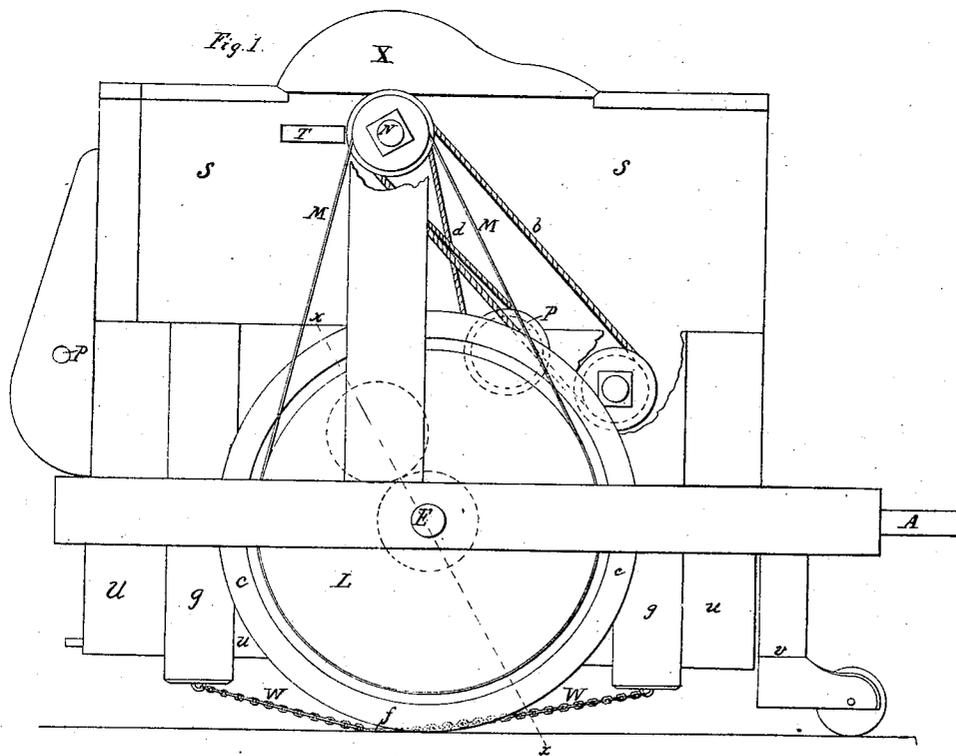
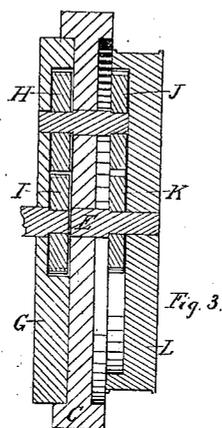
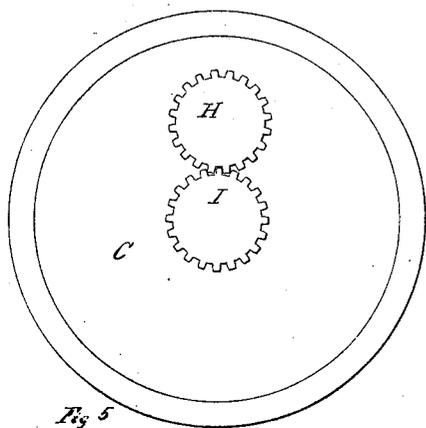


G. W. SWIFT.
THRESHING AND CLEANING GRAIN.

No. 15.349.

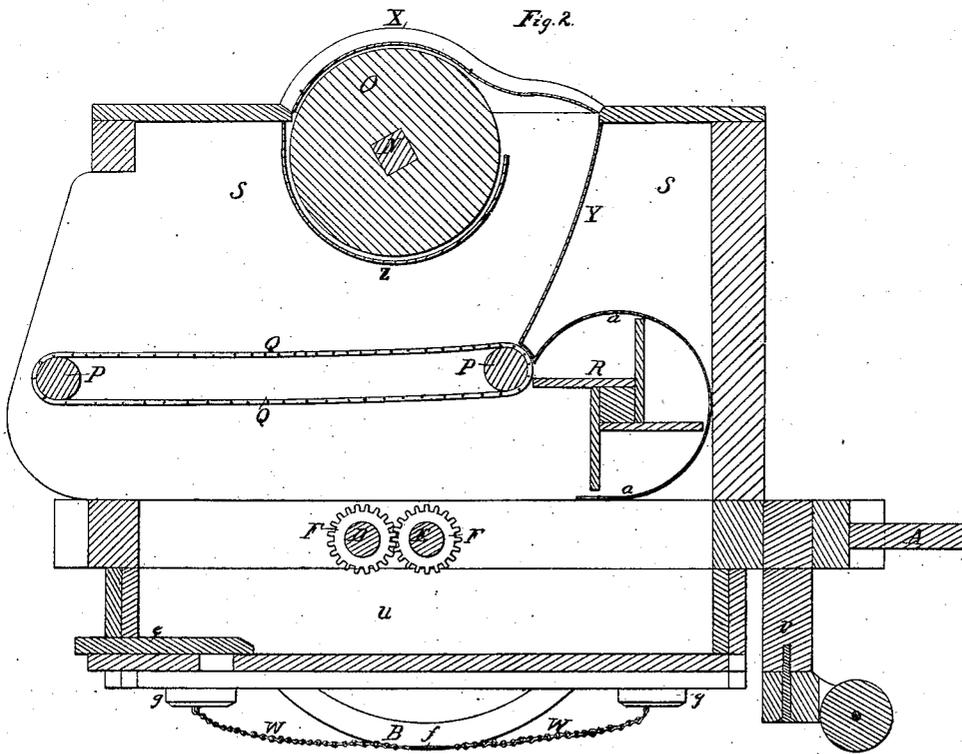
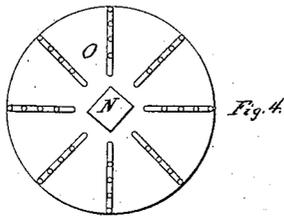
Patented July 15, 1856.



