March 31, 1942. F. J. COUCH 2,277,846

STACKING MACHINE

Original Filed June 26, 1936 5 Sheets-Sheet 1

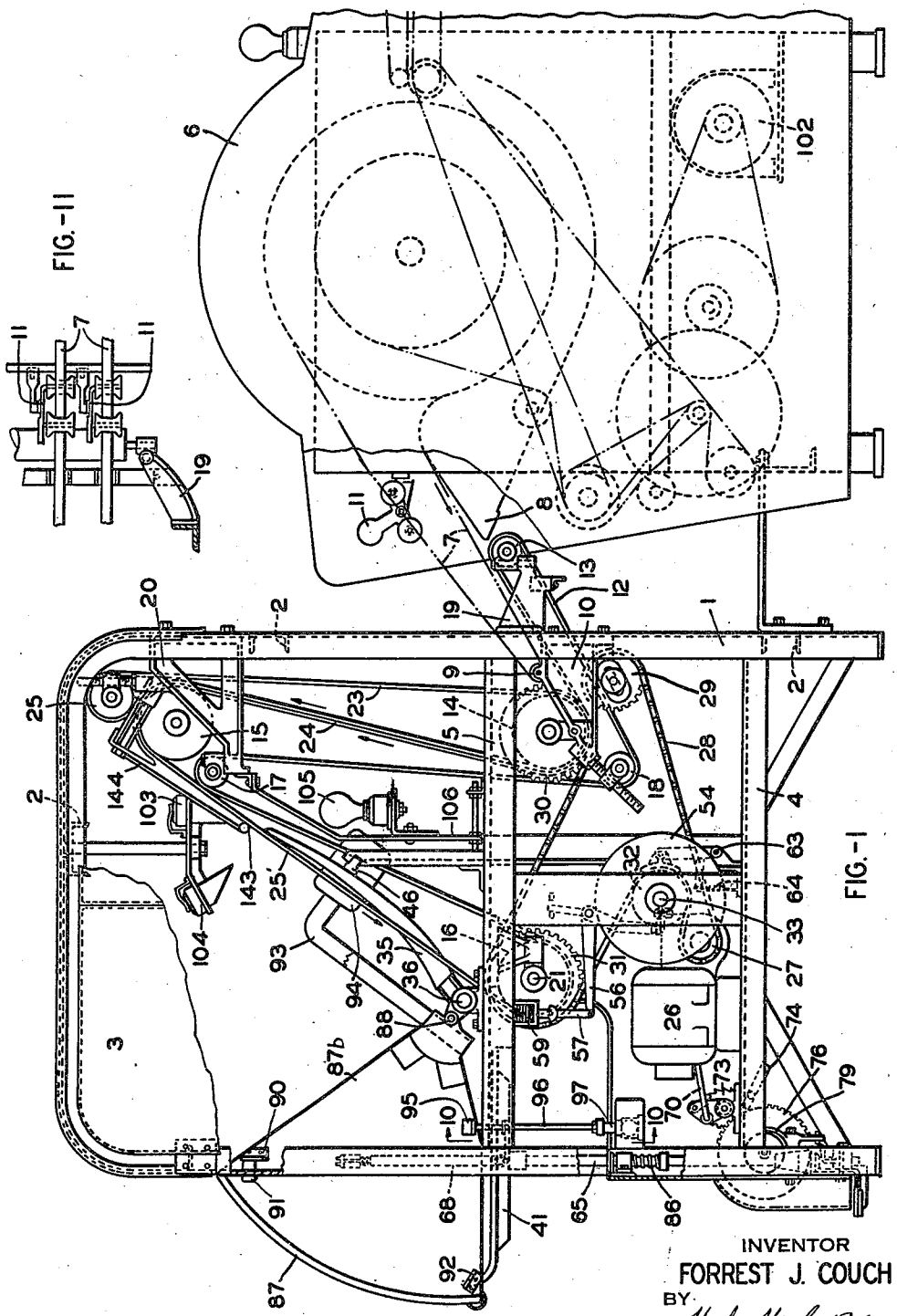


FIG.-II

FIG.-I

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STACKING MACHINE

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FIG.-2

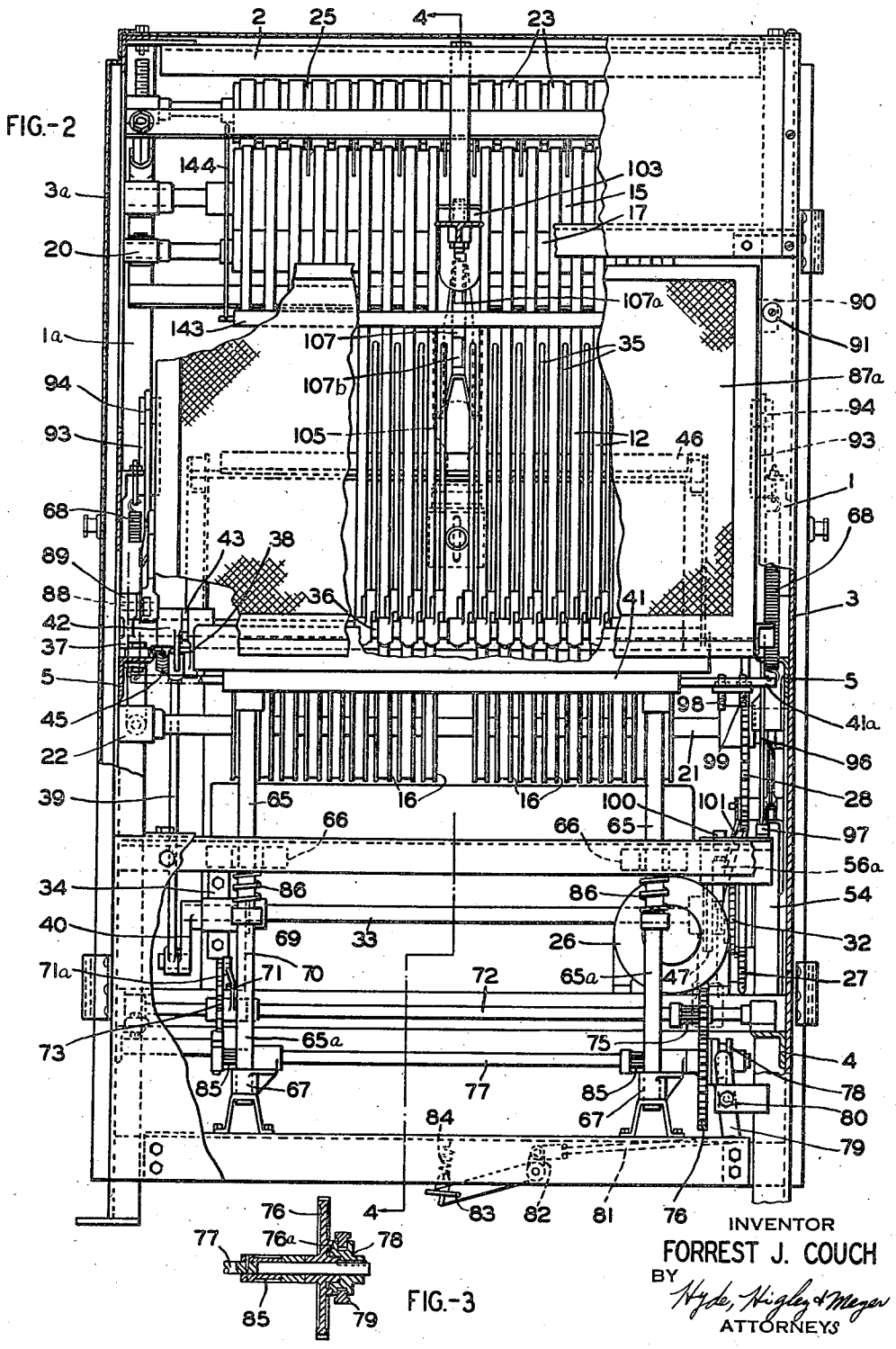


FIG.-3

