

No. 607,942.

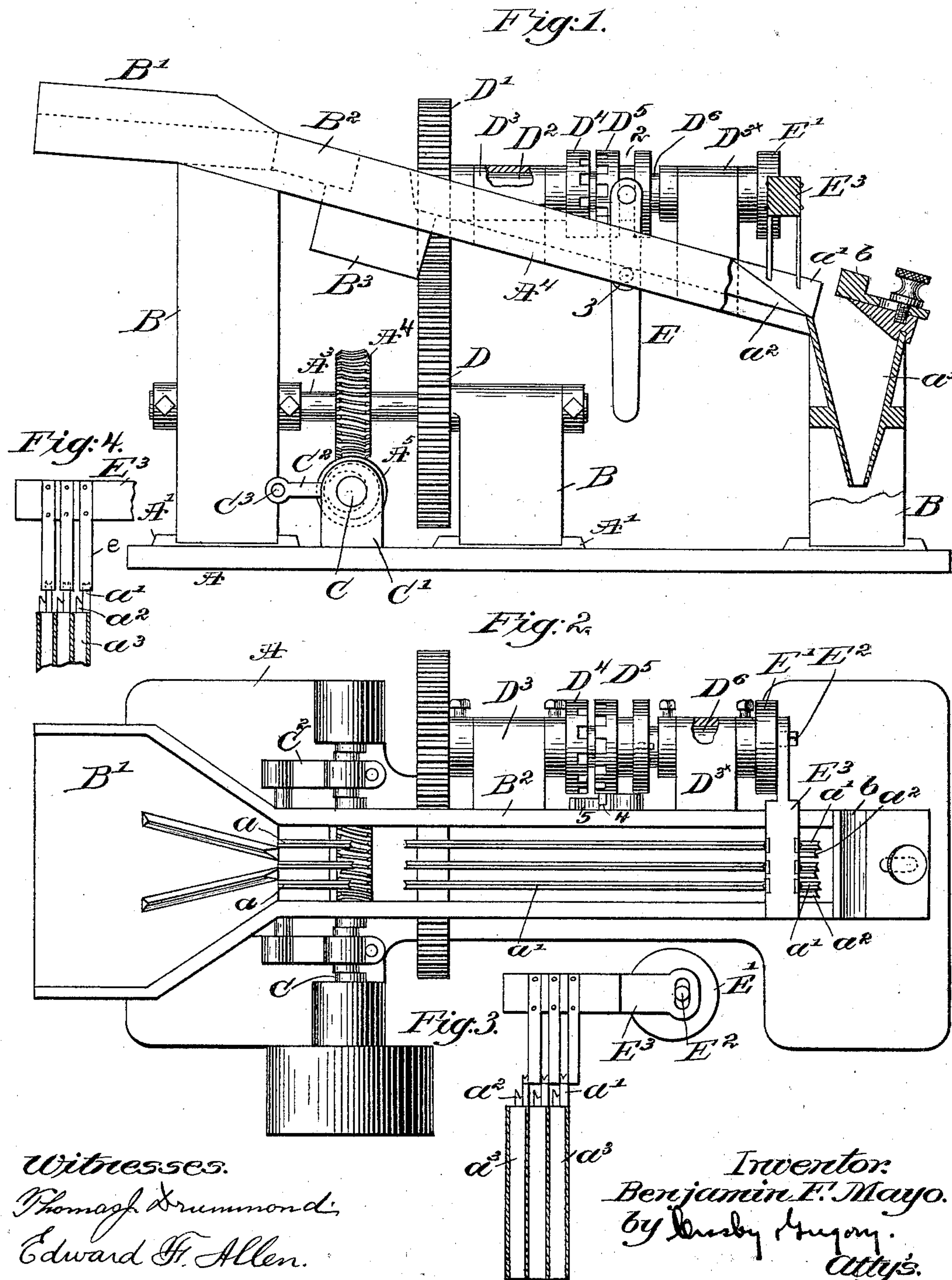
Patented July 26, 1898.

B. F. MAYO.

NAIL ASSORTING MECHANISM.

(Application filed Aug. 27, 1897.)

(No Model.)



UNITED STATES PATENT OFFICE.

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NAIL-ASSORTING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 607,942, dated July 26, 1898.

Application filed August 27, 1897. Serial No. 649,733. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. MAYO, of Salem, county of Essex, State of Massachusetts, have invented an Improvement in Nail-
5 Assorting Mechanism, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

10 This invention has for its object the production of a novel mechanism for assorting nails applied indiscriminately to a raceway heads and points first, the nails which are selected and carried to the nail-block or other recep-
15 tacle being arranged point first.

The gist of this invention consists in the employment of main and auxiliary raceways having their delivery ends at different levels and a nail-stop so located as to stop the nails
20 only on the main raceway, so that the nails when pushed from the main onto the auxiliary raceway may escape the stop and enter pockets at the ends of the raceways.

