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MECHANISM FOR PACKING CANS.

APPLICATION FILED AUG. 21, 1917.

1,270,501.

Patented June 25, 1918.

3 SHEETS—SHEET 1.

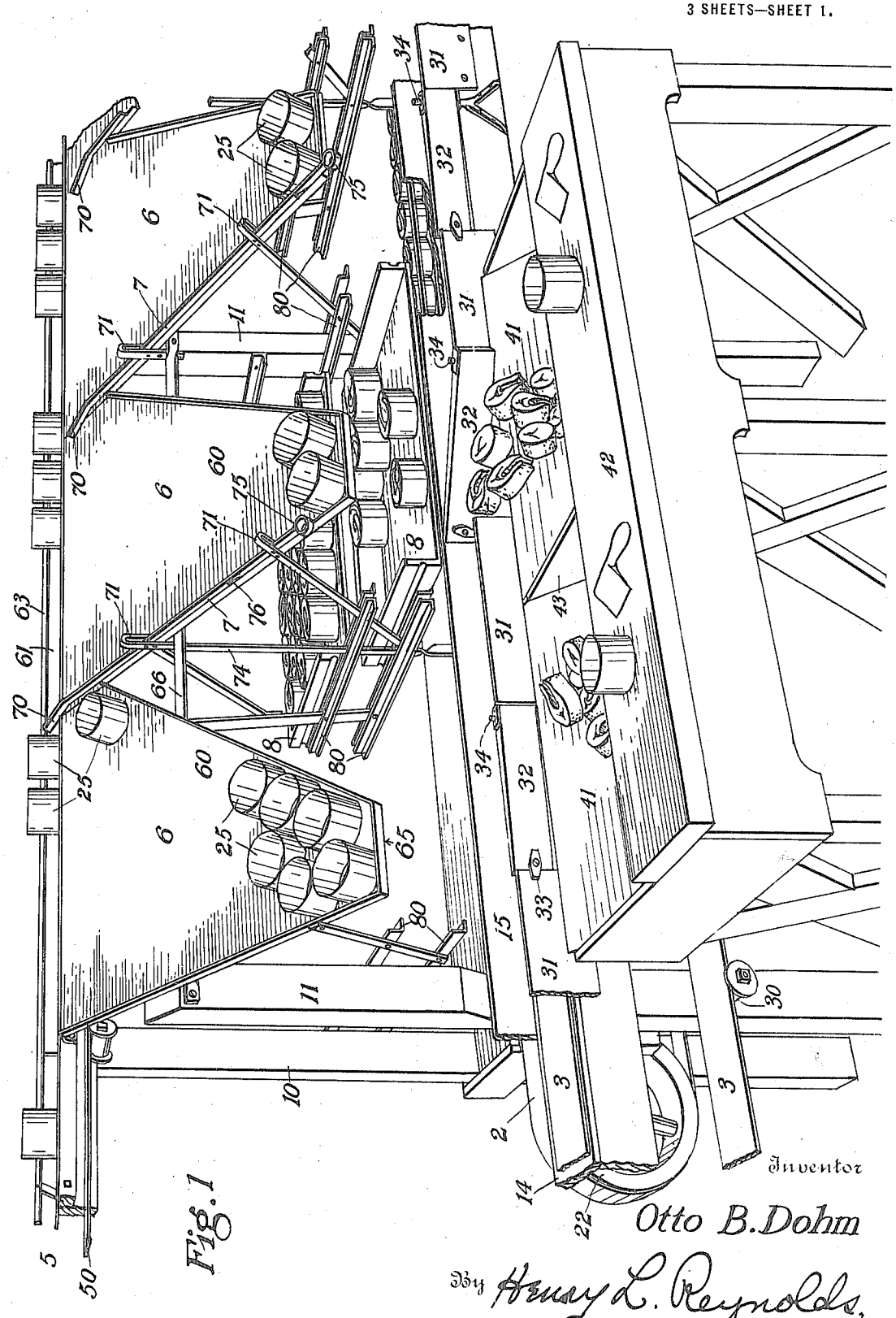


