No. 731,488. PATENTED JUNE 23, 1903.

H. W. MORGAN.

NAILING MACHINE.

APPLICATION FILED JUNE 24, 1901.

NO MODEL. 2 SHEETS—SHEET 1.

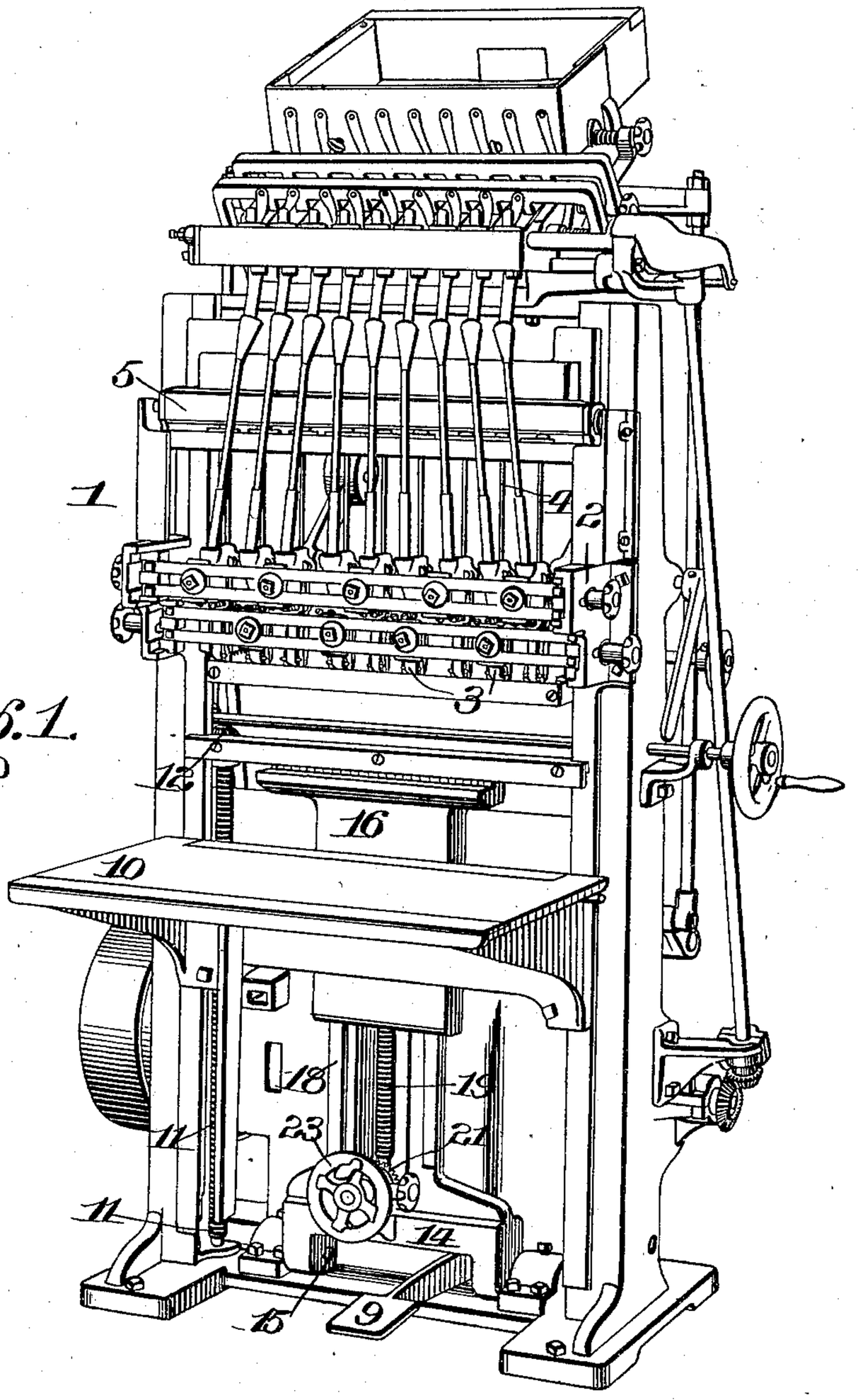

Fig. 1.

Witnesses.
Walter B. Payne.
G. Willard Rich.

Inventor.
Henry W. Morgan
by Frederick H. Church
his Attorney

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NO MODEL. 2 SHEETS—SHEET 2.

