

J. C. COLLETT & A. C. JACKSON.
HORSE COLLAR MACHINE.
APPLICATION FILED JAN. 9, 1909.

939,218.

Patented Nov. 9, 1909.
3 SHEETS—SHEET 1.

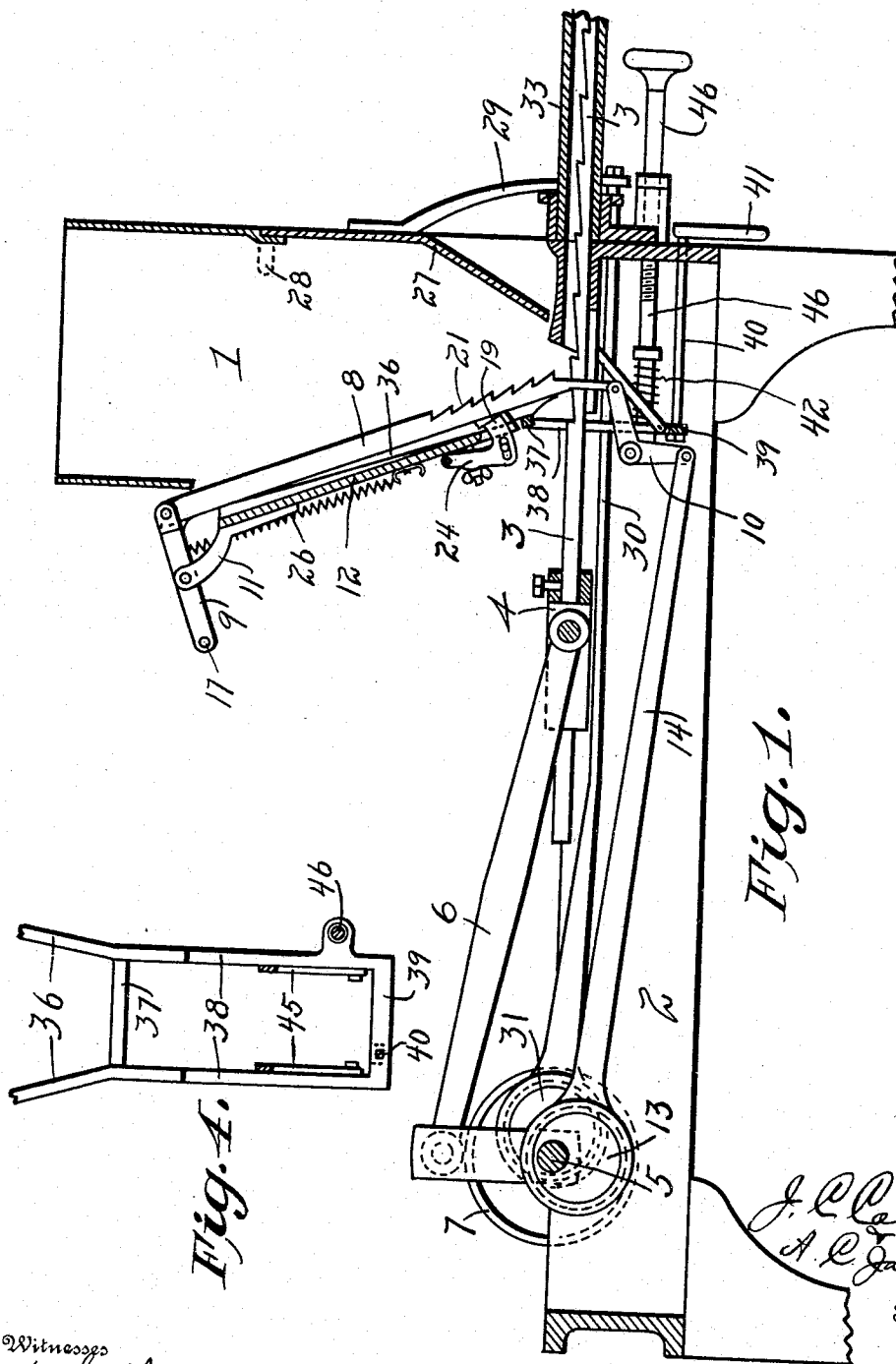


Fig. 4.

