2 Sheets—Sheet 1.

JONES & LYLE.

Thrashing Machine.

No. 9,485. Patented Dec. 21, 1852.

Fig. 1.

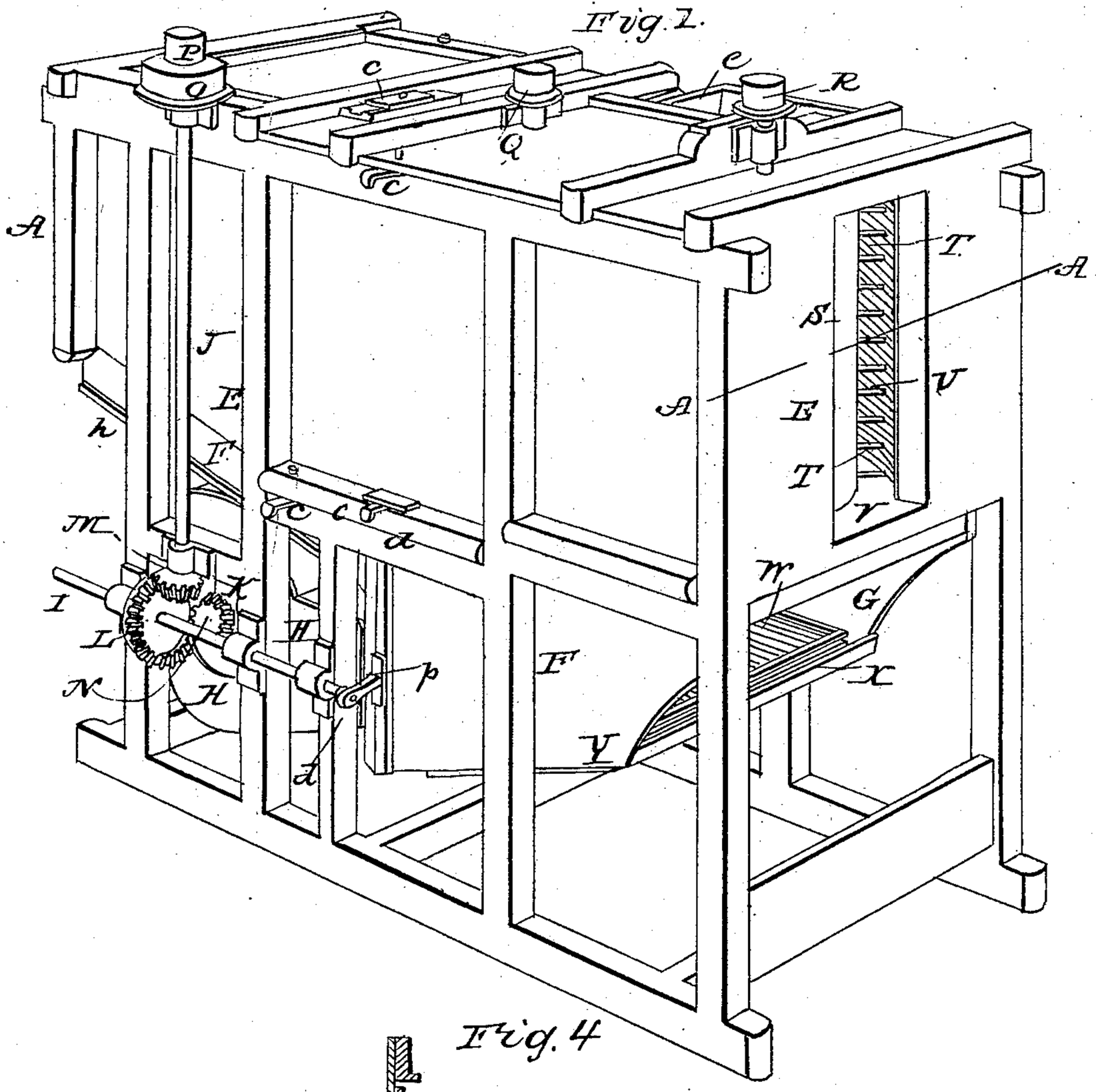
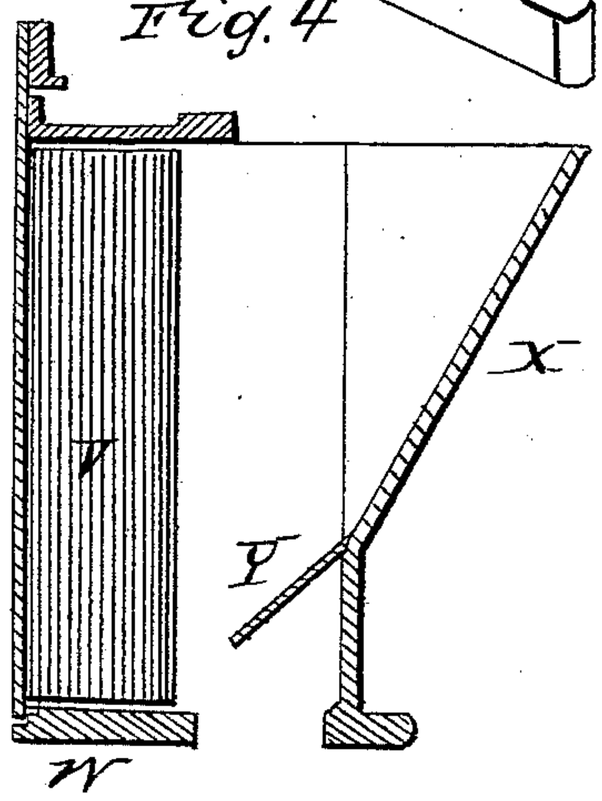


