W. N. GATES.

Corn Harvester.

No. 67,287. Patented July 30, 1867.

Fig: 2.

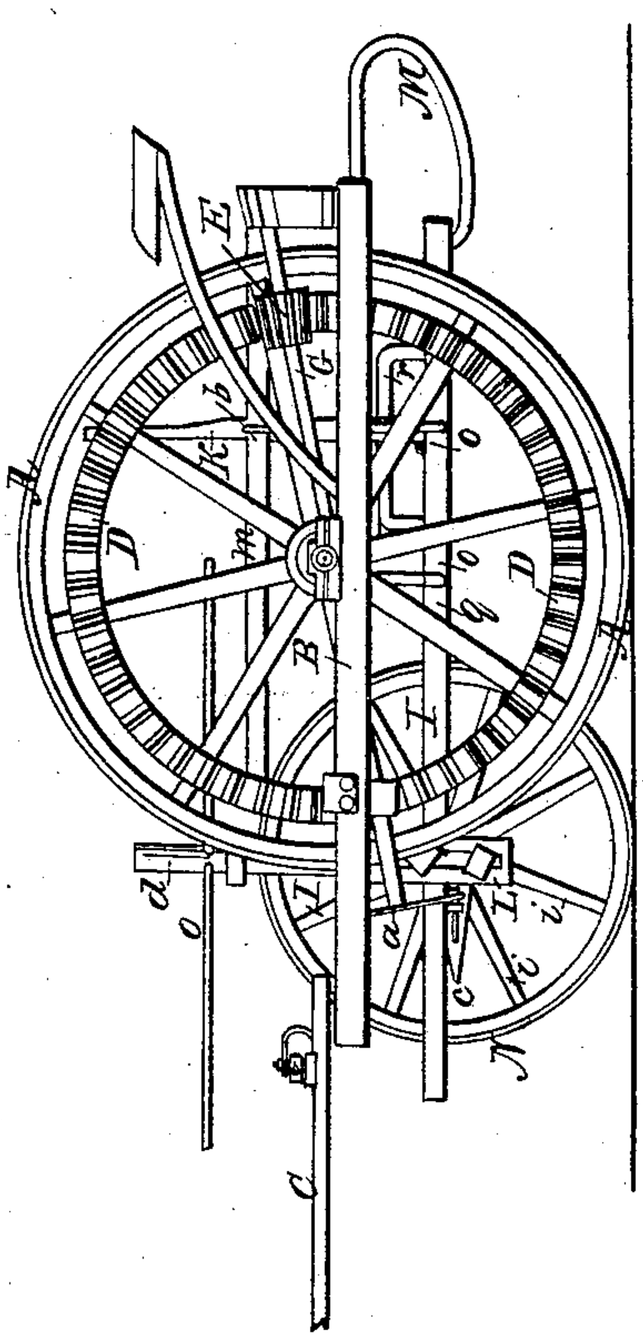


Fig: 3.

