L. H. KINDY.

Machine for Stuffing Horse-Collars.

No. 196,122. Patented Oct. 16, 1877.

Fig. 1.

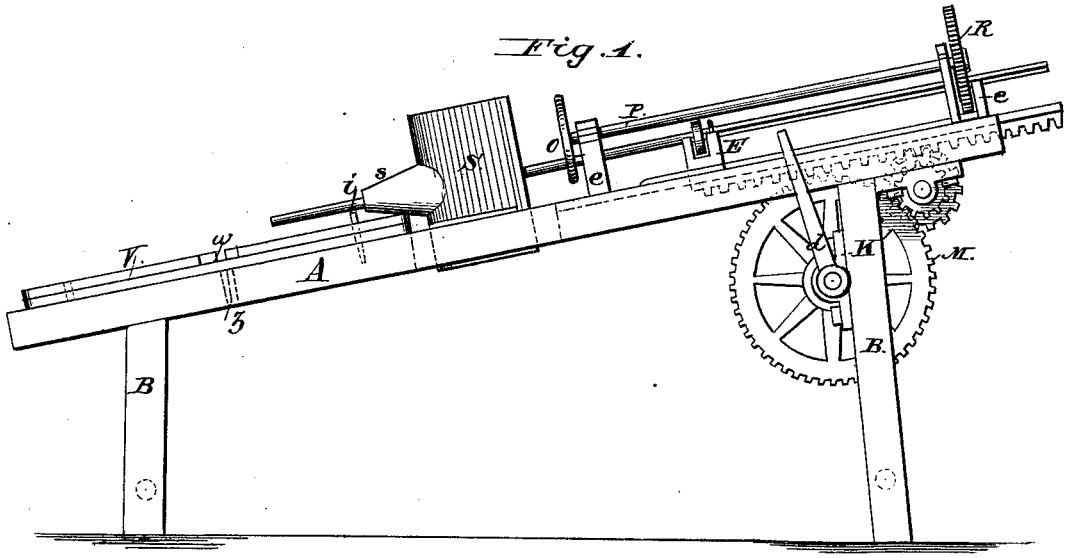


Fig. 2.

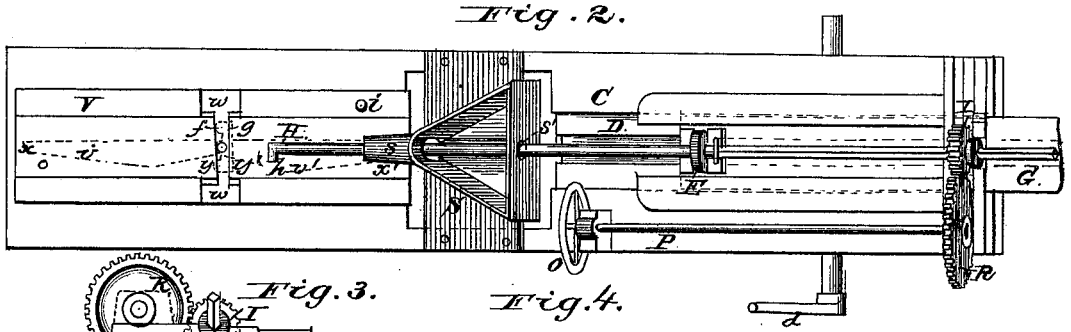


Fig. 3.

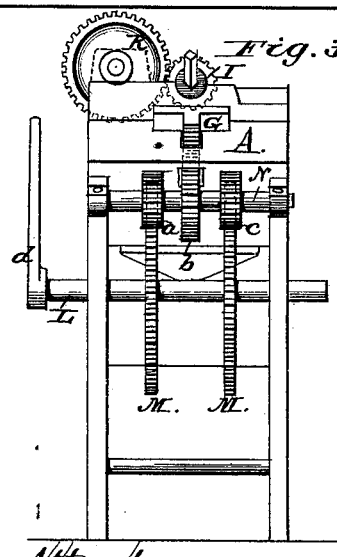


Fig. 4.