Fig. 4



2 Sheets—Sheet 2.

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Fig. 2

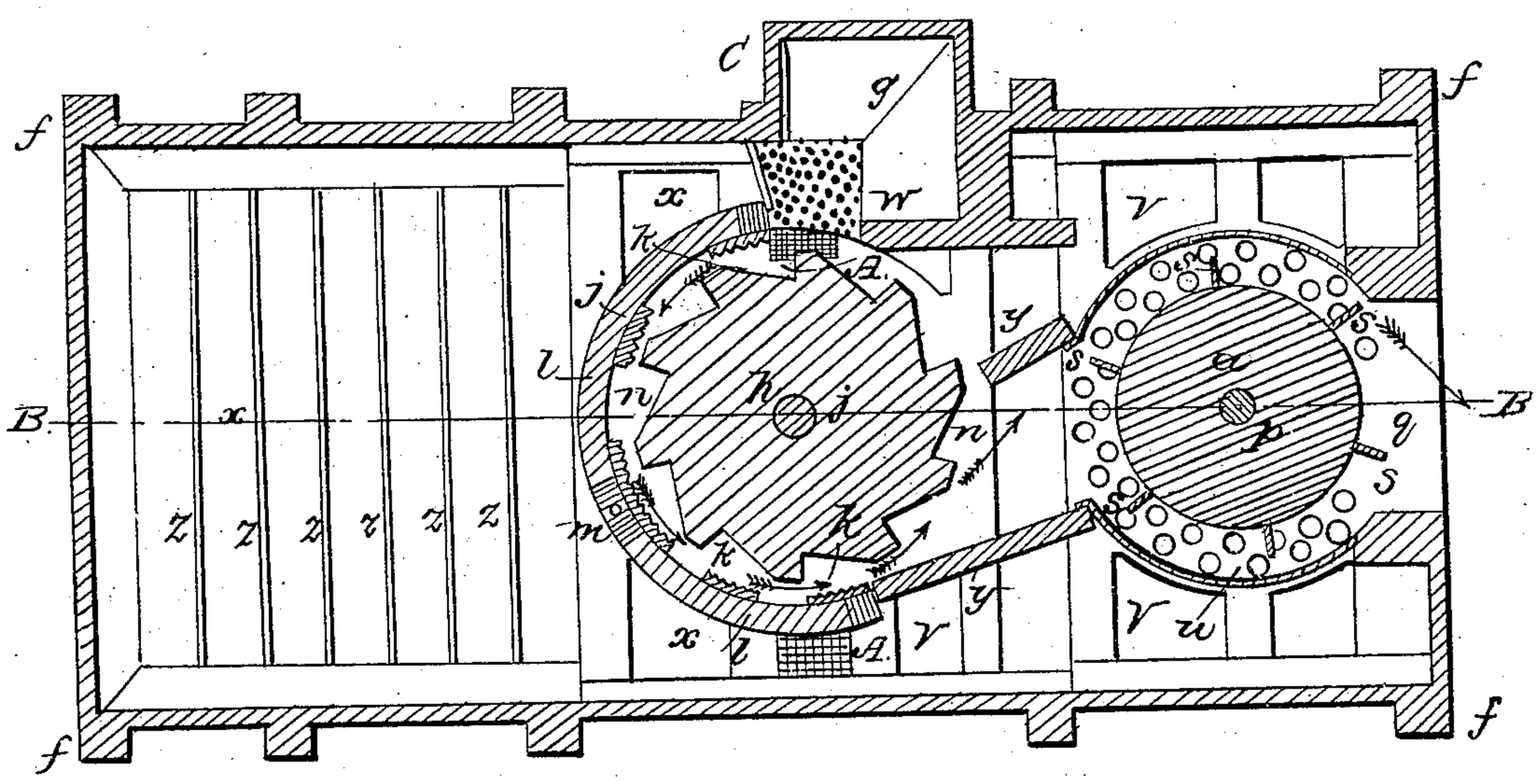