Fig. 1.

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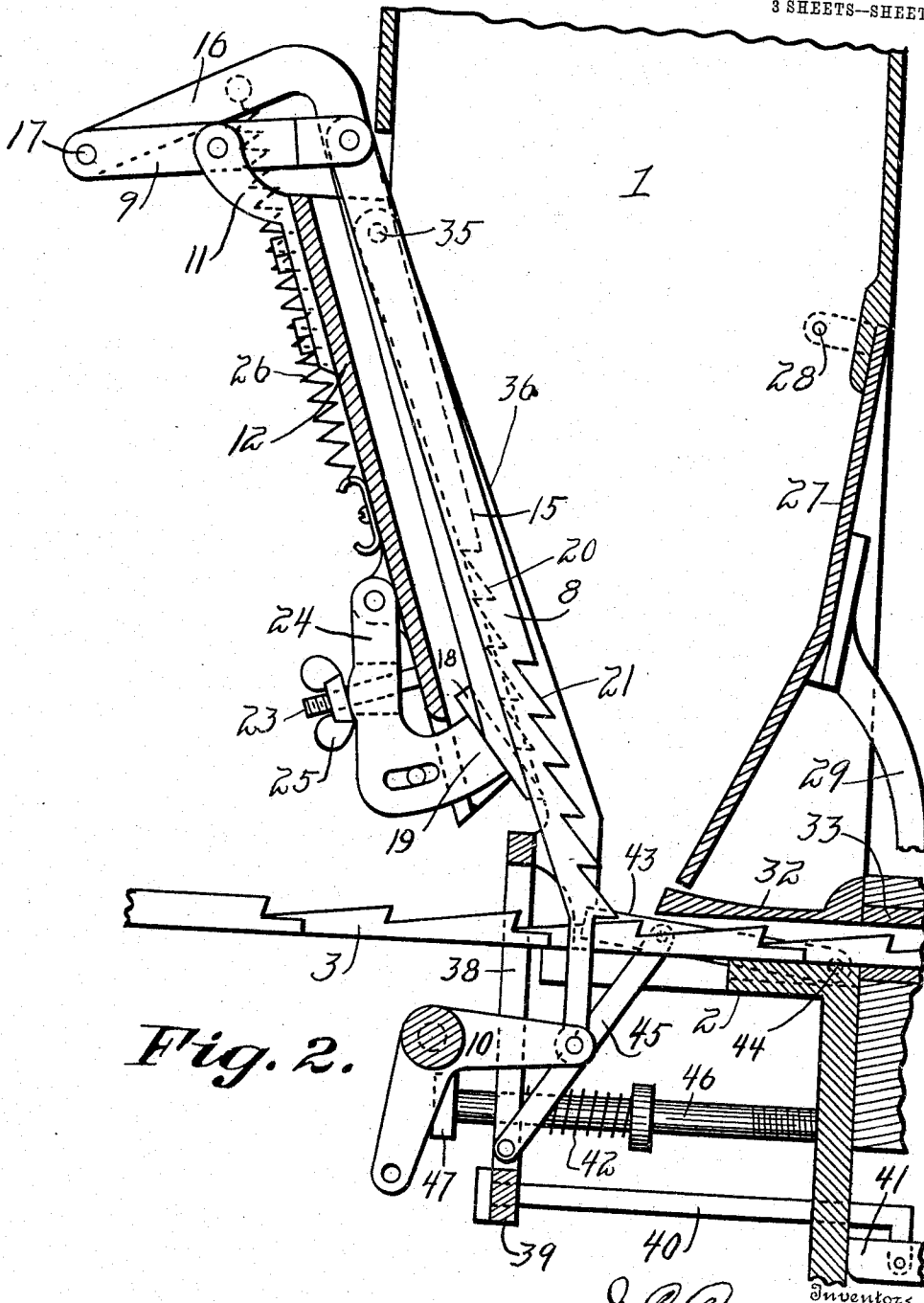


Fig. 2.

