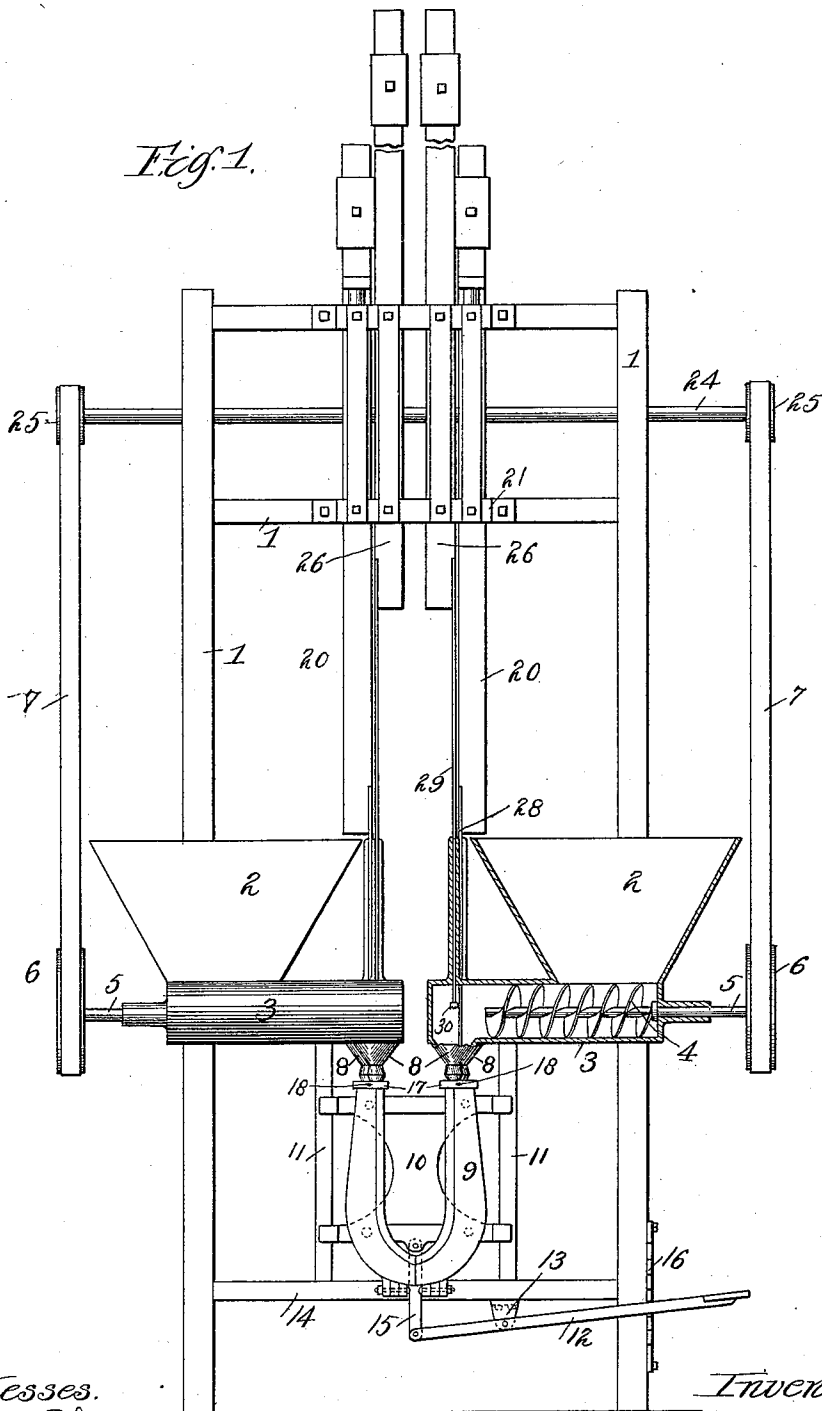


E. C. PHILLIPS.
APPARATUS FOR STUFFING HORSE COLLARS.

No. 541,626.

Patented June 25, 1895.



Witnesses.

Wm. M. Rheem.

