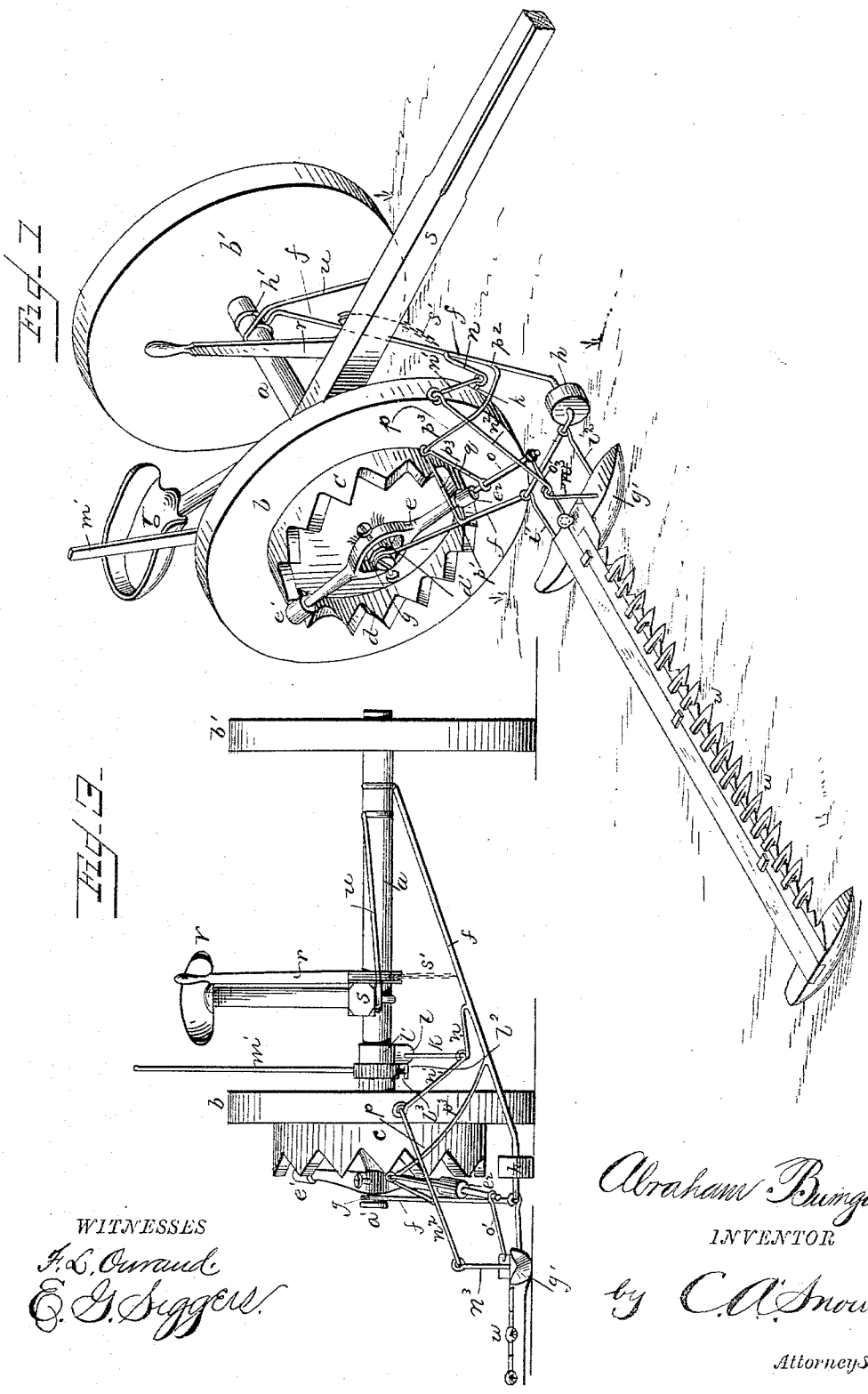
(No Model.) 2 Sheets—Sheet 1.

A. BUMGARNER.

HARVESTER.

No. 325,392. Patented Sept. 1, 1885.



WITNESSES

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Fig. 2.

