

D. L. EMERSON.  
Driving Wheel for Harvesters.

No. 44,834.

Patented Oct. 25, 1864.

Fig. 1

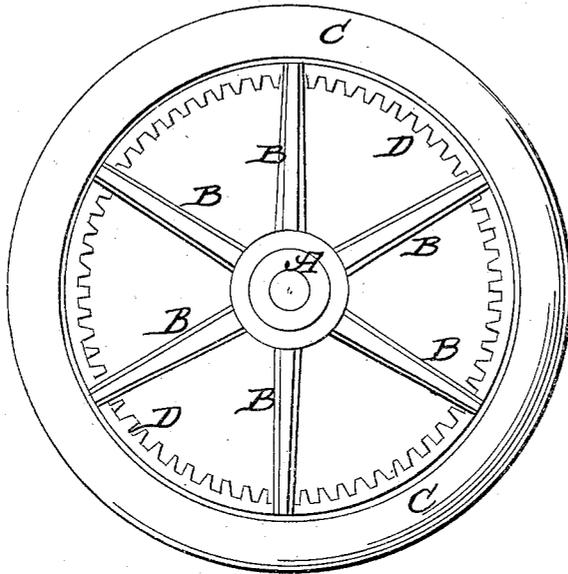
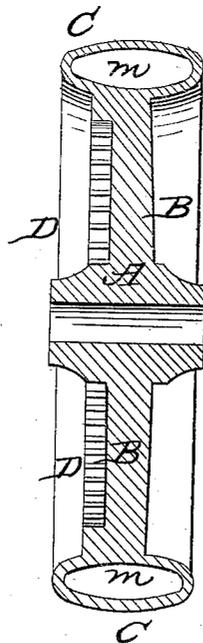


Fig. 2



WITNESSES  
Melville Biggo  
W. L. Bennett

INVENTOR  
D. L. Emerson  
by his attorney  
C. J. Reimick

# UNITED STATES PATENT OFFICE.

DANIEL L. EMERSON, OF ROCKFORD, ASSIGNOR TO MARY MANNY, OF WINNEBAGO COUNTY, ILLINOIS.

## IMPROVEMENT IN DRIVING-WHEELS FOR HARVESTERS.

Specification forming part of Letters Patent No. 44,834, dated October 25, 1861.

*To all whom it may concern:*

Be it known that I, DANIEL L. EMERSON, of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in the Driving-Wheels of Harvesters; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a side view of a driving-wheel for a harvester constructed according to my invention, and Fig. 2 represents a transverse section through the center of the same.

The driving-wheels of harvesters carry the main cog-wheel, which, by the turning of the driving-wheel, imparts motion to the acting members of the machine. Such wheels must be strong enough to withstand the strain incident to driving the cutting apparatus, raking apparatus, and reel of the machine. They must also have a certain weight to insure their hold upon the ground; or, in default of this, a weight must be superimposed upon them. It is also desirable that they should not take up dirt on the inner sides of their rims, because the dirt so taken up is dropped into the teeth of the cog-wheels to a greater or less extent, causing the rapid wear of the parts and endangering their breakage.

My invention consists of a wheel having the above-named requisites, and yet requiring for its construction a less weight of iron than the weight which the wheel may weigh when it is at work upon the machine.

This wheel, as represented in the accompanying drawings, consists of a hub, A, spokes B, and a tubular rim, C, formed by casting the rim upon a dry sand core properly vented and anchored in the mold. A wheel of this construction has great strength in proportion to its weight of rim, and as it has a chamber, *m*, in its rim C, the wheel may be loaded by filling the chamber with either sand or water, inserted through small holes made in its walls, and se-

curing it there by screw-plugs until the total weight of the wheel and load in its chamber may be considerably greater than the weight of iron of which the wheel is formed, so that the wheel obtains the requisite strength from the iron and the requisite weight from the worthless material (sand or water) with which it is loaded. Moreover, as the wheel-rim is very thick, it is hardly possible for it to be pressed deep enough into the dirt usually found in harvest-fields to permit loose dirt to fall into its rim; and as the inner side of its rim is convex transversely, the dirt that might accidentally get on this inner side would glide outward as the rim rolled along, so that the chance of dirt falling into the gearing is exceedingly small.

In constructing my wheel I prefer to cast the main cog-wheel D fast to the hollow rim of the wheel, which thus forms a strong base for the cog-teeth, and as this base constitutes the wheel-rim, as well as the base of the cog-teeth, the total weight of iron required for the construction of the driving-wheel and cog-wheel is considerably less than would be required for the construction of a driving-wheel and cog-wheel of equal strength, if the hollow wheel-rim did not form the base of the cog-teeth.

Having thus described a harvester driving-wheel embodying my improvements, what I claim as my invention, and desire to secure by Letters Patent, is—

1. A harvester driving-wheel constructed with a tubular rim, substantially as set forth.
2. The combination of the tubular rim of the wheel with the cog-teeth of the main driving-wheel in such manner that said rim forms the base of said teeth, substantially as set forth.

In witness whereof I have hereunto set my hand.

D. L. EMERSON.

Witnesses:

J. G. MANLOVE,  
E. K. CONKLING.