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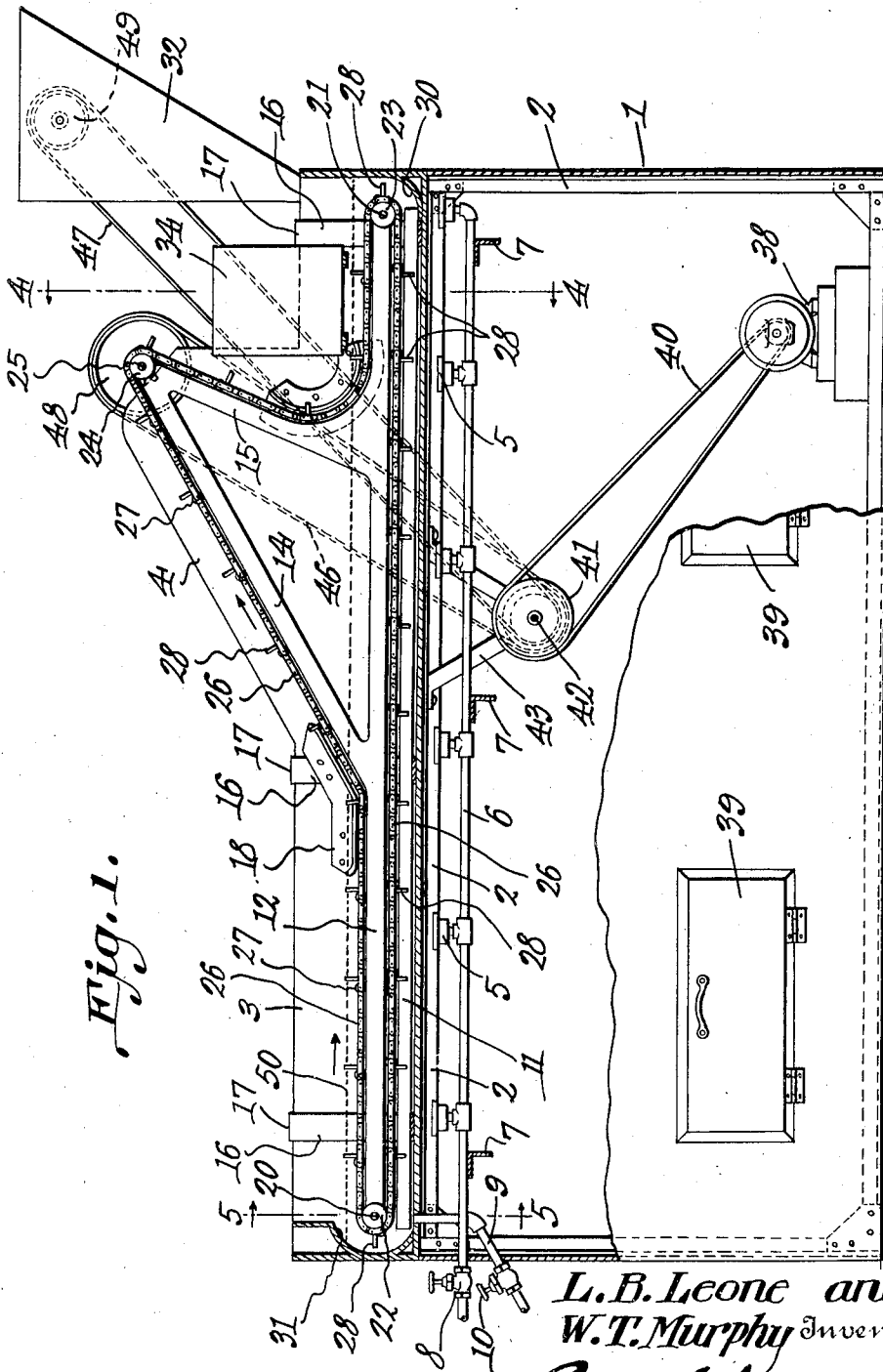
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L. B. LEONE ET AL