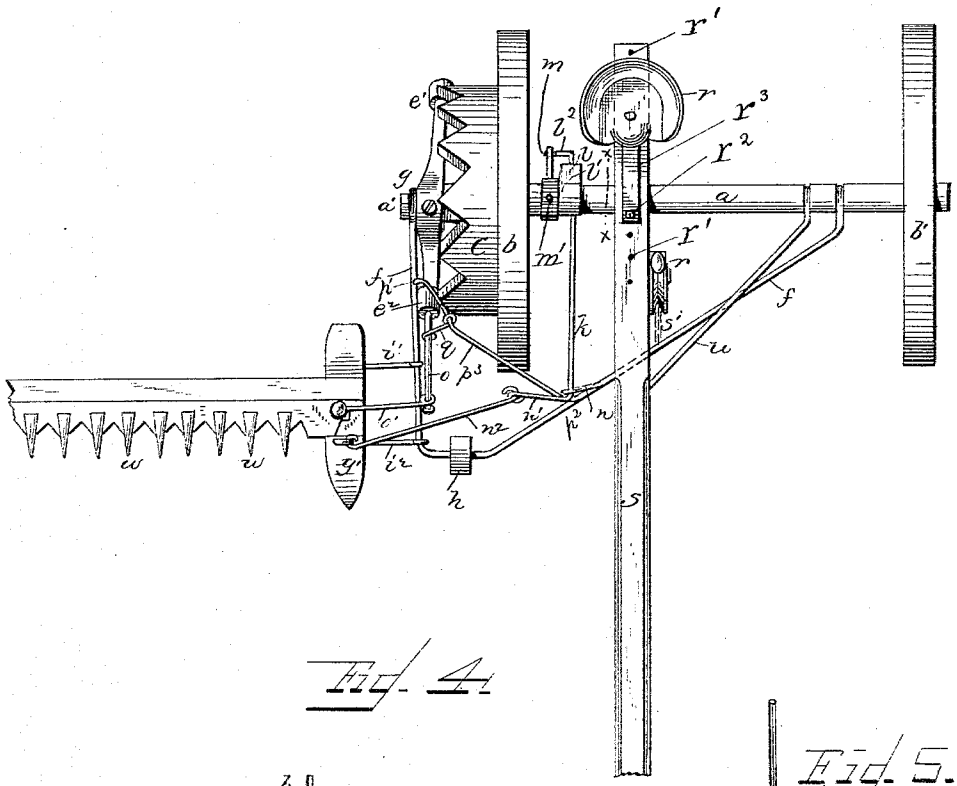


Fig. 4.

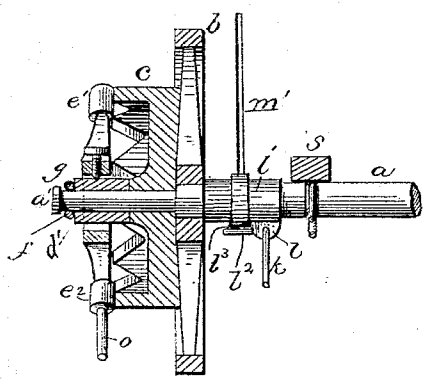
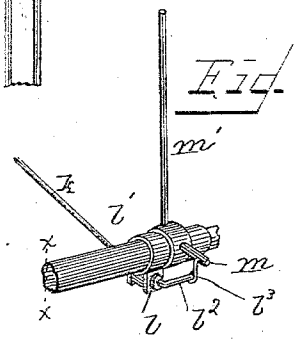


Fig. 5.



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UNITED STATES PATENT OFFICE.

ABRAHAM BUMGARNER, OF GIVEN, OHIO.

HARVESTER.

SPECIFICATION forming part of Letters Patent No. 325,392, dated September 1, 1885.

Application filed April 8, 1884. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM BUMGARNER, a citizen of the United States, residing at Given, in the county of Pike and State of Ohio, have invented a new and useful Harvester, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to reaping and mowing machines; and it consists in the construction and novel arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

Figure 1 is a view in perspective of a mowing-machine embodying my improvements. Fig. 2 is a plan view. Fig. 3 is a front elevation, and Fig. 4 is a transverse vertical section through a portion of the axle. Fig. 5 is a detail perspective view taken on the line *x x* of Fig. 2.

