

(No Model.)

W. N. MACQUEEN.
CANNING APPARATUS.

4 Sheets—Sheet 1.

No. 485,957.

Patented Nov. 8, 1892.

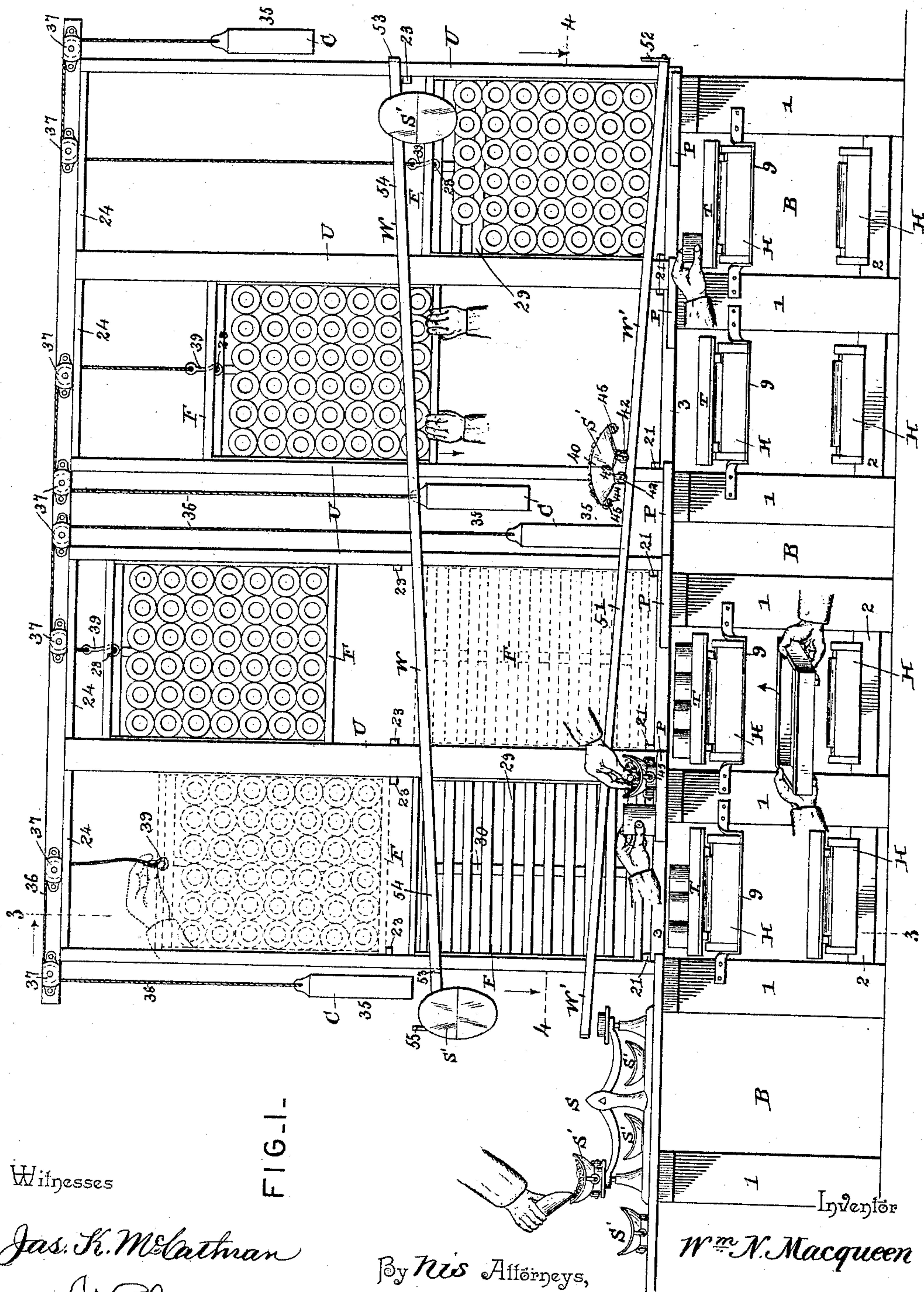


FIG. 1-

Witnesses

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(No Model.)

