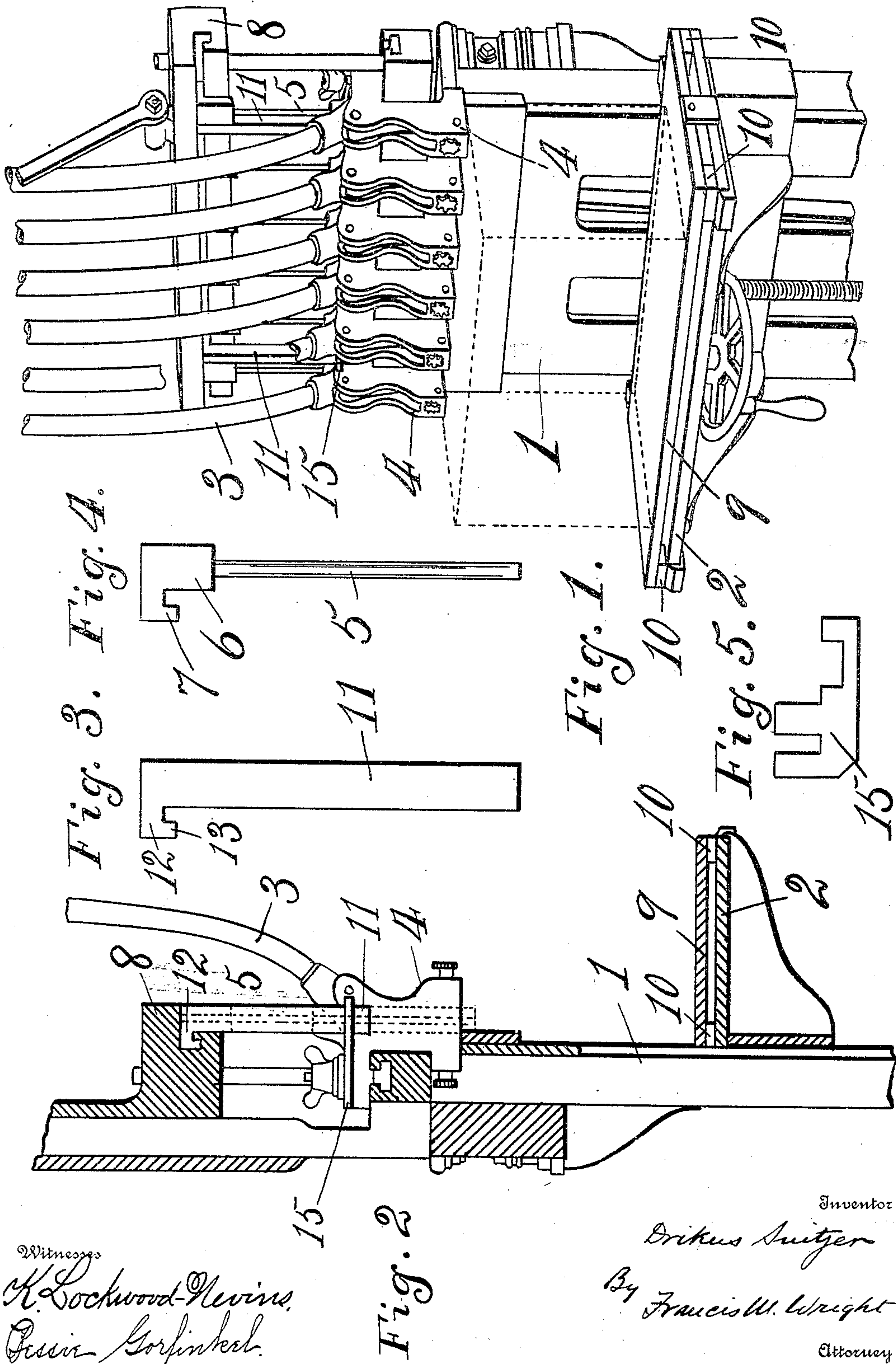


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D. SNITJER
BOX NAILING MACHINE.
APPLICATION FILED JULY 25, 1904.



Witnesses
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UNITED STATES PATENT OFFICE.

DRIKUS SNITJER, OF CUPERTINO, CALIFORNIA.

BOX-NAILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 778,463, dated December 27, 1904.

Application filed July 25, 1904. Serial No. 217,927.

To all whom it may concern:

Be it known that I, DRIKUS SNITJER, a citizen of the United States, residing at Cupertino, in the county of Santa Clara and State of California, have invented certain new and useful Improvements in Box-Nailing Machines, of which the following is a specification.

My invention relates to improvements in box-nailing machines, the object of the improvements being to provide means for supporting and holding a box so that the parts to be nailed shall be at the proper level relatively to the machine for the driving of the nail thereinto.

