

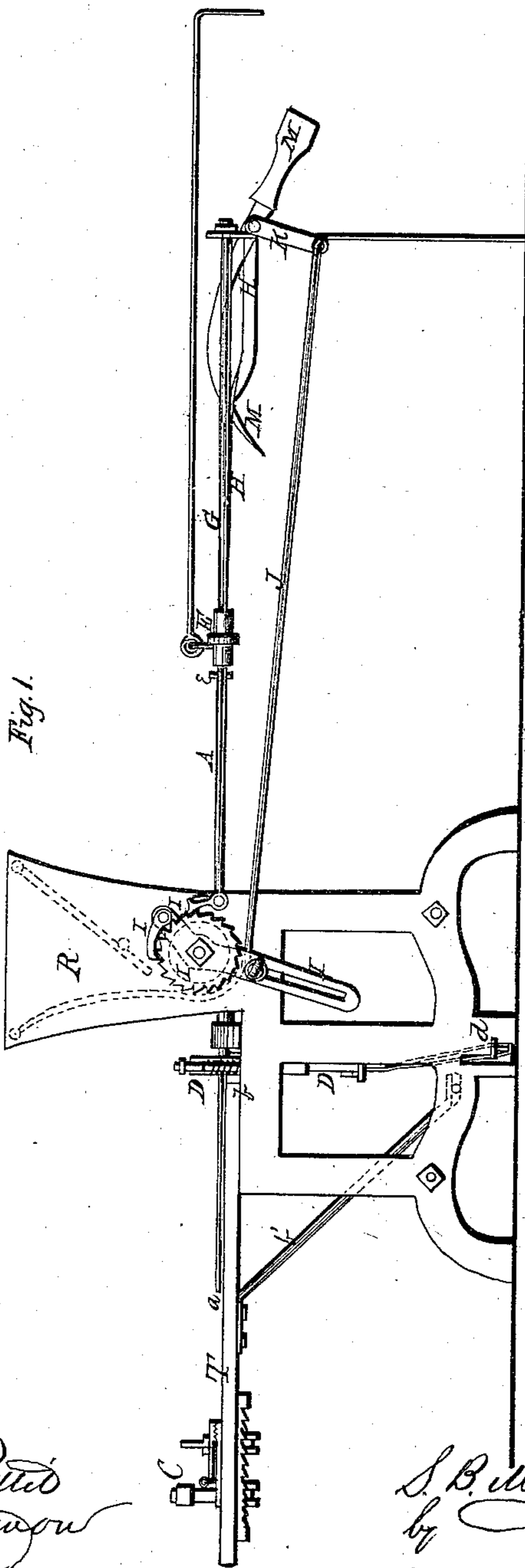
Sheet 1-2 Sheets.

S. B. McKee,

Horse-Collar Machine

N^o 79,997.

Patented July 14, 1868.



Witnesses:
Chas. A. Pettit
J. W. H. H. H. H.

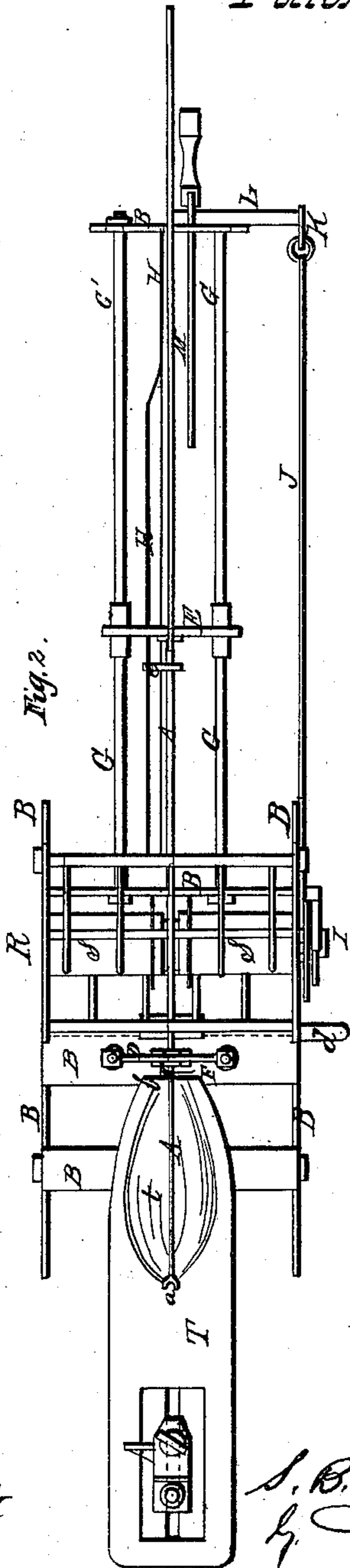
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S. B. McCorle,