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STACKING MACHINE

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FIG.-4

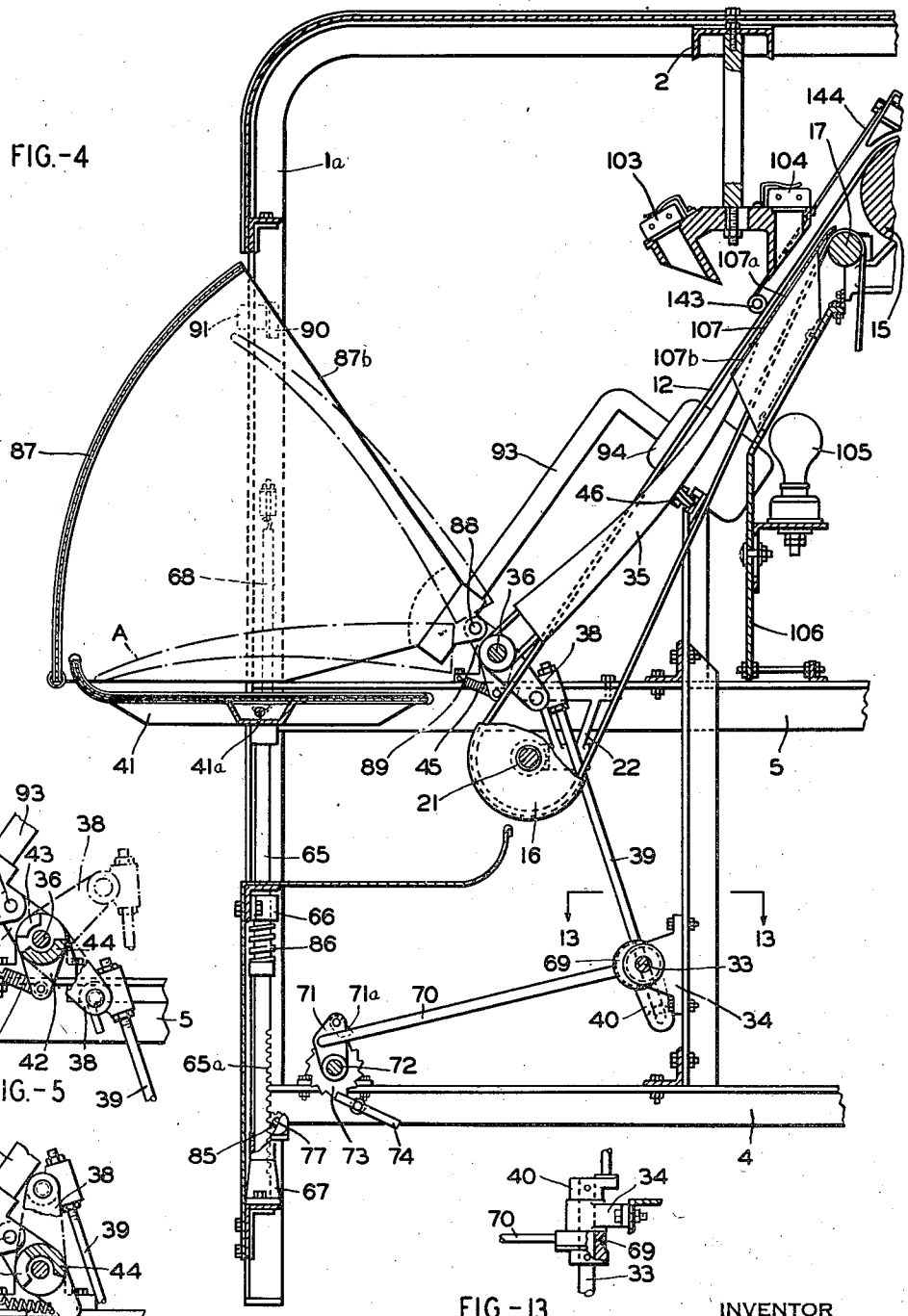


FIG.-5

FIG.-6

FIG.-13

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STACKING MACHINE

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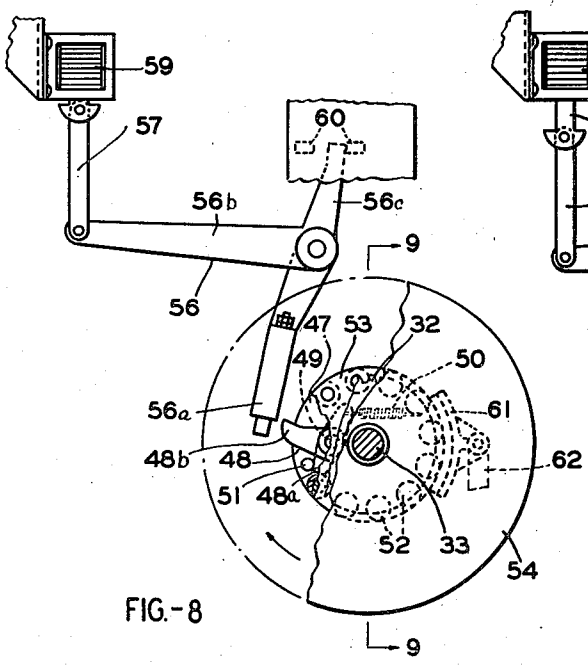


