No. 676,058. Patented June 11, 1901.

D. W. VALLEAU.

HAY COCKING MACHINE.

(Application filed May 31, 1900.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

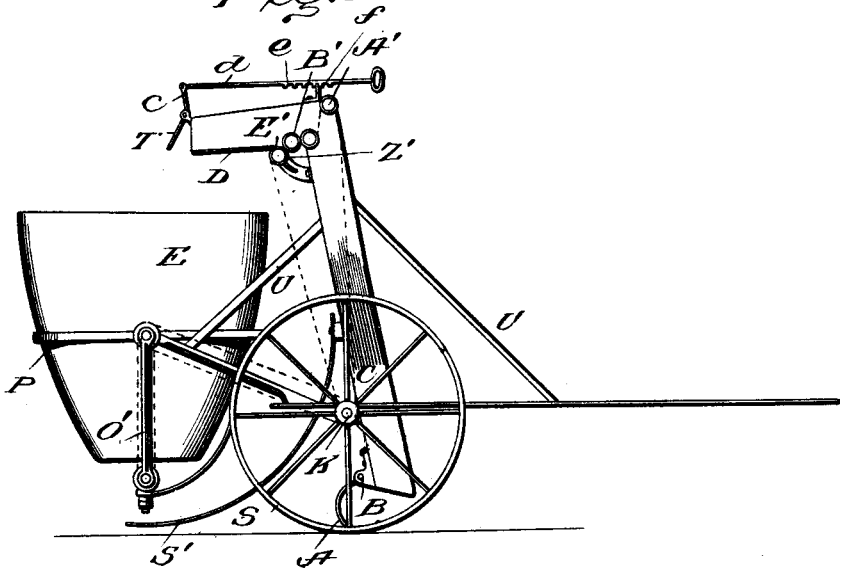


FIG. 2.

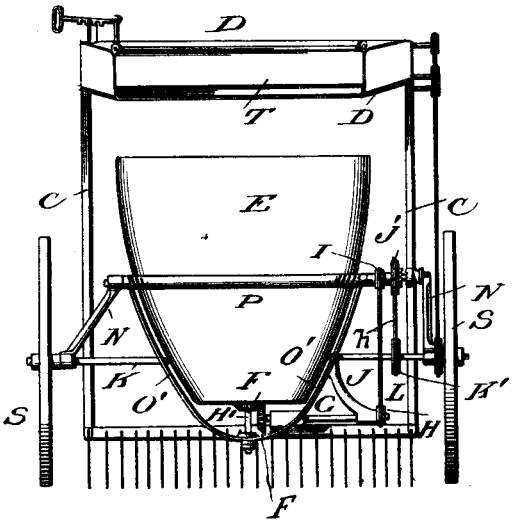
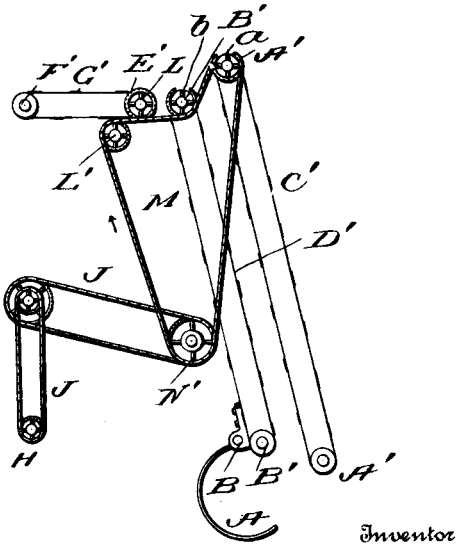


FIG. 3.



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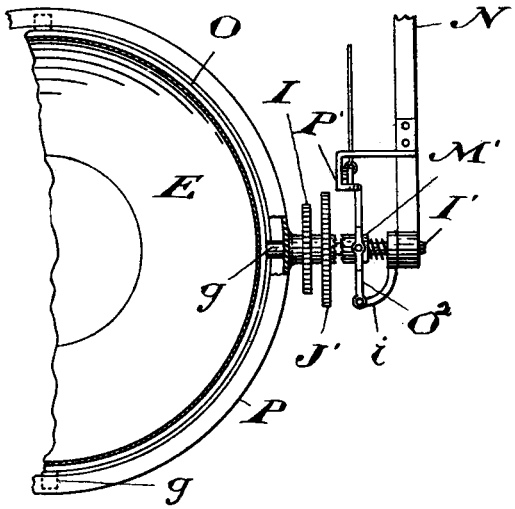

Fig. 4.

