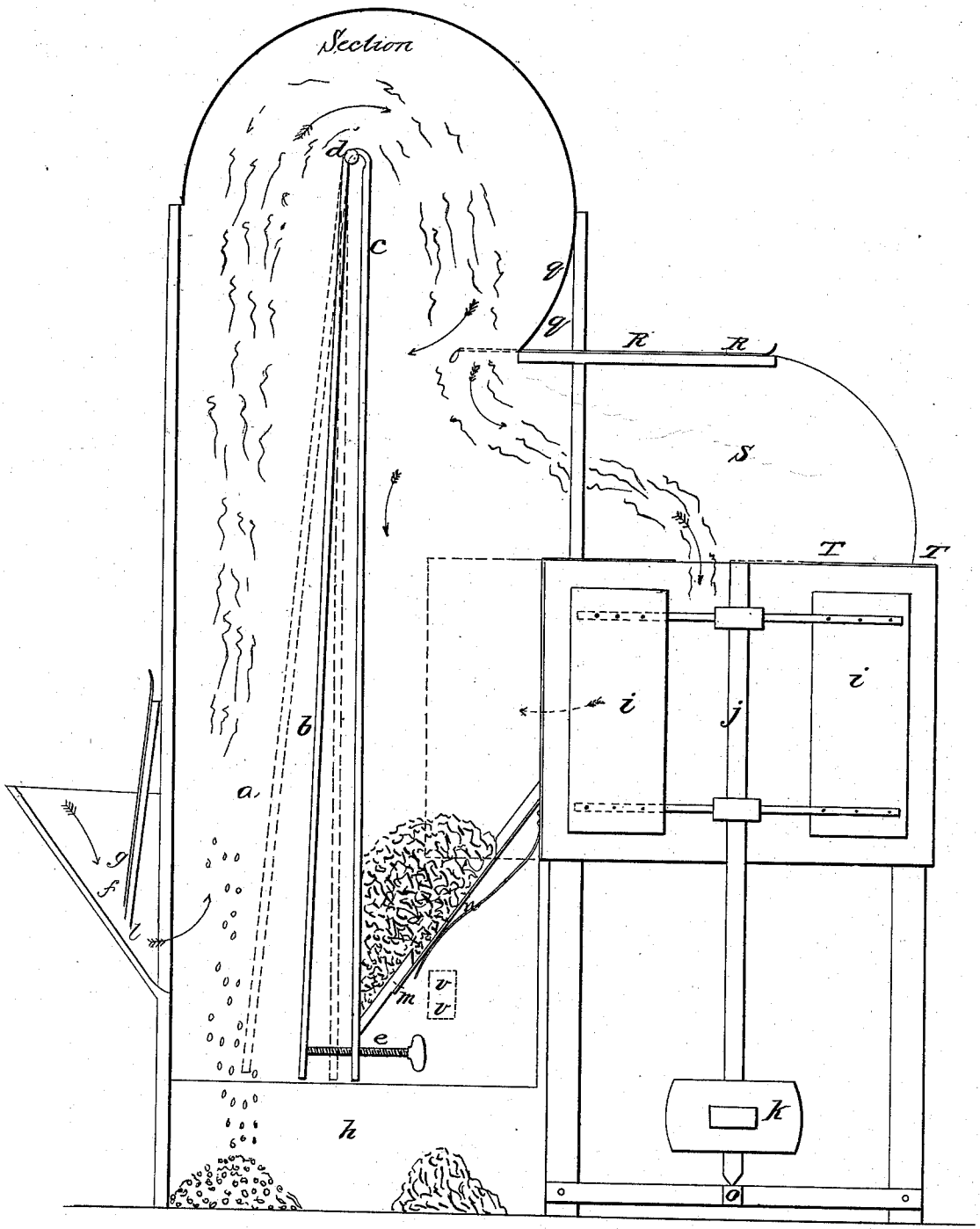
R. WARD.

GRAIN CLEANER AND SEPARATOR.

No. 15,630. Patented Aug. 26, 1856.



THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

RICHARD WARD, OF EDINBURG, INDIANA.

