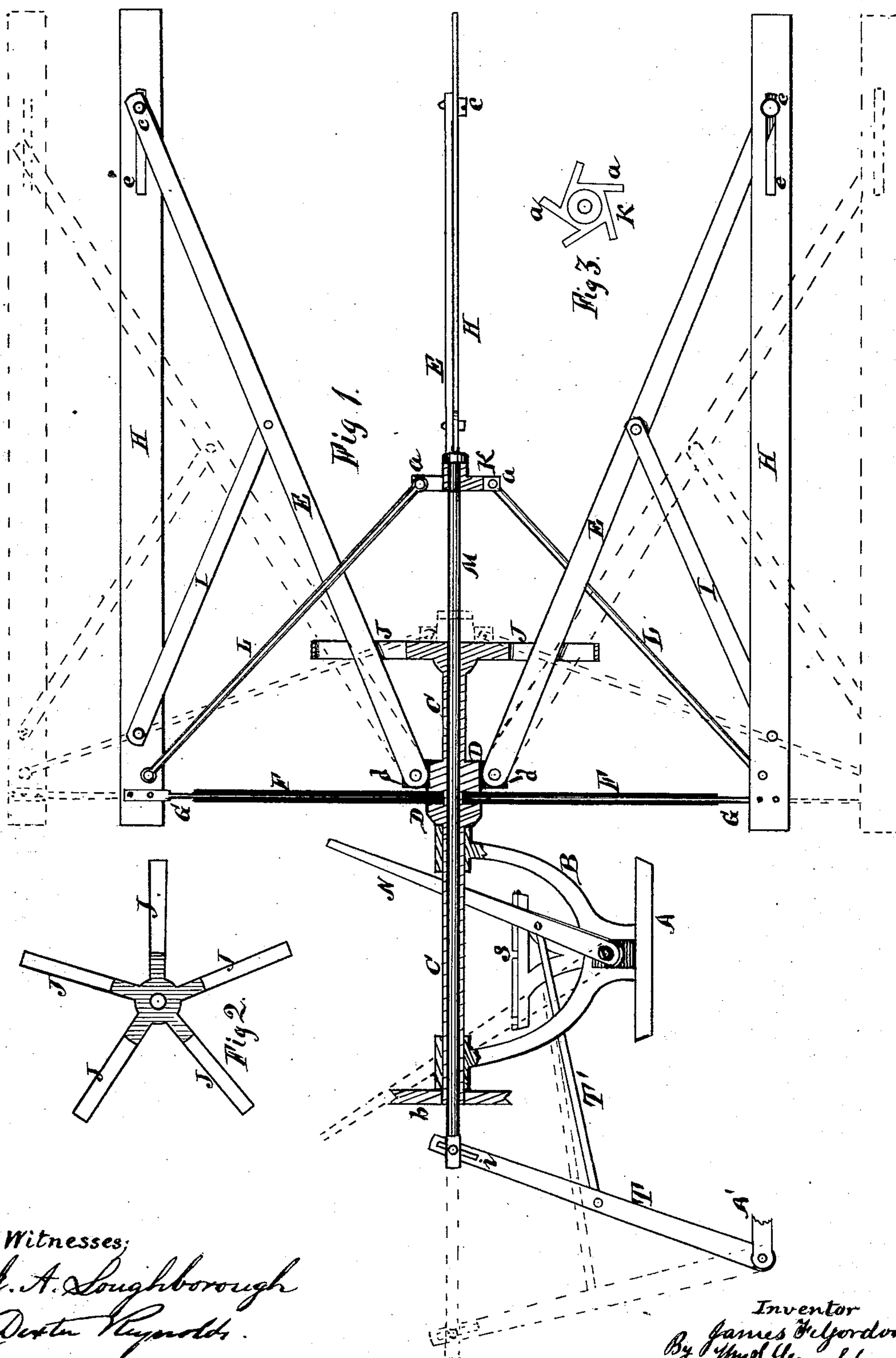


J. F. GORDON.
Harvester-Reels.

No. 157,320.

Patented Dec. 1, 1874.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES F. GORDON, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN HARVESTER-REELS.

Specification forming part of Letters Patent No. **157,320**, dated December 1, 1874; application filed September 5, 1873.