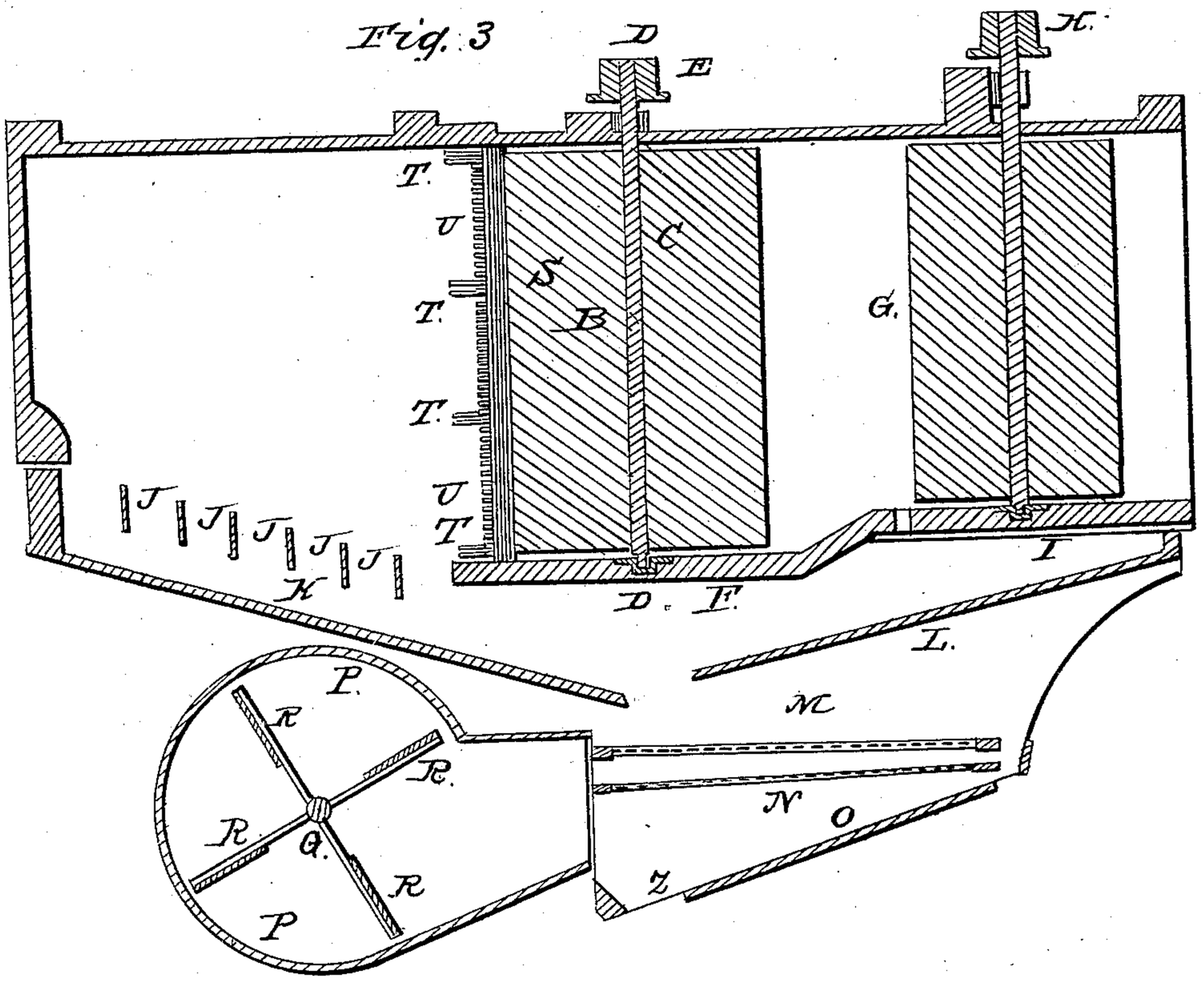


Fig. 3



UNITED STATES PATENT OFFICE.

J. JONES AND A. LYLE, OF ROCHESTER, NEW YORK.

GRAIN THRESHER AND CLEANER.