FIG.-8

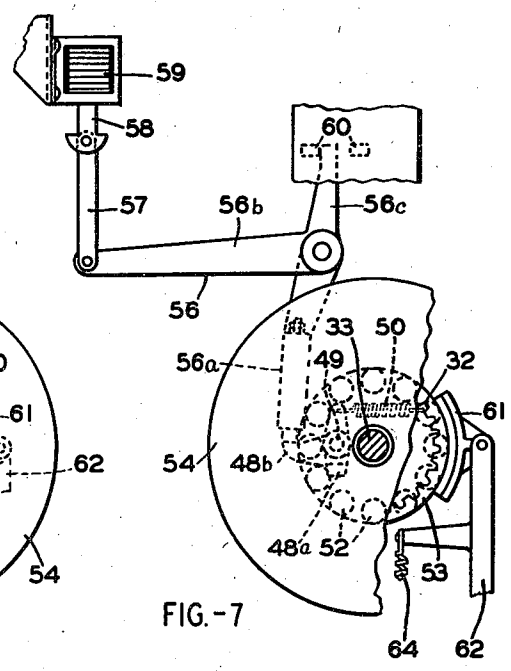


FIG.-7

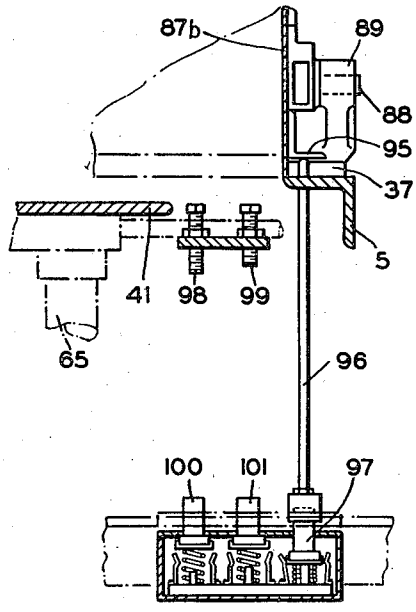


FIG.-10

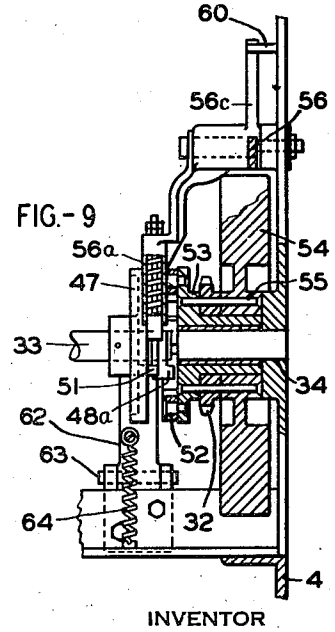


FIG.-9

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STACKING MACHINE

Original Filed June 26, 1936 5 Sheets-Sheet 5

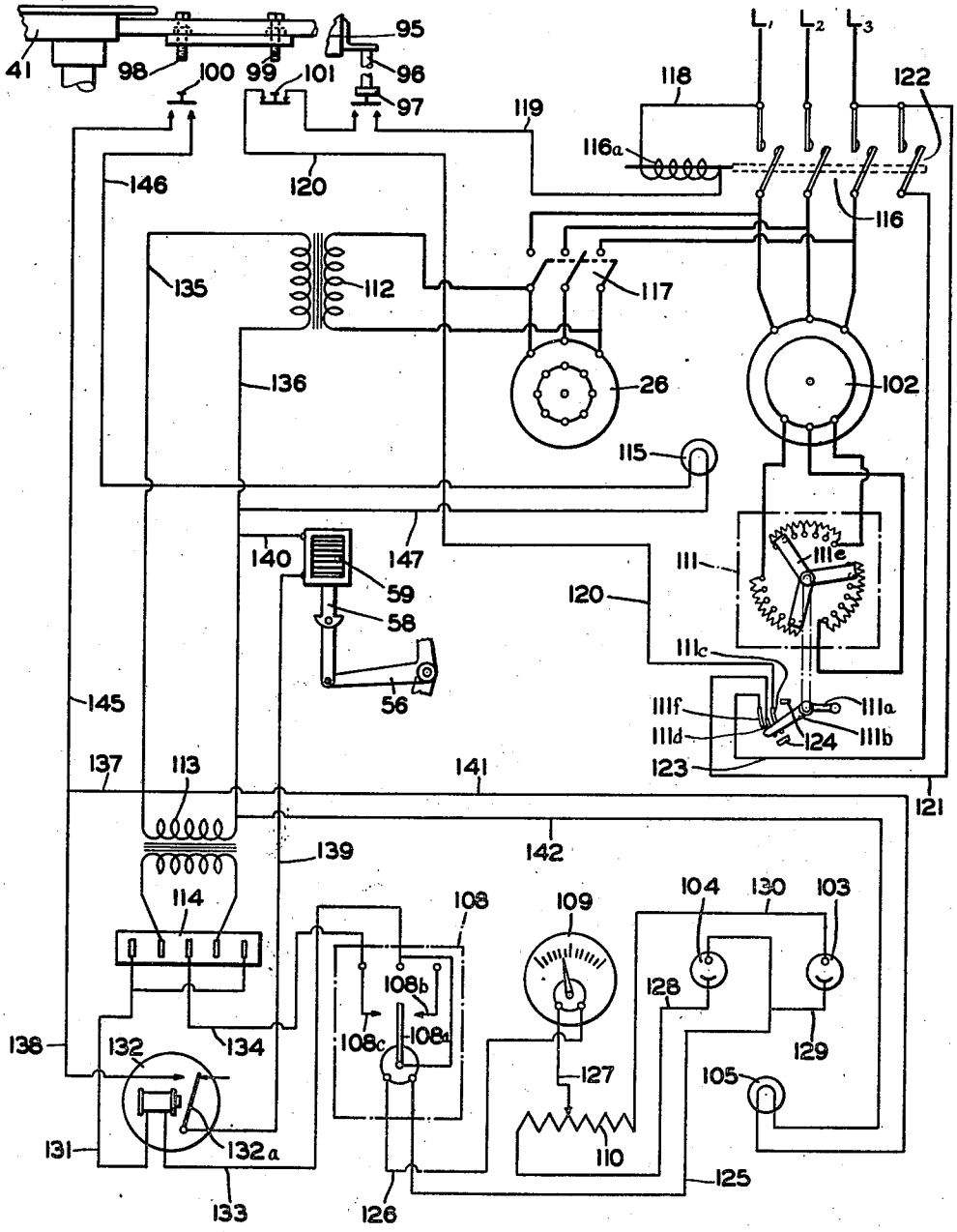


FIG.-12

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Patented Mar. 31, 1942 2,277,846

UNITED STATES PATENT OFFICE

2,277,846

STACKING MACHINE

Forrest J. Couch, Cincinnati, Ohio, assignor to The American Laundry Machinery Company, Norwood, Ohio, a corporation of Ohio

Original application June 26, 1936, Serial No. 87,346. Divided and this application March 11, 1939, Serial No. 261,271

6 Claims. (Cl. 271—70)

This invention relates to improvements in stacking machines for fabric articles.

This application is a division of my copending application Serial No. 87,346, filed June 26, 1936.

In certain laundering processes it is desirable to stack ironed fabric articles in unfolded condition. This is particularly true with respect to handkerchiefs and similar light fabric articles of small size. The machine will be referred to hereinafter as dealing with handkerchiefs for the purpose of illustration but it will be understood that I do not limit myself to any one particular article.

Machines heretofore used for the handling of handkerchiefs after ironing have had several disadvantages which it is the purpose of my present invention to overcome. One of the disadvantages has been that no means was provided to handle the handkerchiefs as rapidly as an operator could feed them through a modern ironing machine so that the production of the ironing machine was limited to the speed of the operators handling the ironed articles at the delivery end of the machine. One type of handkerchief receiving device provides an individual receptacle for each customer's bundle of handkerchiefs but this device has a tendency to muss the ironed articles somewhat and it is limited in capacity because the receiving machine may be filled with ironed handkerchiefs only as rapidly as an operator can empty the filled compartments.