POTATO CHIP FRYING MACHINE

Filed March 23, 1926

3 Sheets-Sheet 1



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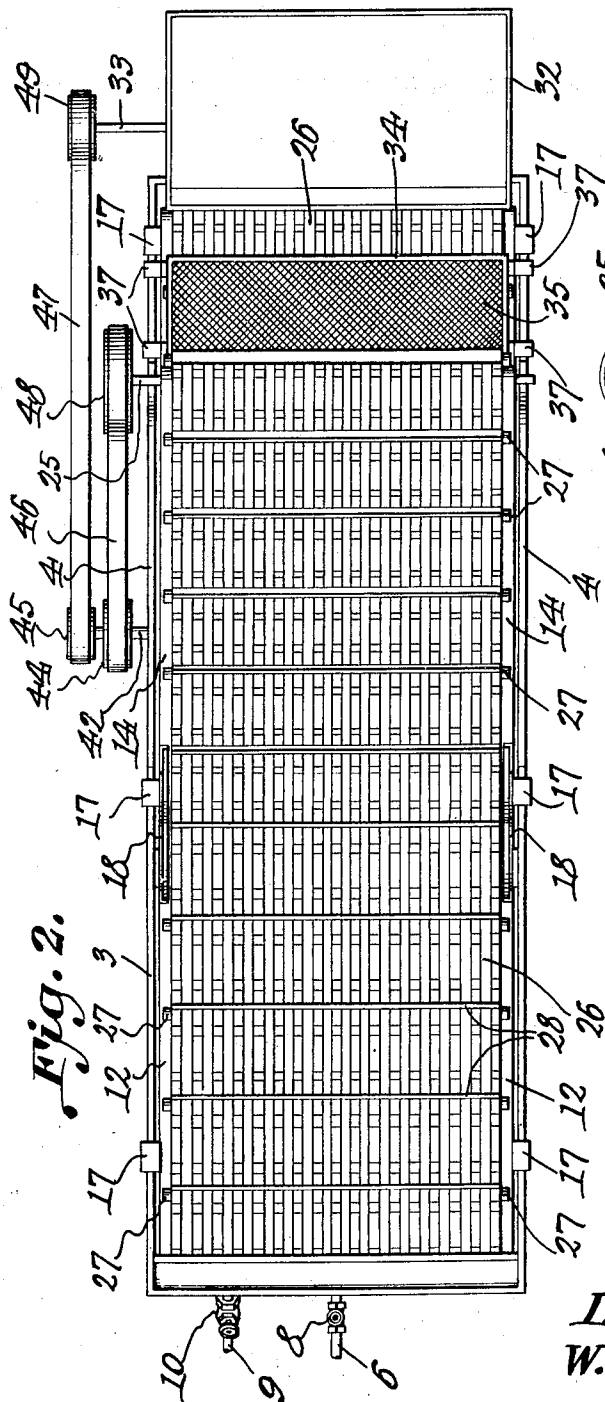
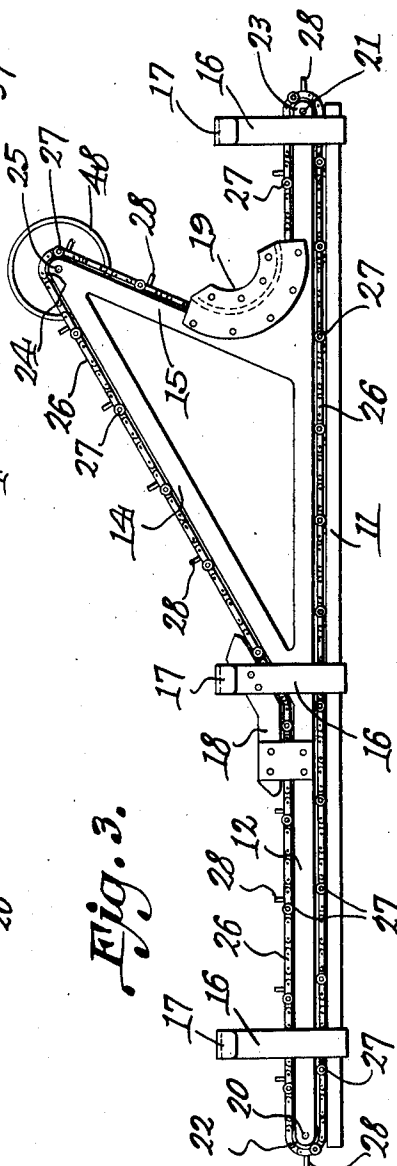