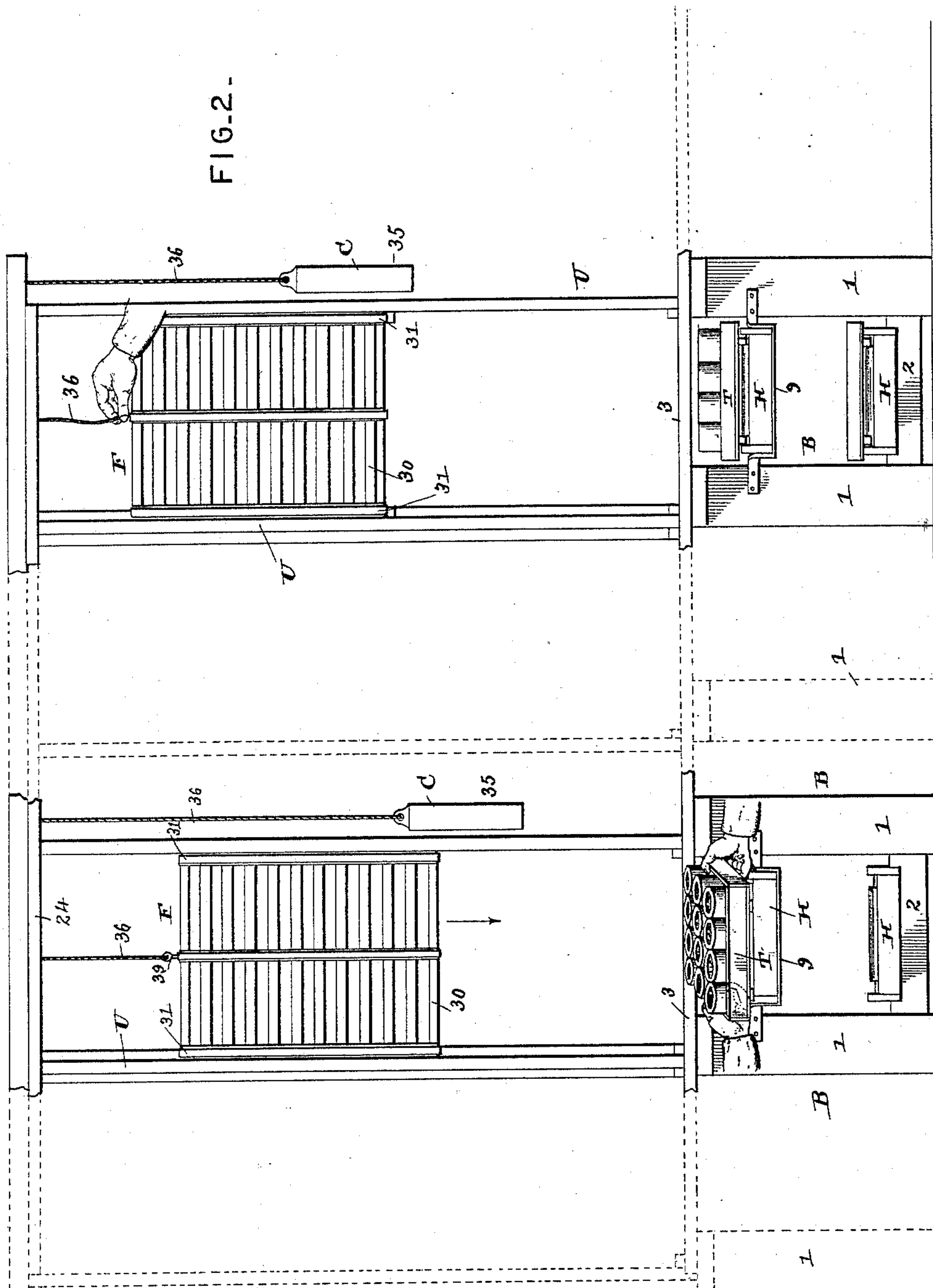
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FIG. 2.



