March 24, 1925. 1,531,028

R. E. RUNDELL

FRESH WORK CIGAR BUNCH MACHINE

Filed Jan. 24, 1922 3 Sheets-Sheet 1

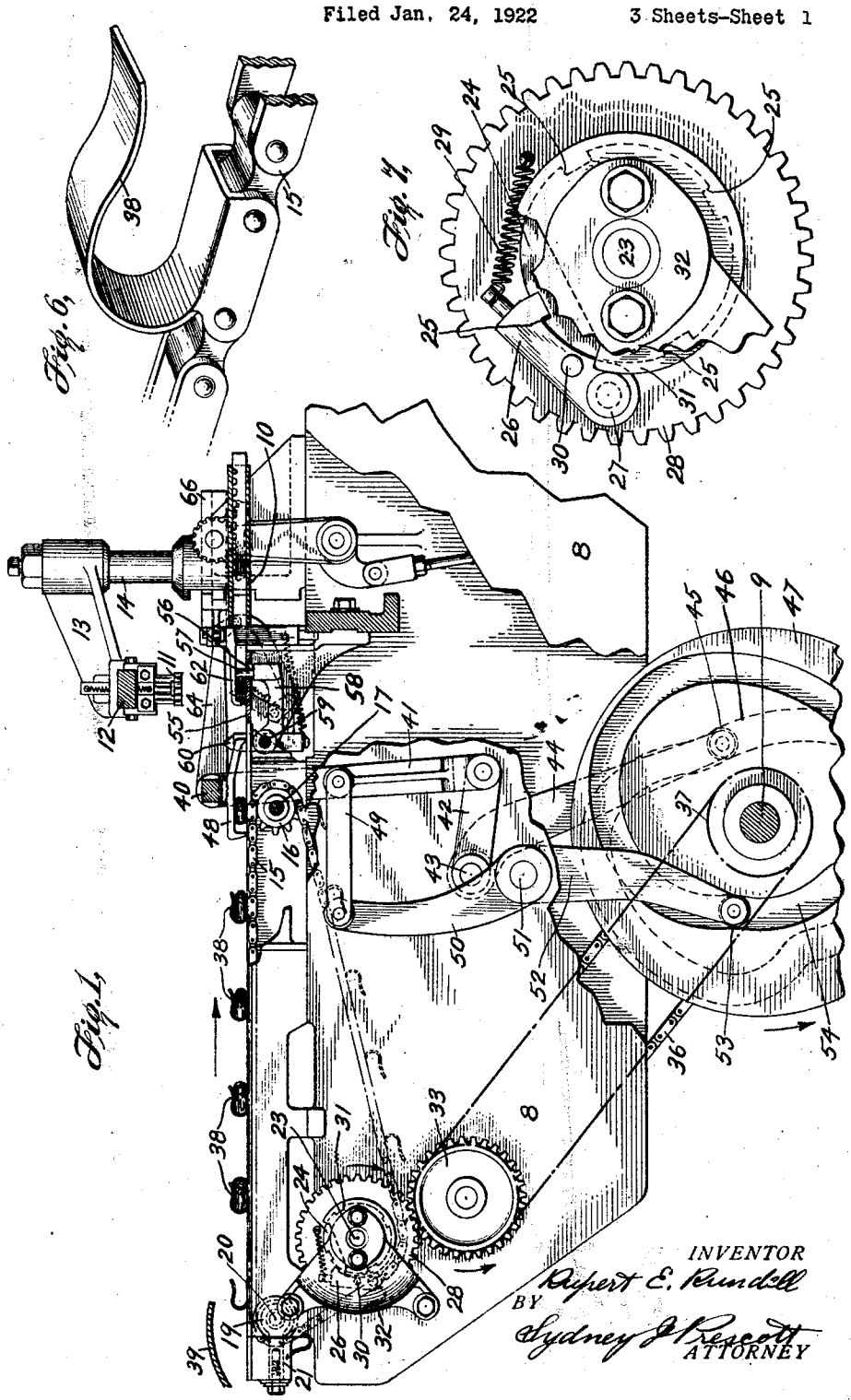


Fig. 1.