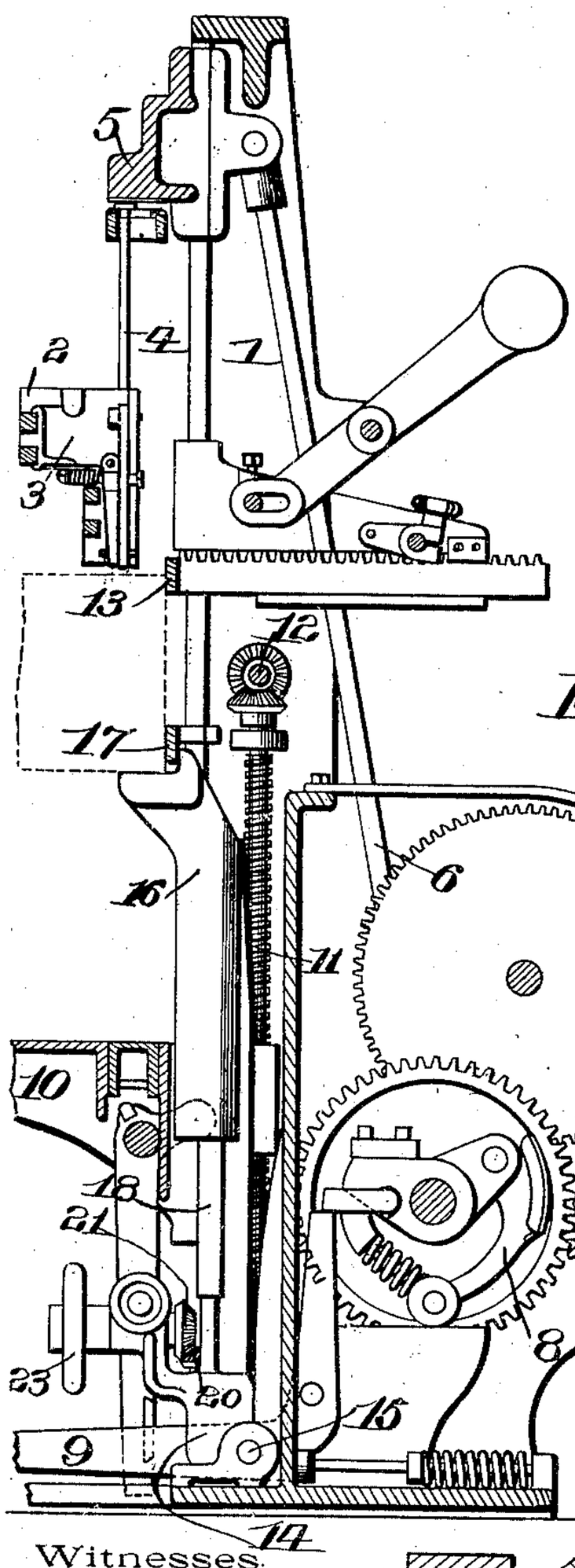

Fig. 2.