To all whom it may concern:

Be it known that I, JAMES F. GORDON, of the city of Rochester, in the county of Monroe and State of New York, have invented certain Improvements in Harvester-Reels, of which the following is a specification:

This invention consists in the construction of a harvester-reel in such a manner that the driver may readily adjust the lower sweep of the reel-arms to any desired height, while the machine is in operation, by means of a lever, which expands or contracts its diameter, as may be required, to place the grain properly upon the platform.

Figure 1 is a front sectional elevation of my improved reel. Fig. 2 is a transverse elevation of the end of the sleeve C and of the slotted arms J. Fig. 3 is a similar view of the swiveled head or brace-coupling K.

The object of my invention is to provide a substitute for the ordinary vertically-adjustable reel, and, although it is applicable to any harvester, yet it is designed more especially to be used in connection with my automatic binder, since with this reel the driver may adjust it instantly, so as to cause it to deposit short or long grain farther back upon the platform-belt of the harvester, or not so far, and thereby adapt the position of the grain, in its delivery to the binder, to a fixed position of said binding apparatus, in such a manner as to insure the application of the band centrally upon the bundles of either long or short grain.

A and A' represent portions of the framework of the harvester; B, the standard, which is bolted to the base A; C, the hub or axial sleeve which carries the reel; D, the winged enlargement upon the said sleeve, in which the expanding guide-rods G are supported and act. H are the reel arms or bars; I, the equalizing-braces; K, the swiveled head upon the adjusting-rod M; L, the governing rods or braces; N, the hand-lever. s is the locking-rack for the hand-lever N. T is the hinged lever, connecting the said hand-lever N with the center adjusting-rod M through the connecting-rod T'.

I prefer that style known as the "overhanging reel," and I therefore journal the sleeve C in suitable boxes on the two arms of the standard B, which latter is firmly bolted to the bed

A. The sleeve C is provided with a hub or enlargement at D, into which suitable metallic tubes F are either screwed or otherwise rigidly fixed. The latter act as ways for the support of the expanding guide-rods G to work in, which are rigidly fixed to the inner end of their respective arms H. The enlargement D is provided with a series of wings, d, in pairs, between which the braces E are pivoted. The end of the sleeve is provided with slotted arms or wings J, through which the braces E may swing freely laterally, but be forced to rotate with the sleeve, or be retained in a parallel position with relation to the axis of the reel. The braces E are connected to the outer end of the reel-arms H by means of a pivot, c, through the slot e. The braces I are pivoted both to the braces E and the arms H, as shown. The adjusting-rod M is fitted to slide freely through the sleeve C, and the head K is swiveled thereon, so as to turn with the reel. The lugs a on this head are offset, as shown in Fig. 3, and the inner end of the braces L is pivoted to these offsets, so as not to bind upon the braces E or the slotted arms J while the reel is being expanded or contracted. The opposite end of the rod M is pivoted, through the slot i, to the lever T, which is connected to the hand-lever N by the rod T'.

The pulley b to drive the reel may be fixed to the outer end of the sleeve, as shown. The full lines indicate the position of the parts when the reel is fully contracted, and the position of the parts when it is expanded to its utmost is indicated by the dotted lines.

Any desired number of reel-arms may be used. The drawings (especially Figs. 2 and 3) represent those parts as adapted to a reel embracing five arms.

The hand-lever is locked in its desired position by the notches s.

Instead of the tubes F, a solid arm might be used and the rods G provided with sliding couplings.

If desired, the hand-lever might be attached directly to the rod M.

What I claim as my invention is—

1. The radially-expansible arms H, adjustably connected to the reel-hub and to the sliding rod M, whereby the diameter of the reel may be varied by the attendant while the

machine is in operation, substantially as described.

2. The radial arms or tubes F, rods G, parallel arms H, and rods L, in combination with the sliding head K, substantially as and for the purposes set forth.

3. The tubes F, rods G, arms H, rods L, head K, rod M, and lever N, in combination with the pivoted brace-rods or braces E and I, constructed and arranged to operate conjointly, substantially as and for the purposes shown and described.

4. The slotted arms J, in combination with the axial sleeve C and brace-rods E, for the purpose of permitting the free movement radially of the rods E, and, at the same time, of securing their parallelism with the axial shaft, while the arms H are acting upon the grain.

JAMES F. GORDON.

Witnesses:

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