Fig. 6.

Fig. 4.

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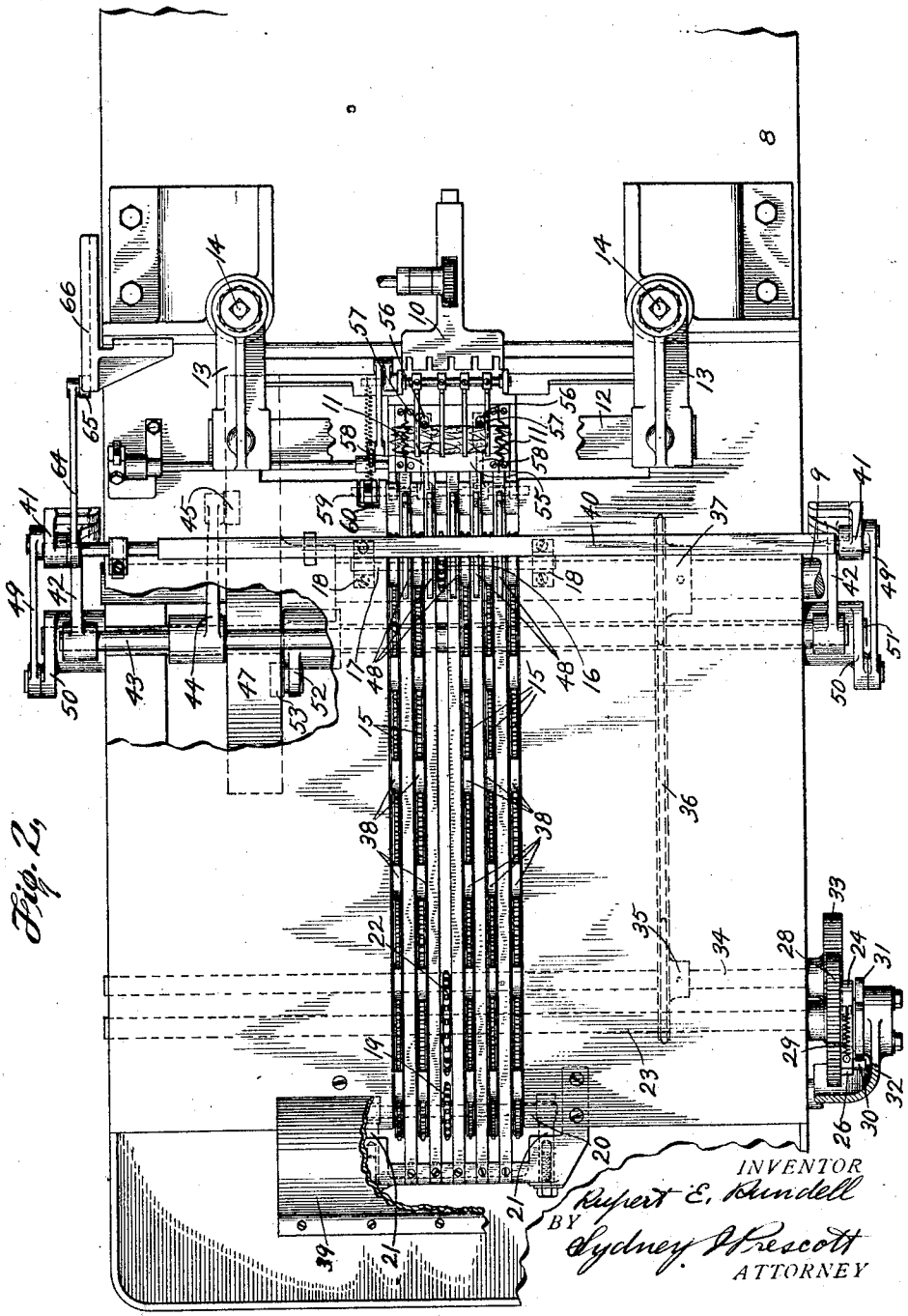


Fig. 2.