It often happens that one end of a box is slightly higher than the other end, and in consequence with the present style of machines if the machine be adjusted to the proper height for one end of the box it is too high or too low for the other end, so that the nail is not sufficiently driven in the box or is driven too far or entirely through the wood of the cover of the box if said cover be thin. In orange-boxes, again, which have a partition in the middle this partition and the ends of the box are seldom placed with the grain of the wood running the same way and their top edges are therefore nearly always on different levels.

The object of the present invention is to provide improvements which will permit of the nails being driven in to the proper depth notwithstanding this difference in the heights of the ends of the box.

My invention therefore resides in the novel construction, combination, and arrangement of parts for the above ends hereinafter fully specified, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a box-nailing machine embodying my improvement. Fig. 2 is a vertical section of the same. Fig. 3 is a detail side view of the parallelizing-bar. Fig. 4 is a similar view of the nail-punch. Fig. 5 is a detail plan view of the guide.

In the drawings I have illustrated the invention applied to what is known as the "Doig box-nailing machine" covered by United States Patent No. 342,268, granted to

W. S. Doig. In this machine there is a frame 1, supporting a table 2, upon which the box is placed for the purpose of nailing the same. 3 represents the chutes for the nails discharging into the nail-chucks 4. 5 represents the nail-punches reciprocating in said chucks 4, carried by heads 6, having tenons 7, in a grooved cross-head 8, extending transversely of the machine.

All of the above is old in the art and forms no part of my present invention.

Above the table 2 is a false bottom or table 9, supported by springs 10, which in the present instance I have shown as being made of rubber, although they may also be stiff coiled springs, and upon this false bottom 9 is set the box to be nailed. These springs are of such elasticity that either end can be depressed to the depth of about one-eighth of an inch, which will in all cases be found sufficient to counterbalance the inequality in the heights of the box ends. Upon the cross-head 8, which supports the nail-punches, are also hung a pair of parallelizer-bars 11, each having a head 12 with a tenon 13, as shown, engaging the same groove as is engaged by the tenons 7 in the punch-heads. There are two of these bars; one adjacent to each of the end nail-chucks of the series and located on the inner side of said end nail-chucks, so as to come above the top of the box which is to be nailed. These parallelizer-bars are of precisely the same length as the nail-punches themselves, so that when the cross-head 8 is depressed in the operation of the machine said parallelizer-bars are brought down upon the top of the box, and if either end be higher than the other it is pressed down to the same level as the other end. The box is thus held down by said parallelizers, so that the top of the box is exactly level relatively to the punches, and the nails are therefore driven by said punches to precisely the same depth at both ends of the box. The intermediate nails are also driven to the same level, since the box does not bend between its ends. The spring-supports for the false bottom are sufficiently unyielding to resist the downward pressure of the punches and permit of the nails to be driven into the box, while at the same time

they yield sufficiently to allow the top of the box to be brought to an absolute level relatively to the machine.

15 represents guides secured to the nail-chucks and guiding the parallelizer-bars in their vertically-reciprocating movement.

I claim—

1. In a box-nailing machine, in combination with a series of guideways for the nails, and a series of punches for driving the nails, a support for the box, and means moving with the punches, for parallelizing the top of the box with the row of punches, substantially as described.

2. In a box-nailing machine, in combination with a series of guideways for the nails, and a series of punches for driving the nails, a support for the box, and parallelizer-bars, arranged, in the movement of the machine, to impinge upon the top of the box and parallelize it with the series of punches, substantially as described.

3. In a box-nailing machine, in combination with a series of guideways for the nails, and a series of punches for driving the nails, a support for the box, and parallelizer-bars, moving with the punches and arranged to impinge upon the top of the box to parallelize it with the series of punches, substantially as described.

4. In a box-nailing machine, in combination with a series of guideways for the nails, and a

series of punches for driving the nails, a yielding support for the box, and automatically-operated means for parallelizing the top of a box, placed upon said support, with the series of punches, substantially as described.

5. In a box-nailing machine, in combination with a series of guideways for the nails, and a series of punches for driving the nails, a yielding support for the box, and devices engaging the top of a box placed upon said support, and adjacent to the terminal punches, said devices being automatically moved with the punches to parallelize the top of the box with said punches, substantially as described.

6. In a box-nailing machine, in combination with a series of guideways for the nails, and a series of punches for driving the nails, a yielding support for the box, parallelizer-bars moving with the punches, the lower ends of said bars being arranged to engage the top of a box placed on said support, and guides for said bars in their vertically-reciprocating movement, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

DRIKUS SNITJER.

Witnesses:

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