Referring by letter to the accompanying drawings, *a* is the axle, supported on the wheels *b* and *b'*, the latter of which is the driving-wheel, only one driving-wheel being used in this machine. Outside of the supporting-wheel *b* on the axle *a* is secured the gear-wheel *c*, having a serrated outwardly-projecting rim-flange, *d*, for imparting motion to the sickle. Outside of the gear-wheel *c*, upon the end of the axle *a*, which is made sectional, as shown, is a sleeve, *d'*, on which is pivoted a laterally-oscillating lever, *e*, provided with friction-rollers *e' e²* at its ends where it comes in contact with the serrated flange of the gear-wheel *c*. One end of a bent rod, *f*, has an eye or bearing, *g*, on one end, which fits over the section *a'* of the axle outside of the sleeve *d'*, and inclines forwardly to a point opposite the inner shoe of the cutter-bar, and then extends forward parallel with the inner shoe, *g'*, of the cutter-bar for a short distance, where it is bent horizontally away from said inner shoe, and provided with a ground-wheel, *h*, and is then inclined obliquely and rearwardly toward the opposite end of the axle *a*, to which it is connected near the driving-wheel by an eye, *h'*. The inner shoe, *g'*, is connected to the parallel portion of the bent rod *f* by hinged rods *i' i²*, arranged to turn on said portion. A double-crank rod, *k*, extending downwardly and forwardly from the axle near the wheel *b*, has its rear bearing in a lug, *l*, projecting downwardly from a sleeve, *l'*, on the axle *a*, and is provided with a crank, *l²*, which is connected by a link-connection, *l³*, to the rearwardly-projecting arm *m* of a bent lever, *m'*, which lever is fulcrumed on the sleeve *l'*, and is adapted to turn loosely thereon. The upper end of this lever is within easy reach of the driver on the seat. The forward bearing of the double-crank rod *k* is in the upper end of a short arm, *n*, rising from the bent rod *f*, and it is provided at this end with a longer crank-arm, *n'*, to the upper end of which is hinged a rod, *n²*, the outer end of which is hinged to an eye in the upper end of an arm, *n³*, rising from the inner shoe, *g'*, near its forward end. To the forward end of the oscillating lever *e* is secured a rod, *o*, the forward end of said rod *o* being connected by a ball-and-socket joint with the inner end of the pitman-rod *o'*, that operates the sickle.

A brace-rod, *p*, is connected to the bent rod *f* at the points *p' p²*, and is bent upwardly to an angle at *p³* in front of the gear-wheel *c*, and from this angle an arm, *q*, extends to the rod *o*, to lift it when the ground-wheel is lifted. A segment-lever, *r*, is fulcrumed to the tongue *s*, and is connected to the rod *f* by a chain, *s'*. The tongue *s* extends in rear of the axle *a*, which revolves in a bearing on the under face of the tongue. A brace-rod, *u*, extends forward from the axle *a*, and is connected to the under face of the tongue in front of the wheels. The seat *v* is adjustable on the rear extension of the tongue, so that the driver can shift his weight to balance the machine. In order to provide for the adjustment of the seat I provide the rear end of the tongue with a series of vertical holes, *r'*. A bolt, *r²*, passes through the lower end of the seat-standard *r³*, and enables said standard to be secured to the tongue by securing the bolt in either of the series of openings.

The tongue-extension also serves as a point for the attachment for the dropper attachment or table-rake of a reaper when the mechanism is used with a reaper.

By moving the lever *m'* forward the sickle may be raised to pass a stump or tree, and by pulling the lever *r* backward the ground-wheel will be raised to pass over obstructions, or to permit the machine to be moved over the roads.

By providing the vibrating lever *e* with the extended rod *o*, a play is given to the sickle sufficient to cause each of its knives to pass through one guard and into the guard next adjacent thereto when the sickle moves in either direction.

The operation is very simple. When the machine is drawn forward, the gear-wheel *c* is revolved and the friction-rollers traverse the serrated track formed in its rim-flange, and the lever *e* is oscillated and the sickle operated through the connection with the pitman-rod.

This machine is light in draft, because there is not much friction to overcome.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a harvester, the combination, with the axle, of the double-crank rod journaled in a bearing on a sleeve on the axle and in a bearing on an arm rising from the bent rod *f*, and connected to an arm on the inner shoe of the finger-bar, the hinged finger-bar, and the bent lever *m'*, connected by a link to the crank-arm on the rear end of the double-crank rod, substantially as specified.

2. In a harvester, the combination of the bent rod *f*, secured to the axle by eyes and provided with the angular brace-rod *p*, connected by an arm, *q*, to the rod *o*, the oscillating lever, the hinged cutter-bar, and the segment-lever *r*, fulcrumed to the tongue and connected to the bent rod *f* by a chain, substantially as specified.

3. In a harvester, the combination, with the bent rod *f*, hinged to the axle, of the ground-wheel, the hinged cutter-bar, and the lever for raising said bent rod, substantially as specified.

4. The combination of the axle, the supporting and driving wheels, wave-wheel *c*, vibrating lever *e*, bent rod *f*, ground-wheel *h*, journaled thereon, the finger-bar hinged to the rod *f*, the cutter-bar connected to the lever *e*, rod *k*, having cranks *n'* and l^2, said rod journaled to the rod *f* and to a sleeve on the axle, and the crank *n'*, connected to the hinged finger-bar, the bent lever *m'*, connected to the crank l^2 and fulcrumed on the axle, tongue *s*, and lever *r*, connected to the rod *f*, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ABRAHAM BUMGARNER.

Witnesses:
JNO. A. EYLAR,
T. J. JONES.