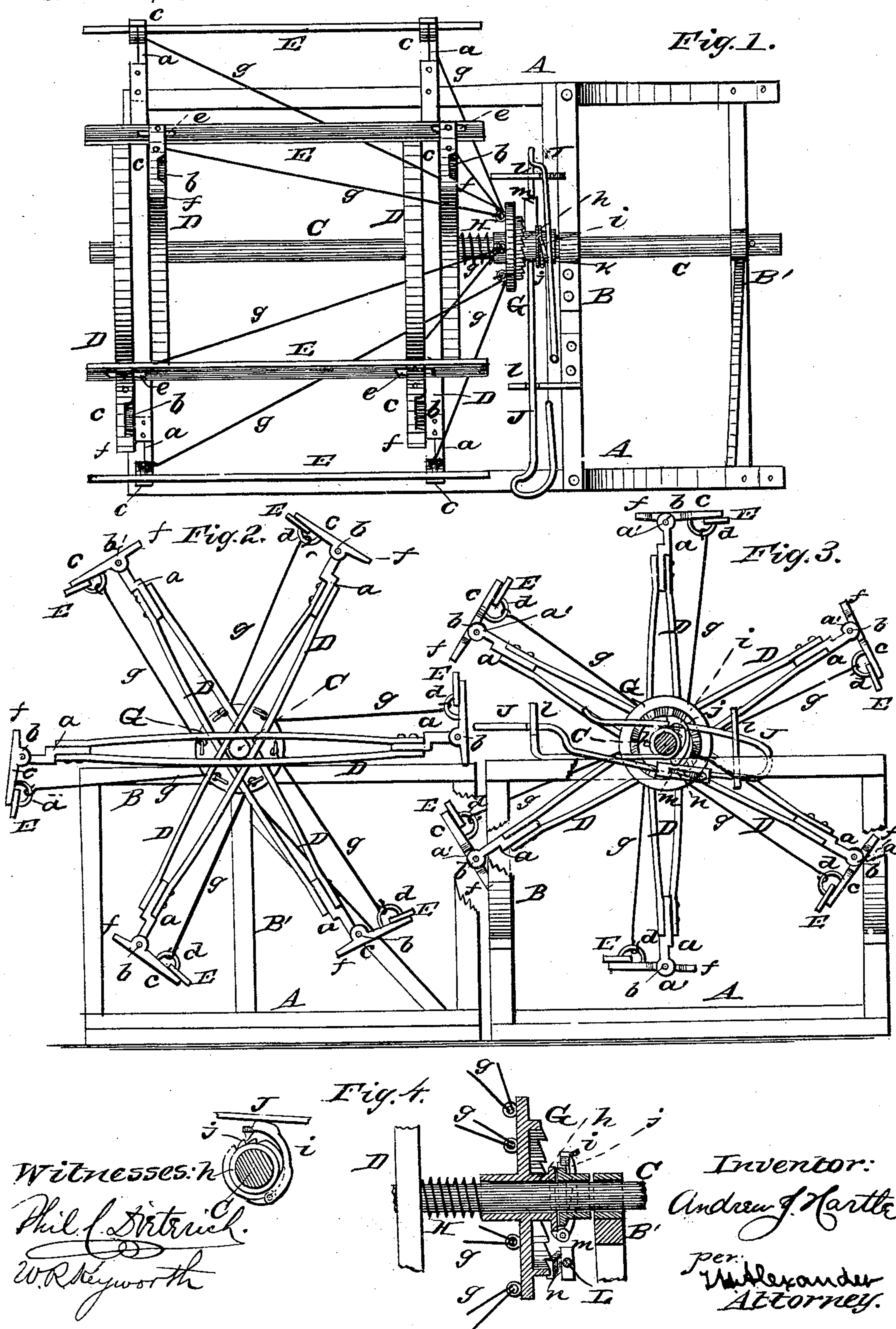


(No Model.)

A. J. HARTLE.
REEL FOR REAPING MACHINES.

No. 270,797.

Patented Jan. 16, 1883.



UNITED STATES PATENT OFFICE.

ANDREW J. HARTLE, OF COVINGTON, OHIO.

REEL FOR REAPING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 270,797, dated January 16, 1883.

Application filed October 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, A. J. HARTLE, of Covington, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Reels for Reaping-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a plan view of my improved reaping-machine reel. Fig. 2 is an elevation of one end of the same. Fig. 3 is an elevation, looking from the end of the reel and its frame. Fig. 4 is an enlarged sectional view in detail of the flanged ratchet-wheel, part of the reel, the spring, and collar.

Similar letters of reference indicate corresponding parts in the several figures.