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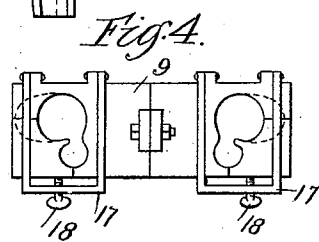
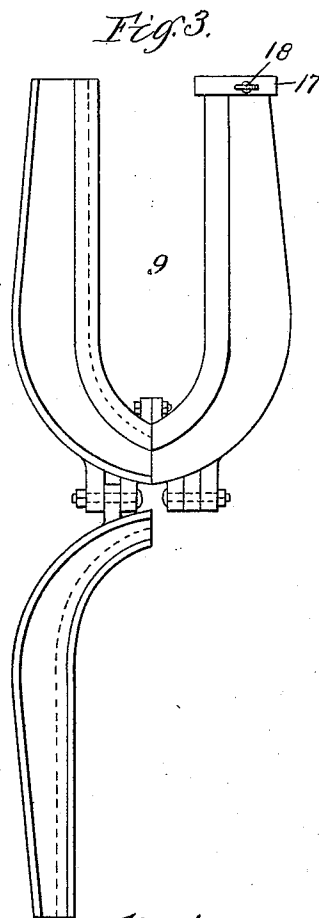
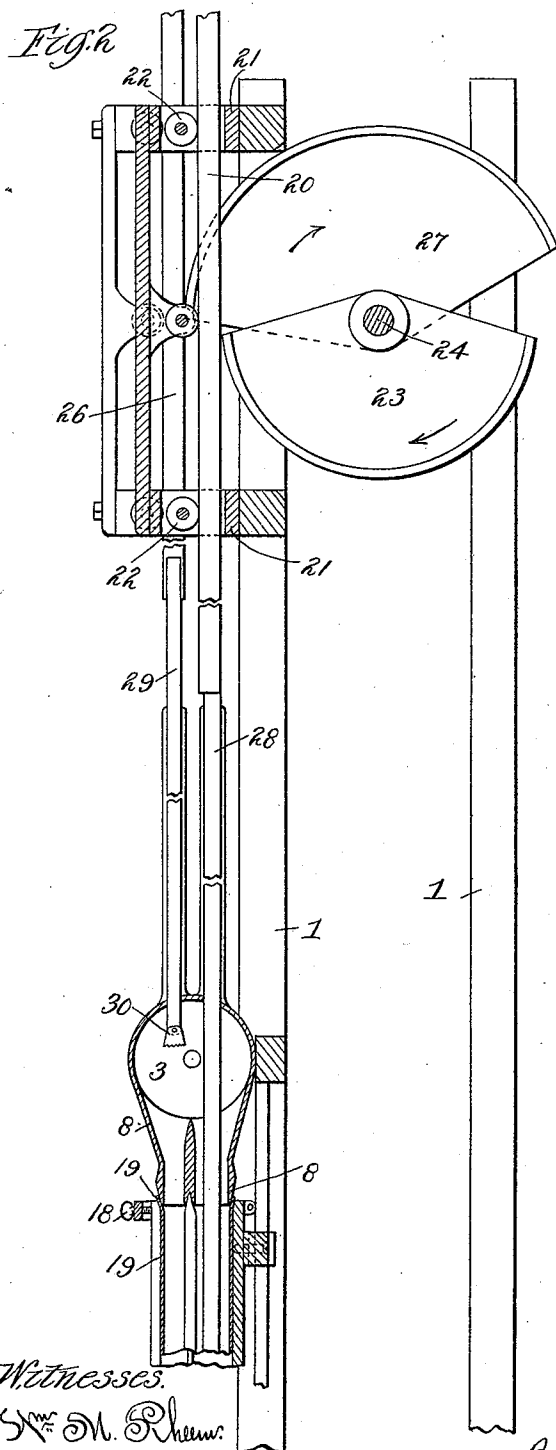
Inventor.

By Elwood C. Phillips
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UNITED STATES PATENT OFFICE.

ELWOOD C. PHILLIPS, OF CHICAGO, ILLINOIS.

APPARATUS FOR STUFFING HORSE-COLLARS.

SPECIFICATION forming part of Letters Patent No. 541,626, dated June 25, 1895.

Application filed September 17, 1894. Serial No. 523,199. (No model.)

To all whom it may concern:

Be it known that I, ELWOOD C. PHILLIPS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and Improved Apparatus for Stuffing Horse-Collars, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation, partially in vertical section. Fig. 2 is a partial vertical section upon line 2 2 of Fig. 1. Fig. 3 is an enlarged detail, being a view of the mold in which the collar is formed with one side opened and turned down. Fig. 4 is an enlarged detail, being a top view of the mold.