Other types of receiving device for handkerchiefs after ironing comprise delivery on tapes or conveyors to folding and stacking operators and here again no arrangement has been found whereby these operators can handle the handkerchiefs at the same speed as they may be ironed.

A feature of my present invention is an arrangement whereby a very large number, of the nature of several hundred, of thin fabric articles, such as handkerchiefs, may be neatly stacked without mussing or wrinkling, without interruption in the process of feeding the articles through an ironing machine. The machine then need be shut down only for a brief period for the removal of the large stack of finished articles from the stacking device, whereupon the machine may resume operation. This device permits a single operator to iron a large number of handkerchiefs at the full capacity of a modern ironing machine and greatly reduces the labor and machine hours necessary to finish such articles. Furthermore by such an arrangement operators may be most efficiently proportioned to the ironing and folding or bundling operations, or one operator may iron a large number of articles and thereafter shut down the ironing machine and perform the folding and bundling operations on the finished articles.

Another feature of my present invention is the provision of novel structure for receiving fabric articles direct from an ironing machine and conveying them to a stacking device. Such features include a novel arrangement of conveying means for conservation of floor space and for the provision of a "steaming off" period so that the fabric articles are thoroughly dry when stacked.

Another feature of my improved stacking machine is an arrangement of oscillating stacking arms adapted to receive an ironed fabric article and convey it in unwrinkled condition to the top of a stack of such articles.

In combination with the stacking arms described in the preceding paragraph my invention provides a novel arrangement of a receiving table for such articles which is operated in coordination with the stacking arms so as to maintain a constant level of the pile of stacked articles.

Another feature of my invention is the novel arrangement of the conveying device which receives the fabric articles in ironed condition and carries them to position over stacking arms in such a way that the stacking arms require the minimum movement.