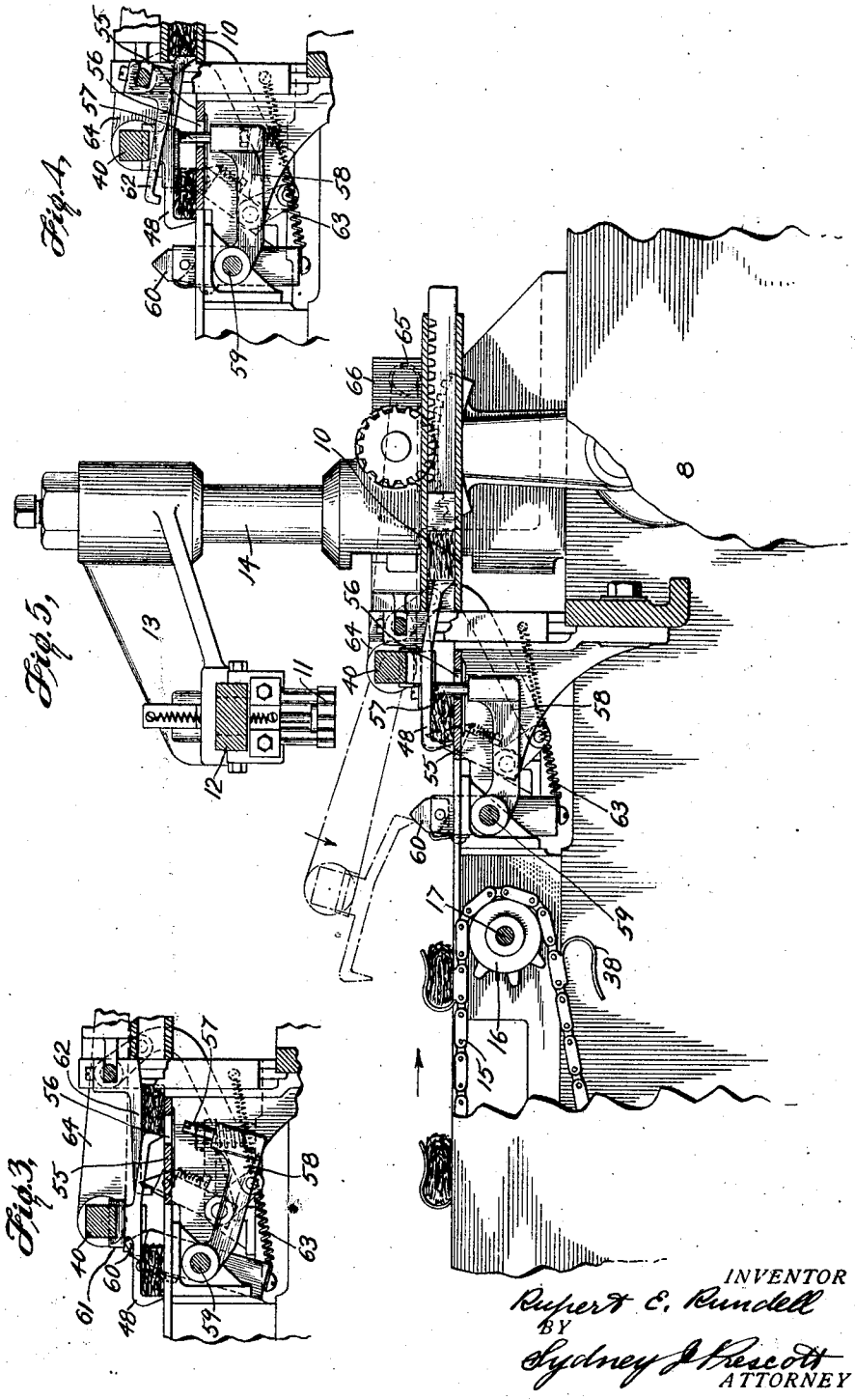
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FRESH WORK CIGAR BUNCH MACHINE

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Patented Mar. 24, 1925. 1,531,028

UNITED STATES PATENT OFFICE.