The object of my invention is to improve reaping-machine reels so that the fans or reeling-blades shall work by an automatic hinged joint adapted to take up fallen and tangled grain, and, together with the erect grain, press the same toward the cutting apparatus and upon the platform, as will be fully understood from the following description, when taken in connection with the annexed drawings above briefly referred to.

The letter A designates the horizontal platform-frame of the reaper, which may be supported and attached to the transporting-frame in any suitable manner; and B B' designate upright frames, which are properly secured to the platform-frame A, and provided with journal-bearings for one end of the reel-shaft C, which latter may receive rotation by any well-known or improved means.

D D designate the arms or spokes of the reel, which arms are respectively formed of bowed strips rigidly secured to the reel-shaft C so as to radiate therefrom.

To the outer end of each reel-arm D, and rigidly secured to it, is a metal angular extension, *a*, which is shouldered, as shown, and provided with an eye, *a'*, to which is connected, by a transverse pivot, *b*, a short supplemental arm, *c*. This arm *c* has the "fan" E connected to it by a loop, *d*, passed through slot *e*, made through the fan. The rear part of each sup-

plemental arm *c* has a lateral extension or lug, *f*, formed on it, which, when said arm is adjusted in line with the reel-arm, bears on the extension *a* and prevents further backward flexure of the arm *c*. By this arrangement and combination of parts the supplemental or jointed arms of all the reel-fans or blades can be adjusted at different angles with respect to the radial arms of the reel, according to the condition of the grain. The slots *e* through the reel fans or blades E are designed for allowing free play of the blades during the act of adjustment.

To all of the loops *d* are linked or hooked connecting wires or rods *g*, which converge toward one end of the reel, and are connected by links to the flange of a ratchet-wheel, G, the annularly-arranged teeth of which are on its inner side or face. This flanged ratchet-wheel G is applied on the reel-shaft C, so that it can receive an oscillating motion thereon, but not an endwise motion, and it is connected to the shaft C by means of a coiled spring, H.

On the inner end of the sleeve *h* of the ratchet-wheel G is a spring-pawl, *i*, which is adapted to engage with ratchet-teeth *j*, formed on the raised rib of a band, *k*, that is secured fast on the reel-shaft. The object of the spring-pawl *i* is to lock the fans or reel-blades E at any desired angle, and the object of the coiled spring H is to return the said blades or fans to their normal position when released from said pawl *i* and its ratchet-teeth. The pawl *i* is held down by means of the inclined upper part of an endwise-movable rod, J. By moving this rod forward the pawl *i* will spring up and be disengaged from ratchet-teeth *j*.

J designates a curved rod, which is held by forked guides *l*, secured to one side of the frame B, and allowed to receive endwise movements from the hands of the attendant. One portion of this rod J passes beneath the reel-shaft and the other portion extends backward over this shaft. The lower part of the rod J has a block, *m*, secured to it, to which is applied a spring-actuated pawl, *n*, adapted to engage with the teeth on the face of the ratchet-wheel G.

The operation may be briefly described as follows: At any time during the operation of the machine, and while the reel is rotating, the attendant, by giving endwise movements to the rod J, can cause pawl *n* to turn backward the

ratchet-wheel G more or less, thus giving the desired pitch to the blades E, in which position they will be held by the pawl i without in any manner interfering with the rotation of the reel.

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

1. The combination, with a revolving reel, supplemental jointed arms, reeling-blades applied to these arms, a ratchet-wheel applied loosely on the reel-shaft, connecting-rods between this wheel and the said jointed arms, and means for adjusting and setting said parts, all constructed and adapted to operate substantially in the manner and for the purposes described.

2. In a reaper-reel for gathering in the grain to be cut, the combination of adjustable blades, adapted to be set at any desired angle, a ratchet-wheel applied loosely on the reel-shaft, rods connecting this wheel to the jointed arms of the reel-blades, a recoil-spring, H, connected to the reel-shaft and to the ratchet, a pawl applied to an endwise-movable hand-rod, and a locking-pawl with its ratchet for holding the

reel-blades at any desired angle, substantially in the manner and for the purposes described.

3. The combination of the revolving reel, the jointed supplemental arms, the angular adjustable blades, the ratchet-wheel applied loosely on the reel-shaft, the coiled tension-spring, the rods connecting the supplemental arms and the ratchet-wheel, the pawl on the endwise-movable rod J, and the pawl on the sleeve of said ratchet-wheel, adapted to engage with a fixed collar on the reel-shaft, all constructed and adapted to operate in harmony, substantially in the manner and for the purposes described.

4. The combination of the metal extension-arm of each reel-arm, formed with shoulders and an eye, the supplemental arm bearing the reel-blade, a pivotal connection, and a lug or offset, all adapted to operate substantially in the manner and for the purposes described.

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

ANDREW J. HARTLE.

Witnesses:

JAS. MCCLARY,
FRANK. LINGGEN.