(No Model.)

G. E. HOYT.

COLLAR STUFFING MACHINE.

No. 397,292. Patented Feb. 5, 1889.

Fig. 1.

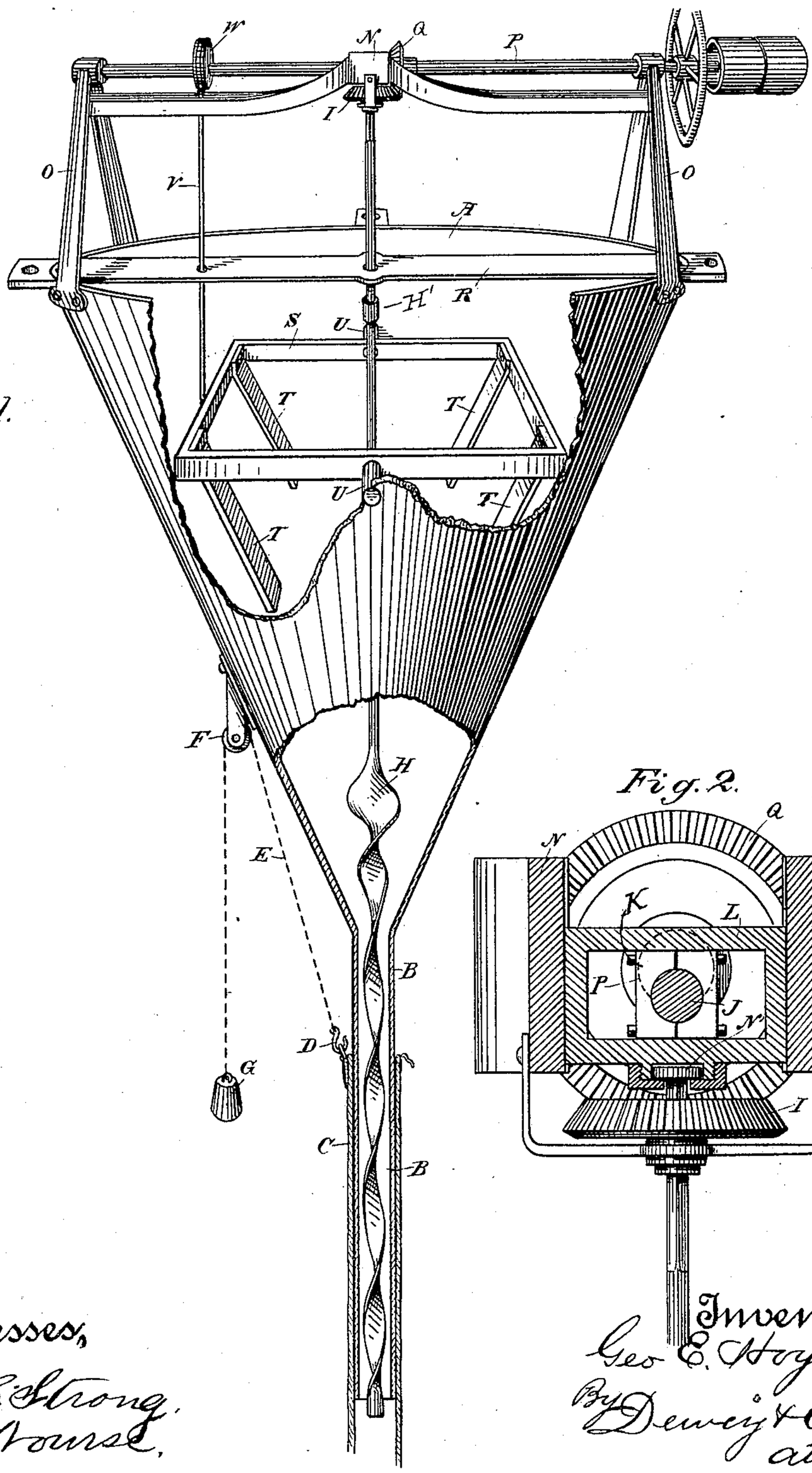

Fig. 2.

Witnesses,
Geo. H. Strong.
J. B. Stoutz.

Inventor.
Geo E. Hoyt.
By Dewey & Co
attys

UNITED STATES PATENT OFFICE.

GEORGE E. HOYT, OF SAN FRANCISCO, CALIFORNIA.

COLLAR-STUFFING MACHINE.