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UNITED STATES PATENT OFFICE.

GEORGE W. SWIFT, OF OXFORD, MISSISSIPPI.

MACHINE FOR THRESHING AND CLEANING GRAIN IN THE FIELD.

Specification of Letters Patent No. 15,349, dated July 15, 1856.

To all whom it may concern:

Be it known that I, GEORGE W. SWIFT, of Oxford, in the county of Lafayette and State of Mississippi, have invented a new and useful Improvement in Machines for Threshing and Cleaning Grain in the Field; and I 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 drawing, forming part of this specification, in which—

Figure 1 is a side elevation of the machine. Fig. 2 is a vertical longitudinal section of same. Fig. 3 is a section on $x\ x$, taken through axis of main shaft. Fig. 4 is a side view of threshing wheel. Fig. 5 is a side view of wheel C showing position of pinions H and I.

Similar letters of reference in the several figures denote the same part of the machine.

The object of my invention is the threshing and cleaning of grain in the field.

It consists in the arrangement on a traveling frame of the usual threshing and separating mechanism, and in the combination of gearing and other devices hereinafter to be described, for giving motion to the threshing and cleaning apparatus from the traveling wheels of the machine; the details of construction and operation being as follows:

In the drawing, A, is the tongue to which the team is attached; B C, driving wheels supporting frame, the latter turning loosely on shaft E, and the former capable of being secured, either to shaft D or E as occasion may require; D, E, horizontal shafts, connected by pinions F F; G, piece secured on inner side of wheel C in which pinions H and I are held. H, I pinions, between piece G and face of wheel C; J, K, pulleys with belt—J on shaft of pinion H, and K attached to band wheel L; these pulleys are of the same size as the pinions H I after allowing for the meshing of the cogs on the latter; L, band wheel, driving threshing wheel, by belt M; O, threshing wheel on shaft N, studded with pins on its sides; P P, wheels operating straw carrier Q by means of crossed cord d (Fig. 1); Q, straw carrier; R, fan operated by cord b , (Fig. 1);

S, case containing threshing and cleaning apparatus, supported on main frame; T, openings through case S, by which the grain is fed to the threshing wheel; there is one of these openings on each side. U, box under frame in which the cleaned grain falls; V, caster roller for supporting front of machine; W, system of chains, running one from each corner of the machine to the center piece f ; by driving a pin through this center piece, the machine can be turned about the same. X, cap fitting over thresher; Y, screen between thresher and fan; Z, screen under threshing wheel, (Fig. 2); a , fan case; e , sliding piece closing aperture for emptying box U.

The operation of the machine is as follows: The machine is confined to the ground by a pin through piece f , and the team attached at right angles to the pole A on side nearest wheel C; wheel B being secured on shaft E. The horses are then started turning the machine about securing pin or stake, and causing wheel B to move forward and wheel C to rotate rearward. This opposite rotation of the driving wheels B C is rendered effective in producing a rapid rotation of the driving pulley L in the following manner. The rotation of wheel C produces a number of revolutions of pinion H dependent on the relation of pinions H and I; I have so constructed the pinions that pinion H will make two revolutions during a single revolution of wheel C. This motion is transmitted to pulley J and thence by pulley K (connected by belt with pulley J) to the driving pulley L; giving said pulley L two revolutions to one of the wheel C. But, during this rotation of wheel C, wheel B, and with it axle E, is rotating forward. This therefore produces the rotation of pinion I, at the same time that pinion H is put in motion by meshing with it, owing to the backward rotation of wheel C. There is consequently an acceleration of the motion of pinion H, of one revolution; so that the pinion H will have one rotation due to the revolution of wheel B, and two due to the revolution of wheel C, which is duly transmitted to pulley L, giving the aforesaid pulley L three revolutions to one of the driving wheel C. This increase of velocity may

be still further augmented by regulating the diameters of pinions H and I, and pulleys J and K.

The pulley L communicates motion to 5 threshing shaft N, which is duly communicated by belts *d* and *b* to the fan and straw carrier.

The grain is fed by openings T, and after 10 cleaning, falls into the box U; whence it is discharged by outlet covered by slide *e*.

If it be desired to operate the machine 15 by its forward motion, wheel B is placed on shaft D, so that a rearward rotation may be communicated to pinion I, as both wheels B C move forward. The action will then be the same as above described. In this case, the machine is driven between the shocks of grain, the sheaves of which are thrown on the platforms as the machine

moves along, hands on the platforms sup- 20 plying the threshing wheel through openings T.

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

The pinions I H, and pulleys J, K, L, 25 in combination with the traveling wheels, the double axles D, E, and the pivoting attachment *w f*, substantially arranged and operating as described, for giving the driving pulley L an accelerated rotation from 30 the rotation of the traveling wheels; either by the forward motion of the machine, or by a circular motion about its attachment as set forth.

GEO. W. SWIFT.

Witnesses:

JOHN S. HOLLINGSHEAD,
CHAS. J. WOODWARD.