Specification of Letters Patent No. 9,485, dated December 21, 1852.

To all whom it may concern:

Be it known that we, JOHN JONES and ALEXANDER LYLE, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Machine for Threshing, Separating, and Cleaning Grain; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of our machine when ready for use. Fig. 2 is a horizontal section through A, A, A, Fig. 1. Fig. 3 is a longitudinal section through Fig. 1 and also a section through B, B, Fig. 2. Fig. 4 is a transverse section from C, Fig. 2, to the center of the cylinder. Fig. 4 is also a section through D, D, Fig. 3.

E, E, Fig. 1 show the frame work or body of our machine.

F, F, Fig. 1 show one side of the shoe.

G Fig. 1 shows the side of the inside of the shoe opposite F, F.

H, H, Fig. 1 show the end of the fanning mill.

I Fig. 1 shows the main shaft by which our machine is driven.

J Fig. 1 shows the shaft by which the threshing and separating cylinders are driven.

K Fig. 1 shows the shaft to which the fans of the fanning mill are attached.

L Fig. 1 shows the driving wheel.

M Fig. 1 shows a pinion which is firmly fixed to the lower end of the shaft J; the pinion M works into the driving wheel L.

N Fig. 1 shows a pinion which is firmly fixed to the shaft K, the pinion N is carried by the driving wheel L.

O and P Fig. 1 are pulleys which are firmly fixed to the upper end of the shaft J.

Q Fig. 1 shows a pulley which is firmly fixed to the upper end of the shaft by which the threshing cylinder is carried.

R Fig. 1 shows a pulley which is firmly fixed to the upper end of the shaft by which the separating cylinder is carried.

S Fig. 1 shows a part of the separating cylinder.

The parts marked T Fig. 1 show one of the rows of pins which are firmly fixed into the separating cylinder S. The pins T are for the purpose of carrying the straw.

U Fig. 1 shows a part of the sieve which is made in a cylindrical form, and which extends about one third around the separating cylinder S. There is also a sieve the same as shown at U on the opposite side of the cylinder.

V Fig. 1 shows a floor or platform on which the lower end of the shaft which passes through the separating cylinder S, rests and works.

W Fig. 1 shows a part of the upper sieve through which the grain passes when it is cleaned.

X Fig. 1 shows the end of the lower sieve.

Y Fig. 1 shows the end of the bottom board of the shoe under the sieves, onto which the grain falls when it is cleaned.

Z Fig. 1 shows the bottom board in the upper part of the shoe onto which the grain falls and is carried onto the sieves.

a Fig. 1 shows the wrist of a crank which is fixed to the end of the main shaft I.

b Fig 1 shows a working bar which is attached to the shoe at one end by means of a pin on which it works, and works on the wrist of the crank at the other end so that at each revolution of the main shaft I the required motion is given to the shoe.

The parts marked *c* are slides for the purpose of regulating the concave.

d Fig. 1 shows the end of the platform or bottom on which the lower end of the shaft which passes through the threshing cylinder rests and works.

e Fig. 1 shows the hopper from which the grain and straw pass into the machine.

f f f f Fig. 2 show a section of the frame work of our machine.

g Fig. 2 shows the hopper shown *e* Fig. 1.

h Fig. 2 shows a section of the threshing cylinder.

i Fig. 2 shows a section of the shaft which passes through the threshing cylinder.

j and the parts marked *k* Fig. 2 show sections of the plates of the concave.

l l Fig. 2 show the upper side of two of the concave circles, the concave circles are firmly fixed to the plates of the concave.

m Fig. 2 shows the center of the hinge on which the circles of the concave work for the purpose of regulating the concave.

n n Fig. 2 show the platform, the end of which is shown *d* Fig. 1.

o Fig. 2 shows a section of the separating cylinder.

p Fig. 2 shows a section of a shaft to which the separating cylinder is attached.

q Fig. 2 shows the bottom or platform shown V Fig. 1.

r Fig. 2 and the parts marked *s* show the upper pin of the rows of pins, which are driven into the cylinder *o* for the purpose of carrying the straw.

r' Fig. 2 shows the upper pin of the row of pins marked T Fig. 1.

t and *u* Fig. 2 show sections of the cylindrical sieves which inclose the separating cylinder. The sieve *t* is the same as shown U Fig. 1.

v v v Fig. 2 show the top of the return board.

w Fig. 2 shows the bottom of the hopper which is perforated for the purpose of letting the loose grain pass through onto the sieve without passing through the concave.

x x x Fig. 2 show the bottom board, the edge of which is shown Z Fig. 1.

y y Fig. 2 show sections of partitions for the purpose of guiding the straw from the threshing cylinder to the separating cylinder.