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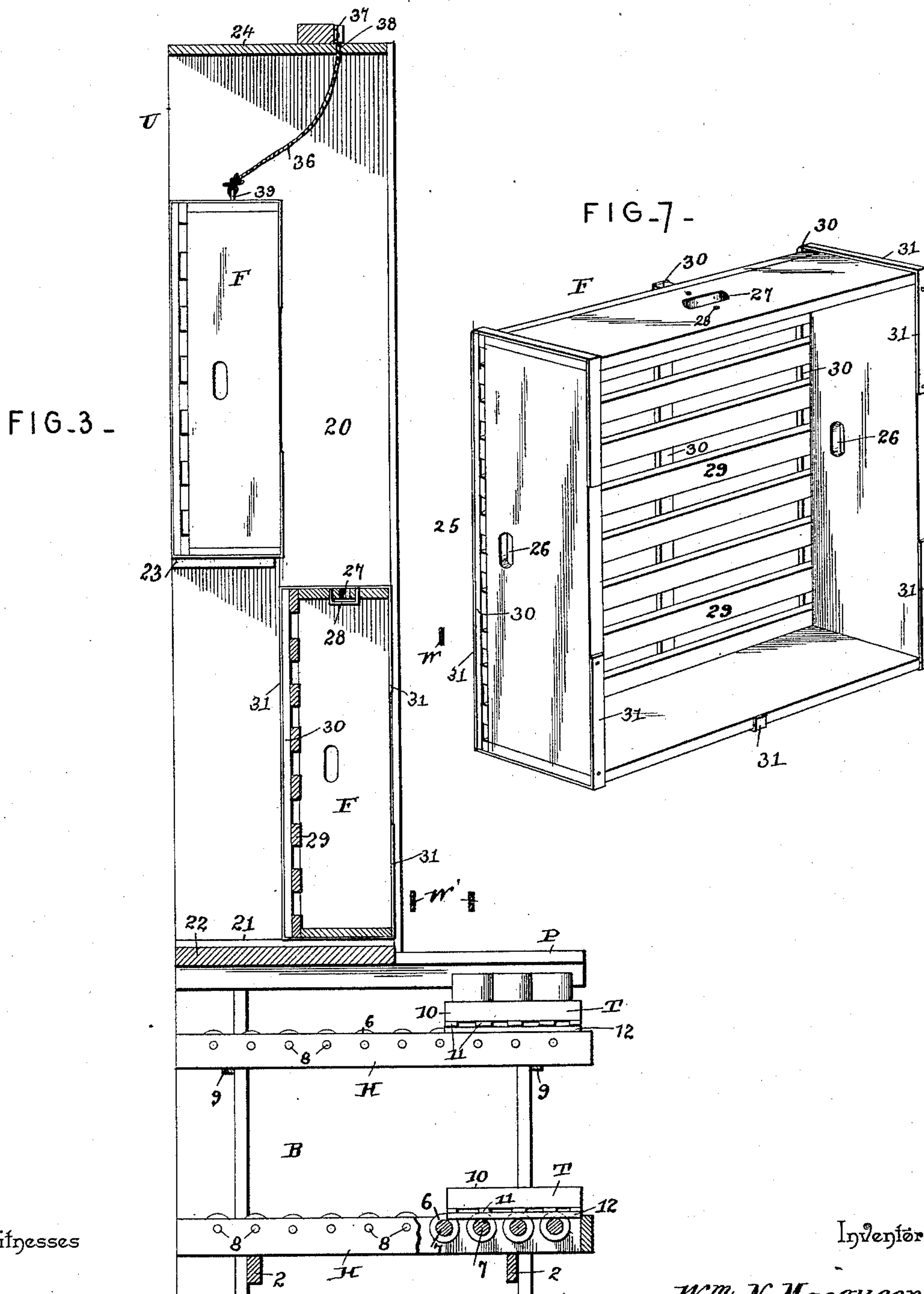
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4 Sheets—Sheet 3.

