W. J. KLAUNIG.

Mowers.

No. 211,163. Patented Jan. 7, 1879.

Fig: 1.

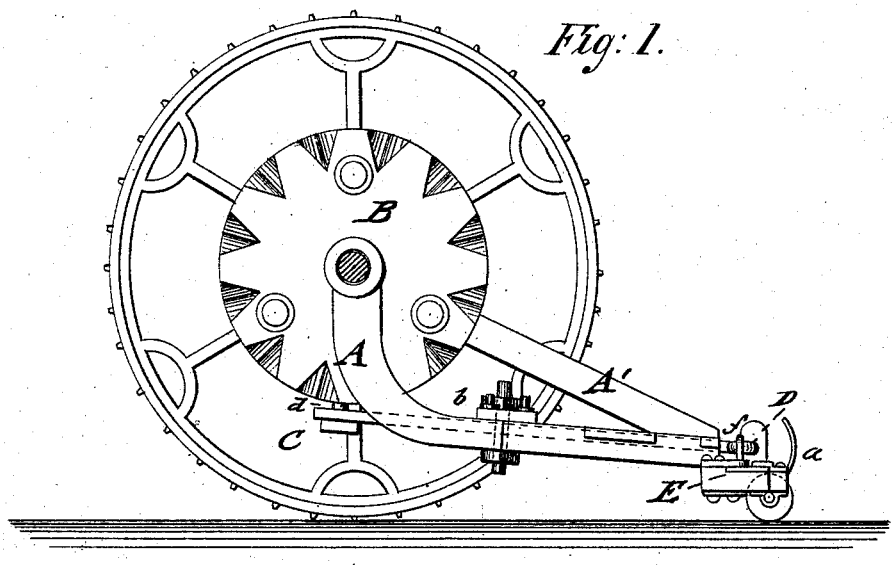


Fig: 2.

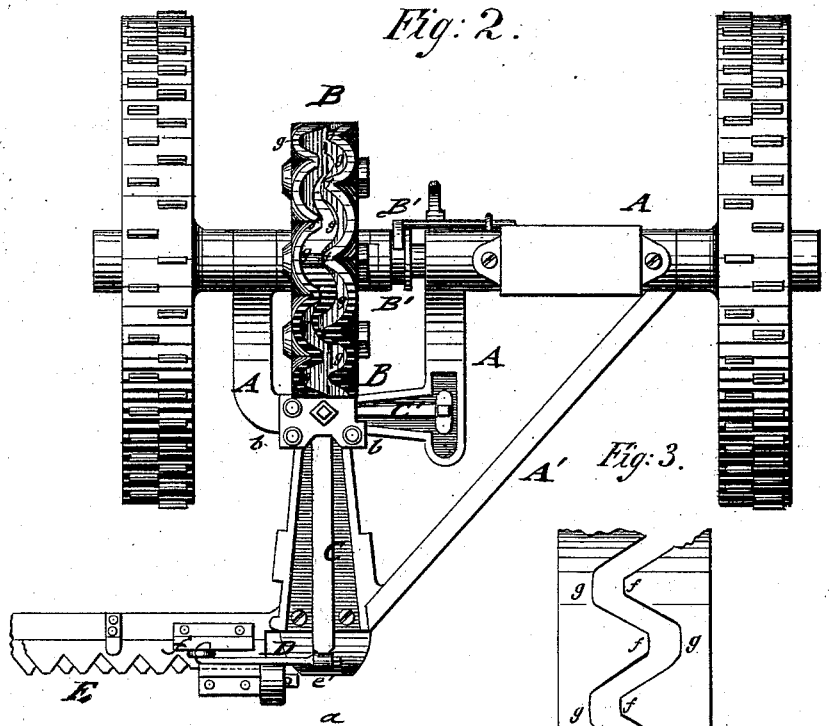
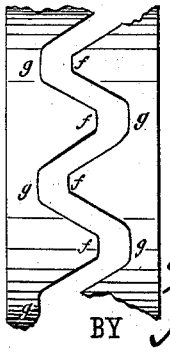


Fig: 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM J. KLAUNIG, OF RICHMOND, VIRGINIA.

IMPROVEMENT IN MOWERS.

Specification forming part of Letters Patent No. **211,163**, dated January 7, 1879; application filed October 4, 1878.

