A. H. McCUTCHAN.

NUT FEEDING ATTACHMENT FOR BOLTING MACHINES.

APPLICATION FILED JAN. 2, 1909.

944,374. Patented Dec. 28, 1909.

Fig. 1.

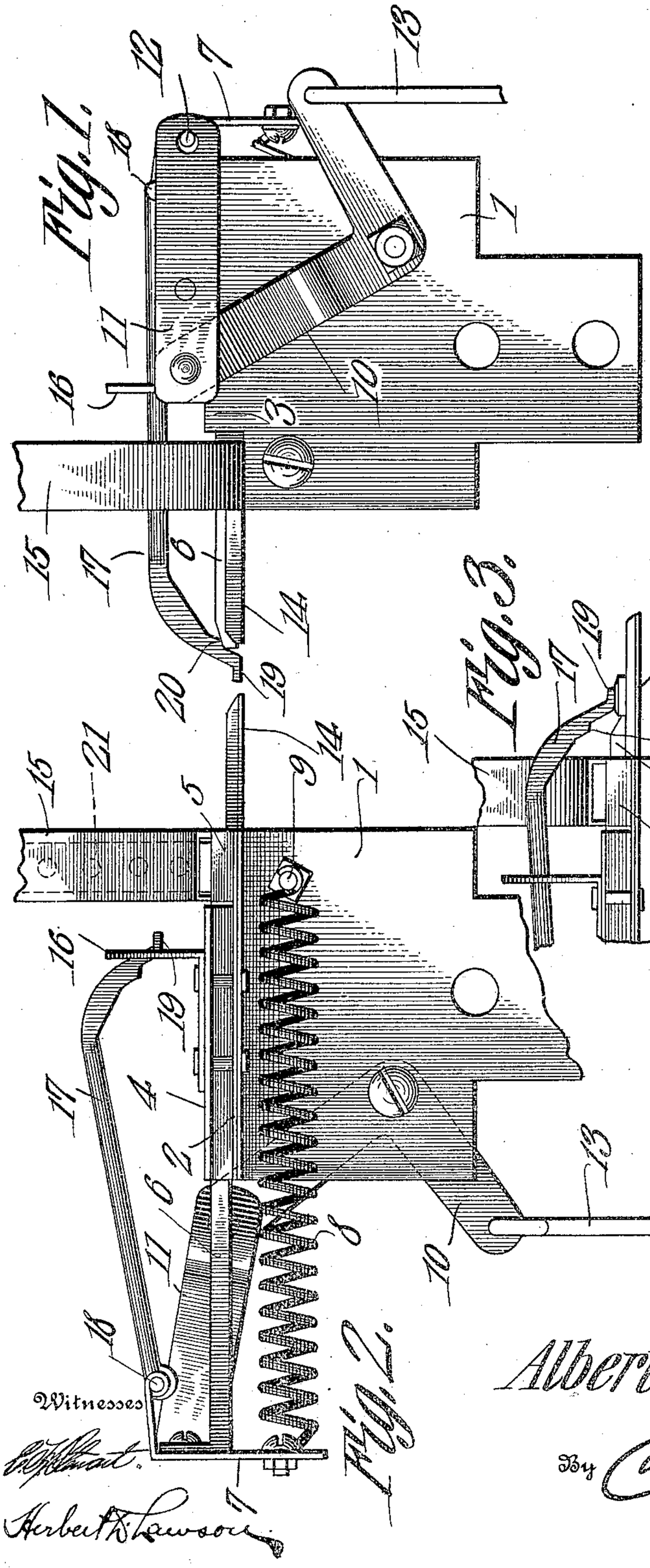

Fig. 2.