Fig. 1

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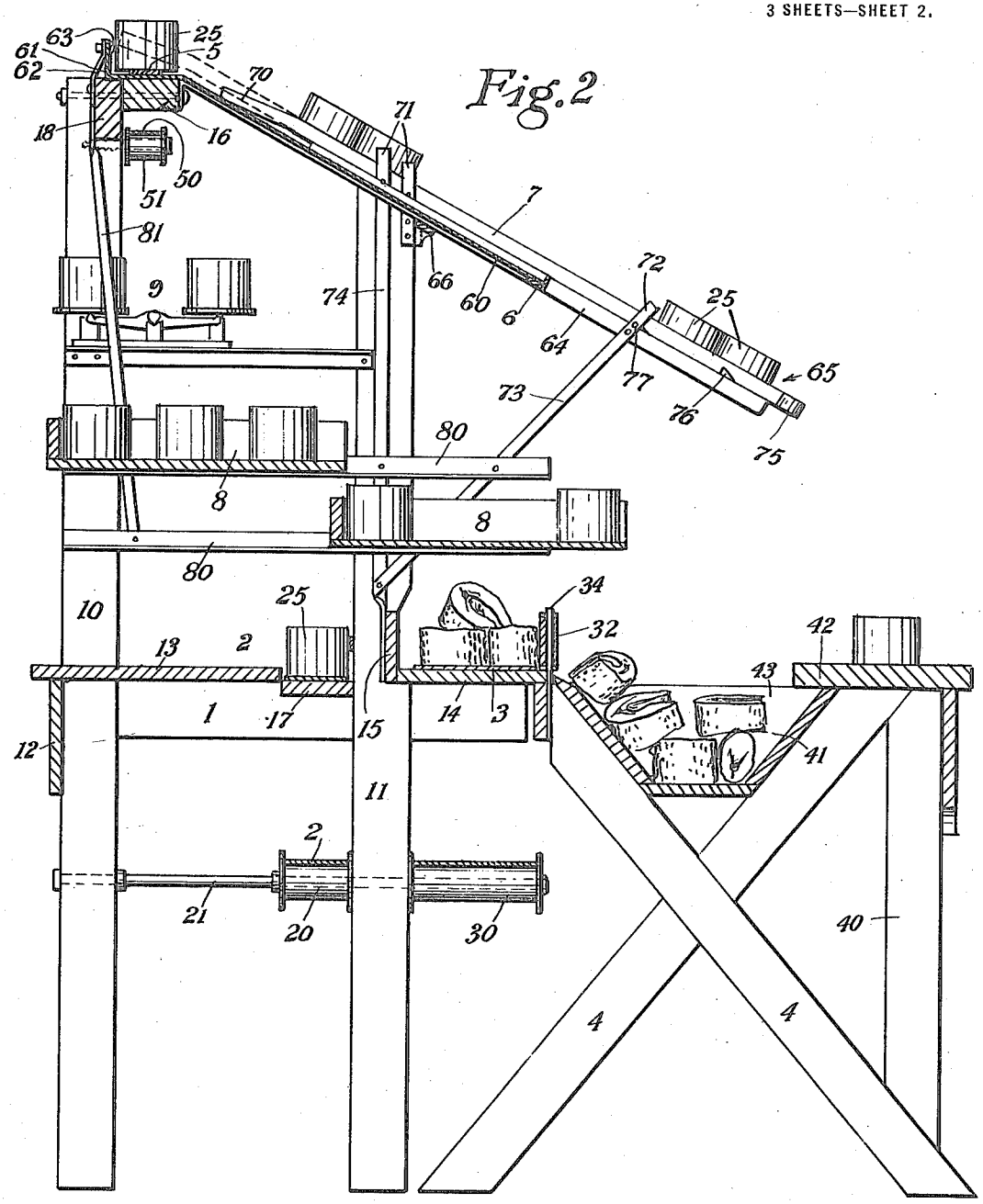
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3 SHEETS—SHEET 2.