To all whom it may concern:

Be it known that I, WILLIAM J. KLAUNIG, of Richmond, in the county of Henrico and State of Virginia, have invented a new and Improved Mowing and Reaping Machine, of which the following is a specification:

In the accompanying drawings, Figure 1 represents a sectional side elevation of my improved mowing and reaping machine. Fig. 2 is a top view of the same; and Fig. 3, a detail view, on enlarged scale, of the wave-wheel.

Similar letters of reference indicate corresponding parts.

The invention relates to an improved construction and arrangement of parts, as hereinafter described and claimed.

Referring to the drawings, A represents the knife-bar-supporting frame, which is cast of one piece of metal, and hung by sleeves to the axle of the mowing or reaping machine.

Between the curved and fork-shaped portions of frame A is placed, on the axle, the wave-wheel B, which transmits the power, by a fulcrumed lever, C, and pitman D, to the knife-bar E.

The supporting-frame A is grooved for the lever C, and braced by a straight arm, A′, extending from the longer axle-sleeve, near one of the supporting-wheels, to the front end of the frame. A curved guard-shield, *a*, at the front end of frame A protects the pitman-connection with the knife-bar.

The wave-wheel B, which imparts the motion to the knives, is placed loosely on the axle, and thrown, by means of a clutch arrangement, B′, in or out of gear with the same. The wave-wheel is cast of two disk-shaped sections, which are bolted together, and so indented at the circumference as to form a meandering guide-groove for the pin or roller of the transmitting-lever C.

The groove of the wave-wheel is so constructed that the points or apices of the bends are elongated, and the corresponding guide portions of the disk-sections flattened off, as shown in detail in Fig. 3. In the full-sized working machine the apices of the points measure about two and a half inches across. This causes a shorter or longer stop of the knives whenever the pin of the lever passes that part of each bend or wave between the elongated point and the corresponding flattened-off guide portion.

The knives of the knife-bar have to be made shorter or longer in proportion to the shorter or longer stoppage of the pin in each wave of the wheel. This peculiar shape of the wave-wheel imparts to the knives a scythe-like cutting action, that prevents the dropping of the grain from the ears, which has hitherto been the case, owing to the rapidly-reciprocating motion of the knives of former machines, which motion shakes out the grain, and compels, therefore, the cutting of the grain before it has become entirely ripe.

By my wave-wheel a slower motion of the knives, and a position of rest before they move in opposite direction, are obtained, which admits the filling up of the spaces between the knives with stalks, which are cut easily, and without being shaken, so as to drop the grain.

The lever C is retained by a screw-plate, *b*, near its fulcrum in frame A, and receives its motion by the usual pin or roller *d* at the rear end from the wave-wheel. An arm, C′, extends at right angles from the lever C, and swings in a side groove of frame A. The arm C′ has a weight at its outer end, that exerts, in connection with the swinging motion of the lever, a kind of sudden end motion on the knives, giving it somewhat of a hammer motion for effectively cutting off the grain.

The front end of the lever C is connected to the pitman by a ball-and-socket joint, *e*, the ball being at the end of the lever, and a sectional box, *e′*, at the end of the pitman, so that the pitman moves freely and flexibly on the end of the lever. The opposite end of the pitman is attached by a hook-connection to an eye, *f*, of the knife-bar. This forms a simple connection of the pitman with the transmitting-lever and knife-bar, and supplies, in connection with the frame and wave-wheel, a simple and durable knife-motion for mowing and reaping machines.

I do not claim a wave-wheel made in two parts; and I am aware that a cam-wheel having a slot or groove, one portion of which is straight and the remainder spiral, has been used for operating the rake of a grain-harvester.

Having thus described my invention, I claim

as new and desire to secure by Letters Patent—

1. The combination, with the cutter-bar, the transmitting-lever C, having weighted arm C′, and the frame A and its attached finger-bar, of the wave-wheel, having cams or projections with flattened apices, and having the parts of the groove which are opposite said points flattened correspondingly, as shown and described, for the purpose specified.

2. The combination, in a mowing and reaping machine, of a wave-wheel on the axle with a transmitting-lever oscillated by the wave-wheel, the lever having a weighted arm extending at right angles from the lever, substantially as and for the purpose described.

3. In a mowing and reaping machine, the combination of a wave-wheel, B, and transmitting-lever C, having weighted arm C′, with pitman D and knife-bar F, the transmitting-lever and pitman being connected by ball-and-socket joint, and the pitman hooked to an eye of knife-bar, substantially as set forth.

WILLIAM JULIUS KLAUNIG.

Witnesses:
THOMAS HANCOCK,
PAUL BOESIG.