The object of my invention is to provide new and improved mechanism by which horse-collars may be readily and well stuffed by machinery. I accomplish this object as hereinafter specified and as illustrated in the drawings.

That which I regard as new will be set forth in the claims.

In the drawings 1 indicates the framework upon which is mounted the parts of the machine hereinafter described.

2—2 indicate hoppers, which are mounted upon the framework.

3 indicates conveyer tubes which are mounted upon the bottom of the hoppers 2, and into which the hoppers 2 open.

4 indicates conveyer screws which are mounted upon shafts 5 journaled in the outer ends of the conveyer tubes 3, which shafts are driven by means of pulleys 6 and belts 7.

8 indicates nozzles which are mounted upon the inner ends of the conveyer tubes 3, and into which the conveyer tubes open, as best shown in Figs. 1 and 2. The nozzles 8 are funnel-shaped at their tops and are adapted at their lower ends to enter into and fit within the mold and coverings of the fore and after wales of the collar, as hereinafter described.

9 indicates a mold, which is mounted upon a cross-head 10, which slides vertically upon uprights 11—11 mounted in the framework 1.

12 indicates a foot-lever which is pivoted upon an ear 13 secured to a cross-bar 14 of the framework 1.

15 indicates a link, the upper end of which is pivoted to the lower end of the cross-head

10, the lower end being pivoted to the inner end of the lever 12.

16 indicates a ratchet secured upon the frame 1 and adapted to engage with the outer end of the foot-lever 12, whereby it may be held in any desired position. By moving the foot lever up or down the mold 9 may be moved toward or away from the nozzles 8, for the purpose hereinafter described.

The mold 9 is of such shape that its inner surface conforms in general to the shape of the horse-collar which it is desired to make, and has its parts hinged at its lower end so that they may be separated and the covering for the collar placed within the mold 9.

17 indicates clamps which are hinged to the upper ends of the mold 9, as best shown in Fig. 4, and adapted to fit over the upper ends of the same. The clamps 17 are provided with thumb-screws 18 which pass through the openings in the clamps and are adapted by being screwed in to hold the sections of the mold firmly in place when closed, as best shown in Fig. 4. When it is desired to open the mold the thumb-screws 18 are loosened and the clamps raised upon their hinges, when the front sides of the mold may be turned upon their hinges outward and downward, as best shown in Fig. 3.

19 (see Fig. 2) indicates the upper end of the covering of the horse-collar within the mold 9.

20 indicates rods which are mounted between cross bars 21 on the framework 1 and anti-friction rollers 22, and are adapted to slide vertically therein.

23 indicates friction plates which are shaped in the segment of a circle, and are keyed upon a shaft 24 which is journaled in the framework 1, and driven by a belt 7 and pulleys 25. The peripheries of the friction plates 23 are adapted to bear against and engage with the rear surface of the rods 20, so that when rotated in the direction indicated by the arrow in Fig. 2 they will lift the rods 20 vertically.

26 indicates rods which are mounted so as to move freely vertically in the framework 1, in the same manner in which the rods 20 are mounted.

27 indicates friction plates of the same shape as the friction plate 23, and like it keyed upon the shaft 24. Their periphery is adapted to

bear against and engage with the rods 26 and to raise them when the friction plate is rotated in the direction indicated by the arrow thereon in Fig. 2.

§ 28—29 indicate rammers or flexible rods of steel or other suitable material, which are mounted respectively in the lower ends of the rods 20—26.

30 indicates a rammer-head which is secured to the lower end of the rammer 29. A similar rammer-head is located upon the end of the rammer 28, but is not shown because the lower end of the rammer 28 is cut away in Fig. 2. The rammer heads are corrugated upon their lower surfaces, and are of a size adapted to pass freely into the mold and into the covering of the fore and after wale of the collar when placed inside the mold, as hereinafter described. It is obvious that when the friction plates 23—27 are rotated in the direction indicated by the arrows they raise the rods 20—26 until the circular edges of said friction plates cease to bear upon said rods 20—26, when, the revolution being continued, the rods will be freed from the pressure and will drop with the rammers into the mold. Fig. 2 shows these friction plates so arranged that the rods 20—26 with the rammers thereto attached alternate in their action.

30 The rammers 28—29 are formed of a material sufficiently rigid to perform the function of ramming, but sufficiently flexible to follow the curve of the mold.

