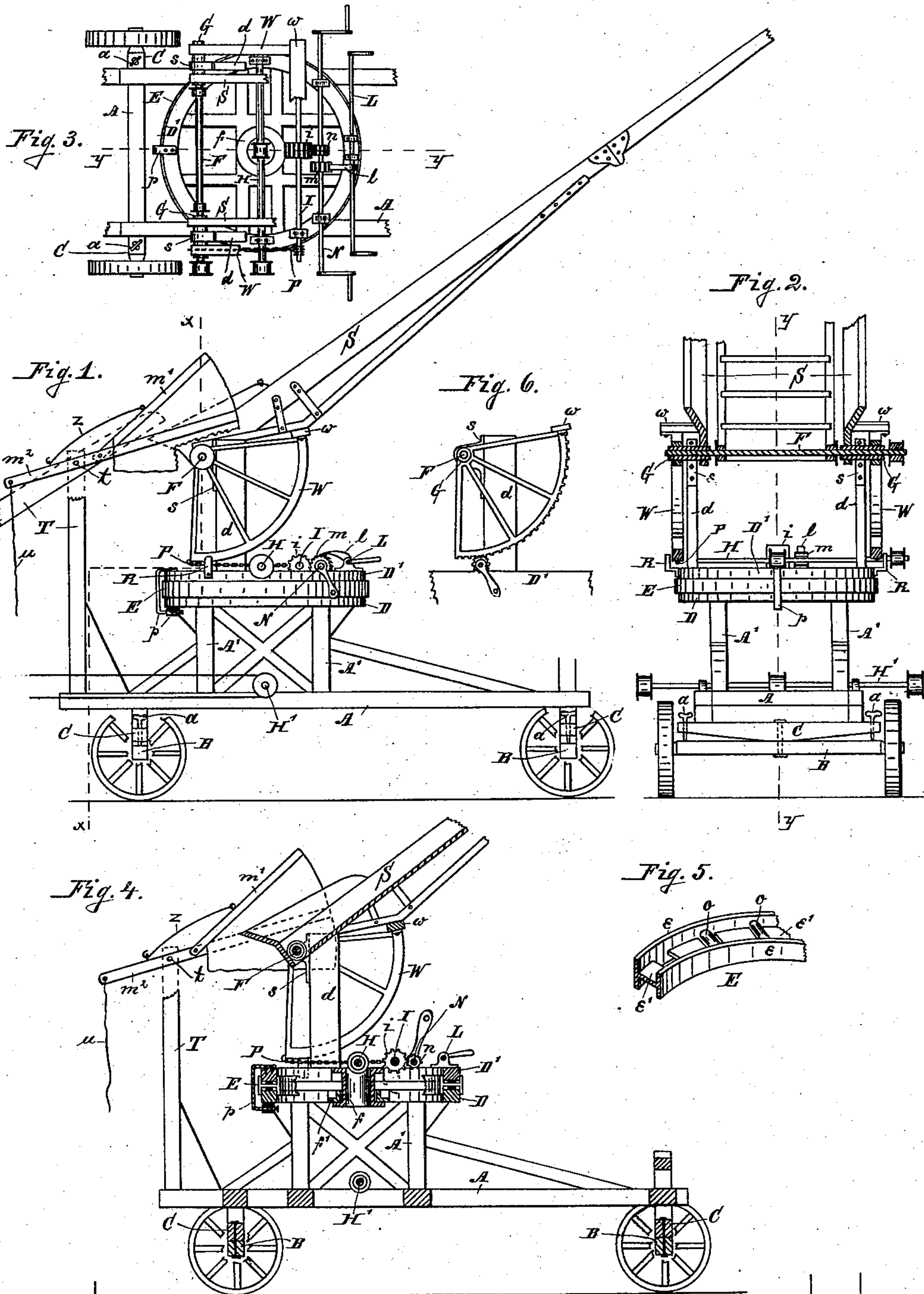


(No Model.)

C. E. MERRIFIELD.
STRAW STACKING MACHINE.

No. 287,844.

Patented Nov. 6, 1883.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES E. MERRIFIELD, OF INDIANAPOLIS, INDIANA.

STRAW-STACKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 287,844, dated November 6, 1883.

Application filed June 18, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. MERRIFIELD, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Straw-Stacking Machines, of which the following is a specification.

My invention relates to improvements in straw-stacking machines; and the objects of my improvements are to dispense with a derrick, to provide easy and simple means for raising and lowering the straw-carrier, to improve the working of the turn-table, and to produce a hood of simpler construction and operation than has heretofore been used. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the machine ready for operation. Fig. 2 is a rear elevation of the same and partial vertical cross-section on line *x x* on Fig. 1. Fig. 3 is a plan or top view of the turn-table, also showing the mechanism for raising and lowering the straw-carrier frame. Fig. 4 is a vertical longitudinal section through the machine on line *y y*. Fig. 5 is a detail view of the anti-friction roller-plate. Fig. 6 shows one of the quarter-wheels, which raises and lowers the carrier, operated by a cog-wheel instead of a chain and crank.

Similar letters refer to similar parts throughout the several views.

A is the frame on which the machine is mounted. B B are the axles, to which the bolsters C C are pivoted. *a a a a* are thumb or set screws operating through metallic plates in bolsters C C and on the axles B B, so that the machine can be leveled without the raising and blocking up of the truck, as has heretofore been necessary on unlevel ground.

To the bolsters C C is secured the horizontal frame A, which supports the shaft H', which is provided with pulleys at either end, to receive power from a stationary engine or thrashing-machine, and a pulley in its center, to transfer the power by a belt or chain to a pulley in the center of shaft H. On one end of the shaft H is another pulley, to transmit

the power to the shaft F, which operates the belts and slats of the straw-carrier S.