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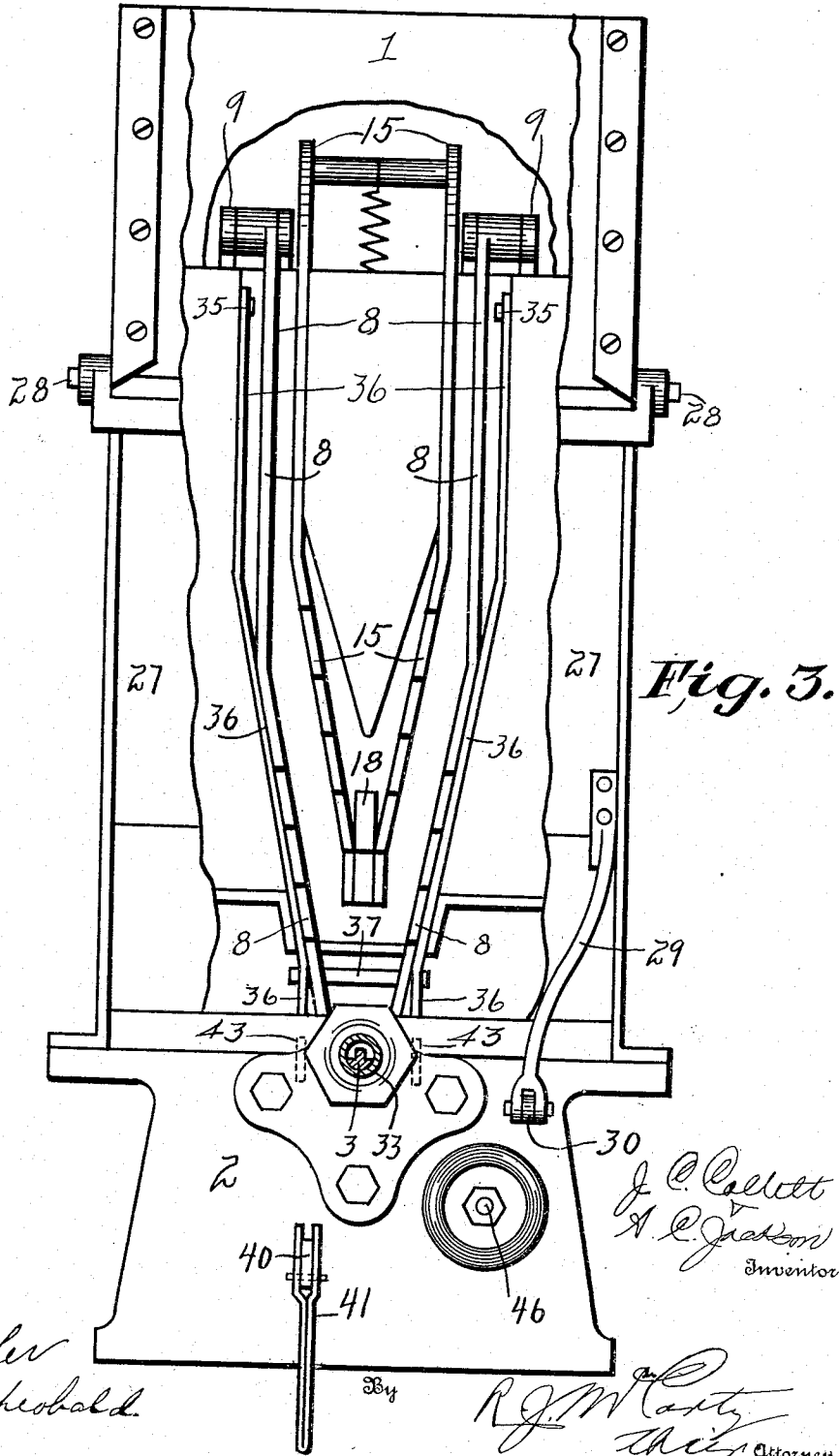
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

JOHN C. COLLETT AND ALBERT C. JACKSON, OF DAYTON, OHIO, ASSIGNORS TO THE
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HORSE-COLLAR MACHINE.

