pivotally connected with the lower end of the vibrating lever J. This lever is pivotally connected at *d* to the upper shoe, at *e* to the lower shoe, and between these pivots at *f* to the frame of the machine. This lever gives the necessary support to the shoes at one side. The other side of the upper shoe is supported by the link *g*, connected at its upper end to the frame of the machine and at its lower end to the shoe. The other side of the lower shoe is provided with a roller *h*, resting upon the board K,

which has a clamp-rod *i* running through it, provided with suitable tightening-nuts. By altering the angle of this board the shoe may be given a greater or lesser amount of agitation, as may be desired.

It will of course be understood that the pitman I, vibrating lever J, link *g*, and roller *h* are duplicated at the other side of the machine.

The hopper B has an opening therein made adjustable in the ordinary manner.

The upper sieve-shoe C has three sieves L located therein, inclined alternately in opposite directions and each having a deflector M located beneath it. The sieves are of course made to slide in and out in the ordinary manner. Each deflector is adapted to receive the screenings from the sieve above it and to discharge them into the head of the sieve next below.

The shoe D contains a sieve N, adapted to receive the discharge from the lowermost deflector M. Below the sieve N is located the seedbox O, made removable by having its sides formed to slide on the guides *j*. The lower end of the sieve N rests on top of the short board P, which has substantially the same inclination as the sieve and forms a discharge extension of the same. This board extends quite close to the inclined board Q, down which the tailings from the sieve N must necessarily pass.

The fan-casing G is arranged to discharge up the inclined board Q and through the space between it and the board P. All the grain or seed passing over the sieve N is thus very thoroughly and effectively cleaned by the air-blast.

The dust and dirt after passing between the two boards aforesaid passes into the discharge-casing R, which is shaped, as indicated, to discharge at one side of the machine. The inner end *k* of this casing comes down close to the sieve N and has a flexible apron *l* secured thereto, which rests on the sieve. This apron does not prevent grain or seed from passing off the sieve, but acts effectually in preventing any dust or dirt being blown back into the machine. The inclined board Q discharges into the upper end of the sieve S,

which tails into the spout T. The screenings of this sieve pass into the spout U. Connected with the spout T is the bagger V, which is of ordinary construction and is driven by a sprocket-chain from a sprocket-wheel *m* at the opposite end of the fan-shaft of the sprocket-wheel H. It will be noted that the first and third sieves tail onto the floor. The second sieve, however, is provided with a spout *n*, discharging to one side of the machine.

Attached to the upper part of the upper shoe C is a wire agitator *o*. The horizontal part of this lies in the feed-opening of the hopper, and its ends are turned down and secured to the shoe. When the mill is in operation, this agitator has a transverse motion in the feed-opening which effectually prevents any clogging of the feed.

It is not necessary to describe the arrangement of the sieves necessary for effecting the separation of various classes of grains or seeds. According to the particular class of work to be done, sieves of different mesh are inserted in the proper positions in the machine. The seedbox O is, however, intended particularly to collect fine seeds—such as timothy, clover, &c.—which may be mixed with the larger seed or grain. The sieve S is intended particularly to separate plump and shrunken wheat, oats, barely, or other grain and whole from split peas. As the cleaning air-blast is applied before this separation takes place, the plump grain and the shrunken grain are both obtained in a perfectly clean condition.

It will be noted that a flap *p* is hinged behind the head of the sieve N. This flap serves to prevent the discharge from the deflector above bouncing off the head of the sieve onto the floor. When it is desired to remove the sieve N, the flap may be hinged down out of the way. Normally the flap is held up by latches *q*, which engage notches *r* in the side of the shoe.

What I claim as my invention is—

1. In a fanning-mill the combination of a series of vibrating sieves located one above the other and alternately inclined in opposite directions; deflectors located below the sieves each adapted to carry the screenings of the sieve above it to the head of the next sieve below; an inclined board arranged a short distance in front of the lower end of the lowest sieve so that the screen discharges against it; a fan adapted to send an air-blast upwardly through and over the grain falling down the board; means for preventing the air-blast passing through or over the aforesaid sieves; and a vibrating sieve onto the head of which the said inclined board discharges, substantially as described.

2. In a fanning-mill the combination of a series of four vibrating sieves located one above the other and alternately inclined in opposite directions; deflectors located below the sieves each adapted to carry the screenings of the sieve above it to the head of the next sieve below; a spout adapted to receive the tailings of the second sieve; a removable seedbox located below the lowest sieve; an inclined board arranged a short distance in front of the lower end of the lowest sieve so that the screen discharges against it; a fan adapted to send an air-blast upwardly through and over the grain falling down the board; means for preventing the air-blast passing through or over the aforesaid sieves; a vibrating sieve onto the head of which the said inclined board discharges; and a discharge-casing adapted to receive the dust and dirt blown up the inclined board and discharge it at one side of the mill, substantially as described.

3. In a fanning-mill the combination of a series of vibrating sieves located one above the other and alternately inclined in opposite directions; deflectors located below the sieves each adapted to carry the screenings of the sieve above it to the head of the next sieve below; an inclined board arranged a short distance in front of the lower end of the lowest sieve so that the screen discharges against it; a fan adapted to send an air-blast through and over the grain falling down the board; a vibrating sieve onto the head of which the said inclined board discharges; a discharge-casing adapted to receive the dust and dirt blown up the inclined board; and a flexible apron secured to the inner side of the said casing and adapted to rest on the said sieve, substantially as described.

4. In a fanning-mill a series of vibrating sieves; in combination with an inclined board arranged a short distance in front of the lower end of the lowest sieve so that the screen discharges against it; a fan adapted to send an air-blast through and over the grain falling down the board; a discharge-casing extending back partly over the said sieves; and a flexible apron secured to the inner side of the said casing and adapted to rest on the said sieve and close the end of the same whereby the grain can pass off of said sieve and the dust is prevented from being blown back by said fan, to prevent the air-blast passing over the said sieve, substantially as described.

Guelph, February 18, 1902.

WILLIAM JOHN HAMMILL.

In presence of—

ADAM REEVES,
J. T. DAVISON.