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FIG. 4 -

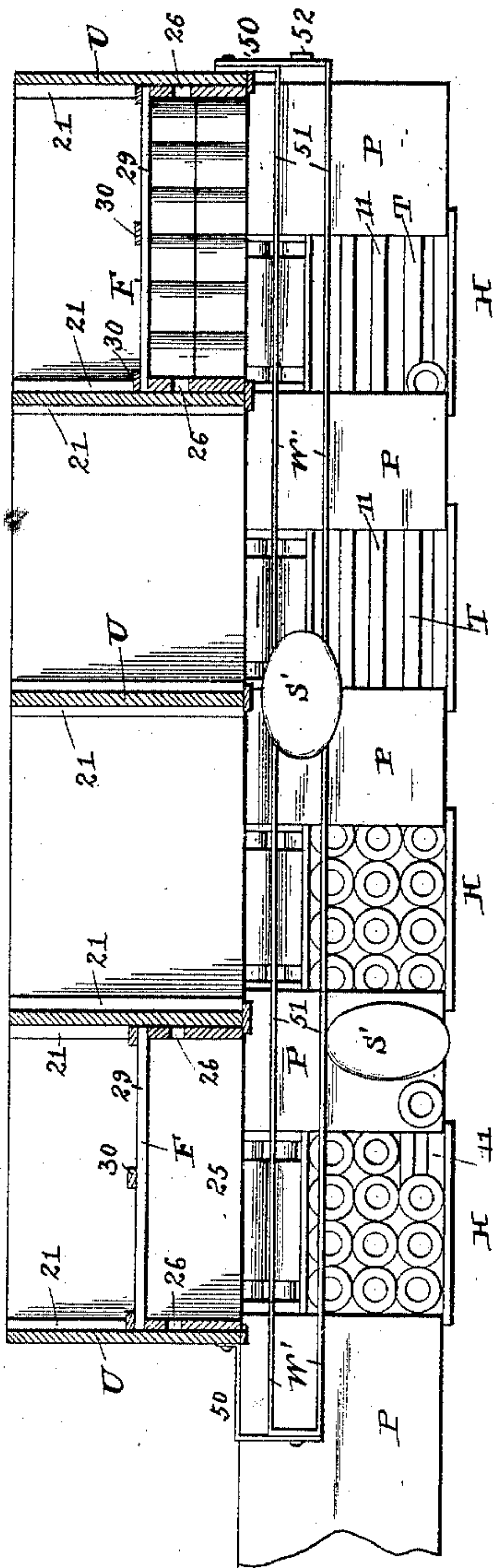