939,218.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed January 9, 1909. Serial No. 471,384.

To all whom it may concern:

Be it known that we, JOHN C. COLLETT and ALBERT C. JACKSON, citizens of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Horse-Collar Machines; and we do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in machines for stuffing horse collars.

The object of the invention is to provide in a machine of this type, means for stopping the feed of straw to the collar instantaneously when it becomes necessary to ram or pack the straw more compactly in any desired part or parts of the collar.

A further object of the invention is to provide means for varying the movement of the feeding mechanism so that the straw may be fed fast or slow as may be desired.

Preceding a detail description of the invention, reference is made to the accompanying drawings, of which—

Figure 1, is a longitudinal sectional elevation of a collar-stuffing machine having our improvements. Fig. 2, is an enlarged vertical sectional elevation of the hopper and straw-feeding devices. Fig. 3, is a front elevation of the machine with parts broken away to disclose the feeding bars and arresting bars. Fig. 4, is a detail view of the feed-arresting devices.

In a detail description of the invention, similar reference characters indicate corresponding parts.

The hopper 1 which contains the straw is mounted upon a base 2 and has a suitable opening at the bottom below which reciprocates the feed rod 3. The rear end of said feed rod is attached to a cross-head 4 that is slidingly mounted on the base 2 and re-

ceives reciprocating movement from the crank shaft 5 through a connecting rod 6; the crank shaft 5 is journaled on the base 2 and is provided with a pulley 7 by means of which said crank shaft is rotated to reciprocate the straw-feeding rod 3.

Mounted in the body of the hopper 1 are two inclined feed bars 8 which are attached to levers 9 at the top and to a bell-crank lever 10 at the bottom. The levers 9 are pivoted to brackets 11 attached to the inclined back 12 of the hopper, and the bell-crank lever 10 is supported in side plates of the base 2. Said bell-crank lever is rocked to reciprocate the feed bars 8 by an eccentric 13 on the shaft 5 through the connecting rod 14.

Mounted between the two feed bars 8 are two additional feed bars 15 which coöperate with the outer feed bars 8 in feeding the straw to the feed rod 3. The upper ends of the middle feed bars 15 are bent at right angles as at 16, and are attached to the levers 9 at 17. The lower ends of said feed bars 15 are joined by a block 18 which rests upon an adjustable incline 19 mounted upon the back 12 of the hopper. The outer feed bars 8 being attached to one end of the levers 9, and the feed bars 15 being attached to the other end of said levers, the said bars 8 will ascend while the bars 15 are descending, and vice versa, and the feed of the straw will continue without interruption. As the block 18 rides against the incline 19, the teeth 20 of the bars 15 will project past the teeth 21 of the bars 8 when said bars 15 are descending, and the teeth 20 will recede past the teeth 21 when the feed bars 15 are ascending; as a consequence, the teeth of the feed bars which are descending, will come in contact with the straw to feed the same.

It will readily be seen that the speed at which the straw is fed, will depend upon the distance the teeth 20 are permitted to project past the teeth 21. This adjustment is obtained by the incline 19 which is pivotally mounted on the back 12 of the hopper at 22. A stud 23 is provided on said back and projects through an opening in the ex-

tension 24 of the incline 19. Upon this stud a thumb nut 25 is placed and engages the extension 24 to adjust the incline 19. A spring 26 is provided to keep the block 18 against the incline 19 as the mechanism reciprocates at a high speed, and the feed bars 15 have a tendency to fly outwardly when the hopper is empty. The front 27 of the hopper is movable by being pivoted at 28, and this portion of said hopper is provided with an arm 29 which is attached to an eccentric rod 30 extending through the base 2 and joined to an eccentric 31 on the shaft 5.