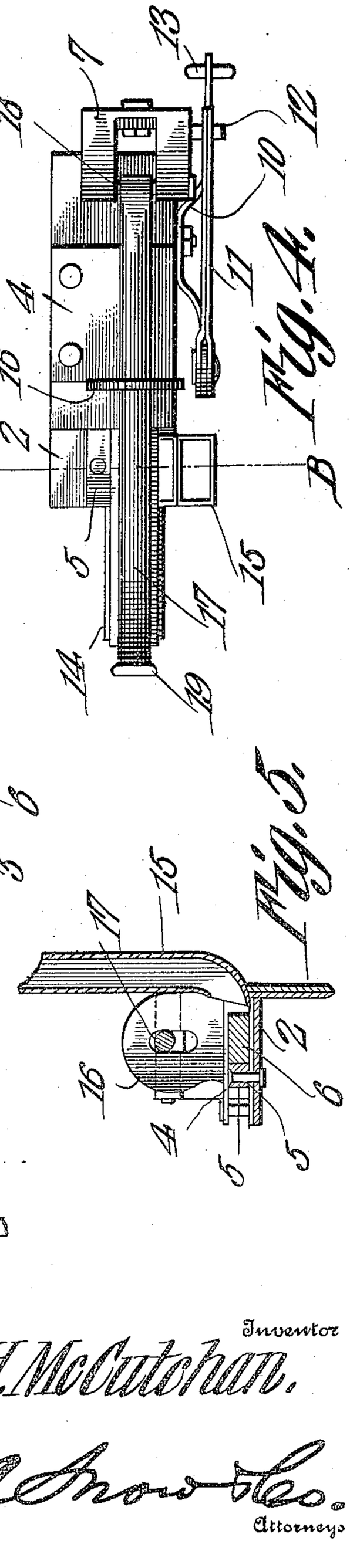

Fig. 3.

Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

ALBERT H. McCUTCHAN, OF HELENA, OKLAHOMA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE HELENA MANUFACTURING COMPANY, OF HELENA, OKLAHOMA, A CORPORATION.

NUT-FEEDING ATTACHMENT FOR BOLTING-MACHINES.

944,374. Specification of Letters Patent. **Patented Dec. 28, 1909.**

Application filed January 2, 1909. Serial No. 470,281.

To all whom it may concern:

Be it known that I, ALBERT H. McCUTCHAN, a citizen of the United States, residing at Helena, in the county of Alfalfa and State of Oklahoma, have invented a new and useful Nut-Feeding Attachment for Bolting-Machines, of which the following is a specification.

This invention relates to means for feeding nuts to bolting machines of that type disclosed in an application filed by me on February 29th, 1908, Serial No. 418,610.

The object of the invention is to provide a feed attachment of this character which can be secured to a bolting machine such as referred to and which will automatically supply nuts, one at a time, to the bolting machine.

Another object is to provide a feeding attachment of this character which is simple in construction and cheap to manufacture and which will not easily get out of order.

A further object is to provide a feeding attachment whereby the nuts are held positively against displacement during the operation of shifting them from the reservoir to the bolting machine.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a front elevation of the attachment, showing the normal positions of the parts: Fig. 2 is an elevation, showing the opposite side of the attachment, with the parts in the positions assumed by them at the beginning of the nut-feeding operation: Fig. 3 is a front elevation of a portion of the attachment and showing the positions of the parts while a nut is being fed: Fig. 4 is a plan view of the attachment with the parts shown in the positions indicated in Fig. 1: Fig. 5 is a section on line A—B Fig. 4.

Referring to the figures by characters of reference 1 designates a supporting plate or standard designed to be bolted or otherwise fastened to the upper portion of a bolting machine, such, for example, as described in my application hereinbefore referred to. Extending inwardly from the upper edge of this plate or standard 1 is a table 2 and extending upwardly from the plate 1 at one side of this table is a flange 3 having an integral portion 4 which extends over and parallel with a portion of the table, said top portion being secured upon a guide strip 5 riveted or otherwise secured upon the table and disposed parallel with the flange 3. The space between the table 2 and the top portion 4 and between the strip 5 and the flange 3 constitutes a passageway in which a plunger 6 is designed to reciprocate. This plunger has a head 7 fixedly secured to one end and extending downwardly below the table 2, there being a spring 8 having one end fastened to the downwardly projecting portion of the head, while its other end is secured to the plate or standard 1, as clearly indicated at 9 in Fig. 2. A bell crank lever 10 is pivotally mounted upon the plate or standard 1 and one arm of this lever is connected by a link 11 with the head 7 as shown at 12, while the other arm of the lever has a rod 13 attached to it and extending downwardly therefrom, said rod being designed to be actuated by a treadle or in any other suitable manner.