FIG. 6 -

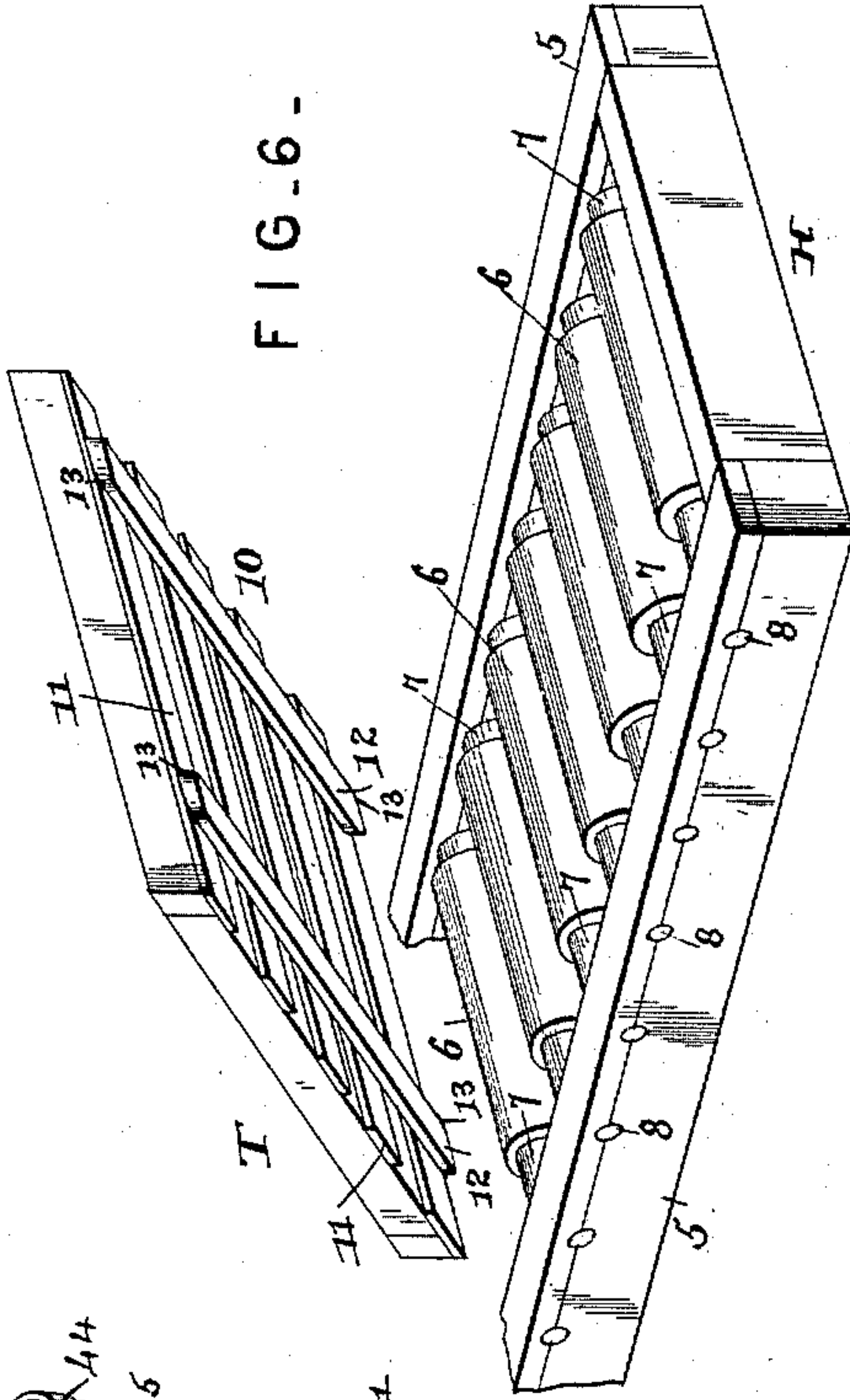
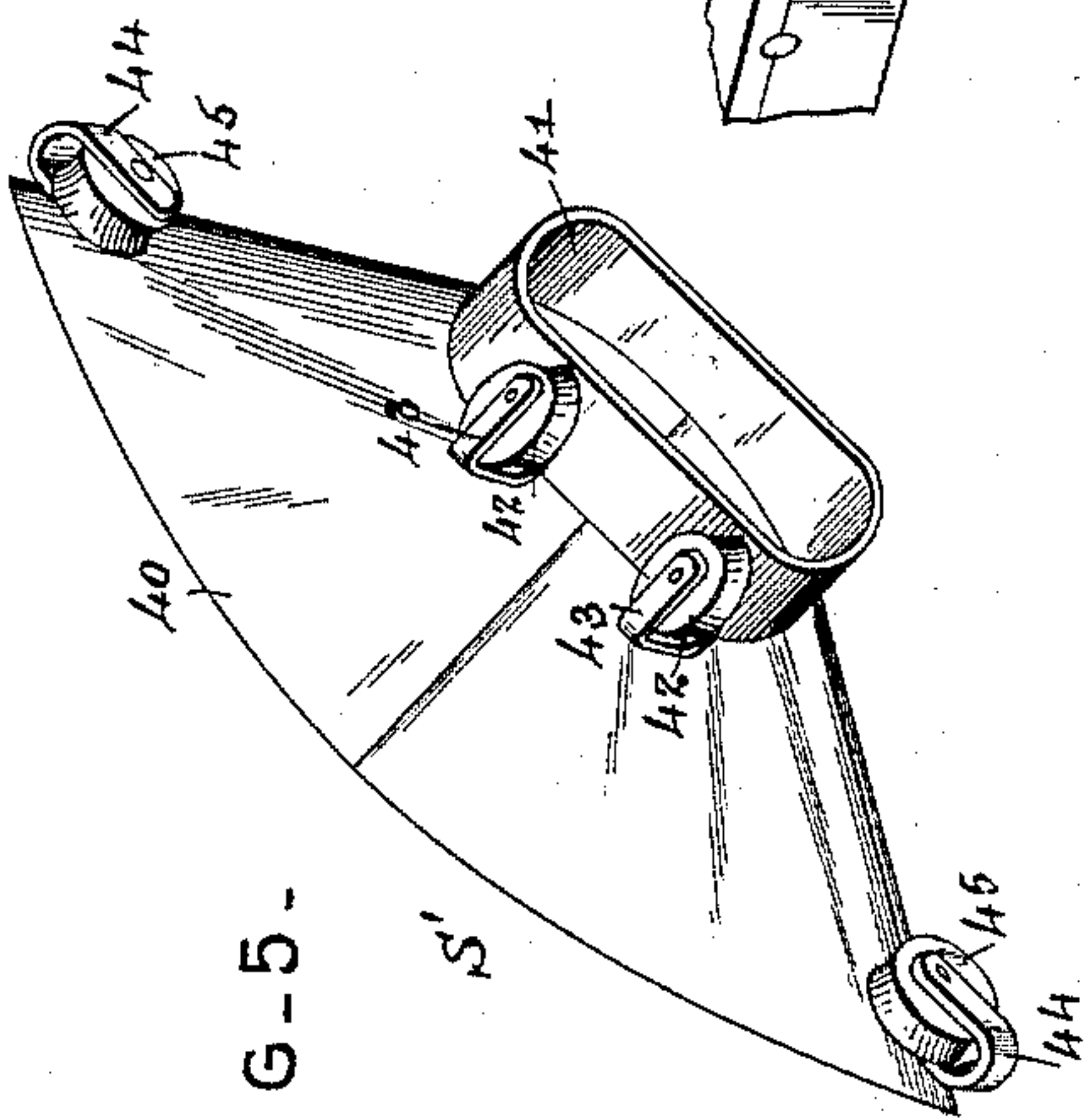