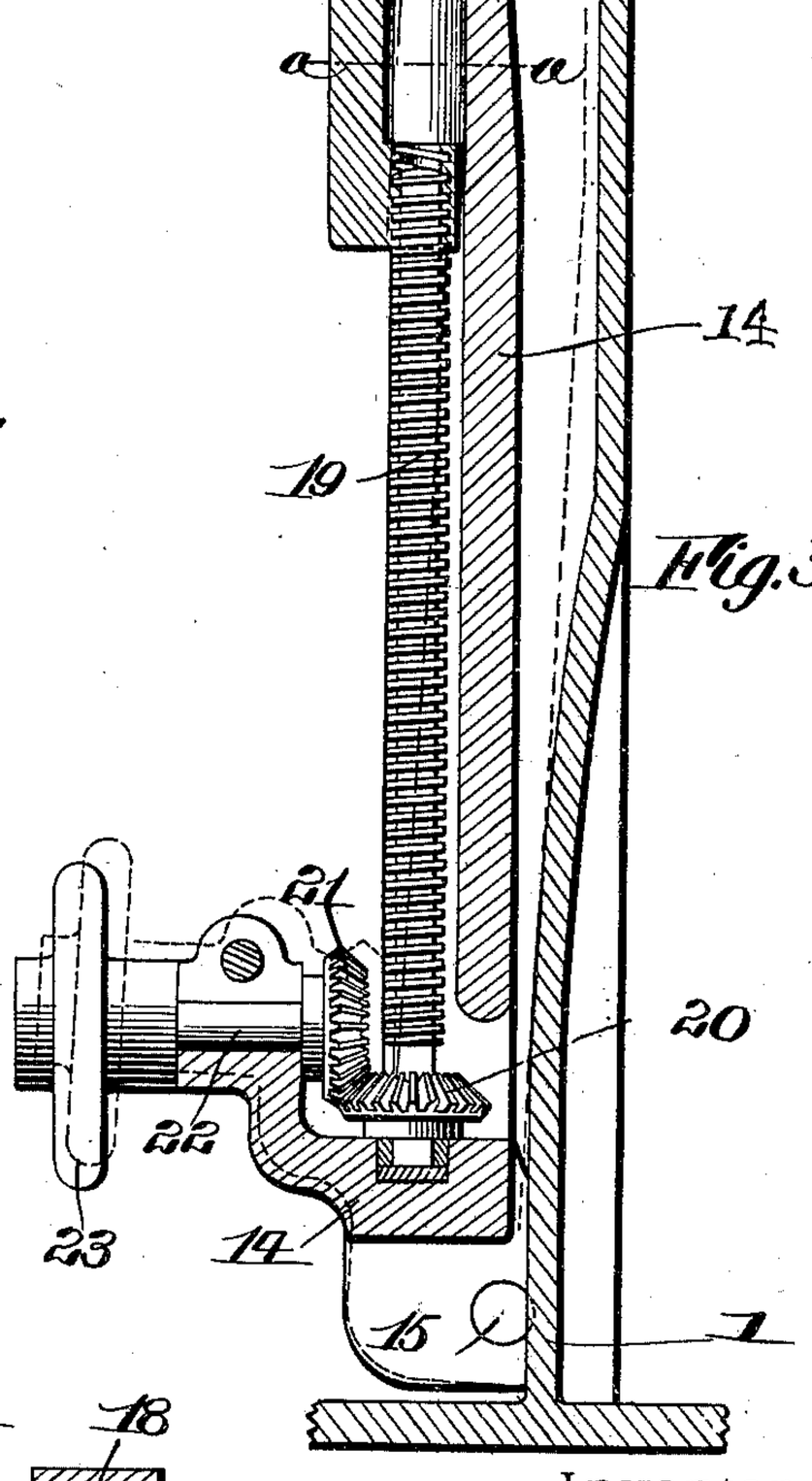

Fig. 3.

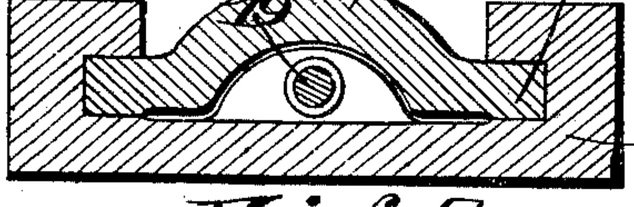

Fig. 4.

Witnesses.
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No. 731,488. Patented June 23, 1903.

UNITED STATES PATENT OFFICE.

HENRY W. MORGAN, OF ROCHESTER, NEW YORK.

NAILING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 731,488, dated June 23, 1903.

Application filed June 24, 1901. Serial No. 65,736. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. MORGAN, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Nailing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to nailing-machines, and has for its object to provide means whereby the various sides or portions of boxes having unequal dimensions may be more readily secured by the operator, which means may form an attachment which is readily applied to the nailing-machines now in common use, all as will be hereinafter fully described, the novel features being pointed out in the claims at the end of this specification.

In the drawings, Figure 1 is a perspective view of a nailing-machine embodying my improvements; Fig. 2, a vertical sectional view showing the nail holding and driving devices, the feeding mechanism being removed. Fig. 3 is a vertical sectional view through the supplemental work-support; Fig. 4, a horizontal sectional view on the line *a a* of Fig. 3.

Similar reference-numerals in the several figures indicate similar parts.

The general construction of the machine to which my improvements are shown connected is not essentially different from that shown in my prior patent, No. 586,711, and embodying a main frame, (indicated by 1,) to the upper portion of which the nail-feeding mechanism, substantially as shown in my Patent No. 674,466, is applied, 2 indicating a frame having arranged upon it the usual nail-chucks 3, through which operate the drivers 4, connected to the driving head or slide 5, operating and guided upon the main frame and reciprocated by a pitman 6, connected to a suitable crank on an operating-shaft, said shaft being operated at intervals from a main driving-shaft 7 through the medium of a clutch connection 8, controlled by a foot-lever 9, substantially as shown in my Patent No. 586,711, before referred to.

10 indicates the usual main work-support or table arranged beneath the nail chucks or holders and vertically adjustable by an adjusting-screw 11, operated by suitable gearing from the shaft 12.

13 indicates a gage-bar adjustable toward and from the nail-chucks for regulating the distance that the nails are to be driven from the edge of the box or other article.

The parts just described form no part of my present invention and their construction and operation are well understood by those skilled in the art.

