G. WEILAND.

HARVESTER.

No. 78,245. Patented May 26, 1868.

Fig. I.

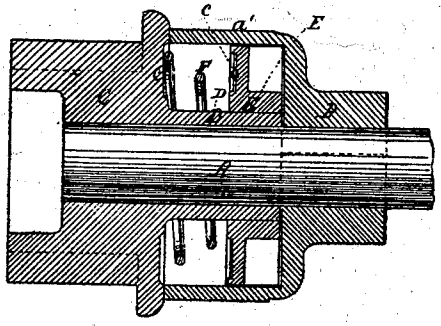


Fig. II.

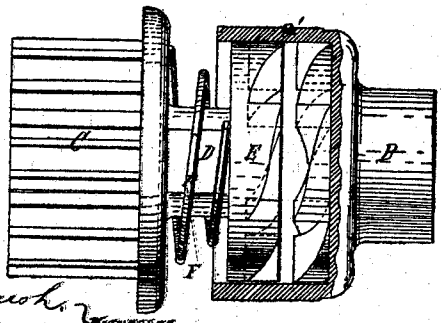
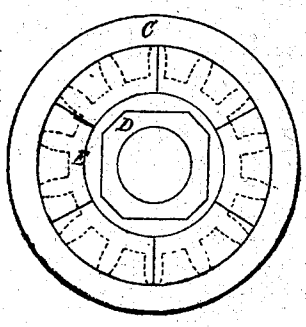


Fig. III.



Witnesses:

W. H. Forbrook.

Edward Wilhelm.

Godfried Weiland INVENTOR

United States Patent Office.

GODFRIED WEILAND, OF BUFFALO, NEW YORK, ASSIGNOR TO HIMSELF AND IRA R. AMSDEN, OF SAME PLACE.

Letters Patent No. 78,245, *dated May* 26, 1868.

IMPROVEMENT IN 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, GODFRIED WEILAND, of the city of Buffalo, county of Erie, and State of New York, have invented a certain new and improved Ratchet-Hub for Mowing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure I is a longitudinal section,

Figure II is a side elevation, and

Figure III is a front elevation.

My invention relates to the construction of a self-acting clutch-coupling, applied to the driving-shaft of a mowing-machine, in order to prevent the motion of the working parts when the machine is backed, and consists in making one-half of the clutch-coupling movable on a square shank carried by the loose pinion or by the driving-wheel, in combination with the other half of said coupling, keyed to the driving-shaft, and forming a shell or casing which covers the first-mentioned half of the coupling, both parts being held in contact by means of a spiral spring, located between the pinion or the hub of the driving-wheel, and the sliding part of the couplings.

Letters of like name and kind refer to like parts in each of the figures.

A represents the driving-shaft of the machine, to which the half B of the clutch-coupling is firmly keyed. This part of the coupling is provided with teeth, side-ratchet, and also with a rim, *a'*, around said teeth, and extending beyond the same to the pinion, thus forming a shell or casing which perfectly covers the movable part of the coupling and the spiral spring, and protects them from dust, rain, &c.

The pinion C, which receives the motion from the driving-wheel of the machine, and transmits it to the driving-shaft A, runs loosely thereon.

A square shank, D, is made in one piece with the pinion C, and projects toward the coupling, and enters the movable part E of the coupling which slides thereon, and is brought in contact with the part B of the coupling, keyed to the driving-shaft A, by means of a spiral spring, F, which is located and expands between the pinion C and the sliding part E of the coupling. Said sliding or movable part E of the coupling has its teeth corresponding to those of the above-mentioned part B. In some machines the driving-wheel is applied to the driving-shaft. In this case the square shank D is cast on the hub of the driving-wheel.

Annular grooves *c c'* are cut into said pinion and the movable part of the coupling for the reception of the spiral spring F, and retaining it in place.

The teeth of the coupling are formed in such a manner that, when the machine is going forward and performing its work, the square faces of the teeth on the movable part of the coupling bear against the square faces of the part of the coupling keyed to the driving-shaft, thus transmitting the motion of the driving-wheel of the machine by the pinion and coupling to the driving-shaft, and, further, to those parts or devices which bring the cutting-blades or knives into operation.

When the machine is backing, in which movement it is not required to operate the cutters, the inclined planes of the teeth on the movable part of the coupling bear against the inclined planes of the teeth on the other part of the coupling, and the resistance of the working parts of the machine being a good deal stronger than the pressure of the spiral spring, the teeth of the movable part of the coupling slide over those in the shell B, thus moving the part E toward the pinion, and thereby pressing said spring together until the square faces of the teeth reach each other, when the spring will throw the movable part toward the stationary part, and cause their teeth to engage each other. After that the teeth of the part E will again slide over those of the part B, as just before described, and so on until a forward movement of the machine begins, when they will engage and give motion to the driving-shaft.

My improvement furnishes a coupling between the pinion and the driving-shaft, or between the driving-

wheel and shaft, which secures a perfectly safe connection between said parts, and transmits the moving power to the working parts when the machine is moving forward and performing its work, and which suspends by itself said connection, and leaves the working parts motionless when the machine is backing and not required to work.

My improvement further allows a long bearing to be given to the pinion, thereby securing the same against excessive wear and friction.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the pinion C or the driving-wheel hub, having a square shank, D, the movable part E, fixed part B, with covering-rim *a'*, and coiled spring F, constructed, arranged, and operating in the manner and for the purpose described.

GODFRIED WEILAND.

Witnesses:

W. H. FORBUSH,

EDWARD WILHELM.