

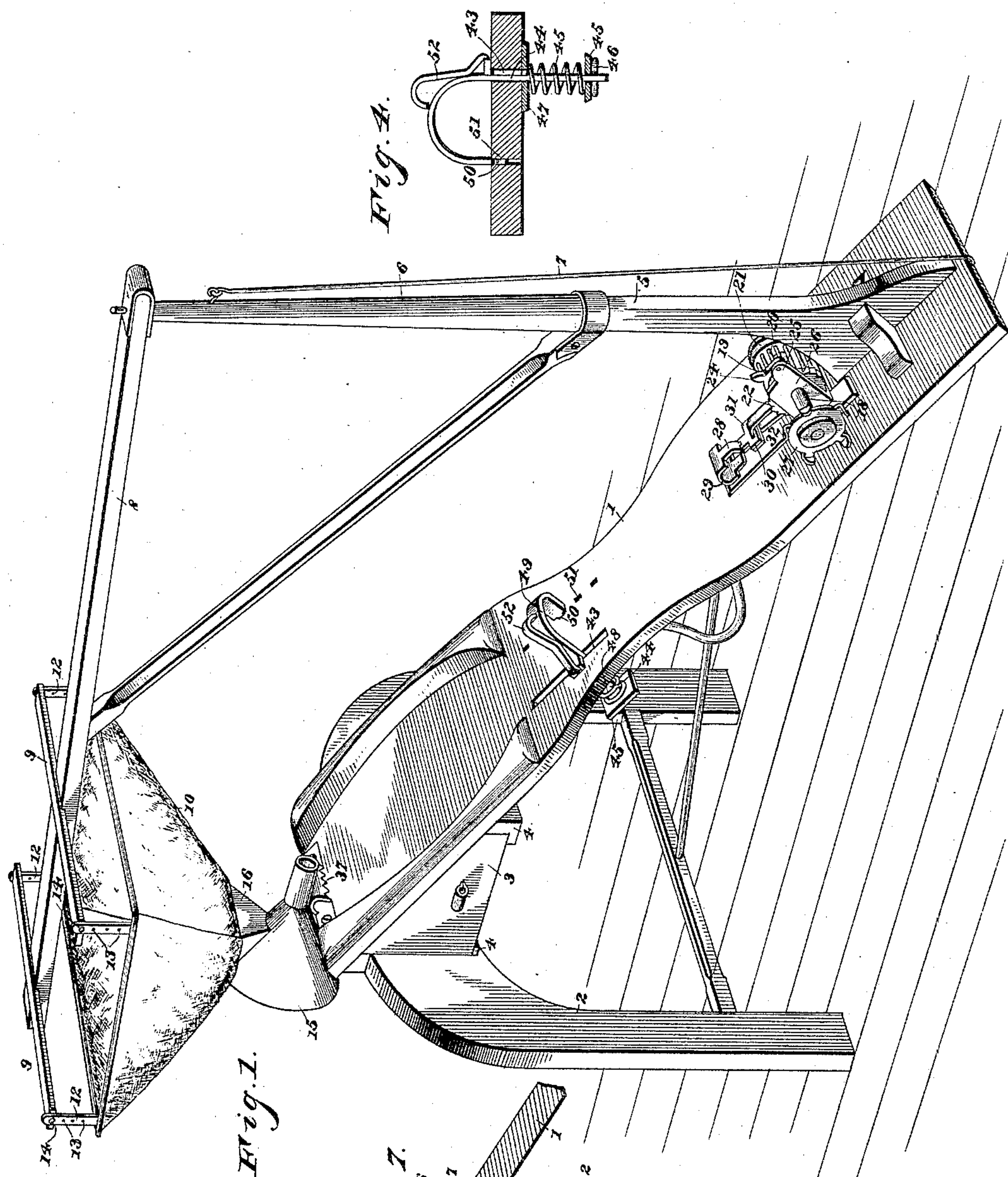
(No Model.)

3 Sheets—Sheet 1.

C. J. McNULTY.
MACHINE FOR STUFFING HORSE COLLARS.

No. 442,993.