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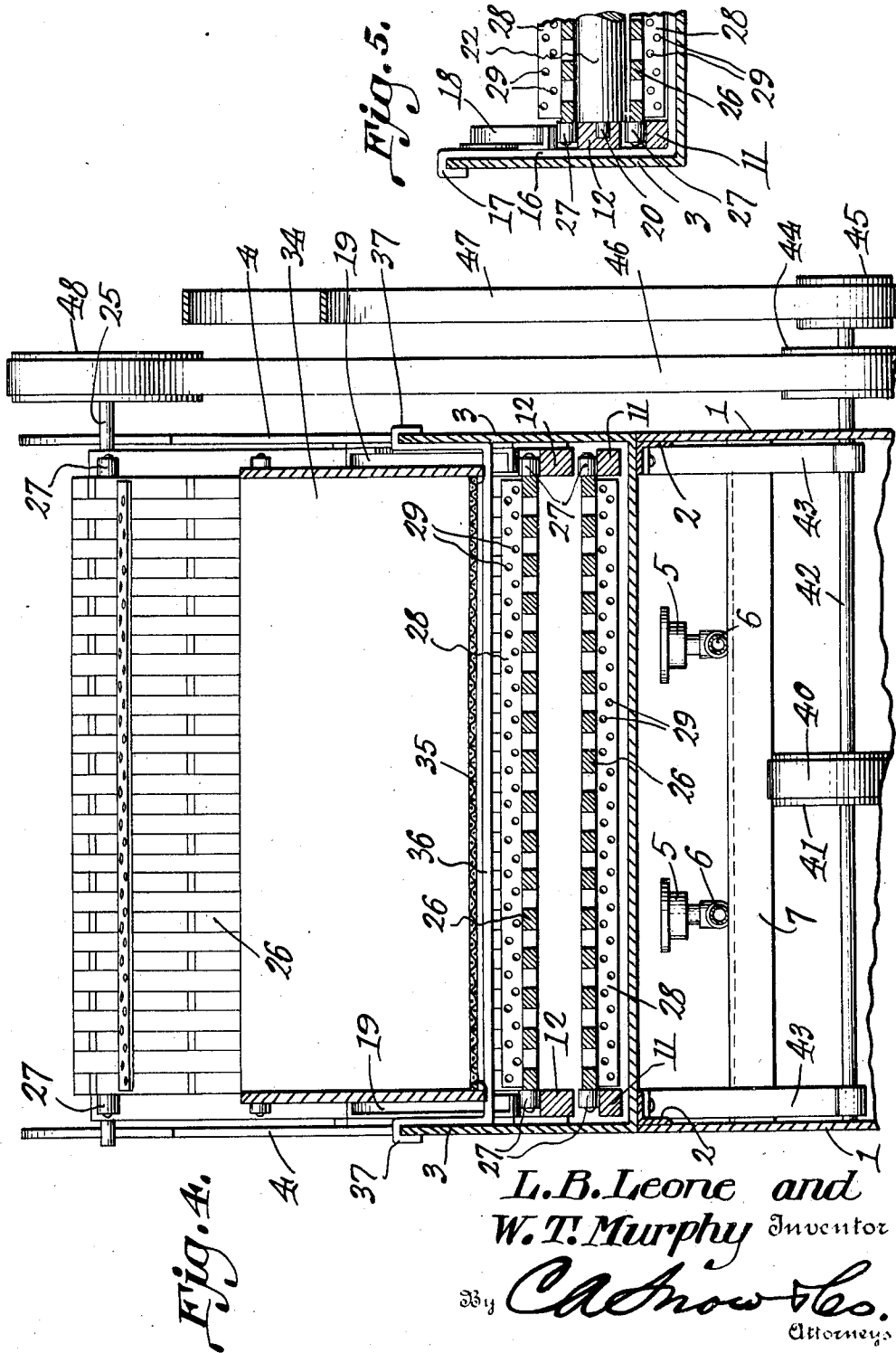
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3 Sheets-Sheet 3



UNITED STATES PATENT OFFICE.