Another novel feature of my device is the arrangement of control mechanism for operating the stacking arms which take the ironed articles from the conveyor to place them in a pile. These novel features include the initiation of the stacking arm movement by the trailing edge of a thin fabric article without physical contact with any tripping device, together with means for holding the fabric articles in a predetermined position until the moment when they are received by the stacking arm for conveyance to the stacking table. This results in stacking the articles with one edge thereof perfectly alined with other articles in the pile.

Other novel features of my invention will be apparent from the accompanying drawings and specification and the novel features thereof will be pointed out in the claims.

In the drawings:

Fig. 1 is a side elevation of the stacking machine and an ironing machine coupled together for operation. One of the side panels of the stacking machine has been removed to expose the operating parts.

Fig. 2 is a rear elevation of the stacking ma-

chine, parts of the rear panel and cover member being broken away to expose the operating mechanism.

Fig. 3 is a sectional detail view of the release clutch mechanism for the stacking table.

Fig. 4 is an enlarged fragmental sectional view taken on the line 4—4 of Fig. 2.

Figs. 5 and 6 are fragmental detail views partly in section showing a portion of the stacking arm operating mechanism in various positions.

Figs. 7 and 8 are fragmental detail views of the clutch mechanism assembly for the stacking arm operating mechanism in two different operating positions.

Fig. 9 is a sectional elevation of the mechanism of Figs. 7 and 8, certain parts being shown in elevation and other parts in section along the line 9—9 of Fig. 8.

Fig. 10 is a view taken substantially along the line 10—10 of Fig. 1 showing in somewhat diagrammatic form operating switches and actuating mechanism therefor.

Fig. 11 is a detail plan view of mechanism for taking up slack in the ironing machine delivery ribbons.

Fig. 12 is a wiring diagram of the control and operating circuits.

Fig. 13 is a fragmental view along the line 13—13 of Fig. 4.

The stacking machine is provided with a suitable framework which comprises side frames 1 and 1*a* which are tied together by suitable cross members 2 and housed by side panels 3 and 3*a*, the latter being hinged or otherwise removably secured to the frame to provide access to the interior of the machine. Suitable longitudinal supporting angles 4 and 5 are provided on each side of the machine for supporting parts of the operating mechanism.

Conveying mechanism

The stacking machine is provided with conveying means for receiving ironed articles from almost any type of ironing machine. For purposes of illustration I have shown a portion of a machine 6 which is more fully illustrated, described and claimed in my Patent No. 1,925,532, granted September 5, 1933. In this machine fabric articles are ironed by passage between a roll and chest and the ironed articles are then delivered by the conveyor tapes 7 over the rear lip 8 of the ironing machine chest. In combining this ironing machine with my improved stacking machine I have carried the delivery tapes 7 around a roll 9 which is supported in a suitable bracket 10 on the stacking machine frame. Each of the delivery tapes 7 is provided with an automatic tightening device 11 for taking up the slack therein. These devices are clearly shown in Figs. 1 and 11. The conveyor means in the stacking machine for receiving the ironed articles from the ironing machine comprises a plurality of endless spaced ribbons 12 which pass about the rolls 13, 14, 15, a plurality of pulleys 16, and rolls 17 and 18. These rolls and pulleys are rotatably supported upon suitable brackets rigid with the framework of the stacking machine. Roll 13 is carried by brackets 19. Rolls 14 and 18 are carried by brackets 10, roll 18 being adjustable to regulate the tension of the ribbons. Rolls 15 and 17 are carried by brackets 20, and the pulleys 16 are rigidly mounted on shaft 21 which in turn is supported in brackets 22.

Another set of conveyor ribbons 23 are provided for carrying the articles along the vertical run 24 of the ribbons 12. The ribbons 23 lie opposite the ribbons 12 and in similar spaced relation transversely of the machine. The ribbons 23 pass about the rolls 14 and 25. The roll 25 is rotatably mounted in brackets 20 and is adjustable so as to control the tension of the ribbons 23.

For driving the ribbons 12 and 23, motor 26 drives a speed reduction unit ending in sprocket 27 and a chain 28 passes over sprockets 27, 29, 30, 31 and 32. Sprocket 29 is adjustably mounted in brackets 10 so as to take up the slack in chain 28. Sprocket 30 is rotatable with roll 14 and sprocket 31 is rotatable with shaft 21. Sprockets 30 and 31 are of the same diameter, and roll 14 and pulley 16 are the same diameter so that the tapes 12 and 23 move at the same speed. Sprocket 32 is rotatable on shaft 33 which is rotatably mounted in suitable bearings 34.

It will be noted that the conveyor tapes 12 are adapted to receive articles from the delivery tapes 7 of the ironing machine and to then convey the articles in a vertically zigzag path which gives a period for "steaming off" of the ironed articles in case any moisture is still left in them so that they do not wrinkle when stacked. Furthermore by carrying the articles up the vertical run 24 and then moving them down the run 25' they are presented at a steep angle, greater than 45° to the horizontal, in front of the stacking arms which are later to receive and pile the articles. This provides a shorter movement of the stacking arm than would otherwise be necessary, as will be later pointed out.

Stacking arm mechanism

A plurality of stacking arms or fly arms 35 are rigidly connected with shaft 36 which is rotatably mounted in suitable bearings 37. Rigid with shaft 36 is a crank arm 38 to which is pivotally connected a link 39 which in turn is pivotally connected with a crank arm 40, which in turn is rigidly mounted upon the left end of shaft 33 as viewed in Fig. 2. The throw of crank 40 is less than the throw of crank 38 so that one revolution of shaft 33 and crank 40 results in oscillation of crank 38 from the position of Fig. 4 to the position of Fig. 6 and back again to the position of Fig. 4. This results in a movement of the stacking arms 35 from their normal position of rest just below the ribbons 12 as shown in full lines in Fig. 4 to a substantially horizontal position indicated at A in dash-dot lines therein which places an article upon the stacking table 41 and the arms then return to the full line position of Fig. 4.