A guide spout 14 extends from the discharge end of the table 2 and constitutes a continuation of said table, the plunger 6 being designed to reciprocate within this spout as well as upon the table. When the plunger is in its normal position the free end thereof extends a short distance beyond the end of the spout, as shown in Fig. 1. A magazine is arranged at one side of the spout 14 and is preferably in the form of an upstanding casing 15, so proportioned as to hold nuts therein upon edge, the lower end of the casing being curved so as to discharge the nuts on to the member 14 from one side thereof and with one face downward. This construction has been clearly indicated in Fig. 5.

Secured upon the top portion 4 of the table is a guide eye 16 in which is slidably mounted a retaining arm 17 pivotally connected at one end to the upper portion of the head 7 as shown at 18 in Fig. 4. The free end of this arm is curved downwardly and terminates in a foot 19 designed to normally rest in front of the plunger 6, there being a shoulder 20 upon the arm and adjacent said foot, which is designed to rest upon

the plunger, as shown in Fig. 1. The curved portion of the arm 17 is so shaped that when the plunger 6 is retracted said curved portion will ride upon the bottom wall of the opening in eye 16 and be elevated above the top portion 4.

In using the machine herein described the reservoir or magazine 15 is filled with nuts which are placed therein with one edge downward as indicated by dotted lines at 21 in Fig. 2. The lowermost nut will bear against one side of the plunger 6 and all of the nuts will thus be held against downward movement.

When it is desired to discharge a nut from the feed device herein described the operator pulls on the rod 13 so as to swing bell crank lever 10 on its fulcrum. This lever will push the plunger 6 backwardly against the stress of spring 8 until said plunger assumes the position shown in Fig. 2, this movement of the plunger being such as to pull the arm 17 through the eye 16 and cause it to be elevated as shown in said Fig. 2. At the same time the end of the plunger 6 will move past the outlet of the magazine 15 and the nuts 21 contained in said magazine will move downward by gravity until the lowermost one assumes a position directly in front of the plunger 6 and against the guide strip 5. By releasing the bell crank lever 10 the spring 8 will contract and will pull the plunger 6 longitudinally along the table, thus pushing ahead of it the nut lying in the path thereof. During the first stage of this forward movement of the nut the arm 17 moves downwardly through the eye 16 and the foot 19 assumes a position upon the middle portion of the nut, thus holding it against upward displacement and insuring the positive actuation thereof by the plunger 6 to the discharge end of the attachment. Upon repeating the operation above described another nut can be fed from the attachment in the same manner.

It will be seen that this device is very simple, durable and efficient, and constitutes means for positively supplying nuts, one at a time, to bolting machines. It therefore constitutes a very valuable addition to machines such as set forth in my application hereinbefore referred to.

Obviously various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

1. A device of the class described comprising a table, a guide strip outstanding therefrom, a magazine extending upwardly from one side of the table, the lower portion of the magazine being open and arranged to direct objects laterally onto the table and against the guide strip, a plunger mounted to reciprocate upon the table, a pivotally mounted object retaining device above and movable with the plunger, and fixed means supported above the table for supporting one end of said device and for positively directing the device onto the object in the path of the plunger to hold said object against displacement during its actuation by the plunger.

2. A device of the class described comprising a table, a guide strip upstanding therefrom, a plunger slidably mounted on the table, and a magazine extending upwardly from the table for directing nuts by gravity onto the table from one side thereof and into the path of the plunger, said magazine constituting means for producing a one-quarter turn of each nut during its movement onto the table, and said plunger constituting means for sliding nuts one at a time from one end of the table.

3. In a machine of the class described a table, a magazine for directing nuts one at a time onto the table, said magazine constituting means for depositing nuts upon the table with the bolt holes perpendicular to the bottom of the table, a plunger mounted to reciprocate upon the table to direct the nuts one at a time beyond one end of the table, a pivoted nut retaining device movable with the plunger and fixed means for supporting said device and for directing it onto the nut in the path of the plunger, said device having a shoulder for engagement with the plunger upon the completion of one stroke of the plunger.

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

ALBERT H. McCUTCHAN.

Witnesses:
J. F. Corbet,
Theo. Harris.