

No. 686,234.

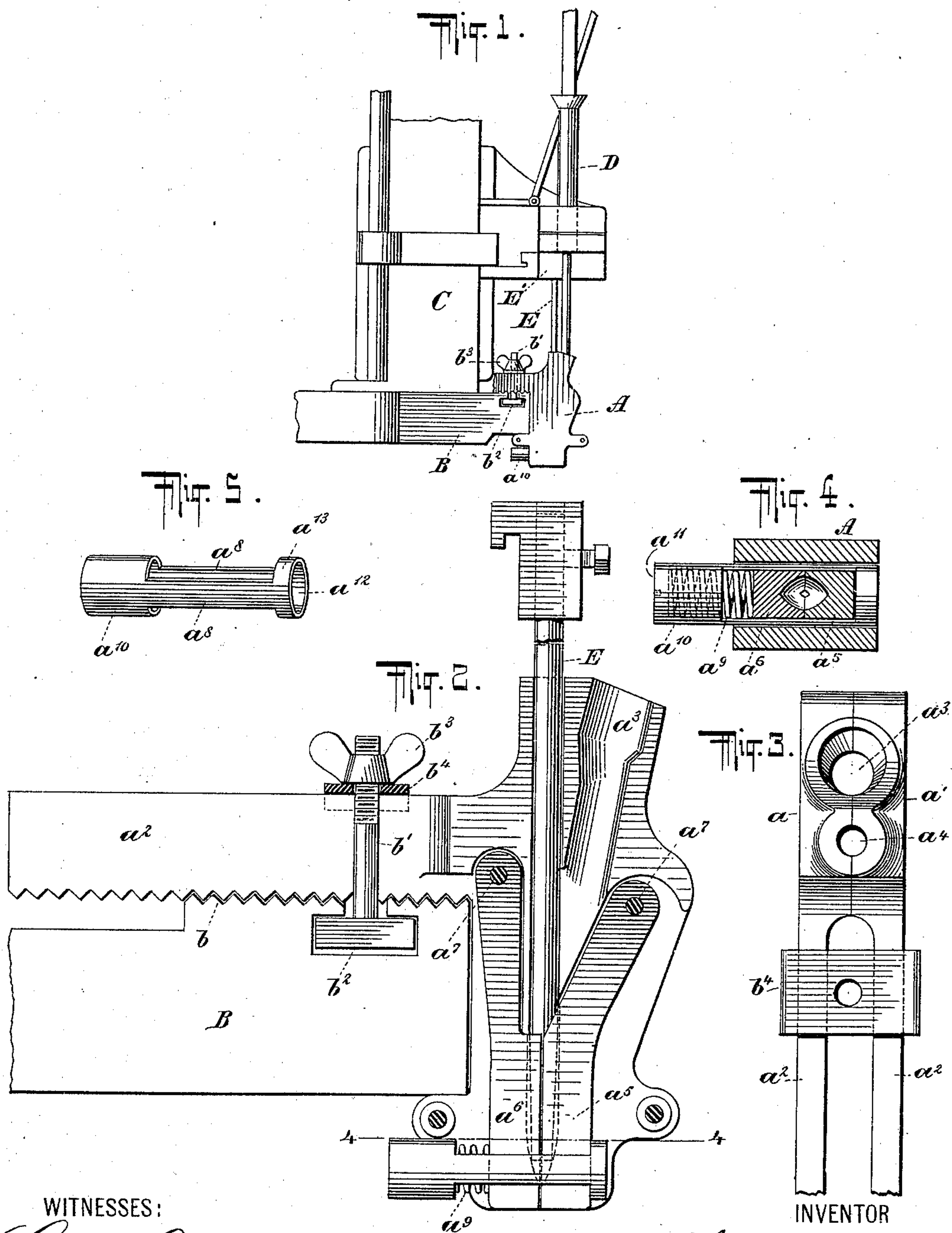
Patented Nov. 5, 1901.

J. A. MILLIKEN.

NAIL CHUCK.

(Application filed July 16, 1900.)

(No Model.)



WITNESSES:

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NAIL-CHUCK.

SPECIFICATION forming part of Letters Patent No. 686,234, dated November 5, 1901.

Application filed July 16, 1900. Serial No. 23,726. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. MILLIKEN, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Nail-Chucks, of which the following is a specification.

My invention relates to nail-chucks for box-nailing machines and analogous uses.

10 The invention consists in a nail-chuck provided with means whereby the nail supporting and guiding jaws will yield laterally in an equal degree to thereby direct the nail straight and will be uniformly restored to their initial position.

The foregoing ideas will be explained at length with the aid of the accompanying drawings, forming part hereof, and will be fully set forth in the claims.

20 In the accompanying drawings, Figure 1 is a side elevation of a sufficient number of parts of the nailing-machine to illustrate my invention. Fig. 2 is a full-size detail view of the interior of the nail-chuck, it being understood that the chuck is a two-part chuck, as will be described. Fig. 3 is a plan view of the chuck. Fig. 4 is a section on line 4 4 of Fig. 2, showing the chuck-jaws and their retaining-spring and the inclosing guide. Fig. 5 shows the jaw-guide piece or casing, which also forms the spring socket and guide, as will be described.