The object in making the front of the hopper so movable, is to compress the straw against the feed bars and thus make the feeding action more positive and uniform. The incline feed bars 8 and 15 feed the straw against the horizontal feed rod 3 as hereinbefore stated, and the said rod passes under a plate 32 in the bottom of the hopper and into a tube 33. The tube 33 extends into the collar (not shown) and the rod 3 drives forwardly in each operation, the said straw. In other words, during the reciprocating movement of the rod 3, it carries the straw under the plate 32 and into the tube 33 and drives it thence into the collar, packing the same as may be desired. It should be understood that the straw is placed in the hopper in lengths corresponding substantially to the width of the hopper, and when said straw passes under the plate 32 and into the tube 33, it is doubled or folded.

It will be readily seen, that as the rod 3 acts as a feeding rod and also as a packing rod, if the feeding of the straw is arrested, and the reciprocating action of the rod be allowed to continue, the straw already fed will be packed tighter. This is often desirable, as certain parts of the collar are required to meet a greater strain or pressure. To thus obtain a more rigid packing of the straw in some parts of the collar, the following mechanism is provided to instantly cut off the feed at the required time. On the back 12 of the hopper, are two bars 36 pivoted at 35, and the lower ends of which are connected by a rod 37 having a depending arm or arms 38; these arms 38 carry a cross arm 39 which is engaged by a rod 40 extending on the outside of the casing. The outer end of the rod 40 is bent at a right angle and is provided with a cam lever 41. This mechanism is under the control of a spring 42, and from Figs. 1 and 2, it will be seen that when said cam lever 41 is raised, the bars 36 will keep the straw from coming in contact with the teeth of the feed bars 8 and 15, and the feeding of the straw will thus be stopped.

To arrest the feeding of the straw which

may be in contact with the feed rod 3, the bars 43 are provided; these bars are pivoted at 44 and are mounted upon each side of the feed rod 3—see Fig. 2. These bars 43 are connected to the depending arms 38 by links 45, and therefore, they are rocked concurrently with the rocking of the bars 36. The bars 36 and 43 thus described, are used for an additional purpose.

Owing to the different size straw and the more or less moisture therein, some straw will feed at a different rate of speed than others, under like conditions. To compensate for this variation in speed, means are provided for adjusting the bars 36 and 43 to vary the gripping action of the teeth of the feed bars. This means consists in a screw 46 mounted in the front end of the base 2, and the rear end of which projects through an opening in one end of the depending arms 38 and is provided with a nut 47. The spring 42 normally keeps said arm 38 against the nut 47, and it will be understood that the screw 46 does not interfere with the movement of the bars 36 by the cam lever 41.

When it is desired to vary the feeding of the straw, the screw 46 may be rotated to the desired extent to adjust the bars 36 and 43. The results to be obtained are not limited to the specific construction and arrangement of parts as described.

Various changes in the shapes and arrangements of the parts may be made without departing from the spirit of the invention which contemplates means for instantaneously stopping the packing of the straw by the rod 3, and means for varying the feed of the straw from the hopper.

Having described our invention, we claim:

1. In a machine of the type specified, a hopper, reciprocating feed bars mounted within said hopper, means for actuating said feed bars, arresting bars mounted at the sides of the feed bars, a feed rod mounted at the bottom of the hopper, arresting bars mounted at the side of said feed rod, means for adjusting the arresting bars, and means for actuating the said feed bars and said feed rod.

2. In a machine of the type specified, a hopper, feed bars mounted within said hopper, a feed rod mounted at the bottom of the hopper, means for actuating said feed bars and said feed rod, and means for instantaneously stopping the feeding action of said feed bars and said feed rod.

3. In a machine of the type specified, a hopper, feed bars mounted within said hopper, a feed rod mounted at the bottom of said hopper, arresting bars mounted at the sides of said feed bars and said feed rod,

and a cam lever adapted to actuate said arresting bars to stop the feeding action of the feed bars and the feed rod.

4. In a machine of the type specified, a
5 hopper, two sets of feed bars mounted in said hopper, the bars of one set being joined at their ends by a block, and an adjustable incline bearing against said block.

In testimony whereof we affix our signatures, in presence of two witnesses.

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