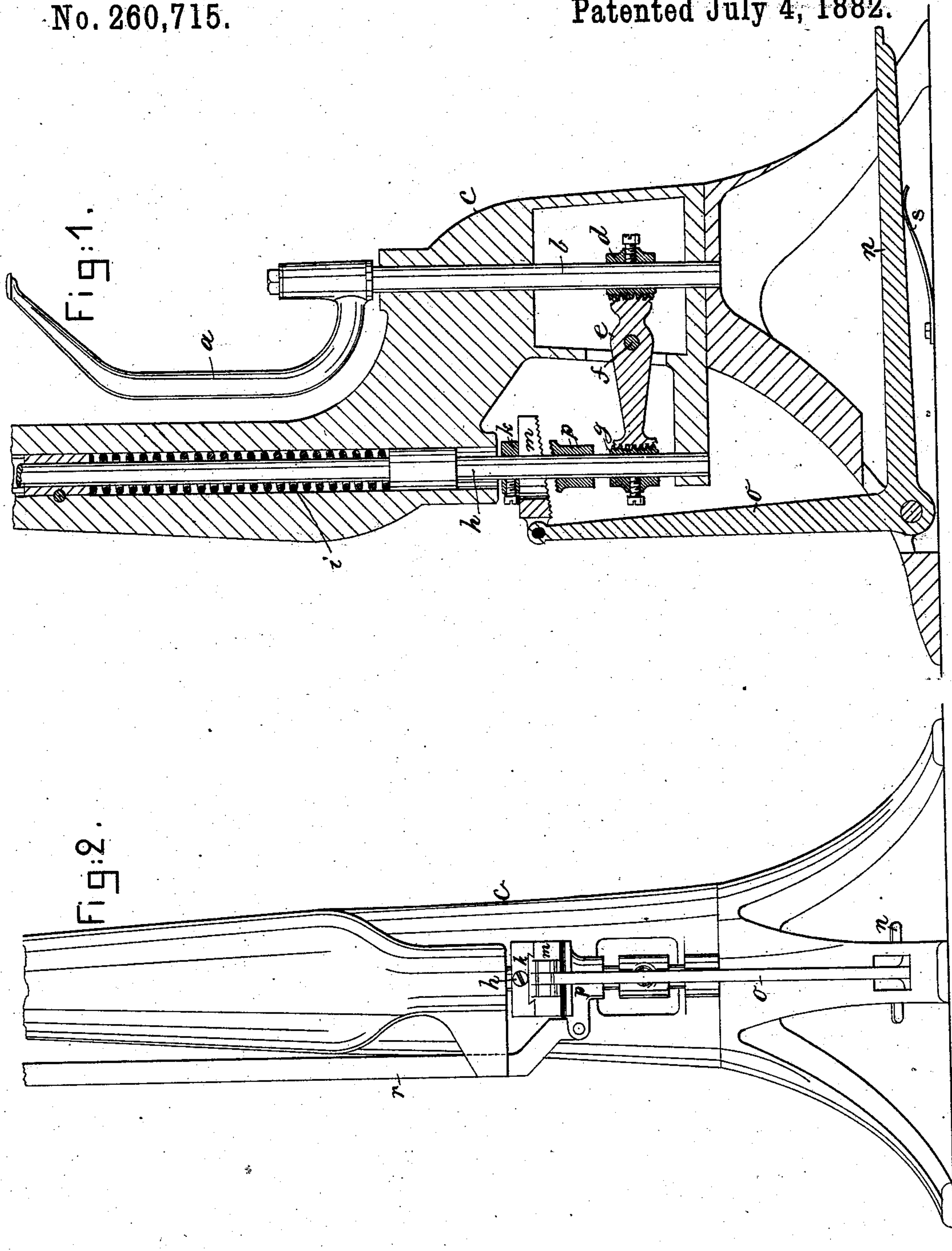


(No Model.)

A. VAN WAGENEN.  
NAILING MACHINE.

No. 260,715.

Patented July 4, 1882.



Witnesses

*Fred A. Powell.*

*John F. C. Powell.*

Inventor.

*Albert Van Wagener*

*by Crosby & Gregory, Attys*



# UNITED STATES PATENT OFFICE.

ALBERT VAN WAGENEN, OF BOSTON, MASSACHUSETTS.

## NAILING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 260,715, dated July 4, 1882.

Application filed April 27, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT VAN WAGENEN, of Boston, Suffolk county, State of Massachusetts, have invented an Improvement in Nailing-Machines, of which the following description, in connection with the accompanying drawings, is a specification.

My invention relates to nailing-machines for boots and shoes, and is embodied in a nailing-machine in which the horn or support for the stock that is being nailed is depressed after a nail is driven, to permit the said stock to be fed forward to receive a new nail, after which the said horn is again elevated to receive and hold the stock between it and the nose or nail-driving passage of the nailing-machine.

The invention consists in the combination, with the horn and the mechanism by which it is depressed to permit the stock to be fed, of mechanism controlled by the operator for governing the amount of the depression of the said horn.