FIG. 5 -



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM N. MACQUEEN, OF BALTIMORE, MARYLAND.

CANNING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 485,957, dated November 8, 1892.

Application filed August 22, 1891. Serial No. 403,484. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM N. MACQUEEN, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented a new and useful Canning Apparatus, of which the following is a specification.

This invention relates to canning, and more especially to the apparatus for handling the fruit and the empty and filled cans; and the object of the same is to produce certain improvements in an apparatus of this character.

To this end the invention consists, broadly, in the means for delivering the fruit in regulated quantities to the packers, means for supplying the empty cans in frames to the packers, and means for removing the trays of filled cans and supplying the empty trays, together with the specific details of construction and arrangements of parts, all as hereinafter more fully described and claimed, and as illustrated on the four accompanying sheets of drawings, wherein—

Figure 1 is a front elevation of this improved apparatus, showing it of a size adapted for one weigher and four packers, the construction of each of the four sections of the apparatus being the same, but the location and arrangement of elements and parts being different, as they would appear at the different stages of the operation. Fig. 2 is a rear elevation showing two sections of this improved apparatus, and with the parts and elements in different positions, as described below. Fig. 3 is a vertical section on the line 3 3 of Fig. 1. Fig. 4 is a horizontal section on the line 4 4 of Fig. 1. Fig. 5 is a perspective detail of a scoop as viewed slightly from the under side. Fig. 6 is a perspective detail showing the under side of one of the trays and the upper side of a portion of one of the roller-tracks therefor. Fig. 7 is a perspective detail of one of the frames.

Referring to the said drawings, the letter B designates the base of this improved apparatus, which supports the packing-tables P and the scale S. H are the horizontal roller-tracks, also mounted in the base and adapted for the support of the trays T. U is an upright guideway mounted on the base and adapted for the reception of the frames F, which are counterbalanced by weights C, and W W' are respectively the delivery and re-

turn ways for carrying the scoops S' from the weigher to the packers and then back to be again filled. These various features of my improved apparatus are preferably of the following specific construction, and combine to produce a novel and useful whole in the manner hereinafter set forth.

The base B comprises uprights or legs 1, braced by transverse rungs 2 and by other means, if desired, and the top cross-bars 3 of the several independent tables thus formed support packing-tables P, as best seen in Figs. 1 and 4. There is one broad leg beneath each packing-table, and the several legs are connected by rungs near their lower ends, and on these rungs are located two horizontal roller-tracks H for each section of the apparatus. I may here state that I desire it understood that the apparatus may be built in as many sections as desired, there being four shown in Fig. 1, and as these sections are duplicates of each other a description of one will answer for all. At each table is a packer for packing the fruit in the cans, and these packers may be machines of any suitable construction, and forming, of course, no part of the present invention; but I have shown the hands of girls who may be employed for doing this work. Each roller-track comprises a rectangular frame 5, and across the same is located a number of rollers 6, each having reduced ends 7, and outside said ends reduced stub-shafts 8, which are journaled in the side bars of the frame. One of these frames rests on the rungs 2 near the floor and the other is supported by straps 9 or otherwise at a point above the first, but considerably below the packing-table, and the ends of these frames extend beyond the front and rear of the base B, as seen in Fig. 4. The trays T each comprise a rectangular frame 10, having bottom longitudinal slats 11, and below the slats are transverse bars 12, spaced so as to travel on the reduced ends of the rollers 6, and having rounded inner corners 13, as seen.