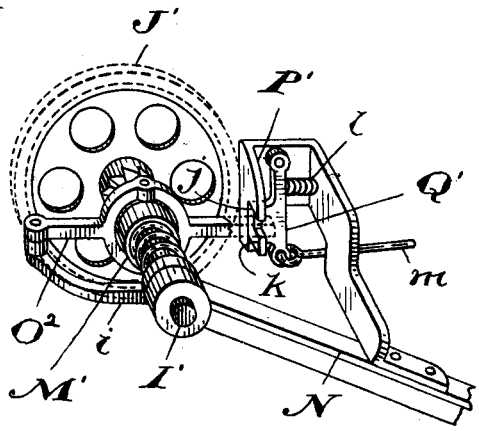

Fig. 5.

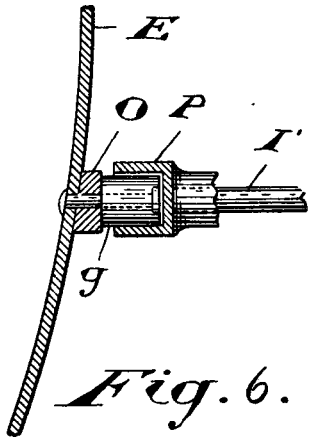

Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

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HAY-COCKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 676,058, dated June 11, 1901.

Application filed May 31, 1900. Serial No. 18,664. (No model.)

To all whom it may concern:

Be it known that I, DORWIN WESLEY VALLEAU, farmer, of the township of Ameliasburgh, in the county of Prince Edward, Province of Ontario, Canada, (my post-office address being Rossmore, Ontario,) have invented a certain new and useful Hay-Cocking Machine, of which the following is a specification.

The object of my invention is to devise a machine which will collect cut hay, grain, or the like from the ground and form it into a cock; and it consists, essentially, of a suitably-shaped receiver so supported that it may be revolved about a vertical axis and also swung on a horizontal axis, of means for picking up material from the ground and placing it in the revolving receptacle, and of means for swinging the receptacle when filled to dump its contents, the whole being constructed in detail substantially as hereinafter more specifically described.

Figure 1 is a side view of my machine. Fig. 2 is a rear view of the same. Fig. 3 is an enlarged skeleton view showing the collectors, elevators, carriers, sprocket-wheels, and sprocket-chains. Fig. 4 is a plan view of the gearing for driving the various parts. Fig. 5 is an enlarged perspective detail showing the mechanism for locking the receiver in its normal position and for swinging the same when desired. Fig. 6 is an enlarged sectional detail showing the method of rotatably supporting the receiver.

In the drawings like letters of reference indicate corresponding parts in the different figures.

The machine is carried by ground-wheels S, suitably journaled on the axle K, from which the various parts are supported and to which is connected a suitable tongue or pair of shafts.

A represents the collectors, which are secured to a cross-rod B, secured to the elevator-frame C. In this frame are journaled suitable rollers A′ B′, upon which are carried the slatted canvas elevators C′ D′. Upon the upper rollers A′ B′ are secured suitable sprocket-wheels *a* and *b*. A horizontal carrier-frame D extends from the upper end of the elevator-frame C. In this frame are journaled two rollers E′ F′. Around these rollers run a suitably-slatted canvas carrier G′. On the spindle of the roller E′ is secured a sprocket-wheel L. The sprocket-wheel N′ is suitably supported and driven by the rotation of the ground-wheels and is connected with the sprocket-wheels *a*, *b*, and L by means of the sprocket-chain M. This chain is suitably held in driving contact with the sprocket-wheels *b* and L by means of the idler L′.

At the end of the carrier-frame D, I hinge a door T, which may be operated in any suitable manner to control the discharge from the carrier G′. In Fig. 1 I show one means of accomplishing this. A crank-arm *c* extends from the upper side of the door and has an operating-rod *d* pivoted thereto. The other end of this rod is provided with a handle convenient to the driver's seat by which it may be operated to open or close the door. To hold it in any desired position, a rack *e* may be affixed to its under side and a bar *f* secured to the upper side of the carrier-frame, with which the rack may be engaged, as shown.

E is the receiver, made of any suitable light material. Around the middle of the receiver I secure a ring O, upon which are journaled three or more horizontal antifriction-rollers *g*. These rollers work within the grooved ring P, so that the receptacle will rotate freely, the rollers *g* running on the lower flange of the grooved ring. This ring O has hangers O′ depending therefrom, which carry the bearings for the vertical spindle H′ of the rotatable receiver E. These hangers also carry the bearings of the horizontal shaft G, connected with the spindle H′ by the bevel-gearing F. On the shaft G is secured a sprocket-wheel H, connected by the sprocket-chain J with the sprocket-wheel I, secured to a hub journaled on one of the trunnions I′. These trunnions are connected to opposite sides of the ring O and are journaled in the supporters N, extending from the axle or other suitable part of the frame of the machine. Braces U may be extended from these supporters to the elevator-frame C and from the elevator-frame to the tongue or shafts to steady the machine. Upon the same hub as the sprocket-wheel I is secured a sprocket-wheel J′, connected by a suitable sprocket-chain *h* with a sprocket-