A snubbing device is provided for the counterclockwise movement of arms 35 as viewed in Fig. 4. This comprises an arm 42 which is rotatably mounted on shaft 36 and which carries an arcuate lug 43 facing toward crank 38. The crank carries an arcuate lug 44 which is adapted to engage lug 43 upon oscillation of crank 33 to the intermediate dot-dash position shown in Fig. 5. A spring 45 connected between the frame and arm 42 normally biases the arm in its vertical position of Fig. 5. Upon engagement of lug 44 with lug 43 as crank 38 rotates in a counterclockwise direction as shown in Figs. 5 and 6, arm 42 is rotated in a counterclockwise direction and spring 45 is extended as shown in Fig. 6. This snubs the action of arms 35 as they approach the position A of Fig. 4. Upon the return of arms 35 to the full line position of Fig. 4 they strike a bumper 46 suitably mounted in the frame.

The stacking arms are oscillated intermittently by the production of a single revolution of shaft 33 at appropriate times as will be later disclosed. The rotation of shaft 33 is provided by means of a one-revolution clutch device best shown in Figs. 7, 8 and 9. Pinned to shaft 33 is a disk 47 which carries a dog member 48 which is pivotally mounted on pin 49 carried by the disk. The dog member is normally biased in a clockwise direction as viewed in Figs. 7 and 8 by a suitable spring 50. This movement is limited by pin 51 on disk 47. When so biased, as shown in Fig. 8, an arm 48a of the dog member is provided with a suitable lug which engages one of a plurality of rollers 52 which are carried by a disk 53. Disk 53 is part of a unitary structure comprising the said disk, sprocket 32 and flywheel 54. This unit is assembled and held together by bolts 55 and is rotatably mounted upon the extreme end of shaft 33. Thus at such times as the dog member arm 48a is in the position of Fig. 8, disks 53 and 47 will rotate in unison and shaft 33 will turn the crank arm 40. The dog 48 is normally held in the inoperative position of Fig. 7 with the arm 48a out of engagement with the rollers 52 by means of a bell crank member 56. This member has a downwardly extending arm 56a adapted to engage the arm 48b of dog member 48 as shown in Fig. 7. An arm 56b is pivotally connected by link 57 with the plunger 58 of a solenoid 59 suitably mounted on the frame. The arrangement of the parts is such that the bell crank 56 is normally biased in a counterclockwise direction so that when solenoid 59 is deenergized the arm 56a will normally move into position to engage arm 48b of the dog member and hold the clutch disengaged. Upon energization of the solenoid 59 the parts move to the position of Fig. 8, thus releasing dog member 48 to its biasing means and engaging the clutch. The energization of the solenoid 59 is only momentary as will be later described so that arm 56a shortly after movement to the position of Fig. 8 returns to the position of Fig. 7 and engages the dog member 48 upon the completion of one revolution of the clutch. An arm 56c on bell crank 56 engages stops 60 on the frame to limit its movement.

A brake shoe 61 engages disk 47 to provide a constant drag thereon so that the disk 47 stops promptly upon disengagement of the one-revolution clutch. The brake shoe is carried on an arm 62 which is pivotally mounted on the frame at 63 and biased against the disk 47 by a spring 64.

Stacking table

The stacking table 41 is mounted on a pair of vertical rods 65 which pass through suitable bearings 66 and 67 on the frame so that the table 41 may be lowered and raised as desired. The table is biased in its uppermost position by springs 68 which are connected between rods 41a and a suitable portion of the frame of the machine. Suitable driving mechanism is provided between the stacking arm drive and the rods 65 so as to lower table 41 by small increments as articles are stacked on the table 41. This drive is so arranged with respect to the thickness of the articles being stacked that the top of the pile on table 41 is always in substantially the same position so as to maintain uniform conditions between the stacking arms and the pile of finished articles. This driving mechanism will now be described.

Upon shaft 33 is an eccentric 69 which is connected by a link 70 with a link 71 which in turn is rotatably mounted on shaft 72 and carries a dog 71a which engages teeth on the ratchet wheel 73 which in turn is rigidly mounted on shaft 72. A detent 74 holds the ratchet wheel 73 against reverse movement. This mechanism is at the left end of shaft 72 as seen in Fig. 2. Upon the right end of shaft 72 and rigid therewith is a pinion 75 which meshes with a gear 76 which in turn is rotatably mounted upon a shaft 77. Gear 76 carries upon its right-hand face as viewed in Figs. 2 and 3, clutch teeth 76a which are adapted to engage coacting clutch portions on a clutch member 78 mounted on shaft 77 by a key whereby the parts 77 and 78 rotate together but the clutch member 78 is movable axially on shaft 77. A clutch fork 79 is pivotally mounted at 80 in a bracket on the frame and engages clutch member 78 for actuation thereof. The fork is connected by link 81 and crank 82 with an operating pedal 83 at the front of the machine. A spring 84 biases the pedal in its uppermost position which corresponds to engagement of the clutch members 78 and 76a. Pinned to shaft 77 are pinions 85 which engage racks 65a on rod 65. The above described train of parts is so arranged that upon one revolution of shaft 33 the table 41 is lowered by substantially the thickness of one of the articles stacked.

When the table 41 reaches or approaches its lowermost position or at any time desired by the operator the stacking machine is stopped, the pile is removed from table 41 and the table is returned again to its uppermost position. This is accomplished by depressing pedal 83 which disengages clutch members 78 and 76a which permits springs 68 to return the table to its uppermost position. This movement is snubbed by springs 86 which are compressed between suitable collars on rods 65 and portions of the frame.