Referring for the moment to Fig. 1, A represents a nail-chuck which is carried upon a nail-chuck-carrier bar or support B, carried upon the framework C of the machine. This nail-chuck receives its supply from a nail-chute D and likewise receives a nail-punch E, carried by the nailing cross-head E'. The nail-chuck, which is best shown in Figs. 2 to 4, inclusive, consists of two similar castings or sides $a a'$, each provided with a rearwardly-projecting extension-bar a^2 , which, as shown in Fig. 2, is suitably toothed on one surface. 45 The nail-chucks are provided with the usual passage a^3 for the passage of the nails and with a passage a^4 for receiving the nail-punch E. A pair of nail-guiding jaws $a^5 a^6$ are suitably supported in the chuck—as, for instance, 50 by being pivoted in the nail-chuck upon pivots a^7 , as in the ordinary Doig nail-chucks.

These jaws are suitably recessed to receive the nail and the nail-punches. The lower portions of the sides of the nail-chuck are recessed or bored out for the reception of a removable jaw holder, yoke, or casing a^{12} . (Shown in Fig. 5.) The form of jaw-holder shown is provided with guides a^8 for guiding the movable jaws $a^5 a^6$ of the chuck and cooperate with the spring to embrace the lower ends of the said jaws. A spiral spring a^9 bears against the jaw a^6 , is preferably located in an inclosed portion a^{10} of the jaw-holder, and bears against an adjustable screw-plug seated in the said holder. By reference to Figs. 2 and 4 it will be seen that one of the jaws a^5 rests against the yoke a^{13} of the said casing and receives the impact of the other jaw, which is pressed forward by the spring a^9 .

The advantages of this structure are very numerous. To begin with, it can be inserted into existing nail-chucks by simply boring them out at their lower ends and removing the side springs heretofore deemed necessary. Having but a single spring, the tension upon each jaw is maintained uniform, and both jaws are necessarily under the same tension, so that the nail will be invariably directed right and will not be driven askew by the descending nail-punch. As the guides a^8 closely embrace the sides of the pivoted chuck-jaws $a^5 a^6$, these chuck-jaws will be accurately guided in their movements, so that every facility will be afforded the nail-punches to perform their work.

It has heretofore been proposed to make an extension nail-chuck by extending an arm or bracket from the side of the said chuck. In this construction, however, the nail-chucks cannot be placed sufficiently near together, because of such laterally-projecting arms or brackets. I obviate these difficulties. As heretofore stated, each nail-chuck is shown as provided with a plurality of extensions or arms a^2 , extending directly from the rear of the said nail-chucks and provided with serrated edges adapted to engage with a serrated edge or edges b on the nail-chuck carrier of the machine. These parts are preferably clamped together by a headed bolt b' , whose head engages in a slot b^2 in the bar B, is movable laterally therein, and is provided

with a wing-nut b^3 , resting upon a suitable saddle b^4 , which embraces the arms a^2 a^2 of the nail-chucks. It will be observed that by means of the construction shown the nail-
 5 chucks may be adjusted backward and forward and held in their adjusted position by the wing-nut.

It will be observed that the support B and the chuck A are connected together by a two-
 10 part duplex adjusting or fastening device, whereby the chucks may be adjusted laterally into close proximity with each other by reason of the fact that the extensions a^2 extend rearwardly of the chucks in line there-
 15 with and may be adjusted in and out on the support. This two-part duplex adjusting device or connection is comprised in the present instance by the slotted and serrated portion of the support B, constituting one mem-
 20 ber thereof, and the serrated portion of the chuck and the bolt-and-nut fastening device constituting the other member thereof. I term this connection a "duplex" connection or device, because by means thereof chucks
 25 may be individually adjusted upon the support in two directions at an angle to each other.

Having described my invention, what I claim, and desire to secure by Letters Patent,
 30 is—

1. A nail-chuck comprising, the combination of yielding movable nail-guiding jaws, a spring exerting its force upon both jaws equally and uniformly and a removable jaw-
 35 holder separate from the chuck, embracing the nail-guiding jaws thereof and receiving the spring.

2. A nail-chuck comprising, the combination of laterally-movable nail-guiding jaws,
 40 a movable casing surrounding the said jaws and movable independently thereof and a spring exerting its tension against the casing uniformly and equally actuating both of the said jaws.

3. In a nail-chuck, the combination of a 45 plurality of laterally-movable nail-guiding jaws, a freely-movable casing embracing the said jaws and movable therewith comprising in its structure a yoke for receiving the thrust of one jaw, guides for the jaws and a 50 seat for a spring and a spring seated in the said casing and exerting its tension against the other of the jaws.

4. In a nail-chuck, the combination of a pair of nail-guiding jaws suspended upon piv- 55 otal connections, a yoke surrounding said jaws and freely movable independently thereof and a spring located in the yoke and exerting its tension upon one of the said jaws and upon the yoke, the other of the said jaws 60 receiving the pull imparted to the yoke by the spring.

5. A nail-chuck comprising, the combination of a plurality of nail-guiding jaws, a spring maintaining a uniform tension on the 65 jaws, a removable jaw-holding yoke separate from the chuck and embracing the spring and nail-guiding jaws and means for adjusting the tension of the spring.

6. A nail-chuck comprising, the combina- 70 tion of nail-guiding jaws and a jaw-holder freely movable independently of the chuck and embracing the jaws and a spring cooperating with the holder and the jaws to maintain equal tension on the jaws for the pur- 75 poses specified.

7. A nail-chuck comprising, the combination of freely-movable nail-guiding jaws, a jaw-holder freely movable independently of the chuck and one of said jaws, the said jaw- 80 holder receiving the impact of one of the jaws and a spring interposed between the holder and the other of the jaws for maintaining equal tension on both jaws.

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Witnesses:

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