Fig. 2




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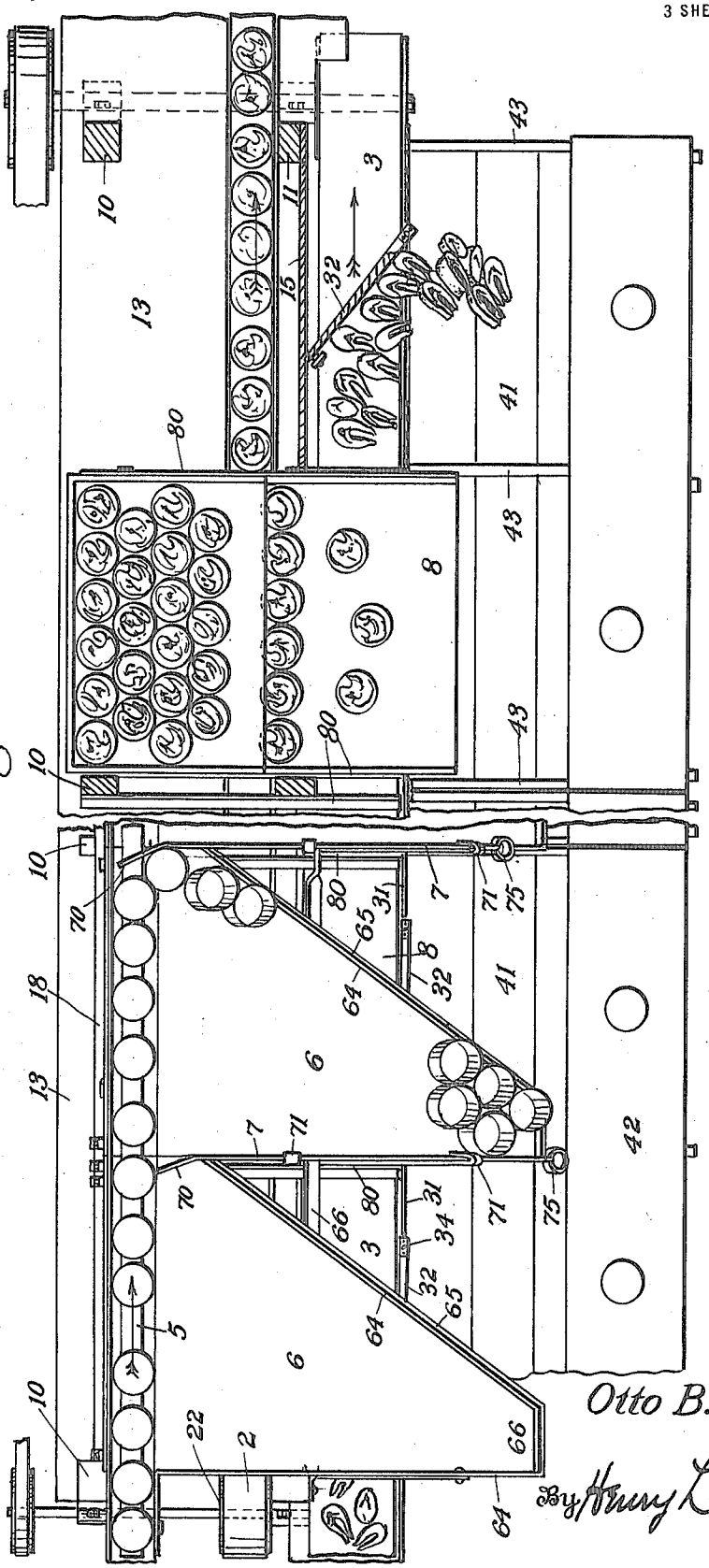



Fig. 3

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# UNITED STATES PATENT OFFICE.

