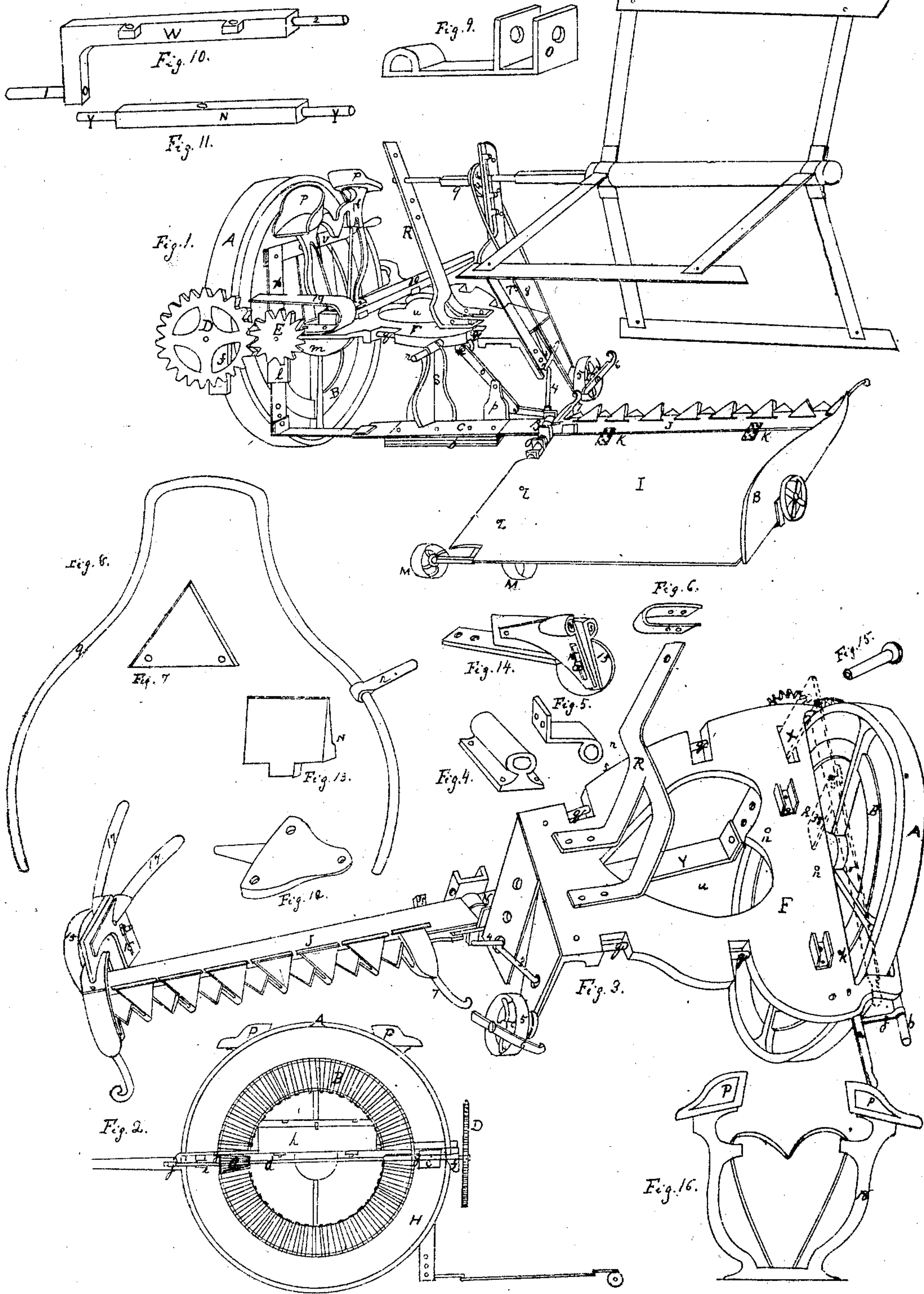


J. S. Williams.

Mower.

Patented Dec. 20, 1864.

N^o 45550



Witnesses

Geo. H. Boynton
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UNITED STATES PATENT OFFICE.

JOHN S. WILLIAMS, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 45,550, dated December 20, 1864.

To all whom it may concern:

Be it known that I, JOHN S. WILLIAMS, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Combined Reaper and Mower; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 represents a perspective view, Fig. 2 an end elevation, Fig. 3 a perspective front view, of the mower. The other figures represent single parts of my improved machine, as herein fully described.

To enable those skilled in the art to manufacture and use my invention, I will proceed to describe it with particularity.

A is the rim of the drive-wheel, that rolls on the ground when the machine is in operation.

B is a circular rack on the outside of the drive-wheel, about half-way between its rim and hub.

C is a pinion-wheel that gears into the rack B.

d is a shaft common to the pinion-wheel C and the spur-wheel D, and rests upon the bearings e and f, which bearings are firmly attached to the strip g, the said strip being a part of the plate F, extending around the drive-wheel. One end of a connecting-rod, j, is furnished with an eye or loop, which slips loosely on the shaft d, allowing the shaft to revolve therein, while the other end of said rod is pivoted to the lever a.