SPECIFICATION forming part of Letters Patent No. 397,292, dated February 5, 1889.

Application filed April 25, 1888. Serial No. 271,844. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. HOYT, of the city and county of San Francisco, State of California, have invented an Improvement in Collar-Stuffing Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a machine for stuffing straw into horse-collars; and my invention consists in the constructions and combinations of devices which I shall hereinafter fully describe and claim.

Figure 1 is a perspective view of my device, with a section of the upper and lower portion of the hopper and tube broken away to show the interior. Fig. 2 is an enlarged view showing the mechanism for producing the combined rotary and reciprocal motion of the auger.

A is a conically-shaped hopper or receiver, into which the straw or material usually employed for stuffing horse-collars is placed. The lower end or apex of this hopper has a tube, B, connected with it, of sufficient size and length so that a leather tube, C, which is to form the collar, may be slipped over the tube B until the lower end of the tube B discharges into the lower closed end of the collar-tube. The collar-tube C is held in place upon the tube B by means of a hook, D, the cord E, passing over the pulley F, and a counter-weight, G, or an equivalent spring, by which the leather tube is held up with sufficient power to prevent its slipping down; but as the straw is packed into it this tube is gradually forced off the tube B, so that the packing continues regularly from the bottom until the collar-tube is full. In order to pack the straw into the collar-tube, I employ a spirally-twisted auger, H, made of irregular diameter, the portion of the spiral near the bottom of the cone being of the largest diameter, and thus tapering with a longer twist toward the bottom.

The upper end of the auger-shank is made triangular or other suitable shape, so that where it passes through the bevel-pinion I, which gives it the rotary motion, it may also be moved vertically, sliding within this pinion, by means of a crank, (shown at J.)

In order to allow the crank to turn and convert this rotary motion into a reciprocal motion of the screw-plunger, the crank-pin J turns in a box, K, which slides transversely in a slotted head, L.

The upper end of the auger-shank, after passing through the bevel-gear I, is secured in the lower part of the head L, as shown at N′, or in any other suitable manner. The head L slides vertically in guides N, which are connected in any suitable manner with the vertical standard O, rising from the top of the hopper A. Upon the top of the standards O are journal-boxes, within which the shaft P turns. This shaft has fixed upon it a bevel gear-wheel, Q, which engages with the bevel-gear I, and power being applied to the outer end of the shaft P, either by cranks, pulleys, or in other suitable manner, the screw-plunger H will be caused to rotate by the gear-wheels Q and I, and it will also receive a vertically-reciprocating motion at the same time by the action of the crank J and its intermediate guide mechanism, previously described. In order to guide and steady the shank of the screw or auger H, it passes through the bar R, which extends across the top of the hopper, and it is thus guided at that point. The auger-shank is jointed at H′, so that the lower part may be removed or replaced without disturbing the upper portion.

S is a frame, made of steel or iron and having downwardly-projecting arms T at the corners. Upon each side of the frame S are trunnions U, by which the device is journaled in the sides of the hopper, so that it lies within the straw or material contained within the hopper. From one side of the frame S a rod, D, extends upwardly to the eccentric W, which is fixed upon the shaft E, and by this means an oscillating motion is given to the frame S and these downwardly-projecting arms T, so that the latter will stir or loosen up the straw and keep it from becoming packed and stationary within the hopper. The larger portion of the auger H carries the straw downward into the tube B, and the rotary and vertical movements of the extension into the tube B will pack the straw very firmly into the leather tube which is to form the collar, commencing at the bottom of the tube, and as the straw is packed the tube is gradually forced off the extension B, raising the weight G, until the collar-tube is filled.

Having thus described my invention, what I

claim as new, and desire to secure by Letters Patent, is—

1. In a collar-stuffing machine, the combination of the receiver or hopper having an extension from its lower end, over which the collar-tube slips, and a hook and counter-balance, by which the collar-tube is held in place upon the filling-tube, and the auger and its actuating mechanism, substantially as described.

2. The packing screw or auger having the upper end of its shaft polygonal and sliding loosely through the gear I, by which the rotary motion of the auger is produced, in combination with the head L, to which the upper end of the auger-shank is connected, the guides N, within which the head slides, and the box K, in which the crank J turns, said box sliding transversely in the head L, substantially as herein described.

In witness whereof I have hereunto set my hand.

GEORGE E. HOYT.

Witnesses:
S. H. NOURSE,
H. C. LEE.