No. 691,725. Patented Jan. 21, 1902.

J. A. MILLIKEN.

NAIL CHUCK.

(Application filed June 13, 1901.)

(No Model.)

Fig. 4,

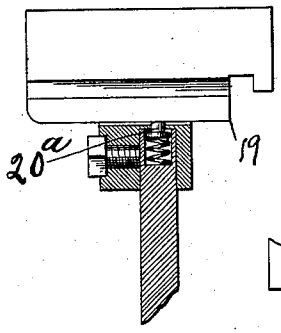


Fig. 3,

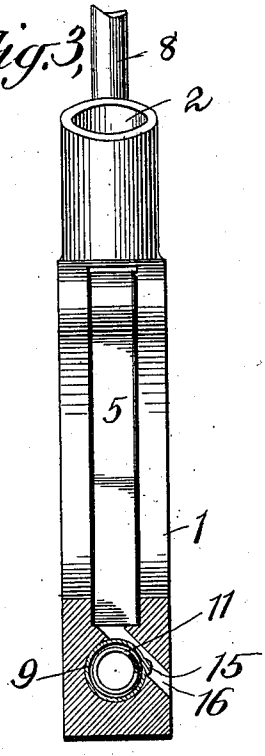


Fig. 1,

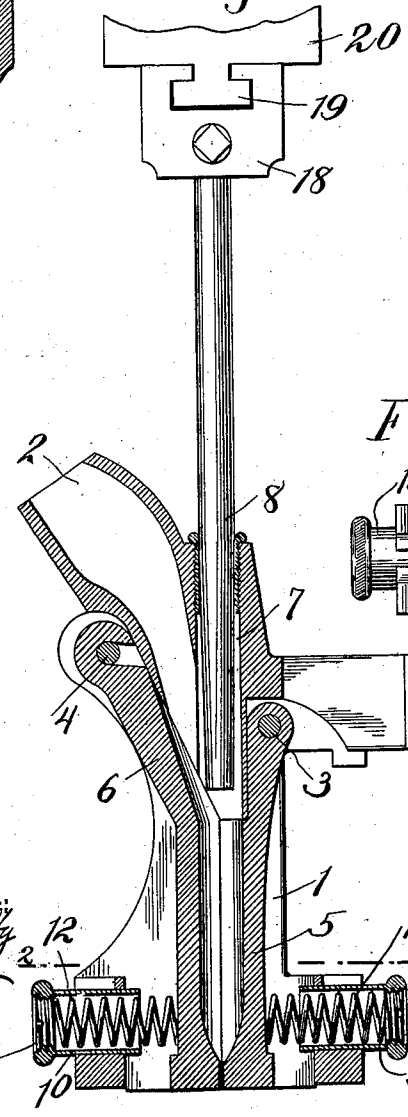
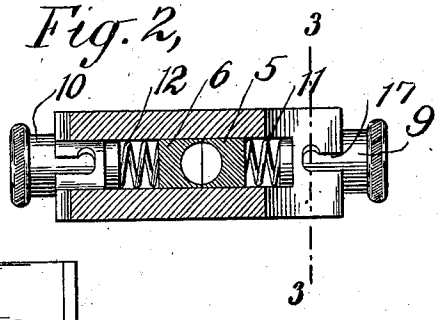


Fig. 2,



WITNESSES:

Henry W. Kinsley

Conrad Trumpf

INVENTOR

John A. Milliken,

BY

Emerson, Crane, Emily & Parkin

HIS ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN A. MILLIKEN, OF FLUSHING, NEW YORK, ASSIGNOR TO EMMA DOIG, EXECUTRIX OF WILLIAM S. DOIG, DECEASED.

NAIL-CHUCK.

SPECIFICATION forming part of Letters Patent No. 691,725, dated January 21, 1902.

Application filed June 13, 1901. Serial No. 64,473. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. MILLIKEN, a citizen of the United States, residing at Flushing, county of Queens, and State of New York, have invented certain new and useful Improvements in Nail-Chucks, of which the following is a specification, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to that character of devices employed in box-nailing machines and known as "nail-chucks;" but it will be understood that I do not confine my invention thereto, but desire to be understood as claiming any structure wherein my invention is embodied, irrespective of the use to which said structure may be designed.

In the accompanying drawings I have shown a nail-chuck embodying my invention.

In the drawings, Figure 1 is a vertical section through the chuck, showing its interior construction. Fig. 2 is a section through the chuck on line 2 2. Fig. 3 is a section through Fig. 2 on line 3 3 thereof, and Fig. 4 is a detail sectional view showing the construction by which the nail-punch is secured adjustably to the nail-driving cross-head.