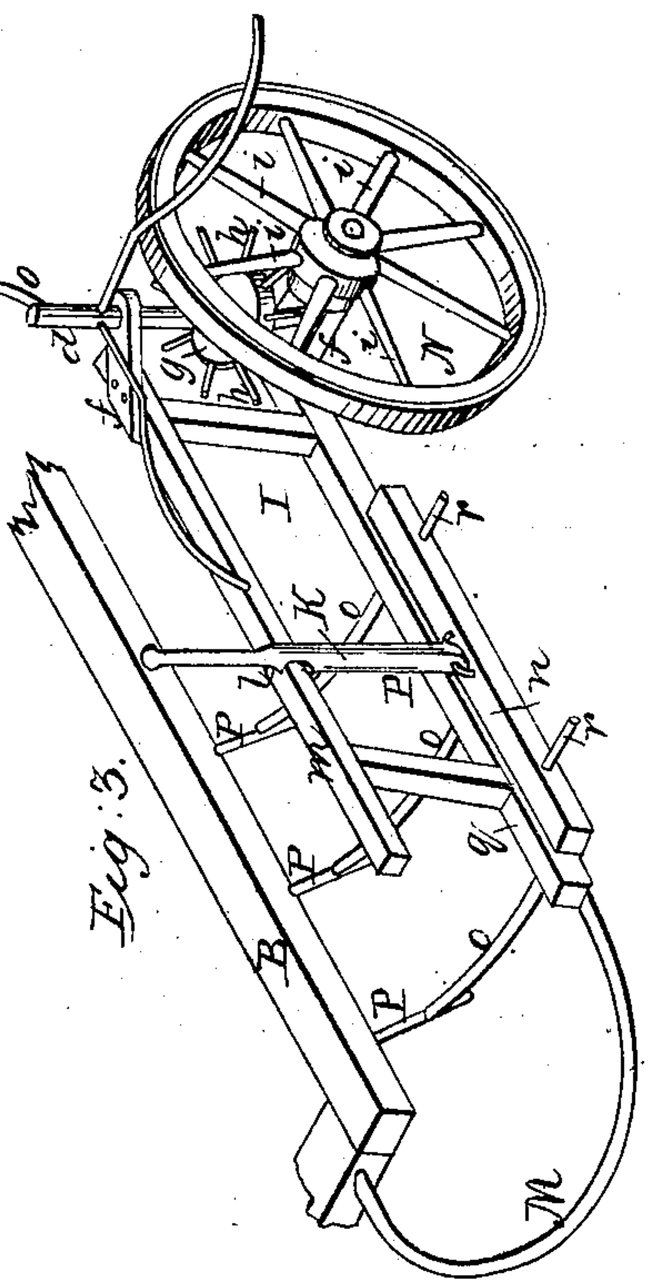
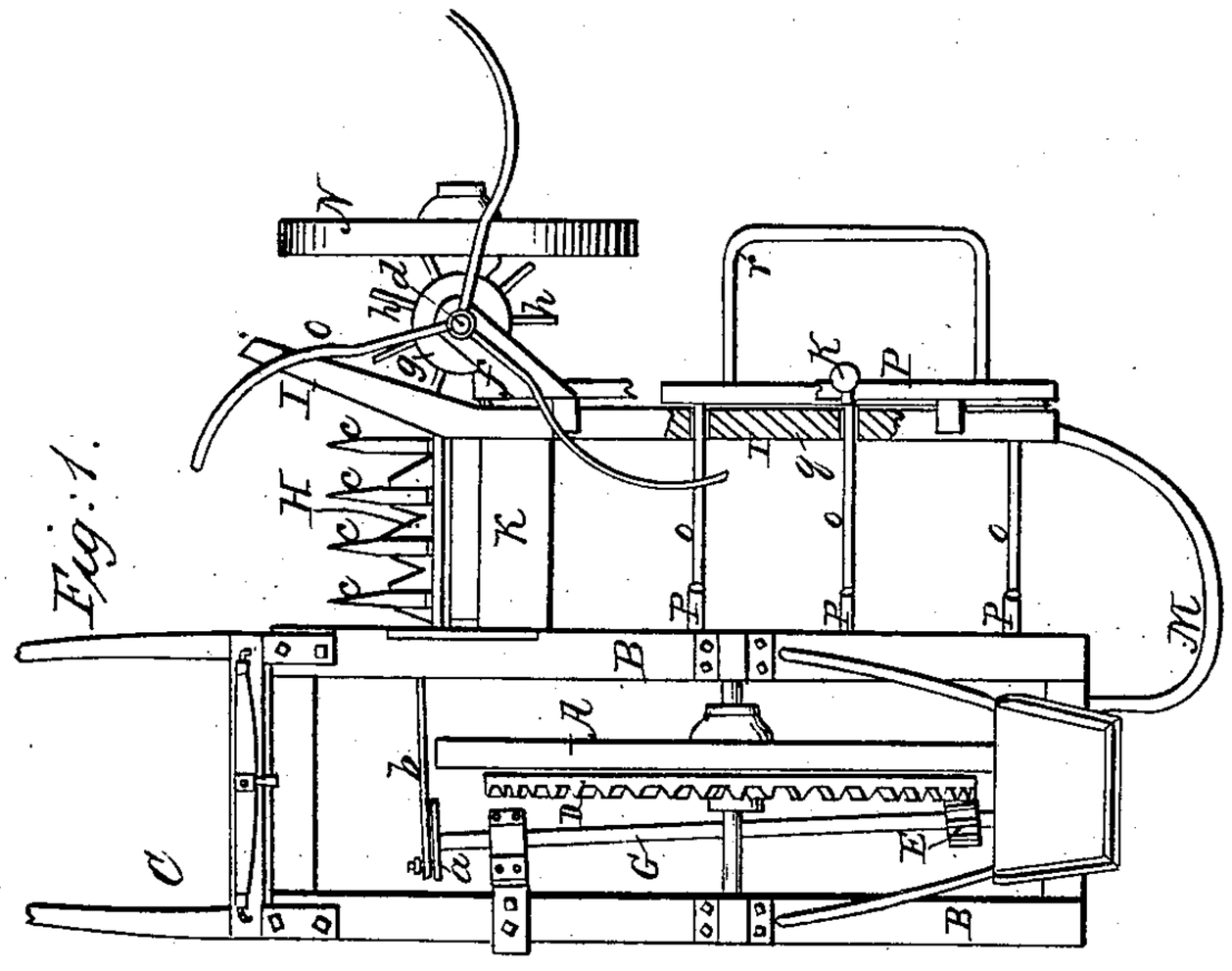


Fig: 1.