The parts marked Z Fig. 2 show slats which stand edgewise for the purpose of preventing the grain from filling up the upper part of the shoe.

A A Fig. 2 shows a part of the sieve shown W Fig. 1.

B Fig. 3 shows a section of the threshing cylinder *h* Fig. 2.

C Fig. 3 shows a section of the shaft shown *i* Fig. 2.

E Fig. 3 shows a section of the pulley shown Q Fig. 1.

F Fig. 3 shows the bottom shown *n n* Fig. 2.

G Fig. 3 shows a section of the separating cylinder shown O Fig. 2 and S Fig. 1.

H Fig. 3 shows a section of the pulley shown R Fig. 1.

I Fig. 3 shows a section of the bottom shown *q* Fig. 2 and V Fig. 1.

The parts marked J Fig. 3 show sections of the slats shown Z Fig. 2.

K Fig. 3 shows a section of the bottom board shown X X X Fig. 2.

L Fig. 3 shows a section of the return board shown V V V Fig. 2.

M Fig. 3 shows a section of the sieve, a part of which is shown W Fig. 1 and A A Fig. 2.

N Fig. 3 shows a section of the lower sieve the end of which is shown X Fig. 1.

O Fig. 3 shows a section of the bottom, the end of which is shown Y Fig. 1.

P P Fig. 3 shows a section of the fanning mill, the end of which is shown H H Fig. 1.

Q Fig. 3 shows a section of the shaft shown K Fig. 1.

The parts marked R Fig. 3 show sections of the fans of the fanning mill.

S Fig. 3 shows an elevation of one of the plates of the concave, a section of which is shown J Fig. 2.

The parts marked T Fig. 3 show sections of the concave circle shown *l l* Fig. 2.

The dotted line U U Fig. 3 show sections of the wires, which are bent around the plates which form the concave.

V Fig. 4 shows a section of one half of the threshing cylinder shown *h* Fig. 2 and B Fig. 3.

W Fig. 4 shows a section of the platform or bottom shown F Fig. 3.

X Fig. 4 shows a section of the hopper shown *e* Fig. 1, and *g* Fig. 2.

Y Fig. 4 shows a section of the perforated bottom of the hopper shown W Fig. 2.

Having described the parts of our machine we will proceed to describe its construction and operation.

We construct our machine with an upright threshing cylinder, the cylinder being made in any of the known forms, and an upright cylinder for the purpose of separating the grain from the straw and carrying the straw out of the machine after it is threshed; the cylinders working on a pivot at the lower end. We place at a proper distance from the threshing cylinder a concave in an upright position as has been shown. We also place at a proper distance around the separating cylinder an upright cylindrical sieve or net work of wire so as to admit of the grain being thrown through it, by the motion of the cylinder; we also frame the bottoms or platforms, on which the cylinders work, open or perforate them so that the grain may pass out at the lower end of the cylinders onto the bottom and return boards by which the grain is carried to the fanning mill where it is cleaned.

In operating our machine we apply any known power to the main shaft I Fig. 1, which carries the driving wheel L. By means of the pinion M a motion is given to the pulleys O and P; by applying a crossed band from the pulley O to the pulley Q, the required motion is given to the threshing cylinder; and also by applying a band from the pulley P onto the pulley R the proper motion is given to the separating cylinder. By means of the pinion N working into the driving wheel L, the fanning mill is carried. By means of the working bar *b* working on the wrist of the crank *a* which is firmly fixed on to the end of the main shaft I the required motion is given to the shoe without making use of any other gearing.

We put our grain previous to its being threshed into the hopper *e* where it is taken by the threshing cylinder by which it is threshed, and carried around horizontally, where the straw is taken by the pins which are attached to the separating cylinder, by

which the grain is separated from the straw, and the straw is thrown out through the opening, through which the separating cylinder S is seen. The arrows shown on Fig. 2, show the direction in which the straw is taken by the threshing and separating cylinders. The grain falls through the perforated bottoms, on which the shafts of the cylinders work, onto the bottom boards and return board, from which it is carried onto the sieves, where it is cleaned by the fanning mill, and passes out through the opening Z Fig. 3.

Having thus described the construction and operation of our machine, what we claim as our invention and desire to secure by Letters Patent is—

The combination of the upright threshing and separating cylinders, with the upright concave and cylindrical sieves operating in the manner and for the purpose as herein set forth.

JOHN JONES.
ALEXANDER · LYLE.

Witnesses:
THEO. SHELDON,
JOSEPH A. EASTMAN.