In the drawings the chuck-body 1 is shown as a single casting provided with a nail-chute 2 and with pins or studs 3 4, from which the nail-holding jaws 5 6 are suspended. In the present instance the jaw 6 is shown as a removable jaw. The chuck-body is also provided with an aperture 7 for the passage of the nail-punch 8. The chuck-body is bored laterally for the reception of two sleeves 9 10. These sleeves carry springs 11 12, which bear upon the jaws 5 6 and whose tension upon the jaws is adjusted by tension-screws 13 14. Each of these sleeves is provided with a lug 15. A transverse opening 16 is bored through the chuck-body at each end, and the edge of the chuck-body is slotted, as with a slot 17, to receive the lug 15.

It is believed that the general operation of the structure will be obvious from this description and drawings. The leading inventive idea of the structure will now be fully explained.

It is well known that considerable trouble is caused in chucks as at present constructed by the frequent jamming therein of a bent or irregularly-made nail, and considerable time is lost in opening the chuck to remove the cause of such jamming. This defect is obviated by my invention. In case a nail or other object becomes jammed in the chuck-jaws, it will be merely necessary to rotate one or the other of the sleeves 10 until the lug or pin 15 thereof is opposite the slot 17, when the sleeve, with its spring, may be removed and the jaw 6, which is open-journaled on pin 4, may be removed and the defective nail or other cause of jamming also removed. The parts may now be replaced and the nailing operation continued. It will be observed that I have thus provided means whereby the chuck may be taken apart and put together without disturbing the adjustment of the springs, as in making the changes hereinbefore referred to it is unnecessary to disturb the adjustment of the screws 13 14. I have also shown means whereby the nail-punch 8 may be secured to the nail-driving cross-head.

Referring particularly to Figs. 1 and 4, the nail-punch 8 is carried by a head 18, which is slotted for the reception of a T-shaped key 19, carried by an extension-bracket 20, secured to the nail-driving cross-head. A spring stud or pin 20^a, carried in the head 18, engages the key 19 frictionally, so that the nail-punch may be adjusted along the said extension-bracket and will be frictionally held in place by the pin 20^a. In order that the key 19 of the extension-bracket may easily enter the slot in the head, the forward end of the key may be rounded, as shown, or otherwise cut away, in order that a wedging action may take place, so as to depress the spring stud or pin.

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

1. In a nail-chuck the combination of movable nail-guiding jaws, spring means for holding the jaws up to their work, adjusting means for the spring means, the said adjusting means and spring means being removable from the chuck without disturbing the adjustment of the adjusting means whereby spring-pressure on the nail-guiding jaws may be relieved without disturbing the adjustment.

2. In a nail-chuck the combination of the

nail-guiding jaws with one or more spring-holding members provided with spring-adjusting means, said spring-holding member or members being removable from the chuck without disturbing the adjustment.

3. In a nail-chuck the combination of nail-guiding jaws with one or more tubular spring-holding members provided with an adjusting means for adjusting spring tension and a removable connection intervening between the said tubular member or members whereby the said tubular member or members may be removed without disturbing the adjustment of the adjusting means.

4. A nail-chuck provided with a removable jaw under spring tension and a removable spring carrier or carriers whereby the spring-carrier and jaw may be removed to permit the extraction of a defective nail.

5. In a nail-chuck the combination of the nail-guiding jaws and a removable spring carrier or carriers provided with adjusting means whereby the spring carrier or carriers may be removed from the chuck without disturbing the adjustment of the spring tension.

6. In a nail-chuck the combination of nail-guiding jaws and one or more removable spring-carriers with a spring-adjusting means, carried by the carrier and wholly independent of the removable connection between the carrier and the chuck whereby the spring-pressure on the jaws may be relieved to remove a defective nail without disturbing the adjustment of the spring-pressure.

7. In a nail-chuck the combination of nail-guiding jaws and a plurality of tubular spring-carriers, each removably connected with the nail-chuck and provided with spring-adjusting means.

8. In a nail-chuck the combination of nail-guiding jaws with springs bearing thereon; and one or more spring-carriers removably seated in holes in the body of the nail-chuck.

9. In a nail-chuck the combination of nail-guiding jaws and a plurality of springs and spring-carriers removably connected to the chuck-body by pin-and-slot connections.

10. The combination of a laterally-apertured nail-chuck having slots leading to the apertures, nail-guiding jaws and a plurality of spring-carriers, each having adjusting means and a pin or lug for removably engaging the slots of the apertures.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 7th day of June, 1901.

JOHN A. MILLIKEN.

Witnesses:
JOHN W. FRASER,
WILLIAM T. GARDNER.