Figure 1, in side elevation, partially broken
25 out, represents a sufficient portion of a nail-assorting mechanism to illustrate my invention; Fig. 2, a top or plan view thereof. Figs. 3 and 4 are details showing the pockets and transferrers in two positions.

30 Referring to the drawings, the bed A has suitable guides A', on which rest suitable legs B, said legs supporting the hopper B' and its side frames B².

At the lower end of the hopper I have arranged a series of preliminary starts a, which
35 are located at a distance from the raceways a', said starts and raceways each being notched at their tops to receive and properly guide the nails to be assorted. The preliminary starts may be located more or less distant from the upper ends of the raceways,
40 that depending upon the length of the nail to be handled.

The nails leaving the hopper and coming
45 onto the preliminary starts head first will drop from said starts into any suitable receiver or box, as B³; but those nails that come

onto the starts point first pass over the space between the starts and the upper ends of the raceways and slide down the raceways, meeting a stop b, said stop extending across the
50 series of raceways and being adjustable with relation to a transferrer, to be described, so as to exactly position the nails of whatever length to be acted upon by the transferrer. 55

Each raceway near its lower end at one side is provided with an auxiliary raceway a², having its delivery end located below the acting face of the stop b, said raceway a² being shown
60 as of greater inclination than the raceway a' next the one parallel to it, the said auxiliary raceway and main raceway having their ends terminating substantially in line and in line with a suitable pocket a³, and a pocket for each
65 main and auxiliary raceway, said pockets being located at the ends of the raceways.

The side guide B² of the hopper is connected suitably with the leg B at the right in Fig. 1, so that when the said hopper is moved or
70 shaken longitudinally the legs move with it.

The hopper, with the raceways, is given a longitudinal movement, the legs going with it, by or through a suitable shaft C, mounted in bearings C', fixed on the bed A, said shaft
75 having cranks which actuate links C², connected by suitable pins C³ with one of the legs B. The legs—two of them, as herein shown—receive a suitable shaft A³, having a worm-toothed gear A⁴, which is engaged by a worm A⁵, fast on the shaft C. The shaft
80 A³ also has connected to it a toothed gear D, which meshes with a toothed pinion D', fast on a suitable shaft D², mounted in a bearing D³, connected with the racewaysides B². This shaft D² has a clutch D⁴, which may be engaged by a clutch D⁵, splined on a shaft D⁶,
85 the hub of said clutch having an annular groove 2, which is entered by a suitable pin or stud of a lever E, pivoted at 3 and adapted to be moved by hand when it is desired to engage the two clutches D⁴ D⁵ to rotate the shaft
90 D⁶ once and then leave it at rest, the said lever E for such purpose being moved by hand.

The clutch D⁵ has a pin 4, (see Fig. 2,)

which as the clutch completes its rotation meets a cam-surface 5, formed as a block secured to the raceway-frame B², which separates the clutch.

5 The shaft D⁶ has fast upon it at one end a disk E', provided with a crank-pin E², which enters a slot (see Fig. 3) in a transferrer E³, said transferrer consisting, essentially, of a bar having a series of depending fingers *e*,
10 said fingers normally standing as shown in Fig. 4—say at the right of the main raceways *a'*—it being supposed that nails on said raceways rest with their points against the stop *b*.

The main raceways have transverse notches,
15 which are entered by the fingers *e*, so that as said transferrer is moved from the position Fig. 3 into the position Fig. 4 they act upon the nails on the main raceways and push them laterally therefrom onto the auxiliary race-
20 ways having the steep inclined surfaces, and said nails dropped upon said auxiliary raceways immediately slide down and off therefrom point first into the pockets, from which they are led away in any suitable or usual
25 manner to the nail-box or other device to receive the assorted nails.

In another application I have shown the raceways with the preliminary starts from which the nails having their heads foremost
30 drop and do not therefore travel down to the stop at the lower end of the raceway, and in another application I have shown a transferrer coöperating with a series of raceways to push the nails laterally from the raceways

into pockets located at the sides of the race- 35 way; but herein the pockets are arranged at the ends of the raceways, yet I make the transferrers operable to discharge from the main raceway the nails arranged point first, and by providing the auxiliary raceways it be- 40 comes possible to leave the pockets at the ends of the raceways rather than at their sides. This latter construction will at times be found serviceable.

Having described my invention, what I 45 claim, and desire to secure by Letters Patent, is—

In a nail-assorting mechanism, a series of main raceways; a stop to stop the nails resting at the ends of said main raceways; a se- 50 ries of pockets located at the sides of and beyond the delivery ends of said main raceways, and auxiliary raceways having their delivery ends located in a plane below the said stop, combined with a transferrer to act against 55 the nails on the main raceways and by a lateral movement place them on the auxiliary raceways from the ends of which they are discharged into the pockets, substantially as described. 60

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

BENJAMIN F. MAYO.

Witnesses:

GEO. W. GREGORY,
EMMA J. BENNETT.