The lever a is fastened at one end to the plate F, as shown at k, and is used for throwing the machine out of gear by throwing the shaft d out of the bearing e, and thereby removing the pinion-wheel C from the rack B.

i is a friction-wheel that revolves loosely on the shaft d and rolls on the tramway H, between the outer edge of the circular rack B and the rim A of the drive-wheel, and serves to steady the drive-wheel as it revolves.

The spur-wheel D drives the spur-pinion E, whose shaft revolves in bearings attached to the under side of the plate F, the bearing, Fig. 4, being fastened to the stool l, which is firmly bolted to the plate F, and the bearing, Fig. 5, being firmly bolted to the under side of the plate F. The pitman-wheel is attached to this shaft and operates under the plate F

in the case m, while the pitman-rod extends down under said plate and connects with the lever o at n. The jointed lever o vibrates at a little below the center of the oblique part of it on the fulcrum p, and one end of said lever being attached to the sickle-bar, as hereinafter described. The vibration of the lever o gives to the said bar its required motion.

Fig. 12 shows the spindle upon which the drive-wheel revolves, it being firmly fastened to the plate F by the bolts 12. The plate F has an iron rod, q, extending around in its edge for the purpose of strengthening it. An independent drawing of said rod is shown in Fig. 8. The heart-shaped piece u, as well as the notches at the edge, are cut out of the plate F, to make it light. The arm r is fastened to the rod q, and serves as a support to the fulcrum s.

v is a lever with its fulcrum at w, and is connected with the lever y by means of the strip x. y has its fulcrum at s. By pushing down the lever v the lever y is turned on the fulcrum s and the sickle-board lowered. By raising said lever the sickle-board is raised. The fulcrums s and p and the plate c are cast in a single piece and are fastened to the lever y and boards b by means of bolts, as shown in Fig. 1, and when it is necessary to lower the sickle-board said bolts are removed and the boards b are put between the plate f and the lever y, and bolts replaced.

The platform I is fastened to the sickle-board J by means of the strips of metal K K, and also fastened to the truck by the bolts L L.

Fig. 11 shows the axle N of the truck-wheels M M, and Fig. 10 that part of the truck-frame which passes under the end of the platform I, the spindle 1 passing through the axle N, and the spindle 2 through the dog O, (an independent drawing of which is shown in Fig. 9.)

There is a joint, z, where the lever y is joined to the sickle-board J, and there is also a joint where the jointed lever o is joined to the sickle-bar, which is formed as follows: The bent iron, Fig. 6, is hooked through a slot in the end of the sickle-bar, and the two ends bolted to the end of the lever o. This construction of the truck and the joints admits of the platform and sickle-board being swung up on the truck and kept on end by hooking a chain into the side board, 13, and the standard R while driving to and from the field.

R and T are reel-standards attached to the plate F, as shown in Fig. 1, and are bent in such shape as to bring the reel in its proper place. T is constructed at the top in two parts, one part being hinged to the other in such a manner that the reel can be taken out or changed into the upper or lower holes in the standards, to be regulated according to the height of the grass or grain.

8 is a belt running on the hub of the ground-wheel 5 and driving the reel 9.

3 is an iron rod, used for strengthening the two upright pieces of the plate F; and 4 is another rod hooked onto the rod 3 and the edge of the lever *y*, near the joint *z*.

6 and 7 are guards for the purpose of keeping the grain from the wheel 5 and bringing it to the sickles.

15 is a wheel that is attached to the end of the sickle-board when used for mowing grass. Said wheel is raised and lowered by raising and lowering the bolt in the slot 16.

17 17 are grass-guards attached to the frame of the wheel 15.

18 is a frame, made of thin steel-plate, for the purpose of making it light, and serves as a support to the two seats P P, said seats being for the driver and raker.

19 is a foot-stool for the raker.

10 is the tongue of my machine, and it is fastened to the plate F, as shown in the drawings.

In the operation of my machine, the power for driving the sickle-bar being applied on the

outside of the drive-wheel, and the drive-wheel being at the side of the tongue 10 when the draft is applied, the weight resting on the truck, and the ground-wheel 5 is balanced and a complete center-draft obtained. The shoulder in the truck-frame W carries the platform I above the truck-wheels M, and when the platform is swung up on end the spindles 1 and 2 revolve on the axle N and dog O, the dog O being firmly bolted to the platform. The end of the platform I that extends over W is slightly curved, as shown in Fig. 1, to facilitate in raking off the grain.

Having thus fully described the construction and operation of my improved reaper and mower, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The plate F, provided with the rod *q*, substantially as herein set forth.

2. The combination and arrangement of the pitman-rod, the jointed lever *o*, and the fulcrum *p*, when operating substantially as described.

3. The combination and arrangement of the lever *v*, the connecting-rod *x*, the lever *y*, the fulcrum *s*, and the arm *r*, when operating substantially as and for the purpose described.

4. The combination and arrangement of the axle N, the frame W, and the platform I, when constructed substantially as herein specified.

JOHN S. WILLIAMS.

Witnesses:

ALLEN FISHER,
GEO. McCUTCHEN.