LOUIS B. LEONE AND WILLIAM T. MURPHY, OF ST. LOUIS, MISSOURI.

POTATO-CHIP-FRYING MACHINE.

Application filed March 23, 1926. Serial No. 96,771.

This invention aims to provide a machine in which potato chips can be fried in a continuous process, novel means being provided for handling the chips.

5 It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view 10 which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that 15 changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the drawings:—

20 Figure 1 is a side elevation wherein parts have been broken away;

Figure 2 is a top plan;

Figure 3 is an elevation showing the movable carrying frame;

25 Figure 4 is a section on the line 4—4 of Figure 1;

Figure 5 is a section on the line 5—5 of Figure 1.

30 The machine includes a support which comprises a box-like casing 1 sustained by an internal reinforcing frame 2 which supports an oil pan 3, the sides of which have vertical extensions 4. The pan 3 is heated 35 by burners 5 in a pipe 6 carried by cross bars 7 supported within the casing 1, the fuel which traverses the pipe 6 being under the governance of a valve 8. The oil and other material in the pan 3 may be drained out of the pan through a pipe 9 provided 40 with a valve 10.

45 The machine embodies a removable carrying frame, the frame being called a "carrying" frame, because numerous movable parts of the machine are mounted on it. The carrying frame includes two parallel side members, one of which is shown in outline in 50 Figure 3. Each side member includes a lower track 11 and an upper track 12, the track 12 having an upwardly inclined portion 14 and a downwardly and rearwardly inclined portion 15. The tracks 11 and 12 of each side member are held in fixed relation to each other, and the two side members are held in fixed relation to each other, because the parts specified are mounted on and 55

secured to U-shaped hangers 16 having hooks 17 at their upper ends, adapted to engage over the upper edges of the sides of the oil pan 3. Angular guides 18 are secured to certain of the hangers 16. Curved guides 60 19 are secured to the upper track members 12 at the places where the track elements 15 are joined to the parts 12, an observation which will be understood readily when Figure 3 is noted. An end shaft 20 is jour- 65 naled in the track members 12. An end shaft 21 is journaled in the track members 12. The shaft 20 carries an idler 22. There is an idler 23 on the shaft 21. A shaft 25 is journaled in the angle defined by the parts 70 14 and 15 of the side members of the carrying frame. A sprocket 24 is secured to the shaft 25. A conveyor 26, in the form of a link belt, or otherwise, is engaged around the idlers 22 and 23 and around the sprocket 75 24. The conveyor 26 has side rollers 27. The rollers 27 traverse the track elements 11—12—14—15, and pass beneath the guides 18 and 19. The conveyor 26 is provided with any suitable means for advancing and 80 carrying the potato chips, for instance, with transverse ribs 28 provided with perforations 29. Curved deflectors 30 and 31 aid in the movement of the potato chips at the ends of the oil pan 3. 85

The peeled potatoes are cast into a slicer 32 mounted at one end of the oil pan 3. The slicer 32 is not described in detail, because we are aware of the fact that no specific form of slicer can be claimed in this 90 application, and, further, because the slicer may be of any desired construction. Let it suffice to say that the slicer 32 includes a shaft 33. In front of the lower end of the slicer 32 is disposed a receptacle 34 for the 95 fried or cooked potato chips. The receptacle 34 has a foraminous bottom 35. The receptacle 34 is carried by hangers 36 of U-shape, the hangers being supplied at their upper ends with hooks 37 which engage the 100 upper edges of the sides of the oil pan, 3. The receptacle 34 is so located with respect to the sprocket 24 that when the conveyor runs over the sprocket 24, the potato chips on the conveyor will be dumped into the 105 receptacle 34.