Patented Dec. 16, 1890.



Witnesses:

W. W. L. L.

Wm. Baggett

By *his* Attorneys,

C. A. Snow & Co.

Inventor
Caleb J. McNulty,

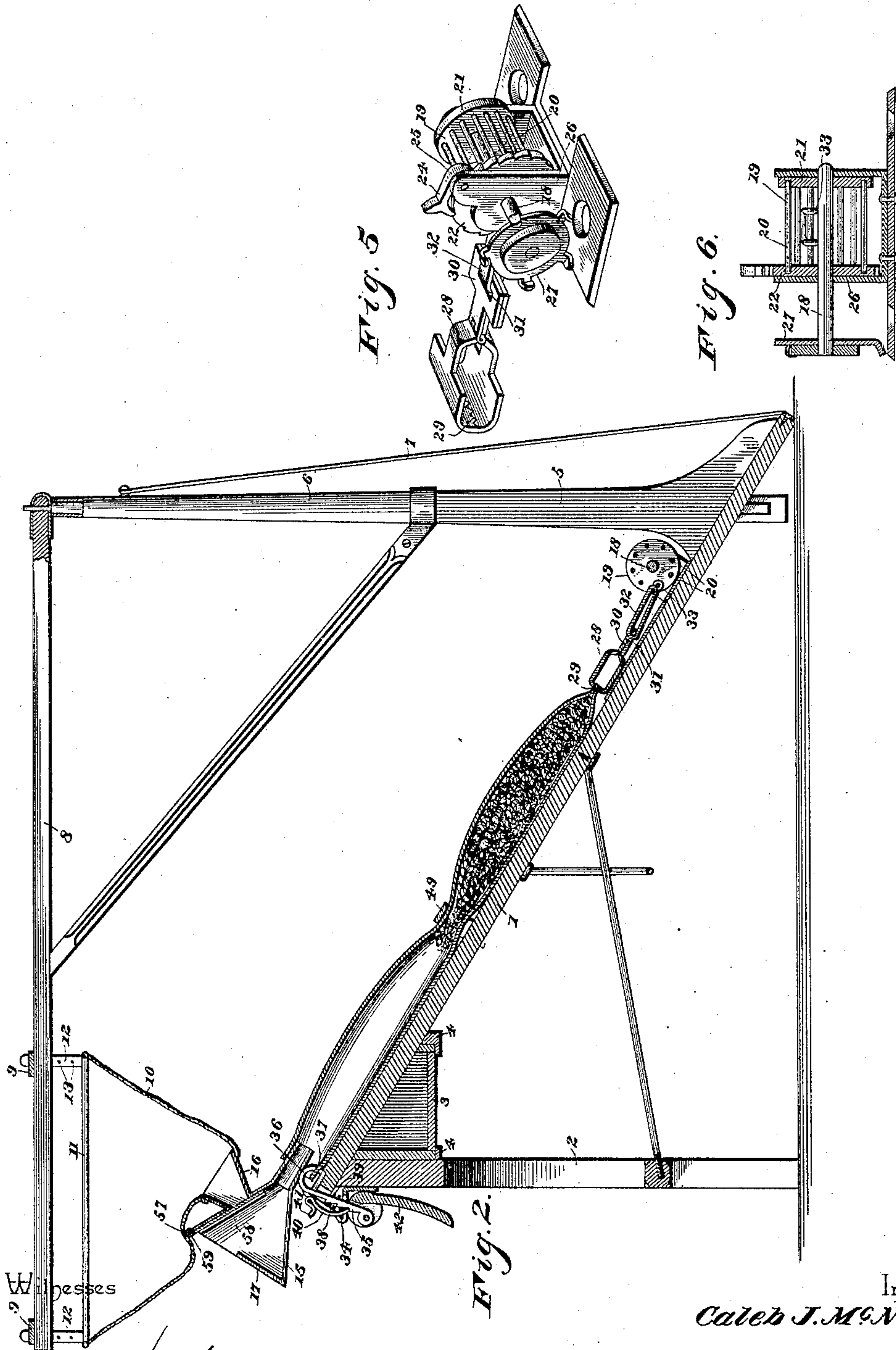