It is desirable to enclose the stacking arms during the operation of the machine and to this end a cover member 87 is provided having a front panel 87a and side arm members 87b which are pivotally connected at 88 with ears 89 on bearing brackets 37. Stop member 90 on a side arm 87b of the cover member engages stop member 91 on the frame when the cover is closed and stop member 92 on the cover member engages stop member 91 when the cover is in open position. Rigid with the cover member side arms are arms 93 which support counterweights 94 to balance the weight of the cover member. The arrangement of the counterweights is such that whether the cover member be open or closed the counterweights tend to maintain it in that position.

As best seen in Fig. 10 a bracket 95 on the cover member portion 87b depresses a rod 96 when the cover is in closed position so as to hold a control button 97 suitably positioned on the frame in contact-making position. This control feature insures that the machine can only be operated with the cover in its closed or safe position.

Also shown in Fig. 10 are adjustable contacts 98 and 99 rigidly carried by table 41 and adapted to engage control buttons 100 and 101 suitably mounted on the frame. The contact 98 engages button 100 to provide a warning signal to the operator as the table approaches its lowermost position so that she is prepared to shut the machine down. Contact 99 engages button 101 when the table 41 reaches its lowest point and shuts the machine down in spite of the operator.

Control and operation

The stacking machine as already described is driven by a motor 26 and the ironing machine 6 is driven by motor 102. The motor 102 is a multiple speed motor with a speed control range providing travel of articles through the ironer varying from fifteen feet to twenty-four feet per minute. The motor 26 is single speed and is geared to the ribbon drives to produce a ribbon speed of forty-eight feet per minute, which is double that of the highest speed of the ironer. The purpose of this is to insure a sufficient gap between the articles in the stacking machine to permit movement of the stacking arms to the stacking position and return before the next article comes into position for handling. Therefore the articles may be fed into the ironing machine in a continuous stream one immediately after the other with their edges almost touching and the necessary gap to permit stacking is produced by the more rapid speed of the stacking machine conveyor.

The control for initiating the operation of the stacking arms comprises a pair of light-sensitive cells 103 and 104 suitably mounted on the frame of the machine above the conveyor ribbons 12 and spaced apart in the direction of travel of the conveyors. The cells here shown are photronic, that is to say, when exposed to light of suitable intensity an electromotive force is generated which sets up a current in an external circuit sufficient to operated commercial relays without any amplifying tubes, batteries or auxiliary apparatus. A suitable light source, such as the lamp 105, is adjustably mounted on a racket 106 beneath the conveyor ribbons 12. A light guard 107 is provided with longitudinal slots 107*a* and 107*b*. The arrangement of the light-sensitive or photronic cells, the light source and the guard 107 is such that when no articles are passing along the conveyor, uninterrupted light beams pass from the source 105 through slot 107*a*, between the ribbons 12 to cell 103, and through slot 107*b* through the ribbons 12 to cell 104. Referring now to Fig. 12, cells 103 and 104 are connected in a circuit with a polarized relay 108 with their polarities opposed so that when both cells are generating or when both are inactive the relay contact 108*a* remains in the neutral position shown in Fig. 12. In circuit with the cells is a microammeter 109 and a rheostat 110. In Fig. 12 are also shown the ironer motor 102, a starting and speed controller 111 of standard type therefor, the stacker motor 26, a transformer 112 providing an electrical supply for the stacker control mechanism, a low-voltage transformer 113, a standard commercial current rectifier 114, the solenoid 59 previously described, and the control buttons 97, 100 and 101 diagrammatically shown. 115 is a signal lamp placed where the operator of the ironing machine may see it. The control circuits comprise power supply lines L_1, L_2 and L_3 connected by switch 116 to the motor circuits 26 and 102. A disconnect switch 117 permits operation of the motor 102 separately for repair and maintenance operations on the ironing machine. Switch 117 is normally closed. A coil 116*a* serves to hold switch 116 in operated position when the coil is energized.

In the operation of the machine, assuming that table 41 is in its uppermost position and cover member 87 is closed, the operator moves handle 111*a* to the position shown in Fig. 12 wherein the conductor 111*b* bridges the contacts 111*c* and 111*d*. The conductors 111*e* are then in the first position inserting all resistance in the rotor circuit and producing a maximum starting torque for the motor 102. Connecting 111*c* and 111*d* establishes a circuit from L_1, wire 118, coil 116*a*, wire 119, normally open button 97 held closed by cover 87, normally closed button 101, wire 120 and wire 121 to L_3. Energization of coil 116*a* closes switch 122 and switch 116 thus starting motor 102. As the operator moves controller handle 111*a* clockwise, conductor 111*b* bridges contacts 111*c* and 111*f* which through wire 123 and switch 122 keeps coil 116*a* energized. Stop members 124 limit the movement of conductor 111*b* but continued clockwise movement of controller handle 111*a* rotates the conductors 111*e* cutting out resistance in the rotor circuit and controlling the speed of the motor 102 as desired. This is a standard type of controller for ironing machines and assures starting with full torque because each time the machine is shut down the controller handle must be moved back to the starting position shown in Fig. 12. This position of the controller provides a means for shutting down both the ironer and stacking machine at the feed end of the ironer.

With both machines in operation, articles are fed into the ironing machine and passing therethrough are picked up by the ribbons 12 and conveyed between ribbons 12 and 23 to the downwardly extending conveyor run 25'. When the forward edge of the article intercepts the light beam between light 105 and cell 103, the balance between cells 103 and 104 is upset. It will be understood that the rheostat 110 is adjusted so that the microammeter 109 is at its neutral point or preferably as shown in Fig. 12 the pointer is slightly to the left of the neutral point, indicating a slight lead in tripping direction. This is for the purpose of insuring operation of the device with the thinnest fabrics. Cell 104 is now generating which causes a flow of current through wire 125, coil of relay 108, wire 126, ammeter 109, wire 127, rheostat 110 and wire 128. Flow of current in this direction through relay 108 causes movement of contact finger 108*a* toward the right to engage contact point 108*b*. This is a dead contact and no actuation of mechanism occurs. The deflection of ammeter 109 at this time is toward the right.