RUPERT E. RUNDELL, OF BROOKLYN, NEW YORK, ASSIGNOR TO INTERNATIONAL CIGAR MACHINERY COMPANY, A CORPORATION OF NEW JERSEY.

FRESH-WORK CIGAR-BUNCH MACHINE.

Application filed January 24, 1922. Serial No. 531,332.

To all whom it may concern:

Be it known that I, RUPERT E. RUNDELL, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Fresh-Work Cigar-Bunch Machines, of which the following is a specification.

This invention relates to an improvement in fresh work cigar bunch machines.

In making certain kinds of fresh work cigar bunches it is desirable that the long filler tobacco be broken and assembled by hand into charges each containing sufficient filler material to form a single cigar bunch, and that charges so made be automatically delivered to bunch rolling means, or first to a charge trimming means and thereafter to bunch rolling means. The main object of the present invention is the production of a device adapted to simultaneously advance a series of separated charges of long filler material, and means for successively transferring said charges to a charge trimming means, to bunch rolling means, or first to charge trimming means and then to bunch rolling means. With this and other objects not specifically mentioned in view, the invention consists in certain constructions and combinations which will be hereinafter fully described and then specifically set forth in the claims hereunto appended.

In the accompanying drawings, which form a part of this specification and in which like characters of reference indicate the same or like parts, Fig. 1 is a side elevation, partly broken away and partly in section, of a device constructed in accordance with the invention; Fig. 2 is a plan view, partly broken away, of the structure shown in Fig. 1; Fig. 3 is a detail elevation of a somewhat enlarged scale, of the rake mechanism, illustrated in Figs. 1 and 2; Fig. 4 is a view similar to Fig. 3, showing the parts in different position; Fig. 5 is a fragmentary elevation of a part of the mechanism shown in Fig. 1, but illustrated on a somewhat larger scale; Fig. 6 is a detail perspective view on an enlarged scale of one of the charge holders or clips; and Fig. 7 is a detail view on an enlarged scale of the clutch controlling the movement of the charge advancing means.

In carrying the invention into effect, there is provided means for simultaneously advancing a series of separated charges of long filler formed by hand and manually placed in said means, bunch rolling means whereby the charge is enclosed in a binder to form a completed bunch, and means for successively transferring said charges from the advancing means to the bunch rolling means. In the best constructions, there is also provided charge trimming means for serrating or otherwise trimming the ends of the charges, and the transferring means delivers the charges first to the trimming means and thereafter to the bunch rolling means. In the best constructions also, there is provided a plurality of laterally separated series of charge holders arranged in tandem, and the transferring means successively engages the charges between t' charge holders. All of the above means vices and parts may be widely varied construction within the scope of the cl. ns, for the device selected to illustrate the invention is but one of many possible concrete embodiments of the same. The invention therefore is not to be restricted to the precise details of the structure shown and described.

Referring to the drawings, 8 indicates the main frame of a fresh work cigar machine in which the present invention is adapted for use, and 9 represents one of the cam shafts of said machine. The machine includes bunch rolling mechanism comprising a Chianti belt mechanism, not shown, for enclosing a charge in a wrapper, and also includes a transporting device marked 10 which successively receives charges from a suitable feeding mechanism and delivers them to the Chianti belt mechanism, the transferring device 10 being also the filler charging element of bunch rolling means, and the Chianti belt mechanism being the rolling element of the same. The machine further includes trimming mechanism comprising a pair of serrated knives 11, carried by a bar 12, supported on arms 13, which arms are secured to the upper ends of reciprocating pots 14, the movement of the posts being controlled by cam actuated mechanism, not shown. All of the mechanism so far described is old and well known in the art, and since a detailed description of the same is unnecesary to a full understanding of the present invention, it is omitted in the interest of brevity and clearness.