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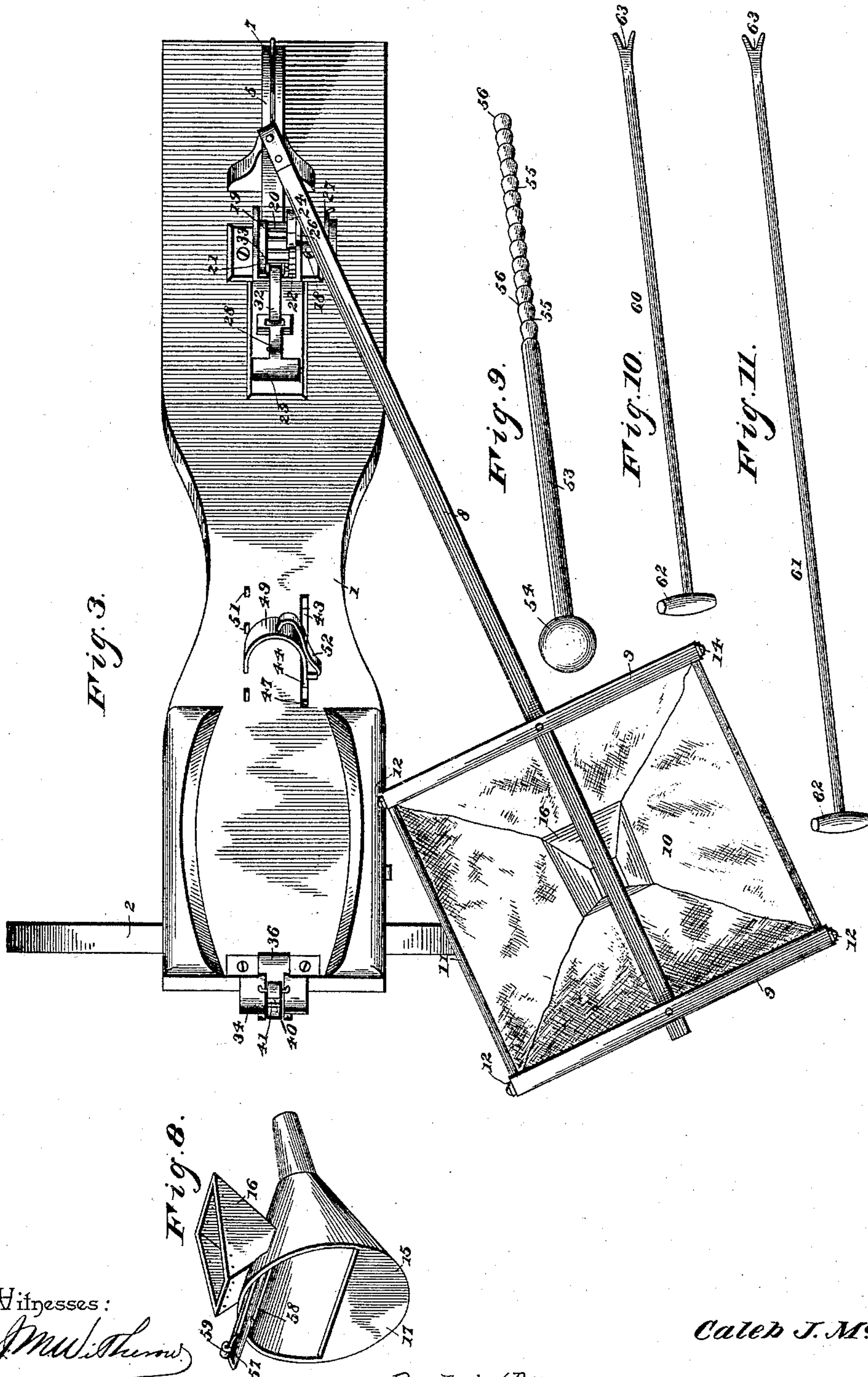
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UNITED STATES PATENT OFFICE.