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## MECHANISM FOR PACKING CANS.

1,270,501. Specification of Letters Patent. Patented June 25, 1918.

Application filed August 21, 1917. Serial No. 187,449.

*To all whom it may concern:*

Be it known that I, OTTO B. DOHM, a citizen of the United States, and resident of Blaine, Whatcom county, State of Washington, have invented certain new and useful Improvements in Mechanism for Packing Cans, of which the following is a specification.

My invention relates to mechanisms for use in filling cans or like containers. My device does not fill the cans directly, but has mechanisms for handling the material to and away from stations at which the operators do the filling by hand.

The object of my invention is to provide an apparatus which will deliver the cans to be filled and the materials to be placed therein, to various stations at which the operators fill the cans by hand, from which stations, after inspecting, if this be necessary, they are conveyed to the point where the next step in the process of canning is performed.

It is my object to provide mechanisms which will do this in such a manner as will cause as little unnecessary work for the operator as possible, providing everything in the most convenient position possible and thus increasing the efficiency of the operator.

Another object is to do away with carrying or trucking the material about, thus saving both space and labor, and to improve the efficiency of the operations performed.

The novel features of my invention will be seen from a study of the following specification and will be particularly defined by the claims.

In the accompanying drawings I have shown my invention in the form of construction which is now preferred by me.

Figure 1 shows an end view of my device in perspective.

Fig. 2 is a cross sectional elevation.

Fig. 3 is a plan view, showing both ends, the center being broken away and certain of the upper parts being broken away to better show those below.

The mechanism herein described and shown in the accompanying drawings, has been especially designed for use in canning fish, more specifically for canning salmon. The particular part of this work in which it is employed, is the placing of the fish in the cans. While I will describe it as employed in this particular work, it is evident that its use is not necessarily limited to this alone, but that it may be advantageously employed in any other like work where the same or closely analogous conditions are found.

The fish, after being cleaned are prepared for the cans by being transversely cut into lengths corresponding to the depth of the cans. In hand filling, which is considered superior in its results to machine filling, these pieces of fish are placed by hand in the cans. This work is done at a bench which contains a hopper or bin for holding the pieces of fish and, as usually carried out, means bringing the fish by hand labor to the bins, carrying trays of empty cans to and filled cans away from the benches. This hand labor is dispensed with by the use of my device and, in addition, the work of the filler is made so much more convenient that many more cans may be filled in the same time.

My device is constructed upon a suitable framework of sufficient length to accommodate a number of fillers in line, say from ten to twenty, although the number used is immaterial. Mounted to travel lengthwise of this frame and past all of the filling stations, are three conveyers, herein shown as belts, one to carry the prepared fish to the filling stations, one to carry the empty cans to these stations and one to carry away the filled cans.

The frame as shown in the accompanying drawings has two rows of posts 10, 11, transversely connected by timbers 1, and longitudinally by the boards or bars 12, 13, 14, 15, 16, 17, and 18. The board 12, is at the back side of the device, so termed because the fillers work at the opposite side. This board has no function other than as a frame member.

The board 13, serves as a bench or table for the use of the inspector and the party who empties the trays upon the can removing belt 2. This belt is just forward of the inspecting bench and is preferably slightly recessed below the top surface of this bench. A supporting strip 17 extends beneath it. The lower run of this belt is carried upon rollers 20 mounted on rods 21 which may also serve as tie members between posts 10 and 11 and also as supports for rollers 30 which carry the lower run of the fish conveying belt 3.

The fish delivery trough is formed by the board 14 which acts as its bottom, board 15 acting as its back side, and a series of short

plates 31 and hinged gates 32 which alternate and form the front side. A gate 32 is provided for each filling station. This swings upon a vertical pivot 34 and has its lower edge at a height to just swing over the fish conveying belt 3. Its swinging end may be secured closed by a button 33.