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Witnesses:
Chas. A. Pettit
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Inventor:
S. B. McCorle
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United States Patent Office.

S. B. McCORKLE, OF GREENEVILLE, TENNESSEE.

Letters Patent No. 79,997, dated July 14, 1868.

IMPROVED HORSE-COLLAR-STUFFING MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, S. B. McCORKLE, of Greeneville, in the county of Greene, and State of Tennessee, have invented a new and improved Machine for Stuffing Horse-Collars; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation.

Figure 2 is a plan.

The object of this invention is to construct a machine which will place the straw in the collar in such a position that its elasticity will be preserved and utilized, thereby producing a better collar than any heretofore made, whether by hand or machinery.

In manufacturing horse-collars, the covering or envelope is first made, and afterwards it is filled in with straw, which is thrust into it by means of a forked or notched plunger or rammer. The plunger is shown in the drawings at A, its terminal fork or notch being represented by *a*. The straw is seized near the middle of the stalk by the fork *a*, and, as it is thrust forward by the movement of the plunger, it is doubled or bent back over the end of the plunger into a V-form, the plunger still holding it at the angle. In this shape it is thrust into the leather collar, the angle of the V entering first, and the arms following. By this action, the straw is not broken at the angle to such a degree as to destroy its elasticity, but the ends spring apart with considerable force. A layer of straws being thus deposited, all their ends springing in the same direction, they form an elastic stuffing, which expands the collar, pressing out its walls and giving it all the firmness and elasticity required. The first or extreme end layer being forced in, the ends of the straws press apart, offering a wedge-shaped opening for the admission of the next layer, and so on, till the collar is filled, each layer being wedged into the one next preceding it. The collar thus formed is compact, elastic, firm, and durable.

In constructing such collars, the leather envelope or bag that is to hold the straw lies upon a table or platform, T, in a suitable bed, *t*. It being in the shape of a horse-collar, it necessarily lies on its side, that part which is to press against the horse's shoulder and neck lying uppermost or lowermost, and the opposite part, which receives and supports the hames, lying in the opposite position. For practical reasons, it has been found expedient that the side of the collar which is to press against the animal's shoulder should be lowermost, and it will, therefore, be in these specifications described as the under side of the collar, the hames-side being described as the upper side of the collar, referring, by the use of such terms, simply to the position of the collar on the bed *t*, while it is subjected to the operation of stuffing.

The collar lying in this position, and the doubled straw being forced into it in the manner above described, it follows that the collar will be elastic on two sides, and on the other two inelastic; for the elasticity depends on the "spring" or elasticity of the doubled straw, and the latter lying all in one position and direction, its elasticity will be imparted to only two sides of the collar.

The difficulty which this invention seeks to obviate lies just here; In all machines hitherto constructed for the purpose, the straw is placed in a rack, R, directly across the machine, and the fork or plunger, in order to catch the straws and force them along into the collar, is obliged to hold its prongs in a vertical plane, one above the other. It catches the straw in a horizontal position, doubles it in that position, and forces it forward, its doubled ends projecting backward and outward from the end of the plunger, in the same horizontal plane with it. In that way the straws enter the collar and are packed into it, and, of course, after they are packed in, exert all their elastic force in a lateral direction.

