



# UNITED STATES PATENT OFFICE.

ANDREW J. SWEENEY, OF WHEELING, WEST VIRGINIA.

## IMPROVEMENT IN WHEELS FOR HARVESTERS.

Specification forming part of Letters Patent No. **131,133**, dated September 3, 1872.

*To all whom it may concern:*

Be it known that I, ANDREW J. SWEENEY, of Wheeling, in the county of Ohio and State of West Virginia, have invented a new and useful Improvement in Harvesters; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a perspective view, showing the construction of one of the supporting-wheels. Fig. 2 is an elevation of the pawl-plate. Fig. 3 is a perspective view of the same. Fig. 4 is a perspective view of the ratchet-box. Fig. 5 is an elevation, showing the pawl-plate and ratchet-box applied to a supporting-wheel; and Fig. 6 is a front elevation of the pawl-plate applied to the wheel, the position of the ratchet-box being represented by dotted lines.

Similar letters of reference in the accompanying drawing indicate the same parts.

In the construction of mowing and reaping machines of a certain class it is necessary to connect one or both of the supporting-wheels with the axle by a ratchet and pawl in such a manner that the forward movement of the machine shall rotate the axle to drive the cutting apparatus, and its backward movement permit the rotation of the wheels without turning the axle, and so that, when the machine is turning a corner, the pivot-wheel shall ride freely upon the axle while the latter is turned by the opposite wheel to continue the operation of the cutting mechanism. A common means employed for forming this connection consists in a circular plate carrying upon one side a series of pawls and upon the opposite side a number of lugs, which plate is mounted loosely upon the axle so that the pawls shall engage with a ratchet-wheel affixed to the axle, and the lugs with recesses or notches formed in or upon the inner end of the wheel-hub. This construction, however, is objectionable, for the following reasons, to wit: First, the hub is greatly weakened by the formation of the recesses or notches, and is, therefore, liable to be broken, in which event an entire new wheel is required. Secondly, the short leverage from the axle to the connection of the lugs with the hub creates a violent strain upon such connection and increases the liability

ity to breakage. My invention has for its object to overcome these objections; and consists in connecting the pawl-plate to the spokes of the wheel outside the hub, the spokes being strengthened to render the connection more secure, as I will now proceed to describe.

In the accompanying drawing, A is the pawl-plate, mounted loosely upon the axle B of a mowing and reaping machine, near the hub C of the wheel. The pawl-plate carries upon one face a series of spring-pawls, D, to engage with the ratchet-teeth formed circumferentially within the box or case E, which is firmly keyed to the axle. F is a circular flange, cast or otherwise formed upon the opposite face of the plate, so as to fit snugly over the inner end of the wheel-hub. This flange is cut away or formed with notches *g*, which, when the plate is forced firmly against and outside of the hub, receive the enlarged shoulders *h* cast upon the base of one or more of the spokes K of the wheel.

In this example of my invention I have shown the wheel cast with six spokes, three of which are provided with shoulders alternating with those left plain. I have also shown the flange F, formed with depressions *i* between the notches *g* to fit against the plain spokes and permit the entrance of the shouldered spokes within the recesses *g*.

By my invention the whole end of the hub is inclosed within the flange F, and is re-enforced and strengthened thereby instead of being cut away and weakened, as in the usual construction. The leverage is also greater from the axle to the spokes, and the former is therefore rotated with but little strain upon the connection.

Having thus described my invention, what I claim is—

1. In a mowing and reaping machine, a ratchet-and-pawl connection between the axle and the spokes of the supporting-wheel, substantially as described, for the purpose specified.

2. In a ratchet-and-pawl connection between the axle and wheels of a mowing and reaping machine, I claim the pawl-plate, adapted to engage with the spokes of the wheel outside the hub, substantially as described, for the purpose specified.

3. The pawl-plate, constructed with the notched flange F upon one face to receive the end of the wheel-hub and engage with one or more of the spokes, substantially as described, for the purpose specified.

4. The pawl-plate A, mounted upon the axle of the machine, in combination with the ratch-

et-box E and spokes and hub of the supporting-wheel, substantially as described, for the purpose specified.

A. J. SWEENEY.

Witnesses:

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