The invention is herein shown as embodied in a nailing-machine such as shown in Letters Patent No. 215,117, dated May 6, 1879, to which reference may be had. In the said patented machine the horn is pressed upward by a spring against the stock to support and clamp or hold it firmly between the said horn and the nail-driving passage while the nail is being driven, and a clamp operated by the nail-driving mechanism acts through suitable intermediate devices connected with the horn to depress it a definite distance from the stock after each nail is driven, to thus relieve the pressure of the horn and nail-passage on the stock, so as to permit the feed mechanism to move it. In my present invention the said clamp is dispensed with, and I employ instead a horn-depressing device operated by the driving mechanism and a variable intermediate or wedge placed between the horn-depressing device and a collar on a rod forming part of the horn-supporting mechanism, the said intermediate or wedge being connected with a lever or treadle under control of the operator, whereby by moving the said wedge manually, independently of the mechanically-operated parts of the machine, the distance to which the tip of the horn will be depressed below the nail tube or nose may be regulated at will. The said horn-depress-

ing device in this instance consists of a block or device reciprocated by the said nail-driving mechanism independently of the said horn, and the variable intermediate connecting device consists of a wedge interposed between the said reciprocating block and another block or engaging projection rigidly connected with the horn-supporting mechanism, the said wedge being in this instance connected with a treadle controlled by the foot of the operator, it causing a greater or less movement or depression of the horn according as its thicker or thinner portion is interposed by the movement of the said treadle between the reciprocating block and the one connected with the horn-supporting mechanism.

Figure 1 is a vertical section of the lower portion of a nailing-machine, illustrating this invention; and Fig. 2 a rear elevation thereof.

The nail-driving mechanism, the stock-feeding mechanism, and other parts by which the fastening is introduced into the stock may be of any suitable or usual construction, they not being shown, as they form no part of the present invention. Suitable mechanism for this purpose is fully shown and described in the patent hereinbefore referred to.

The horn *a* is supported on a rod, *b*, having a vertical movement in its socket or bearing in the frame-work *c*, it being provided with a toothed block, *d*, meshing with one arm of a toothed lever, *e*, pivoted at *f*, and having its other toothed arm meshing with a block, *g*, connected with a bar, *h*, acted upon by a spring, *i*, to force the said bar down, and thus through the intermediate toothed lever press the said horn *a* upward against the stock resting upon it beneath the nail-tube or drive-passage of the machine, the said parts thus constituting the horn-supporting mechanism. The said bar *h* is provided with an engaging device, shown as a block, *k*, fixed upon it at any desired point. The horn-depressing device consists in this instance of block *p*, free to slide longitudinally upon the said bar *h*, and connected with a rod, *r*, operated by the nail-driving mechanism in such manner as to be reciprocated up and down, once for each operation of the nail-driving mechanism, by which a fastening is driven and the stock properly fed to receive another fastening. The said rod *r* corresponds with



the one marked with the same letter of reference in the patent hereinbefore referred to, and is operated in the same or an equivalent manner, and the sliding block *p* is used instead of the clamp *p* of the said patented machine. In order to cause the block *p* to act upon the rod *h* so as to depress the horn *a* in the upward movement of the said block, a variable intermediate piece, shown as a wedge-shaped block, *m*, dovetailed to slide transversely in the block *k*, is interposed between the said block *k* and the block *p*, it being operated by the treadle *n*, and its arm *o* connected with the said wedge-block *m*, as shown, and provided with a spring, *s*, tending to throw the said wedge-block into the position with its narrowest portion between the blocks *p* and *k*. The engaging-surfaces of the blocks *p* and *m* are serrated or roughened, as shown, to prevent them from sliding upon one another.

It will be seen that when the block *p* is moved upward by the rod *r* it engages the intermediate block, *m*, and thereafter acts upon it and the block *k* to raise the bar *h* and thus depress the horn *a*, and the distance to which the said horn is depressed below the end of the nail-tube is greater when the wider portion of the said intermediate block is interposed between the blocks *p* and *k* than when the thinner or narrower portion of the said intermediate *m* is so interposed.

The operator who is controlling the stock that is being nailed can judge by the action thereof what is the proper amount of depression for the horn, and will govern it accordingly by the action of his foot upon the treadle, it being necessary to depress the treadle more when the machine is working on thick than when it is working on thin stock.

The invention is not limited to the precise construction herein shown, as it is obvious that the block, *p*, or equivalent might act upon an intermediate interposed between it and an engaging device fastened directly to the shaft *b*, upon which the horn is supported, the sliding block *p* then being above the fixed one instead of in the position shown, or that when a lever, as the one *e*, is employed to move the horn up and down, and the end of the said lever may be connected directly with the rod *r* or device by which the horn is depressed, and the fulcrum *f* of the said lever made variable in any suitable way, as by a variable or wedge-shaped block interposed between its sliding bearing and some fixed portion of the frame-work. Such modification is not herein

specifically illustrated or described, as it will form the subject of another application for Letters Patent.

In the Goddu patent referred to, upon which this is an improvement, the horn was always depressed an established and unvarying distance from a variable base-line, on the under side of the shank of varying thickness. In the machine described in that patent the operator had no control whatever of the amount of depression of the horn from the nose or nail-tube, and such depression was entirely mechanically controlled by variations in the thickness of the shank. It was found desirable that the operator be able at will to depress the horn more or less from the nose or nail-tube, irrespective of exact variations in the thickness of the stock; hence the addition of the variable intermediate or wedge placed solely under the control of the operator and in no way moved by the mechanism of the machine.

I am aware that it is not new to keep the tip of the horn pressed upward by a weighted lever which may be operated by the foot of the operator, but not mechanically, to depress the horn while the feed takes place.

I claim—

1. In a nailing-machine, the following instrumentalities, viz: the horn, mechanism connected therewith to support or keep the horn pressed upward, substantially as described, against the stock, the mechanically and automatically reciprocated horn-depressing device, the engaging device, and the variable intermediate or wedge and connected devices under control of the operator to change the position of the said intermediate or wedge, for the purposes set forth.

2. The horn, a lever connected therewith and mounted on a fixed fulcrum, and means to automatically and mechanically turn the said lever on its fulcrum to depress the horn after driving each fastening, combined with a variable intermediate or wedge made movable by the operator, independent of the regular mechanism of the machine, to control the extent of such depression of the horn, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT VAN WAGENEN.

Witnesses:

JOS. P. LIVERMORE,  
W. H. SIGSTON.