The upright guideway U is mounted on blocks slightly above the base and at the rear side thereof, so that the packing-table P will project forwardly from the guideway, as does the shelf or ledge of a book-case, and this guideway is constructed as follows: 20 are deep vertical side bars having tracks 21 com-

pletely across their lower ends above the bottom 22 of the guideway, and also having horizontal tracks 23 across their rear halves a little below their vertical centers, as best seen in Fig. 3, and 24 is the top, which closes the upper end of the guideway, the front and back thereof being open. Each of the frames F for holding the empty cans comprises a deep body 25, having handle-holes 26 in its sides and an opening 27 in one end, with a transverse pin 28 across the same. The bottom of this frame is preferably composed of slats 29, secured across the lower edge of the body by longitudinal bars 30, over which are preferably nailed metal straps 31. Each frame is half the depth of the upright guideway and is of a proper length to pass under the half-tracks 23 therein, while the guideway above said half-tracks is somewhat longer than the length of the frame. The counterbalancing device C comprises a weight 35, secured to a cord 36, which is led over pulleys 37, passes downwardly through a hole 38 in the top 24 near its front, and has at its end a hook 39 of a size adapted to pass through the opening 27 and engage the pin 28 of any frame, the weight being sufficient to counterbalance a frame when it is entirely filled with empty cans, such as are to be used by the packers.

The scale S may be of any approved pattern; but the scoop S' thereof is removable from the scale proper and is of a construction best seen in Fig. 5. The scoop-body 40 is preferably of metal and shaped about as shown, and from its lower side depends a base 41, having a flat lower face, upon which the scoop may stand. At each side of the face there are located two grooved wheels 42, preferably journaled in strap-bearings 43, as shown, and, if desired, additional strap-bearings 44 under the ends of the scoop may each contain a single grooved wheel 45.

The delivery and return ways W W' lead, respectively, downwardly from the scale across above the several packing-tables and downwardly toward the scale across at about the center of the upright guideway U, and these ways are preferably of the following construction: 50 are brackets or straps leading outwardly from the sides 20 of the guideway, (or these brackets may project upwardly from the base, if preferred,) and 51 are two parallel rails connecting the brackets and inclined slightly from the scale S to the right-hand side of the most remote packing-table P, a stop 52 being there provided. These rails are spaced the same distance as the grooved wheels 42 at the sides of the scoop. 53 are similar brackets projecting, also, from the sides 20 of the guideway, but above the lower brackets 50, and these brackets are connected by a single track 54, which is preferably an integral continuation of the outer ends of the brackets themselves, the whole being of strap-iron. This single track inclines from the right-hand packing-table to a point above the scale

S, where it is provided with a stop 55, which may be of any pattern that will prevent the returning scoops from running off the end of the single track in the same manner that the stop 52 prevented the filled scoops from going beyond the most remote packer. If preferred, the tracks might be grooved and the wheels plain.

The operation of this apparatus is as follows: The weigher sitting at the scale weighs out fruit enough into the scoop to fill one can, according to its size, and the scoop is then placed on the way W', down which it travels in front of the packers and from which it can be removed by any packer who requires more fruit and placed on the packing-table in front of her. The packer then takes an empty can from the frame F, which is in front of her, places it on the packing-table P, and fills it with fruit from the scoop S', which she has just removed from the way W'. As soon as the scoop is empty it is hung by one end on the track 54, down which it automatically travels to the weigher to be used again. When a can has been filled, it is taken from the table and placed in the tray T, which stands just beneath the table, and when this tray becomes full of cans an empty tray is taken from the lowermost horizontal track and placed on the uppermost by pushing it against the front side of the filled tray, which is thereby driven rearwardly, so as to come within reach of the attendant. The latter gives the girl a check for this tray, which he removes and delivers to the proper person or machine for sealing the cans and returns the empty tray to the lower horizontal track for renewed use in the same manner. When one of the frames F has been emptied of all its cans, the packer pushes it back on the tracks 21 and then draws down a frame full of cans, which is at this time suspended in the upper part of the guideway, and thereafter she takes the cans from this frame. The attendant removes the empty frame, disconnects the hook 39 from the filled frame, inserts another filled frame on the half-tracks 23, pulls down on the hook, and engages it with the pin 28 of this frame, and when he releases the hook the weight will cause the frame to tilt forwardly at its upper end and then to swing bodily off the half-tracks into a position directly above the frame then being emptied, from which position it can be drawn down by the packer when she is in need of another frame of cans.