As hereinbefore indicated, the present in-

vention is for the purpose of supplying the machine proper with charges of long filler formed by hand and automatically advanced, as a series of separated charges, to charge trimming means, and thereafter to bunch rolling means, or in some installations—directly to bunch rolling means. With this end in view, there is provided means for simultaneously advancing a series of separated charges of long filler. As shown, this means includes a plurality of chains 15, six in number, one being omitted in Fig. 2 to show the sprockets over which they run. Each chain runs over a sprocket 16 mounted on a shaft 17, supported in brackets 18, screwed to the main frame 8 before referred to. Each chain also runs over a sprocket 19, mounted on a shaft 20, carried in adjustable bearings 21. Each chain also runs over a larger sprocket 22, fast on a shaft 23 extending across the machine and carrying a disc 24 having four notches 25 in its periphery. At the proper time in the machine cycle of operation, one of the notches 25 is engaged by a pawl 26 carried on a stud 27 fast in a gear 28 and held to its duty by means of a spring 29. The pawl 26 is provided with a pin 30 which at the proper time engages a fixed cam 31 bolted to a bracket 32 which supports the extreme end of the shaft 23 before referred to, and is itself supported by the main frame 8. The gear 28 is in mesh with and is driven by a gear 33, mounted on a shaft 34, extending across the machine and carrying a sprocket 35 over which runs a chain 36, also running over a sprocket 37, fast to the shaft 9 before referred to. By means of the mechanism just described, an intermittent advancing movement of the chains 15 is produced. Each chain carries charge holders in the form of clips 38, the charge holders being thus arranged in a plurality of laterally separated series. Overlying the receiving end of the advancing means is a sheet metal hood or guard 39, the function of which is to prevent the charge holders, as they come up over the sprockets 19, from injuring the feeder. The feeder breaks up filler material by hand into individual charges and successively places them in the charge holders as the chains intermittently advance the latter.

The charge holders carry the separated charges to a position which falls short of that of the trimming knives 11 before referred to, and means are provided for successively transferring said charges to said charge trimming means. As shown, this transferring means is in the form of a rake mechanism including a bar 40 extending across the machine, its opposite ends being supported in the upper ends of floating levers 41, one of either side of the machine. The lower end of each floating lever 41 is pivoted to an arm 42, fast on a shaft 43, extending across the machine. The shaft 43 carries a cam arm 44 provided with a bowl 45, tracking in the cam groove 46 of a cam drum 47, fast of the shaft 9 before referred to. The bar 40 carries a series of double-pronged rake members 48 which operate between charge holders 38, as clearly shown in Fig. 2. By means of the mechanism just described, the bar 40 carrying the rake members 48 is lowered to cause the pronged rake members to engage the charges, and is raised to free them therefrom.

To give the rake members their charge transferring movement, each of the floating levers 41 is connected by means of a link 49 to an arm 50, fast on a shaft 51, extending across the machine below the shaft 43, and upon this shaft 51 is fast a cam arm 52, carrying a bowl 53, tracking in a cam groove 54, in the cam 47 before referred to.

Immediately under the trimming knives 11 is a table 55, over which the charges are advanced by the rake mechanism. This table has two apertures 56, and working in these apertures are two stop pins 57, each carried on an arm 58, fast on a short shaft 59, which also carries a trip-pawl 60 of well known construction. This trip-pawl 60 is engaged and operated by a block 61 on the bar 40 when the latter moves forward, as shown in Fig. 3, to rock the shaft 59 and pull the stop pins 57 down through the apertures 56, leaving the charge—previously stopped by said pins—free to be advanced.