But upon an examination of the position of the collar while stuffing, as above described, this will be seen to be the wrong direction. The elasticity should be imparted to the collar in a vertical direction, as it lies on the bed, or in the direction of a line from the hames to the shoulder. It is designed to ease the pressure of the hames against the horse's neck. The elastic cushion within the collar must, therefore, press expansively in that direction.

When the machine operates as above described, however, the straw is so packed into the collar that its elasticity is wasted in a direction where there is no use for it, and between the hames and shoulder it forms a hard, unyielding mass, that is disagreeable and injurious to the horse.

This improved machine obviates the difficulty above referred to, by causing the forked plunger, after catching the straws, to turn ninety degrees, or thereabouts, and thrust the straws into the collar in such a position that the pressure of their ends will be towards the hames and shoulder, making the collar elastic in that direction, and thereby greatly improving its construction.

In this respect, it is a decided improvement upon the machine patented by this inventor, December 18, 1855, as well as upon that patented by E. B. Miller, March 17, 1868.

Having thus described the nature of the difficulty hitherto experienced in stuffing horse-collars with straw, by means of machinery, and the manner in which I propose to entirely obviate that difficulty, I will now proceed to describe, in detail, the construction and operation of my improved machine, reference being had to the accompanying drawings and to the letters of reference thereon.

In the drawings referred to, B B represent the frame, R the hopper or rack, containing the straw to be used, S the cylinder which moves the straw down so that it can be caught and forced forward by the plunger; A, the plunger; T, the platform or table on which the collar lies, hinged to the frame B at *b*, so that it can swing laterally, provided with a supporting-brace, *b'*, and a movable and adjustable clamp, C, for holding one end of the collar, the other being held by a funnel, F, which, itself, is clamped in place by a spring-clamp, D, operated by a lever, *d*. The plunger is provided with a cross-head, E' which runs on slide-bars, G G. Between the slide-bars is a guide-bar, H, bent down and twisted at its rear end in such a manner that an arm, *e*, projecting from the side of the plunger A, and clasping the rod, is caused to turn down as the plunger approaches the rear end of its track, thereby rotating the plunger about one-quarter around on its longer axis. The fork, A, on the forward end of the plunger, is so arranged that, as the arm E runs down on the curved part of the guide-bar, the prongs of the fork assume a position one over the other, in the same vertical plane, and in that position catch the straw from the roller when the plunger begins to move forward again; but when the plunger has run so far forward that the arm *e* leaves the bent part of rod H, in other words, just as the straw is approaching the open mouth of the collar, the plunger turns back on its axis, so as to bring the prongs of the fork in the same horizontal plane, instead of the same vertical plane, and in that position carries the straw into the collar and packs it there.

It will be observed that this entirely obviates the objection hereinabove set forth, disposing the layers of bent straw in such a manner in the collar that their elastic force will be exerted towards the shoulder and the hames, as it ought to be.

The remaining parts of the machine are similar to those of the machines heretofore in use, consisting of a ratchet-wheel apparatus, I for moving the cylinders, a rod, J, for operating the ratchet-wheel, and a crank, K, shaft, L, and bent lever, M, for receiving motion from the plunger or cross-head, and imparting it to the rod J, and thereby to the cylinder.

The whole apparatus is exceedingly simple, convenient, and effective, completely obviating and removing the difficulty complained of, and enabling me to make, by machinery a horse-collar superior to anything of the kind heretofore produced, either by hand or machinery.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A machine for stuffing horse-collars, so constructed and operating that as the plunger enters the collars, its fork, *a*, will have its prongs in a horizontal plane, for the purpose described.
2. A machine for stuffing horse-collars, so constructed and operating that the plunger partially rotates as it moves back and forth, in order that its prongs, *a*, may lie in a vertical plane as it catches the straw, and in a horizontal plane as it delivers the straw into the collars, substantially as described.
3. The combination of the plunger A, having the fork *a*, with the arm *e*, and bent guide-rod H, when the several parts are constructed to operate in the manner described.

To the above specification of my invention I have signed my hand, this 2d day of June, 1868.

S. B. McCORKLE.

Witnesses:

G. E. JONES,
JOHN T. BEEKS.