CALEB J. McNULTY, OF SEDALIA, MISSOURI.

MACHINE FOR STUFFING HORSE-COLLARS.

SPECIFICATION forming part of Letters Patent No. 442,993, dated December 16, 1890.

Application filed June 28, 1890. Serial No. 357,107. (No model.)

To all whom it may concern:

Be it known that I, CALEB J. McNULTY, a citizen of the United States, residing at Sedalia, in the county of Pettis and State of Missouri, have invented a new and useful Machine for Stuffing Horse-Collars, of which the following is a specification.

This invention relates to machines for stuffing horse-collars; and it has for its object to construct a machine of this class which shall be simple, durable, and efficient in operation, and which may be constructed at such a moderate expense as to place it within the reach of harness-makers and saddlers having only small establishments, who will thus be saved the necessity of purchasing horse-collars from the larger manufacturers.

The invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my improved collar-stuffing machine. Fig. 2 is a longitudinal vertical sectional view of the same, showing the machine in position for operation. Fig. 3 is a top view showing the crane supporting the hopper swung aside. Fig. 4 is a transverse sectional view taken through the frame-board of the machine and the clamp holding the center of the collar. Fig. 5 is a perspective detail view of the adjusting mechanism at the lower end of the machine. Fig. 6 is a sectional view of said adjusting mechanism, taken longitudinally through the axis of the drum or roller. Fig. 7 is a sectional detail view of the adjusting or holding mechanism at the upper end of the machine. Fig. 8 is a perspective detail of the funnel at the lower end of the hopper. Figs. 9, 10, and 11 are detail views of the stuffing-rods used in connection with my invention.

Like numerals of reference indicate like parts in all the figures.

The frame of my improved machine is composed of an inclined base-board 1, the upper end of which is supported upon a suitably-arranged leg-frame 2, between which and the said base-board is arranged a drawer 3, which is mounted upon suitable cleats 4, and which is adapted to serve as a receptacle for such

saddlers' tools as are commonly used in connection with machines of this description.

5 designates an upright rising from the lower end of the base-board of the machine. To the upper end of said upright is pivotally attached a swinging frame or crane 6, which is connected by a brace-rod 7 with the lower end of the base-board. To the outer end of the horizontal beam 8 of the crane are attached cross-pieces 9, the outer ends of which support the hopper 10. The latter, the body of which may be made of textile material spaced at the top by a rectangular frame 11, is provided at its corners with upwardly-extending straps 12, each having a series of perforations 13, by means of which the hopper may be connected adjustably with buttons 14 at the outer ends of the supporting-bars 9.

15 designates a funnel, which is provided in its upper side with a hopper 16, which is suitably connected with the discharge-opening at the bottom of the flexible or textile hopper 10. The funnel 15 is provided at its large or front end with a shield or guard 17, in order to prevent the stuffing material from dropping out at the front. The small end of the funnel is made of convenient size to enter an opening in the collar-blank.

Near the lower end of the base-board 1 and directly in front of the upright 5 bearings are provided for a shaft 18, carrying a drum 19, which is composed of a circumferential series of rods 20, connecting a pair of disks, which are designated, respectively, by 21 and 22. The latter is provided with an annular series of teeth or ratchets 23, engaged by a pawl 24, which is pivoted to a lug 25, extending upwardly from one of the flanges 26, that form the bearings for the shaft 18. The outer end of said shaft is provided with a hand-wheel 27, by means of which it may be conveniently manipulated.

28 designates a clamp or clasp, which is composed of two members connected pivotally and each provided at its front end with a toothed or serrated clamping-edge 29. The rear ends of the members 30 of the clamp 28 are provided with slots 31 for the reception of a strap 32, the ends of which are joined together and upon which is mounted a hook 33, adapted to engage any one of the rods 20,

which connect the disks 21 and 22 to form the drum 19.