GRAIN CLEANER AND SEPARATOR.

Specification of Letters Patent No. 15,630, dated August 26, 1856.

To all whom it may concern:

Be it known that I, RICHARD WARD, of Edinburg, county of Johnson, and State of Indiana, have invented a new and useful Grain Cleaner and Separator, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification.

My invention is represented by a vertical section.

The object of my invention is a convenient mode of regulating the separation of grain from the screenings.

(*a*) is a tube.

(*b*) is an adjustable tube-side hinged to the top of the second tube (*c*) near the top of the casing by hinge (*d*).

(*e*) is a screw for the purpose of adjusting the tube side (*b*).

(*f*) is a trough for the reception of the grain to be cleaned.

(*g*) is a valve or gate for regulating the feeding of the grain.

(*h*) is a box into which the grain falls after being cleaned.

(*i*) is a fan fastened on shaft (*j*); said shaft runs in a step (*o*) at bottom and receives motion from a belt running on pulley (*k*) which pulley is keyed to the shaft.

(*m*) is a trough into which the lighter grain falls after being cleaned.

q, *q*, is an internal, curved projection, its purpose being to throw the smut, rotten, shriveled, sprouted and dead grain, against the upright board C, and thus to prevent their being carried into box S,—the straw and chaff conductor—so as to precipitate them to the point *m*, *n*.

R, R, is a slide, passing to and fro, under, and in contact with the curved projection, *q*, *q*, into the enlarged space between it and the board C, for the double purpose of regulating the current of air, and increasing the curvature and internal projection *q*, *q*, and diminishing the opening O, so as to render more perfect and complete the separation of the smut, rotten, shriveled, sprouted and dead grain from the sound and pure grain.

S, is a box through which the chaff, straw and dust pass into the fan *i*, *i*, and is from thence ejected out of the mill, or is thrown in such direction as may be desired.

T, T, is a slide on the top of the drum inclosing the fans: its purpose being to add to, or diminish the current of air, by regulating the size of the opening and thus to prevent, in case of greater rapidity of motion, the good wheat from being thrown, by too great a current of air, into the screenings.

No other separator, which I have yet seen, is constructed with an internal curved board like *q*, *q*,—nor with a box S, nor slide T T, in combination as above specified. This gives a simplicity of construction not possessed by others, and at the same time occupies less space, is more portable and cheaper of construction; but the main advantage consists in the fact, that by these additions and this combination the weightier and more valuable portion of the screenings is not liable to be blown off with the chaff.

One of the great objections to all other separators heretofore in use, is, that when rapidity of motion, beyond a certain point is given to the fans, the air could not be regulated so as to prevent the more weighty part of the screenings from mixing and being blown off with the chaff. My invention completely remedies this defect of other machines, and renders the separation of the shriveled and other weightier portion of the screenings from the chaff, and straw and dust, complete, to effect which the slide R, R, and curved board *q*, *q*, are absolutely necessary, as also the slide T, T.

Having thus described the different parts I will now proceed to describe the operation of my machine.

The grain to be cleaned is first put into trough (*f*) and passes through the opening (*l*) into tube (*a*) the heavier grain falling by its gravity through the contracted vent of the tube (*a*) below. The lighter grain and dust being carried up by the current of air over the top of the tube side and hinge and striking the inner projecting part of the casing by its momentum is projected toward the front side of the second tube and falls below into trough (*m*) the dust passing through the fan and thrown out. By adjusting tube side (*b*) by screw (*e*) the current of air can be regulated to suit any kind of grain. The trough (*m*) has a valve (*n*) at its side kept closed by a spring fastened to the casing at one end and resting against the valve at the

other. As the trough fills, the valve is forced open by the weight of the grain and discharges into the box below.

What I claim as my invention, and for which I desire Letters Patent is—

The combination and arrangement of the curved board *q*, *q*, with the slide R, R, the chaff conductor S, and the slide T T substantially in the manner and for the purpose described.

In testimony whereof I hereunto set my hand before two subscribing witnesses.

R. WARD.

Witnesses:

SAML. M. HAUGHTON,

J. B. BUNNETT.