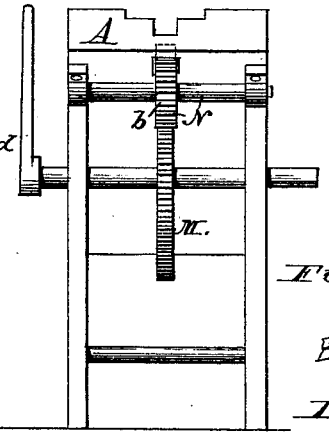


Fig. 5.

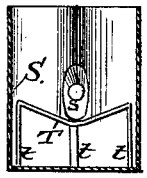
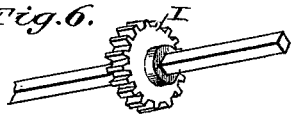


Fig. 6.



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UNITED STATES PATENT OFFICE.

LEVI H. KINDY, OF SEVILLE, OHIO.

IMPROVEMENT IN MACHINES FOR STUFFING HORSE-COLLARS.

Specification forming part of Letters Patent No. **196,122,** dated October 16, 1877; application filed April 13, 1877.

To all whom it may concern:

Be it known that I, LEVI H. KINDY, of Seville, in the county of Medina and State of Ohio, have invented certain new and useful Improvements in Machines for Stuffing Horse-Collars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in machines for stuffing horse-collars; and consists in the several parts and combinations, as hereinafter specified and claimed.

In the drawings, Figure 1 represents a side view of a device embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 represents an end view. Fig. 4 represents a modification in the gearing devices. Fig. 5 shows a cross-section of the hopper or feeder, showing the formation and position of the extra bottom. Fig. 6 represents a part of the stuffing-rod with pinion thereon.

The object of my invention is the construction of a machine which shall be equally efficient whether short or long straw is used, or cotton or other suitable material, as a stuffing for the collars.

The device consists of a frame, A, mounted on standards or legs B, or in any other suitable manner, and constructed of wood or iron, or both, as may be deemed convenient. The table C is provided with a suitable guide or groove, D. E is a carrier, secured to the rack G, which slides in said guide D. To the carrier is loosely attached the stuffing-rod H, in any suitable manner which will allow the rod to revolve, but will prevent it from any longitudinal motion except in connection with the rack G. Said rod H is provided, near its outer end, with a pinion, I, and is suitably journaled in a frame near the same. To the legs or standards B of the machine are attached brackets K, in which the shaft L is journaled, the latter carrying either one or two gear-wheels, M, as may be desired. N is a shaft, suitably journaled to the frame of the machine, which carries either one or three pinions, *a*, *b*, and *c*, the central one, as represented in Fig. 3, meshing with the rack G, while *a* and *c* mesh with the gear-wheels M.

If only one gear-wheel is used it will mesh with pinion *b*, and with the diameter of the latter unchanged the same result can be obtained as in the former can by increasing the diameter of the gear-wheel M. To the shaft L is attached a lever or handle, *d*, by which this part of the device is operated.

A sufficiently large opening is made through the table at the place where the pinion *b* operates on the rack G. The guide D is so constructed that the rack G slides freely therein, and has only a longitudinal movement, its accidental displacement being prevented by suitable devices.

O is a hand-wheel, rigidly attached to one end of the shaft P, which latter is suitably journaled in standards *e e*, and has secured to its other end the gear-wheel R, which meshes with the pinion I of the stuffing-rod H. By turning the hand-wheel in one direction a rotary motion in the opposite direction will be imparted to the stuffing-rod.

Said stuffing-rod may be provided with a flat end, or may have its end bent at a right angle, as shown at *h* in Fig. 2; or it may be straight without having its end enlarged.

S is the feeder, in which the straw or other material is placed with which the collars are to be stuffed. It is provided with a nozzle or spout, *s*, on one side, and an aperture, *s'*, in the opposite side, through which aperture and nozzle the stuffing-rod moves or reciprocates. It is also provided with an extra removable bottom, T, sustained by legs *t*, which is placed on the bottom of the feeder when short straw is employed as the stuffing material. It is curved, as shown, in order to throw the short straw toward the center as much as possible, that it may be in the path of the stuffing-rod. Said feeder is secured to the frame in any suitable manner.