At the upper end of the base-board 1 of the machine is arranged a holding device, which is composed of a frame 34, having bearings for a vertically-sliding shank 35, the upper end of which is bent to form a hook 36, having a serrated edge 37, which is adapted to bear against the upper side of the base 1 near the extreme upper end of the latter. The shank 35 is provided on its front side with a series of teeth or ratchets 38, and around the said shank below its upper end, which is enlarged to form the hook or head 36, is coiled a spring 39, the upper end of which bears against the shoulders formed by the under edge of the head 36 and the lower end of which bears against the frame 34, thus normally forcing the said shank in an upward direction. Suitably pivoted to the frame 34 is a dog or pawl 40, having a handle 41, by means of which it may be conveniently manipulated. This pawl is adapted when the shank 35 is forced downwardly against the tension of the spring to engage the teeth or ratchets 38, and thus retain the shank in the position to which it may have been adjusted. Pivotaly connected with the lower end of the shank 35 is a cam-lever 42, adapted to bear against the inner and underside of the frame 34, and thus to force the lower end of the shank 35 in a downward and outward direction, thereby serving to lock the shank in its lowered position.

The base-board 1 is provided with a slot 43, through which extends a shank 44, the lower end of which is provided with a washer 45, secured in position by means of the key 46. Another washer 47 is mounted upon the shank 44 directly underneath the base-board 1, and a spring 48 is coiled upon the shank between the said washers, serves to force the said shank in a downward direction. The upper end of the shank 44 is provided with a hook or yoke 49, having a tooth or point 50, which is adapted to engage any one of a series of recesses 51 in the upper side of the base-board parallel to the slot 43. The loop 49 at the upper end of the shank has a handle 52, by means of which it can be conveniently manipulated. This device is for the purpose of confining the central portion of the collar in contact with the base-board or support during the operation of this device.

In connection with my improved collar-stuffing machine I avail myself of the stuffing-rods, detail views of which have been given in Figs. 9, 10, and 11 of the drawings. The stuffing-rod 53 (shown in Fig. 9) consists of a cylindrical rod provided with a handle 54 and having at its outer end a series of annular beveled recesses 55, forming annular beveled beads 56, which, when the rod is inserted through the funnel, will convey the material contained in said funnel through the spout of the same and into the collar-blank, into the opening at the upper end of which the said

spout has been inserted. The stuffing material usually employed is cut or chopped straw, hay, cork, or the like, and in order to control the passage of the material from the hopper into the funnel 15, I provide the latter with a sliding valve 57, mounted upon guide-cleats 58 and having a handle 59. When the said slide is withdrawn, the stuffing material will pass from the hopper into the funnel, where it is arrested by the shield or guard 17, thus permitting the contents of the said hopper to be readily forced out through its spout by means of the stuffing-rod.

The stuffing-rods 60 and 61 (shown, respectively, in Figs. 10 and 11 of the drawings) each consist of a steel rod or wire of suitable dimensions provided at one end with a handle 62, having its opposite end flattened and provided with a notch 63, which will readily engage the stuffing material and carry it through the spout of the funnel into the rims or rolls of the collars, for the stuffing of which these rods are especially adapted and intended.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of my invention will be readily understood by those skilled in the art to which it appertains.

The collar-blank having first been prepared is laid upon the supporting-bench 1, and its under side is then secured by means of the clamping device at the upper end of said bench, which is manipulated by first raising the shank 35 to admit of the insertion of the hook 36, having the serrated clamping-ledge. The shank carrying the hook is then lowered and placed in engagement with the dog or pawl 40, after which the eccentric-lever 42 is manipulated to finally lock the clamping device in position. This entire operation may be performed in a few moments. The retaining device, comprising the shank 44, with its attachments, is now adjusted centrally over the collar-blank, and the lower end of the latter is now connected with the clamping device 28. The hook 33, attached to the band 32, which connects the slots 31 in the members 30 of said clamping device, is now placed in engagement with one of the cross-bars 20 of the drum 19. The latter is then rotated by means of the hand-wheel 27, thus winding the band 32 thereon and stretching the collar-blank. When the latter has been stretched to the desired extent, the pawl 24 is placed in engagement with one of the ratchets 23, thus retaining the winding-drum at the position to which it has been adjusted. The crane carrying the supply-hopper, which has heretofore been swung out of the way, is now swung into position, and the operation of stuffing the collar may then be proceeded with in the manner heretofore indicated.