In forming up or nailing boxes which are narrow and deep — as, for instance, shoe-boxes—it usually requires the use of two nailing-machines, each having the work-support adjusted at such a distance from the nail chucks or holders that but one side of the box can be nailed thereon, or where the different dimensions of the box vary but little a mechanism has been provided for automatically varying the elevation of the main work-support; but machines provided with these attachments are more or less complicated and expensive and require considerable care in their operation, and my present invention therefore is designed to provide a supplemental work-support arranged between the driving devices and the main work-support and at a distance from the nailing devices which corresponds approximately with one of the shorter dimensions of the box to be operated upon, which supplemental support is capable of being moved out of operative position when the work is resting upon the main support and when operating upon one of the higher sides of the box. In carrying out my invention I prefer to cause this supplemental support to assume its operative position beneath the driving devices automatically and to be automatically removed from this position when the box is moved rearwardly upon the main work-support, and to this end I employ a frame (indicated by 14) pivoted at 15 to the lower portion of the main frame 1 of the machine and having at its upper end the supplemental work-support 16 in the form of a bracket or casting having a shelf or ledge at its upper portion vertically adjustable upon the frame 14. This frame is capable of tilting upon the pivots 15 and is overweighted toward the front, so that the supplemental

support will extend forward of the guide or stop 13 and the ledge thereon will serve to support the box beneath the nailing devices while the side of a narrow box is being nailed, as shown in dotted lines in Fig. 2. The forward tilting movement of the supplemental work-support is limited by a stop-bar 17, vertically adjustable on the main frame 1.

When the bottom of the box, which we will assume for the purpose of illustration is a narrow and deep one, is to be nailed, the table or main work-support 10 having been adjusted to a proper distance for this nailing operation, the operator places the box upon the main work-support 10 and moves it backwardly against the stop 13, the side of the box then engaging the forward end of the supplemental work-support, tilting it backward to the position shown in dotted lines in Fig. 3 out of the way, as will be readily understood, and then the clutch is released and the nails driven, and when the box is again moved forwardly the supplemental work-support will move forward in position to support the box when the other narrower side is to be nailed. The supplemental support may be adjusted upon this frame by any suitable means; but I prefer to construct the parts as shown in Figs. 3 and 4, the support 16 having the ways 18 therein to receive the laterally-extending flanges of the frame 14 and having a threaded boss, through which extends the upper end of an adjusting-screw 19, the lower end of which is stepped in the frame 14 and provided with a beveled pinion 20, engaged by a corresponding pinion 21 on a shaft 22, having a wheel 23, or, if desired, other suitable adjusting mechanism can be employed which in connection with the adjustable main work-support enables me to adapt the machine for boxes of various dimensions.

It will be understood that the feature of the invention lies in the employment of a supplemental work-support arranged between the nail-driving devices and the opposing work-support, whether or not the parts be in a vertical position, as shown, or otherwise, though for obvious reasons I prefer the arrangement shown, as the device is adaptable to the machines now in use.

I claim as my invention—

1. In a nailing-machine, the combination with nail-driving devices and an opposing main work-support, of a movable supplemental work-support mounted independently of the main work-support and having a portion normally arranged between the main work-support and the driving devices and capable of free movement from between the parts by contact with work on the main support.

2. In a nailing-machine, the combination with nail-driving devices and an opposing work-support, of a pivoted and weighted supplemental work-support mounted independently of the main support and normally located over the latter and capable of movement out of operative position by the work when engaging the main support.

3. In a nailing-machine, the combination with nailing devices and a main work-support adjustable toward and from it, of a supplemental work-support mounted independently of the main support and automatically movable over the latter, and means for adjusting it toward and from the main support, said supplemental support being capable of movement out of operative position by work placed on the main support.

4. In a nailing-machine, the combination with the main frame, nailing devices and a main work-support, of a frame pivoted to the main frame beneath the main support, a supplemental work-support adjustable on the pivoted frame and adapted to be moved over the main support and away from it.

5. In a nailing-machine, the combination with the main frame, nailing devices and a main work-support, of a frame pivoted on the main frame, and a supplemental work-support vertically adjustable thereon normally extending over the main work-support and adapted to be moved away from the latter by the work upon it.

6. In a nailing-machine, the combination with the main frame and driving devices and a main work-support adjustable relatively to said driving devices, of a frame pivoted on the main frame and a supplemental work-support vertically adjustable on the pivoted frame and adapted to extend between the main support and drivers.

7. In a nailing-machine, the combination with the main frame, and nail-driving devices, of the frame pivoted to the main frame, the work-support sliding on the pivoted frame, the screw engaging the support, the hand-wheel, and gearing connecting the hand-wheel and screw for adjusting the work-support.

HENRY W. MORGAN.

Witnesses:
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