V represents the collar-block, to which the collar is fastened during the operation of stuffing. It is suitably grooved for the reception of two sliding plates, *v* and *v'*, and is further provided with a transverse groove, *w*. The unstuffed collar is straightened, and its two ends attached to opposite ends of the plates *v* and *v'* near *x* and *x'*, as indicated in the drawing.

When the collar is being fastened, the two ends *y* and *y'* of the two plates are brought together as near as the angle on which they are cut will permit, and when they are securely fastened a wedge is introduced between the ends at *y y'*, and the plates separated thereby as far as necessary, so that the collar may be taut on the block. The collar is fastened at *x x'* in any suitable manner. The collar-block is provided on its under side with a central pin or projection, *z*, which fits into the notches *f* of the slot *g*, formed in the top plate of the frame of the machine.

The operation of the device is as follows: The collar to be stuffed is fastened, as described, with the rim of the same occupying the central longitudinal line of the block, so that its open ends shall be in a line with the nozzle of the feeder, or so that either extremity can be drawn over the same, according to which end is presented to it. The belly of the collar is therefore to one side of the central line, as shown in the dotted lines in Fig. 2.

The collar-block can be rotated on its central pin *z;* but it can be secured in position by means of a pin, *i*, which passes through the block and into an aperture in the platform of the device. This is done during the operation of stuffing. When the collar and block are in position, a reciprocating motion is imparted to the stuffing-rod by the operator moving the handle or lever *d*, by which motion is imparted to the rack through the medium of the gear-wheels and pinion heretofore described. As the stuffing-rod moves forward through the feeder and nozzle into the cavity of the collar it carries with it, at each stroke, a quantity of straw contained in the feeder, and compresses it against that which has been previously deposited there by its action. This operation is continued until the requisite quantity of straw has been introduced, and the same sufficiently compressed. When the rim has been stuffed from one end, the collar-block is revolved, and the other end of the rim presented or secured to the nozzle, and the stuffing-rod again set in motion. When the entire rim has been stuffed the position of the collar-block is changed so that the center pin *z* rests in one of the side notches, which brings the collar in such a position that the belly of the same will be in a line with the stuffing-rod. The stuffing operation is again repeated, and to complete the other part or half of the belly of the collar the block is given a half-revolution, and the center pin inserted in the opposite side notch, whereby the unstuffed part of the collar is brought in line with the stuffing rod or nozzle of the feeder.

When short straw is used I insert in the feeder the extra bottom T, and provide the stuffing-rod with a bent end. In this case I call into action the stuffing-rod rotating device, whereby the bent end of the rod is made to point in different directions at different times, and the stuffing of the straw and its compression within the collar facilitated. This is done by the operator revolving the hand-wheel O, which causes the gear-wheel R to act on the pinion I on the stuffing-rod.

The operator can control the movements of the rod, either rotary or reciprocating, and can make the rod revolve in either direction.

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

1. The combination of gear-wheel M, pinion N, rack G, and stuffing-rod H, substantially as and for the purpose described.

2. The combination of gear-wheel M, pinion N, rack G, stuffing-rod H, and feeder S, substantially as and for the purpose described.

3. The combination of feeder S with platform provided with notched slot, and collar-block having a central pin, whereby said collar-block can be held in several different fixed positions, to permit all parts of the collar to be stuffed without removing the same from the block, substantially as described.

4. In a horse-collar-stuffing machine, the grooved collar-block provided with sliding plates *r r'* and downwardly-projecting pin engaging in the notched slot *f g*, substantially as and for the purpose described.

5. In a horse-collar-stuffing machine, the combination of the stuffing-rod, provided with pinion I, with gear-wheel R, whereby a rotary motion may be imparted to said stuffing-rod.

6. The feeder S, provided with a removable extra bottom, T, in combination with a stuffing-rod provided with a bent or enlarged end, substantially as and for the purpose described.

7. In a horse-collar-stuffing machine, the stuffing-rod H, provided with a bent end, *h*, substantially as and for the purpose described.

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

LEVI H. KINDY.

Witnesses:
CURTIS H. ELLIOTT,
PHILIP HEINLY.