Witnesses.

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Letters Patent No. 67,287, *dated July* 30, 1867.

IMPROVEMENT IN CORN-HARVESTERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM N. GATES, of Manchester Centre, in the county of Ontario, and State of New York, have invented a new and useful Improvement in Machines for Cutting Corn in the Field; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a plan of my improved machine.

Figure 2, an elevation.

Figure 3, a perspective view of the cutting-side of the machine.

Like letters of reference indicate corresponding parts in all the figures.

My invention consists in an improved arrangement of the cutting-side of the machine, whereby the discharger for discharging the gavel and the reel for bending the corn upon the knife are made very effective.

In its general features my improved machine is similar to a grain-harvester. In the drawings, A indicates a driving-wheel, resting in a main frame, B, guided by thills C. On the outside of the driving-wheel is a cog-rim, D, into which gears a pinion, E, resting on a shaft, G. With the opposite end of this shaft connect a crank-head, *a*, and pitman, *b*, the latter connecting with a knife, H, running through fingers *c c*, in the same manner as in a grain-harvester, except that these parts are only made of such extent as to cut the width of a row of corn. On the inside of the main frame is situated an auxiliary frame, I, being connected thereto by the platform K and a hanger, L, in front, and a bent arm or rod, M, in the rear. This frame is sustained by a secondary wheel, N. A reel, O, is made to overhang the knife, its vertical shaft *d* resting in bearings *f f*, as shown. At the proper position it is provided with a disk, *g*, armed with points *h h*, which intermatch and gear with the spokes *i i* of wheel N, by which means the reel receives motion. In the rear of the knife, at a suitable position, is situated the discharger P, for discharging the gavel. It consists of an upright handle, *k*, projecting within reach of the driver, and jointed at *l*, to a rail, *m*, of the secondary frame, and a head, *n*, to which are secured teeth or forks *o o*, concentric with the joint *l*, and forming, together with stationary rods *p p*, projecting from the main frame, the supporting-bed for the gavel. The teeth *o* pass through the lower rail *q* of the secondary frame, and the head *n* slides back upon a wire frame, *r*, also concentric with the joint *l*.

The operation of this apparatus will be readily understood. As fast as the corn is cut, it falls upon the discharger P, and when sufficient has gathered to form a gavel, it is allowed to fall through upon the ground, by simply sliding the discharger back upon the frame *r*. The arrangement of the discharger for this purpose is very simple and convenient. The teeth *o* and the frame *r*, being concentric with the joint on which the discharger turns, it is operated very readily and with very little power, and at the same time the fitting of the teeth in the rail *q*, and of the head upon the frame *r*, insures very great strength, and prevents disarrangement under ordinary circumstances. The double bearing of the head upon the opposite sides of the guide-frame will counteract the longitudinal strain that is produced by the machine in going forward, and by the corn in falling upon the discharger. It will be noticed that the rods *p p* incline downward, and that the teeth *o o* also incline, in a degree, in the same manner, the tendency of which is, as the discharger is drawn out from under, to discharge the gavel down in a compact form, and in the best condition to be bound. The employment of the simple bent rod M, connecting the machine in the rear, insures an easy and free passage over the gavel, which would not be the case if the connection were heavy and cumbersome. The simple gearing of the reel with the supporting-wheel, by the points *h h* and the spokes *i i*, insures a very important result in cutting corn. In ordinary grain-harvesters, where the grain is continuous and heavy, it is necessary to give a rapid motion to the reel, and, therefore, cog-gearing is employed; but in the corn-field, where the hills are at considerable distance apart, the ordinary gearing gives too much motion to the reel, and bends the corn over the machine too rapidly. The employment of the gearing as described insures a slow and regular motion, and, at the same time, I avoid the additional expense of cog-gearing.

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

The arrangement of the gavel-discharger P, provided with teeth *o*, and resting upon the concentric frame *r*, and the reel O, provided with the points *h*, gearing directly with the spokes of the supporting-wheel, when the said parts are combined in a corn-harvester in the manner and for the purposes specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WILLIAM N. GATES.

Witnesses:

J. A. DAVIS,

AUSTIN ARCHER.