In Fig. 1 the left-hand packer is shown as filling her last can and the attendant is just supplying another full frame, the second packer has pushed back the empty frame and has removed an empty tray, the third packer is pulling down a full frame and has placed the empty tray in position for use, the full tray being pushed to the rear, and the fourth packer has taken a scoop from the way and has removed one can from the full frame, filled it, and placed it in the empty tray. In Fig. 2 is shown a rear elevation of the first

and third sections of Fig. 1, and, as above stated, the attendant is there shown as just hooking a full frame into position in the first section, (which is here on the right,) while in the third section the frame is descending and the full tray is in the act of being removed.

From the above description it is thought that the various steps in the operation of the packing the fruit in the cans will be clearly understood. It will be seen that the packers who do the most and perhaps the swiftest work are not interrupted in their labor, and by the system here employed the girls can be paid by the piece, the one doing the most packing per day receiving the largest salary, and the amount of work done is checked by the attendant who removes and counts the cans. Such removal of the cans and the supplying of empty ones is from the rear of the apparatus, and is also done at a point that will not interfere with the work of the packers.

Each packer has her own table, which is not incumbered, as the scoops as soon as they are emptied are hung on the return-way and automatically travel back to the weigher.

The construction of the various elements of this apparatus is that which is especially adapted hereto and which will conduce to the greatest speed; but I reserve the right to make such changes in details as may come within the spirit of my invention.

What is claimed as new is—

1. The combination, with a frame and a series of rollers journaled therein and having reduced ends, of a tray having across its bottom bars spaced so as to travel on and engage said reduced ends, the inner corners of the bars being rounded, substantially as described.

2. In a canning apparatus, a packing-table, an upright guideway rising from said table and open at front and back, half-tracks across the sides of said guideway at about their vertical centers, a number of can-frames half the depth of the guideway and of a length to pass under said half-tracks, and a counterbalancing-weight, as and for the purpose set forth.

3. The removable scoop or scale pan of a scale, provided with a series of vertically-disposed wheels along the sides of the bottom and a horizontally-disposed wheel at each end, as set forth.

4. A canning apparatus comprising a scale,

a pair of rails leading downwardly therefrom, and a single track leading from a point adjacent their lower ends downwardly to a point adjacent the scale, a removable scoop for the scale, a pair of wheels at each side thereof for supporting the scoop in upright position on the double track, and a single grooved wheel journaled beneath each end of the scoop for hanging the same on the single track, as and for the purpose set forth.

5. In a canning apparatus, the combination, with a base and a packing-table supported thereby, of an upright guideway rising from the base in rear of the table and open at front and back, can-frames half the depth of the guideway and less than half its height, a detachable counterbalance for supporting at the front of said guideway a tray full of cans, and a support at an intermediate point of the height of the guideway for supporting the next tray in order, as and for the purpose set forth.

6. A canning apparatus comprising a base, a series of packing-tables supported thereby, and independent means at each table for delivering the empty cans thereto and removing the filled cans therefrom, the filled cans being removed from below the table and the empty cans supplied from above the table, a scale at a remote point, removable scoops for said scale, having trucks on their under sides, and a delivery-way for said scoops, leading from the scale along the series of tables, whereby the scoops serve also as the carrying means to transport the weighed contents to the pockets, as and for the purpose set forth.

7. A canning apparatus comprising a base, a series of packing-tables supported thereby, and independent means at each table for delivering the empty cans thereto and removing the filled cans therefrom, a scale at one end of the series of tables, removable scoops for said scales, having trucks on their under sides, a delivery-way for said scoops, leading from the scale along the series of tables, and a return-way adjacent to the delivery-way and the tables to carry the scoops back to the scale.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WILLIAM N. MACQUEEN.

Witnesses:

N. L. COLLAMER,

WM. A. SCHOENBORN.