A motor 38 of any desired form is located within the casing 1. Access is had to the interior of the casing 1 generally, and to the motor 38 in particular, by means of doors 39 110

hinged to the casing 1. The motor 38 operates a belt 40 engaged with a pulley 41 on a shaft 42 journaled in depending bearings 43 carried by the reinforcing frame 2. On
 5 the outer end of the shaft 42 there are pulleys 44 and 45. A belt 46 is engaged with a pulley 44, and a belt 47 is engaged with the pulley 45. The belt 46 passes upwardly around a pulley 48 on the shaft 25. The
 10 belt 47 is engaged around a pulley 49 on the shaft 33 of the potato slicer.

In practical operation, a quantity of oil is placed in the oil pan 3, the oil standing at the level indicated at 50 in Figure 1. The
 15 oil in the oil pan 3 is heated by the burners 5. The potatoes are placed in the slicer 32 and are cut up. The slices of potatoes pass downwardly upon the deflector 30, or upon the conveyor 26, and the perforated ribs 28
 20 on the conveyor advance the potato chips along the bottom of the oil pan 3. The potato chips are carried upwardly at the left hand end of the machine in Figure 1, upon the upper run of the conveyor, the curved
 25 deflector 31 facilitating the passage of the chips upon the upper run of the conveyor. As the potato chips start up the incline represented by the inclined portions 14 of the side members of the carrying frames, they
 30 are withdrawn from the heated oil, and by this time, the potato chips are cooked or fried properly. As the conveyor 26 traverses the sprocket 24, the potato chips on the conveyor are discharged downwardly into the recep-
 35 tacle 34, and the oil upon the potato chips can run back into the oil pan 3 through the foraminous bottom 35 of the receptacle 34.

Because the receptacle 34 is carried by the hangers 36, the receptacle can be lifted out
 40 readily. Moreover, the conveyor 26 and attendant parts may be removed readily, because they are assembled with the side members of the detachable frame shown in Figure 3, the said frame being mounted upon
 45 and carried by the hangers 16 which, in their turn, are detachably engaged in the sides of the oil pan 3. The construction is such that all parts of the device may be lifted out of the oil pan upon occasion, so that the oil pan,

as well as the removable parts, can be cleaned 50 thoroughly.

The motor 38 drives the belt 40, and the belt 40 rotates the shaft 42 by way of the pulley 41. The pulley 44 and the belt 46, together with the pulley 48, rotate the shaft 25, 55 and the sprocket 24, motion thus being imparted to the conveyor 26. From the shaft 42, the shaft 33 of the slicer 32 is operated through a train of elements including the pulley 45, the belt 47 and the pulley 49. 60

What is claimed is:—

In a machine for frying potato chips, a pan, means for feeding chips to one end of the pan, side members each including an upper track and a lower track, hangers connected 65 to the tracks of each side member to hold the tracks of each side member spaced vertically, the hangers extending between the side members to hold them spaced horizontally, the hangers having means for engaging 70 the pan to support the side members removably in the pan, a drainage receptacle having a foraminous bottom, means for supporting the receptacle directly above the pan, whereby the liquid which drains out of the receptacle can flow directly downward, vertically 75 through the foraminous bottom of the receptacle into the pan, a conveyor movable around the upper track and between the upper and lower tracks, the vertical spacing of 80 the tracks affording room for the reception of the conveyor between them, the conveyor extending between the side members, the upper tracks including parts which are inclined and traversed by the conveyor, the conveyor 85 receiving the chips from the chip-feeding means and moving the chips first along the bottom of the pan and then reversely through the liquid in the pan, said parts being so located as to cause the conveyor next to raise 90 the chips out of the pan and finally deposit them in the receptacle.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures.

LOUIS B. LEONE.
 WILLIAM T. MURPHY.