By the methods heretofore employed of stuffing horse-collars the process has been a very slow and tedious one unless complicated and expensive machinery has been employed.

My improved stuffing-machine is exceedingly simple in construction, and proficiency in its use may be acquired in a few hours by any man or apprentice. The construction of the machine is such that it needs to occupy but little room, and it might, if desired, be so constructed as to fold into a small space by connecting the upright 5 detachably with the lower end of the bench and by hinging the legs of the supporting-frame to the front end of the latter, in this case probably omitting the drawer 3. I reserve the right to these and to any other modifications which may be resorted to without departing from the spirit of my invention.

It will be seen that by the use of my invention the hopper containing the filling material may be swung out of the way while not in use. This will be readily appreciated as being more convenient and desirable than the old-fashioned way of using an overhead hopper, as is now generally the case.

Having thus described my invention, I claim—

25 1. In a collar-stuffing machine, the combination of an inclined supporting-bench, an upright at the lower end of said bench, and a crane connected pivotally with said upright and carrying a hopper containing the filling material, substantially as set forth.

30 2. In a collar-stuffing machine, the combination of an inclined bench, an upright at the lower end of the same, a crane connected pivotally to said upright and carrying a hopper containing the filling material, and a brace-rod connecting the upper end of the vertical bar of the crane-frame with the lower end of the bench, substantially as set forth.

35 3. In a collar-stuffing machine, the combination of the inclined bench, the swinging crane, the cross-bars at the outer end of the latter, and the hopper connected adjustably to said cross-bars by vertical straps having slots or perforations to engage buttons upon the ends of said cross-bars, substantially as set forth.

40 4. In a collar-stuffing machine, the combination of the inclined bench, the swinging crane, the hopper connected adjustably by means of straps to cross-bars upon the said crane, and a funnel connected with the lower end of the hopper, said funnel being arranged horizontally, substantially as set forth.

45 5. In a collar-stuffing machine, the combination, with the swinging crane having cross-bars provided with buttons at their outer ends, of the hopper provided at its corners with straps having perforations adapted to engage said buttons, substantially as set forth.

50 6. In a collar-stuffing machine, the combination of the swinging crane, the hopper of textile material secured adjustably to said crane, and a funnel provided with a hopper on its upper side connected with the discharge-opening of the flexible hopper, substantially as set forth.

7. In a collar-stuffing machine, the combi-

nation, with the hopper of flexible or textile material, of the funnel having a hopper connected with the discharge-opening of the flexible hopper, said funnel being provided with a shield at its front end, substantially as and for the purpose set forth.

8. In a machine for stuffing horse-collars, the combination, with a hopper of flexible or textile material, of a funnel of metal or rigid material, said funnel being provided with a hopper for attachment to the discharge end of the flexible hopper, a shield at its front end, and a valve to control the passage of material from the flexible hopper into the funnel, substantially as set forth.

9. In a collar-stuffing machine, the combination of the inclined bench or support, the swinging crane, the flexible hopper suspended adjustably from said crane, the funnel connected with the discharge end of said hopper, and a slide to control the passage of material from the hopper into the funnel, substantially as set forth.

10. In a machine of the class described, the combination of the inclined bench or support, means for attaching the collar-blank of the latter in position for operation, the swinging crane at the lower end of the bench, the hopper attached to said swinging crane, the funnel connected with said hopper and having a shield at its front end, and a slide or valve to control the passage of material from said hopper into said funnel, substantially as and for the purpose set forth.

11. In a machine of the class described, the combination, with the inclined bench or support, of a vertically-movable clamp at the upper end of said bench, a spring to force the said clamp normally in an upward direction, a dog or pawl adapted to engage teeth or ratchets formed upon the said clamp and to retain it in a lowered position, and means for locking the clamp in such lowered position, substantially as set forth.