As the article advances along the conveyor it finally intercepts the light to both cells which re-establishes a balance between them and brings the contact finger back to the neutral position shown in Fig. 12. As the article advances further so that the light beam to cell 104 is interrupted but the light beam to cell 103 is uninterrupted, the latter cell now becomes the only one generating and current flows through wire 130, rheostat 110, wire 127, ammeter 109, wire 126, coil of relay 108 and wires 125 and 129. Current now flows through the coil of relay 108 in a direction to deflect contact arm 108*a* toward the left, making contact at 108*c*. This establishes a circuit from the secondary side of transformer 113 to current rectifier 114 and thence through wire 131, the coil of power relay 132, wire 133, relay 108 and wire 134 back to the rectifier and transformer. The primary of this transformer receives its supply from the secondary of transformer 112 through wires 135 and 136. Energization of the coil of relay 132 closes the contactor 132*a* establishing a circuit from the secondary of transformer 112 through wires 135, 137 and 138, contact arm 132*a*, wire 139, sole-

noid 59 and wires 140 and 136 back to the transformer 112. Energization of solenoid 59 raises the plunger 58 and trips the one-revolution clutch described in connection with Figs. 7, 8 and 9. This operates the stacking arms and carries the article over to the stacking table and returns the arms to their normal position beneath the conveyor. When the article has been completely removed from the ribbons 12, the light beams again strike both of the light-sensitive cells and establish the condition of balance which breaks the circuit through contact arm 108a of the polarized relay which in turn breaks the circuit through power relay 132 and deenergizes solenoid 59, thereupon the bell crank 56 moves in a counterclockwise direction to engage the dog 48 as shown in Fig. 7 as soon as the clutch has completed one revolution. The light source 105 receives its current supply from the secondary of transformer 112 by way of wires 135, 141, 142 and 136.

To insure that the fabric article remains in the proper position upon the run 25' of the conveyor ribbons 12, a roller 143 is supported by arms 144 in rolling contact with an article lying upon ribbons 12. The roller 143 is so positioned that the trailing edge of the article handled emerges from contact between the roller and the ribbons substantially at the same time as the stacking arms are set in operation to deposit the article on the stacking table. It results from this arrangement that the trailing edge of an article is always in definite relation to the stacking arms and each article is placed with its forward edge in alinement with the article next below it.

As the articles are stacked and the table 41 is gradually lowered as previously described, the contact 98 finally engages button 100 which makes a circuit from the secondary of transformer 112 through wires 135, 137, 145, 146, lamp 115 and wires 147 and 136 back to the transformer. This lights lamp 115 indicating to the operator that only a certain number of articles (say about twenty) can be fed before the machine will shut itself down. Inasmuch as the average bundle of handkerchiefs contains about twelve articles, this is sufficient to finish the bundle upon which she is working. If the table 41 is permitted to travel to its extreme lower position, contact 99 engages button 101 and opens the circuit through the holding coil 116a. Switch 116 which is normally biased to open position will therefore open and automatically shut down both machines.

When table 41 has been loaded with a stack to the full capacity of the machine, the cover 87 is opened to remove the stack of finished articles. This opens button 97 rendering impossible the operation of either machine until the cover is again closed.

Articles may thus be fed continuously through the ironing machine as rapidly as the ironing machine operator can handle them and it will be understood that individual bundles may be marked for separation by any marking means which will lend itself to passage through the ironer and the stacking machine, such as a piece of cloth of distinctive size, shape or color.

What I claim is:

1. In a stacking device for placing flat fabric articles in a substantially horizontal position in a stack, conveying means having a delivery run inclined at an angle to the horizontal, rotatable stacking arms adapted to move from a position beneath and adjacent said conveyor run to horizontal position at said stack, means for causing said movement of said arms, and means for initiating action of said last named means responsive to an article in position on said conveying means for removal therefrom by engagement with said arms, wherein said last named means includes a light sensitive device effective to cause stacking movement of said arms upon movement of the trailing edge of an article on said conveyor beyond a predetermined point, and a roller above said conveyor run for holding the article on said conveyor, said roller being located approximately at said point.

2. In combination, means for stacking articles, driving means for said stacking means, a cover movable between open and closed positions over said stacking means, and means responsive to movement of said cover to open position for rendering said driving means inoperative.

3. In combination, a table, means for top-stacking articles on said table, means for lowering said table as articles are stacked thereon to maintain constant stacking conditions as said stacking progresses, a motor for operating said stacking means, an operating circuit for said motor, a control member in said circuit normally in "off" position, maintaining means adapted when energized to hold said control member in "on" position, an energizing circuit for said maintaining means, and a control member in said last named circuit normally in circuit energizing position and arranged for movement into circuit deenergizing position by movement of said table to its lower limit.

4. In combination, means for stacking articles, a cover for said stacking means, a motor for operating said stacking means, an operating circuit for said motor, a control member in said circuit normally in "off" position, maintaining means adapted when energized to hold said control member in "on" position, an energizing circuit for said maintaining means, and a control member in said last named circuit normally in circuit deenergizing position and adapted to be held in circuit energizing position when said cover is closed.

5. In a stacking device for flat fabric articles, conveying means having a delivery run inclined at a steep angle to the horizontal beyond the angle of repose of articles lying on said delivery run, said conveying means comprising a plurality of parallel ribbons spaced at intervals across the entire width of said conveying means, rotatable stacking arms movable from a position beneath and adjacent said conveyor run through said conveying means to a substantially horizontal stacking table, and a bar extending transversely of said conveying means outside of the path of travel of said arms for holding an article on said delivery run until it reaches a position closely adjacent said arms.

6. In combination, a table, means for top stacking articles on said table, means for lowering said table as articles are stacked thereon to maintain constant stacking conditions as said stacking progresses, power means for operating said stacking means, and control means for deenergizing said power means by movement of said table to its lower limit.

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