The filling of the cans is done at benches which are preferably made as a separate and removable structure. The benches shown consist of crossed legs 4, posts 40, a hopper or trough 41, built between the upper ends of the crossed legs 4, and the filling table formed by the board 42. The trough 41 is divided into short sections by transverse partitions 43.

These benches may be made in short sections of a length to accommodate, say from three to five fillers. In use it is set close up against the fish delivery trough, so that fish discharged laterally from the belt will be deposited in the bins 41. The construction of the filling benches separate from the conveying mechanism is more a matter of convenience, for cleaning, inspection and repair of parts, etc., than anything else.

The tie beam 16 at the top of the frame serves as the support for the top or conveying run of the can delivering belt 5. The lower run 50 is supported by occasional rollers 51. The cans are supplied to this belt at one end of the device and by it are conveyed along to such point as they are intercepted and removed to the can holding aprons or hoppers 6.

These hoppers are inclined downwardly and toward the front to a point where their lower ends are convenient for the fillers to get the cans for filling. They preferably have a sheet metal bottom 60 which extends over the bar 16 and has its back edge turned up to form the flange 61. This flange is additionally supported by metal arms 62 and by a longitudinal stiffening bar 63 which also acts as a rub bar for the cans 25.

The can hoppers or aprons 6 have a marginal frame composed of small angle bars 64, upon the lower flange of which the sheet metal plates 60 rest and are secured. One side 65, of this, that at the right, is cut at an angle, as is shown in Figs. 1 and 3. The inclination is enough to cause the cans to slide down to this end 65, and the elevation and location is such as to be most convenient for the filler. A bar 66 extends lengthwise of the device beneath the plates 60 and supports them.

Mounted upon the straight side of each of the hoppers 6, except it may be the one at the left, is a bar 7 which may be adjusted to project its upper end 70 over the can delivering belt 5, to thereby intercept the cans and deflect them upon the apron or hopper 6. The bar 7 is retained in position by clips or guides 71. The lowermost one of these may be, in part at least, an extension of the supporting brace 73 and the other as an extension of the supporting brace 74, which is employed at points which lie between the posts 11 of the frame. The lower ends of these bars 74 are secured to the board 15.

The bars 7 should be provided with means whereby they may be held when advanced into can-removing position, as shown by dotted lines in Fig. 2 and by full lines for one bar in Figs. 1 and 3. This may be conveniently done by forming a notch, 76, in its lower edge, positioned to engage a pin 77 in the lowermost guide 72. A like notch 76 engages the same pin to hold the bar when retracted, or in the position shown by full lines in Fig. 2. The lower ends of each bar 7 may be bent as an eye 75, or to form a handle by which it may be engaged to shift it. The upper end may be slightly bent, as shown at 70.

The cans as filled are deposited in trays 8, which are shallow and have but three sides. These are made to hold a definite number of cans, thereby constructing a primary counting means. Supports for two trays are provided for each operator. These are conveniently made of angle bars 80 which project forwardly enough to support the tray in convenient position for the filler to place the filled cans thereon.

When a tray is filled it is pushed back and the other empty tray pulled out. As the trays are filled the inspector at the back removes them to the bench 13. When passed they are slid, a row at a time, upon the belt 2 which conveys them to the capping machine. The empty tray is then replaced on the guide supports 80. The rear ends of the guides 80 are secured to the posts 10, or to bars 81 which depend from the frame bar 18. At convenient points small balances 9, may be placed whereby the weights of the cans may be conveniently tested and the light ones returned for more filling.

The fish conveying belt 3, at the receiving end of the device, extends to such a point that it may be supplied with cut fish from a hopper, preferably the hopper of the fish cutting machine. A suitable trough for this belt to run in is provided. As fish are required by the packers, or fillers, it is delivered to the belt and by this conveyed along the line. The gate 32 which is turned back removes the fish to its hopper 41.

The cans are being continuously brought out by the belt 5. The hopper or table to which they are deflected is determined by the first bar 7, which is met in its upper position. The packer or filler has the fish and the empty cans delivered right at hand and the trays for receiving the filled cans are also handily placed and there is no need for any one to carry these about.