The position of the rake mechanism when it begins its transferring movement is shown in Fig. 1. At this time, a charge is held against the stop pins 57 by means of a presser-foot 62 of well known construction, and it is in this position that the charge is trimmed by the serrating knives 11 before referred to. In Fig. 3, the rake mechanism is shown in position where it has not only engaged the charge in the leading holders, but has rocked the stop pins 57 out of the way and also engaged the trimmed charge. In Fig. 4, the rake is shown in position where the trimmed charge has just entered the transferring device 10 of the bunch rolling mechanism, but where the untrimmed charge, advanced by its rearward prong, has not yet reached trimming position against the stop pins 57, though the latter have been snapped back to normal position by means of the disengagement of the bar 40 from the trip-pawl 60 and the action of the pawl spring 63. In Fig. 5, the rake mechanism is shown at the extreme end of its charge advancing movement with the trimmed charge pressed far back into the charge transporting device 10 of the bunch rolling mechanism, and with the untrimmed charge against the stop pins 57.

When a trimmed charge and a following

untrimmed charge have been thus advanced to the position shown in Fig. 5, the bar 40 is raised and given a rearward movement by means of the cam 47. During its movement the bar 40 is steadied by means of an arm 64 fast thereupon, and carrying a bowl 65, tracking in a groove formed in a bracket 66, mounted upon the main frame.

By an inspection of Fig. 1, it will be noted that the movement of the charges is in a right line throughout; and in view of the foregoing, a detailed description of the operation of the device is deemed unnecessary and is therefore omitted in the interest of brevity.

What is claimed is:

1. In a fresh work cigar bunch machine, the combination with means for simultaneously advancing a series of separated charges of long filler, of transporting means, and means for successively transferring said charges to said transporting means.

2. In a fresh work cigar bunch machine, the combination with means for simultaneously advancing a series of separated charges of long filler, of charge trimming means, transporting means, and means for successively transferring said charges to said charge trimming means and thereafter to said transporting means.

3. In a fresh work cigar bunch machine, the combination with a series of charge holders arranged in tandem, of means for simultaneously advancing said holders, transporting means, and means for successively transferring the charges to said transporting means.

4. In a fresh work cigar bunch machine, the combination with a plurality of laterally separated series of charge holders arranged in tandem, of means for simultaneously advancing said holders, transporting means, and means for successively transferring the charges to said transporting means.

5. In a fresh work cigar bunch machine, the combination with a plurality of laterally separated series of charge holders arranged in tandem, of a plurality of chains each carrying one of said series of holders, means for simultaneously moving said chains to advance said holders, transporting means, and means for successively transferring the charges to said transporting means.

6. In a fresh work cigar bunch machine, the combination with a plurality of laterally separated series of charge holders arranged in tandem, of a plurality of chains each carrying one of said series of holders, gearing for simultaneously and intermittently moving said chains to advance said holders, transporting means, and means for successively transferring the charges to said transporting means.

7. In a fresh work cigar bunch machine, the combination with means for simultaneously advancing a series of separated charges of long filler in a right line, of transporting means, and means for successively transferring said charges still in said right line to said transporting means.

8. In a fresh work cigar bunch machine, the combination with means for simultaneously advancing a series of separated charges of long filler in a right line, of charge trimming means, transporting means, and means for successively transferring said charges still in said right line to said charge trimming means and thereafter still in said right line to said transporting means.

9. In a fresh work cigar bunch machine, the combination with means for simultaneously advancing a series of separated charges of long filler, of transporting means, and a rake mechanism for successively transferring said charges to said transporting means.

10. In a fresh work cigar bunch machine, the combination with a plurality of laterally separated series of charge holders arranged in tandem, of a plurality of chains each carrying one of said series of holders, gearing for simultaneously and intermittently moving said chains to advance said holders, transporting means, and a rake mechanism for successively engaging the charges between said series of holders and transferring them to said transporting means.

11. In a fresh work cigar bunch machine, the combination with a plurality of laterally separated series of charge holders arranged in tandem, of a plurality of chains each carrying one of said series of holders, gearing for simultaneously and intermittently moving said chains to advance said holders in a right line, charge trimming means, transporting means, and a double-acting rake mechanism for successively engaging the charge between said series of holders and transferring them still in said right line to said charge trimming means and thereafter still in said right line to said transporting means.

In testimony whereof, I have signed my name to this specification.

RUPERT E. RUNDELL.