Such being the description of my device, 35 its operation is as follows: The covering of which the horse-collar is made is stitched together ready for its stuffing, the tops being left open. The mold 9 is opened and the covering of the collar placed therein, the covering 40 of the after-wale coming into the larger chamber of the mold and that of the fore-wale coming into the smaller. The mold is then closed and locked, as hereinbefore described, and raised by the foot-lever until the nozzles 8 are brought within the covering of the fore and 45 after wales of the collar, when it is locked in that position by engaging the lever 12 with the ratchet 16. The material with which it is desired to stuff the collar, (which may be chopped straw, chopped hay, cork, or any other suitable material) is fed into the hoppers 2 and 50 the driving belts 7 set in motion. The machinery by which the belts 7 are operated may of course be of any approved kind. By 55 means of the conveyer screws 4 this material is fed through the conveyer tubes 3 and into the nozzles 8, whence it drops downward into the collar. The rammers, driven as above described, force the material downward into the collar and pack it tightly in the covering. 60 When the collar is stuffed the machine is stopped, the mold lowered from the nozzles and opened, and the stuffed collar removed, when the upper ends may be sewed up or secured in any suitable manner.

I have shown and described the machine as stuffing both sides of the collar at once, but

it is obvious, of course, that if desirable to do so, or if the collar is of such construction as to make it advisable, it could be stuffed one 70 side at a time; in which case the friction plates adapted to operate the part not in use could be simply unkeyed from the shaft so as not to rotate with it, and that portion of the machine left idle.

75 That which I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with a mold having approximately the shape of a completed horse collar, and adapted to contain the covering 80 of a horse collar, and mechanism adapted to feed stuffing into said mold, of flexible rammers adapted to pack stuffing into a collar contained in said mold, and mechanism for operating said rammers, substantially as described.

2. The combination with a mold having approximately the shape of a completed horse collar, and adapted to contain a horse-collar, and having approximately the shape of a completed collar of a flexible rammer slidingly 90 mounted above said mold, and mechanism adapted to raise said rammer vertically and release it after being raised, whereby said rammer is allowed to drop into said mold, 95 substantially as described.

3. The combination with a mold adapted to contain a horse-collar, and having approximately the shape of a completed collar and mechanism adapted to feed stuffing into said 100 mold, of a flexible rammer slidingly mounted above said mold, and mechanism adapted to raise said rammer vertically and release it after being raised, whereby said rammer is allowed to drop into said mold, substantially as 105 described.

4. The combination with a frame, a mold mounted thereon and adapted to contain a horse-collar, and having approximately the shape of a completed collar and mechanism 110 carried by said frame adapted to feed stuffing into said mold, of a vertically movable rod mounted on said frame above said mold, mechanism adapted to raise said rod vertically and allow it to drop after being raised, 115 and a flexible rammer secured to the lower end of said rod and adapted to enter said mold when dropped, substantially as described.

5. The combination with a frame, a mold carried thereby and vertically adjustable 120 thereon, said mold being adapted to contain a horse-collar, and having approximately the shape of a completed collar and mechanism carried by said frame adapted to feed stuffing into said mold, of a vertically movable rod 125 mounted on said frame above said mold, mechanism adapted to raise said rod vertically and allow it to drop after being raised, and a flexible rammer secured to the lower end of said rod and adapted to enter said mold 130 when dropped, substantially as described.

6. The combination with a frame, a mold carried thereby and vertically adjustable thereon, mechanism adapted to adjust said

mold vertically upon said frame, and a conveyer located upon said frame and adapted to feed stuffing into said mold, of vertically adjustable rods mounted on said frame above
5 said mold, segmental friction plates adapted to engage said rods and lift the same and to disengage from said rods after they have been lifted, mechanism for driving said segmental friction plates, and flexible rammers secured
10 to the lower ends of said rods and adapted to enter said mold when said rods are released, substantially as described.

7. The combination with a framework, a mold carried thereby and vertically adjustable thereof, said mold being adapted to contain a horse-collar, mechanism for adjusting
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said mold vertically on said frame, hoppers carried on said frame and provided with conveyer tubes, conveyer screws adapted to feed stuffing into said mold, and means for driving said conveyer screws, of rods carried in
20 said frame and vertically movable thereof, mechanism adapted to raise said rods and permit the same to drop after being raised, and flexible rammers mounted on said rods and
25 adapted to enter said mold when dropped, substantially as described.

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Witnesses:

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R. J. VAN DYKE.