The cutting of the apron or hopper 6 for

the empty cans, upon an angle at one lower corner, contributes materially to securing the highest efficiency. It leaves ample room for the packer to get at the trays to put the filled cans in them and yet permits the lower end of these hoppers to be brought low down and far out, where they will be easy for the packers to get the cans. If brought to this position, the lower end of a square, full width hopper or apron, would interfere seriously with putting the filled can upon the tray. Furthermore, the inclined side deflects all cans to a common position and that which is the handiest for the packer to get it. The movement required to get the can thus becomes automatic and instinctive, and speed and efficiency in work is promoted. As there is no need for men to carry or truck the supplies and product about, the space they would require is saved.

What I claim as my invention is:

1. In a device for use in filling cans, an empty-can conveyer and a series of containers for receiving said empty cans therefrom, a material conveyer and a series of bins for receiving the material therefrom, one of said sets of mechanisms having its parts located above the corresponding parts of the other set.

2. In a device for use in filling cans, an empty-can conveyer and a series of containers for receiving said empty cans therefrom, a material conveyer and a series of bins for receiving the material therefrom, one of said sets of mechanisms having its parts located above the corresponding parts of the other set, and a filled-can receiving means located between the containers of said other mechanisms.

3. In a device for use in hand filling of cans, a series of inclined aprons for receiving and holding empty cans, a can conveyer extending along the upper edges of said aprons, a material conveyer extending beneath the lower edges of said aprons, material holding bins disposed alongside said latter conveyer, and tray holders, located between the can holding aprons and the material holding bins.

4. In a device for use in hand filling of cans, a series of inclined aprons for receiving and holding empty cans, a can conveyer extending along the upper edges of said aprons, a material conveyer extending beneath the lower edges of said aprons, material holding bins disposed alongside said latter conveyer, and two tray holders located in superposed relation between the can holding aprons and the material holding bins.

5. In a device for use in filling cans, a material holding bin, an empty-can holding apron above and inclined toward the bin, and a pair of tray holders and trays therein located between the bin and the apron and permitting movement of the trays from front to rear.

6. In a device for use in filling cans, a material holding bin, an empty-can holding apron above and inclined toward the bin, and a pair of tray holders and trays therein located between the bin and the apron and permitting movement of the trays from front to rear, and conveyers delivering cans to the aprons and material to the bins.

7. In a device for use in filling cans, a series of inclined can holding aprons having one lower corner cut away on a bevel to thereby deliver the cans to a position of limited width, and material holding bins located beneath the cut away portions of the aprons.

8. In a device for filling cans, a material holding bin, means for supporting can receiving trays above and back of said bin, and an inclined empty can holding apron above and extending over the trays and cut away to narrow its lower end.

9. A device of the character described having elevated inclined aprons or hoppers for the empty cans, fish bins beneath the lower edges of said aprons, tray supports between said aprons and bins, a working bench at the outer side of the bins and an inspection bench at the opposite side of the device.

10. In an apparatus of the character described, a fish delivering trough having a conveyer therein, a filled can conveyer alongside said trough, fish receiving bins at the other side of said trough, tray supporting guides extending transversely of and above said conveyers, and a filling bench at the opposite side of the bins.

11. In an apparatus for use in hand filling of cans, a material delivery trough having deflecting gates at one side and a conveyer operating in said trough, bins receiving the material diverted by said gates, a filling bench at the opposite side of the bins from said conveyer, a filled-can conveyer at the other side of the material conveying trough, tray supporting guides extending transversely of and above said trough, trays fitting upon said guides and movable lengthwise thereof, empty-can receiving aprons above said trays and inclined downwardly toward the filling bench, and an empty-can conveyer extending along the upper margin of said apron.

Signed at Blaine, Washington, this 14 day of August, 1917.

OTTO B. DOHM.