The wheels D' and D, forming the turn-table, are supported by the frame-work A', which is rigidly braced in place on the horizontal frame and truck A.

Between the wheels D' and D is placed a flanged roller-plate, E, made to receive the wheels of the turn-table, with a web, *e'*, between the flanges *e e*. In said web are openings, to allow the anti-friction rollers or balls to operate, at the same time effectually preventing them from bunching. By this device much hard work can be saved, and the wear and tear of the machine greatly reduced. This roller-plate can be formed in one or more sections. The flanges *e e* assist in keeping the wheels D and D' in their proper positions. The wheels D' and D are further held in position with respect to each other by the flanged iron rings *f* and *f'*, which are rigidly secured to cross-bars in both wheels, and through said rings the belt passes which transmits the power from the center pulley on shaft H' to the center pulley on shaft H. The ring *f* is bolted to cross-bars in wheel D', and the ring *f'* is bolted to cross-bars in wheel D, the ring *f* extending down through the ring *f'*, and catching on the under side of the ring *f* by means of a flange, thus locking the two rings and the wheels D' and D together, but allowing the wheel D' to turn on wheel D.

To the wheel D' of the turn-table are secured the standards *d d*, and to the standards *d d* are secured the cast-iron brackets *s s* and sleeve extensions G G on either side, to receive the sides of the carrier-frame S and the hubs of the quarter-wheels W, said sleeves forming a boxing, in which the shaft F, that propels the belts and slats of the carrier, operates. The upper ends of the quarter-wheels W W are secured to a cross-beam, *w*, which is bolted rigidly to the under side of the carrier-frame S, or to braces supporting the carrier-frame.

To the lower ends of the quarter-wheels W W are secured the chains P P. Said chains P P are also secured to shaft I, which is operated on the wheel D' of the turn-table.

In the center of the shaft I is a large cog-wheel, *i*, which is operated by a small cog-

wheel, n , on shaft N. Said shaft N is turned by cranks on either side of the machine, and by means of the cog-wheels, the chains, the quarter-wheels, and the cross-beam under the carrier the straw-carrier is raised and lowered.

The guide-plates R R are secured to the turn-table, to prevent the chains P P from slipping out of place in raising or lowering the carrier-frame. The quarter-wheels can also be turned by small cog-wheels operated by cranks on either side of the machine, in which case said cog-wheels are to operate in teeth on the rims of the quarter-wheels, as shown in Fig. 6.

T represents either the end of the straw-carrier on a thrashing-machine or posts set on either side of the truck of my straw-stacker, to the sides of which are pivoted the bars $m^2 m^2$, in such a manner as to allow the rear end of the bars to be raised or lowered by means of a rope, u , or the like, which is attached to the fore ends of the bars, and thus raises or lowers the hood without the use of pulleys, &c., as heretofore used.

To the bars $m^2 m^2$ are pivoted the stays $m' m'$, to which the canvas or the like forming the hood is fastened. When in operation, said stays $m' m'$ are held up in their proper positions by the hooks $z z$, that are hinged to stays $m' m'$ and hooked to the bars $m^2 m^2$. When the hood is not needed, the hooks $z z$ are unfastened, the pivot-pins $t t$ removed, and the whole hood rolled up in a compact and handy shape.

Heretofore the anti-friction rollers or balls which operated between the two wheels forming the turn-table often rolled together, and so defeated the object of their use. By the addition of a roller-plate, either in one solid ring, to fit between the wheels, or in sections, with openings, to allow the balls or rollers to operate, but to prevent them bunching, as shown in Fig. 5, the easy operation of the turn-table will be insured at all times; also, the keeping of the two wheels in their proper positions with respect to each other is further facilitated by the bracket-clamp and roller p , secured to the upper wheel, D' , and reaching under lower wheel, D , which resists the tendency of the carrier-frame S to spring the wheels D' and D apart.

The raising and lowering of the carrier-frame is effected by operating the cranks at

either end of the shaft N, which is secured to the turn-table. The small cog-wheel n in the center of said shaft N operates in the large cog-wheel i on shaft I, and winds or unwinds the chains P P, that are secured to the shaft I and to the lower end of the quarter-wheels W W. Said quarter-wheels W W are rigidly secured at their upper ends to the under side of the carrier-frame, or to the braces supporting the carrier-frame, and thus by their operation the quarter-wheels raise and lower the carrier-frame without great exertion by the operator.

On shaft N is a ratchet-wheel, m , in which the click l operates and holds the stacker in the position desired. The click can be thrown out of gear from either side of the machine by the crank-shaft L.

The carrier-frame, as stated, can be raised or lowered by small cog-wheels operated by cranks on either side of the machine, said cog-wheels working in cogs or teeth on the rim of the quarter-wheels.

What I claim, and desire to secure by Letters Patent, is—

1. The combination, in a straw-stacking machine, of the truck A, the frame-work A' , the turn-table wheels D and D' , the flanged roller-plate E, the flanged rings f' and f , the bracket-clamp and roller p , the standards $d d$, and the carrier-frame S, substantially as described, and for the purpose specified.

2. The combination, in a straw-stacking machine, of the turn-table wheels D and D' , the standards $d d$, the brackets $s s$, with sleeve extensions G G, the carrier-frame S, the cross-beam w , the quarter-wheels W W, the chains P P, the shaft I, cog-wheel i , the shaft N, cog-wheel n , ratchet-wheel m , the crank-shaft L, and click l , all substantially as described, and for the purpose specified.

3. The combination, with a hood for straw-stacking machines, of the posts or frame T, the bars $m^2 m^2$, the stays $m' m'$, the rods or hooks $z z$, and the rope u , as described and specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES E. MERRIFIELD.

Witnesses:

GOTTF. KOEHLER,
PETER ROUTIER.