12. In a collar-stuffing machine, the combination of the inclined bench or support, the vertically-movable clamp at the upper end of the same, said clamp comprising the shank having teeth or ratchets on its front side and provided at its upper end with a hook having a serrated clamping-edge, a dog or pawl adapted to engage the teeth upon said shank, and a spring to force the latter normally in an upward direction, substantially as set forth.

13. In a collar-stuffing machine, the combination of the inclined bench or support, a frame at the upper end of the latter, a toothed shank mounted to slide vertically in said frame and provided at its upper end with a hook having a toothed clamping-edge, and an eccentric-lever pivoted to the lower end of the shank and adapted to bear against the frame in which the sliding shank is mounted, substantially as set forth.

14. In a collar-stuffing machine, the combination of the inclined bench or support, a guide-frame at the upper end of the same, a

vertically-sliding toothed shank mounted in said frame and provided at its upper end with a hook having a serrated clamping-edge, a spring to force the said shank normally in an upward direction, a dog or pawl pivoted to the frame and adapted to engage the toothed shank, and an eccentric-lever connected pivotally to the lower end of said shank and adapted to bear against the guide-frame, substantially as set forth.

15. In a machine of the class described, the combination, with the inclined bench or support and with means for connecting or securing the collar-blank detachably at the upper end of said bench, of a clamping device adapted to engage the lower end of the collar-blank, a band connected with said clamping device, and a winding-drum upon which said band may be wound to stretch the collar-blank, substantially as set forth.

16. In a machine of the class described, the combination, with the inclined bench or support and means for connecting the collar-blank detachably at its upper end, of the clamping device comprising two pivotally-connected members having clamping-edges adapted to engage the lower end of the collar-blank, a band passing through slots in the lower ends of said pivoted members, a hook mounted upon said band, and a winding-drum adapted for the attachment of said hook, substantially as and for the purpose set forth.

17. In a machine of the class described, the combination of the inclined bench or support, means for connecting the collar-blank detachably with the upper end of the same, a winding-drum at the lower end of said inclined support composed of a series of bars connecting a pair of disks mounted upon a shaft journaled in suitable bearings, a hand-wheel upon said shaft, a pawl engaging teeth or ratchets in one of the disks of the winding-drum, a clamping device adapted to engage the lower end of the collar-blank, and a band connected with said clamping device and having a hook adapted to be attached to the winding-drum, substantially as and for the purpose set forth.

18. In a machine of the class described, the combination, with the inclined bench or sup-

port having a longitudinal slot and a series of recesses arranged parallel to said slot, of a shank mounted in said slot and provided at its upper end with a hook having a tooth adapted to engage the recesses parallel to the slot, a spring to force the said shank or holder in a downward direction, and devices for holding the ends of and for stretching the collar-blank, substantially as set forth.

19. In a collar-stuffing machine, the combination, with the inclined bench or support having a longitudinal slot and a series of perforations parallel to said slot, of a shank mounted in said slot and having a loop or handle, a washer secured at the lower end of said shank, a washer mounted loosely on said shank below the bench or table, a spring coiled upon said shank between the washers, a hook or flange formed at the upper end of the shank and having a tooth adapted to engage the recesses adjacent to the longitudinal slot, and devices for holding the ends of and for stretching the collar-blank, substantially as and for the purpose set forth.

20. In a machine of the class described, the combination of the inclined bench or support, an upright at the lower end of said bench, the crane pivoted to said upright and carrying a hopper provided with a discharge-funnel having a slide to regulate the passage of the stuffing material, means for securing the collar-blank detachably at the upper end of the bench, a clamping device adapted to be connected detachably with the lower end of the collar-blank, a strap attached to said clamping device and having a hook, a winding-drum adapted for the attachment of said hook, an adjustable clamp adapted to confine the central portion of the collar-blank, and the stuffing-rods, substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CALEB J. McNULTY.

Witnesses.

WILSON A. FAST,
REXFORD RHODES.