wheel K′, carried by the axle and deriving motion from the ground-wheels. Upon the end of this hub is formed half of a clutch, the sliding half M′ of which is keyed in the ordinary manner on the trunnion and operated by spring-pressure, as shown. A shifting lever O^2 is connected in the ordinary manner with the sliding half of the clutch and is journaled at one end upon a bracket *i*, secured to the trunnion I′. From this connection it will be seen that the shifting lever O^2 revolves with the trunnion I′. In the path of the other end of this shifting lever is located the inclined stationary cam P′, having a shoulder *j* formed at its lower end. The cam P′ is suitably supported, as shown, from the supporter N or other suitable part. On the cam is pivoted the lock Q′. This has a notched projection *k*, which normally lies in the position shown in Fig. 5, so that the end of the shifting lever O^2 is held from moving either up or down and is at the same time held pressed outward to prevent the clutch from engaging. If, however, the lock be drawn forward, its notched projection will be withdrawn from engagement with the end of the shifting lever O^2, which is thus free to move inward the depth of the shoulder *j*, which is sufficient to engage the clutch. By the driving connections already described the sprocket-wheels I′ J′ are constantly driven, and by the movement of the shifting lever just described they are put into driving connection with the trunnion I′. As there is now nothing beneath the end of the shifting lever, this lever is free to rotate with the trunnion. The lock is normally pressed backward by the coil-spring *l*, so that when it is released it returns to its normal position to again engage the end of the shifting lever when the latter has ridden down the cam P′ at the completion of the revolution.

To operate the lock Q′, I provide a rod *m*, pivoted thereto. This rod may be carried forward to any convenient position for operation by the driver. By the rotation of the trunnion I′, as described, the receiver E is swung to deposit its load. As it swings the contents are held from prematurely sliding out by the curved spring-forks S′, arranged in front of the receiver, so that when the latter swings the forks close the open end of the receiver until it has been turned substantially bottom upward.

The gearing which dumps the receiver will be so proportioned that the motion in swinging will correspond to the rate of speed at which the machine is traveling along the ground, for if the receiver moves either too fast or too slow in dumping the proper formation of the cock on the ground will be interfered with by the receiver dragging or scattering the hay.

The general operation of the device is substantially as follows: The hay or other material is picked up by the collectors A, is then caught between the slatted elevators C′ D′, and raised to the carrier G′. By this carrier it is fed into the receiver E. By means of the gearing already described this carrier is constantly rotated, so that the hay or other material fed in is distributed evenly within the receiver, making a compact and homogeneous cock. When the receiver is full, the driver closes the door T and operates the lock Q′. The receiver is then swung through a complete revolution, dumping the cock, as already described. On returning to its normal position it automatically relocks itself and disengages from the driving mechanism.

Of course the details of construction may be varied considerably from those shown, and any well-known form of elevator might be employed.

What I claim as my invention is—

1. In a hay-cocker, a suitably-shaped open-mouthed receiver so supported that it may be revolved about a vertical axis and also swung on a horizontal axis, in combination with means for picking up hay from the ground and depositing it in the receiver; means for revolving the receiver; and means for swinging the said receiver when filled, to dump its contents, substantially as specified.

2. In a hay-cocker, a suitably-shaped open-mouthed receiver so supported that it may be revolved about a vertical axis and also swung on a horizontal axis, in combination with means for picking up hay from the ground and depositing it in the receiver; means for revolving the receiver; means for swinging the said receiver when filled to dump its contents; and curved teeth arranged so that the open mouth swings close to them and the contents are held from escaping till the receiver is entirely reversed, substantially as specified.

3. In a hay-cocker, a suitably-shaped open-mouthed receiver so supported that it may be swung on a horizontal axis and revolved about a vertical axis, in combination with teeth for picking the hay from the ground, elevating mechanism adapted to take the hay from the teeth and discharge it into the receiver; and a movable door for controlling the discharge from the elevating mechanism, substantially as specified.

4. In a hay-cocker a suitably-shaped open-mouthed receiver so supported that it may be revolved about a vertical axis and also swung on a horizontal axis, in combination with means for picking up hay from the ground and depositing it in the receiver; means for revolving the receiver; a suitably-driven horizontal shaft; clutch mechanism for placing the receiver in driving connection with the said shaft; a lock for holding the receiver against revolution and means for disengaging said lock to allow the receiver to turn, substantially as specified.

5. In a hay-cocker a suitably-shaped open-mouthed receiver so supported that it may be swung on a horizontal axis, in combination

with means for picking up hay from the ground and depositing it in the receiver; a suitably-driven horizontal shaft; clutch mechanism for placing the receiver in driving connection with the said shaft; mechanism by means of which the receiver is locked automatically on its return to its normal position and the clutch disengaged; and means whereby the receiver may be unlocked, substantially as specified.

Signed at Belleville this 7th day of May, 1900.

DORWIN WESLEY VALLEAU.

In presence of—

J. W. VERMILYEA,

LUCY D. MCRAE.