Feb. 22, 1944. C. E. GOFF 2,342,267

BOWLING ALLEY LEVELING MACHINE

Filed Oct. 31, 1941 4 Sheets-Sheet 1

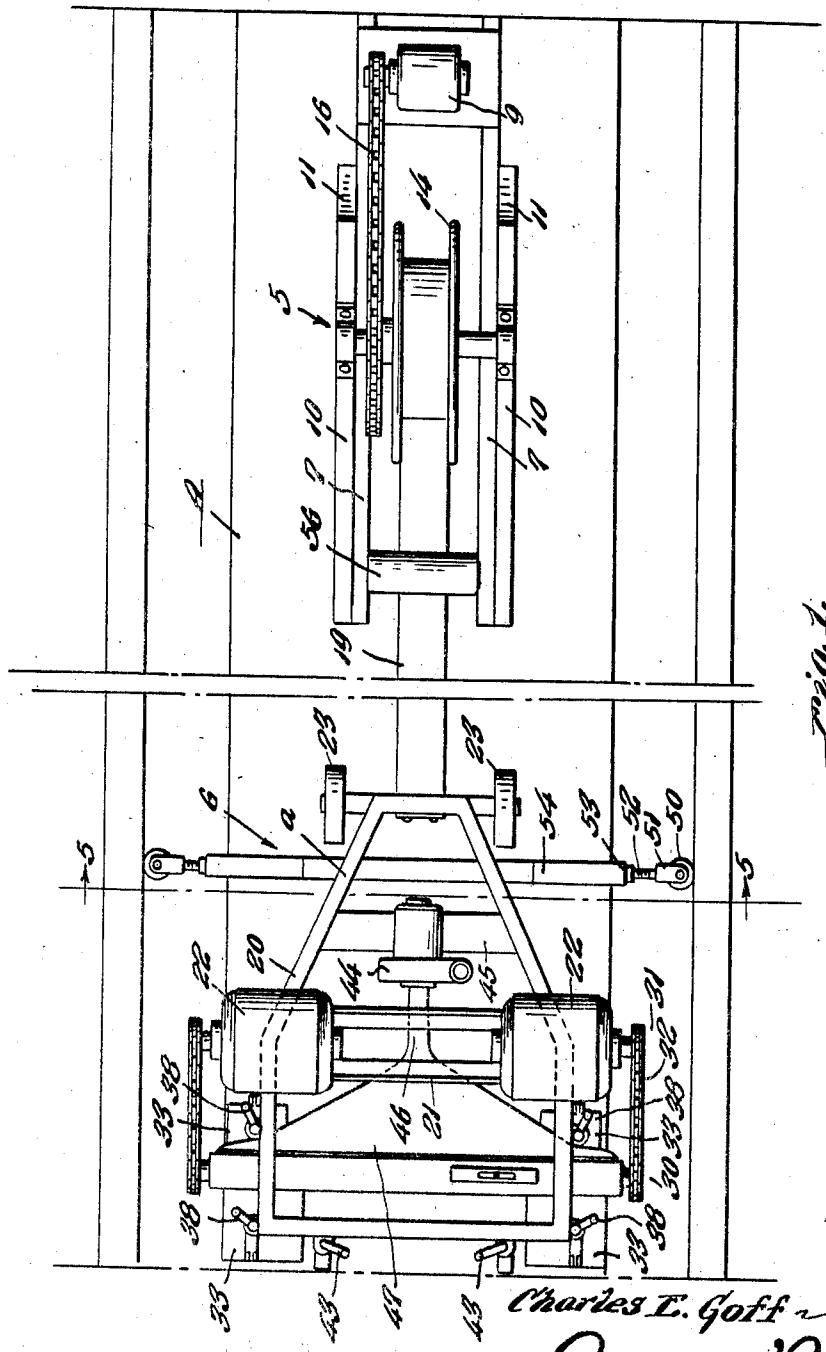


Fig. 1.

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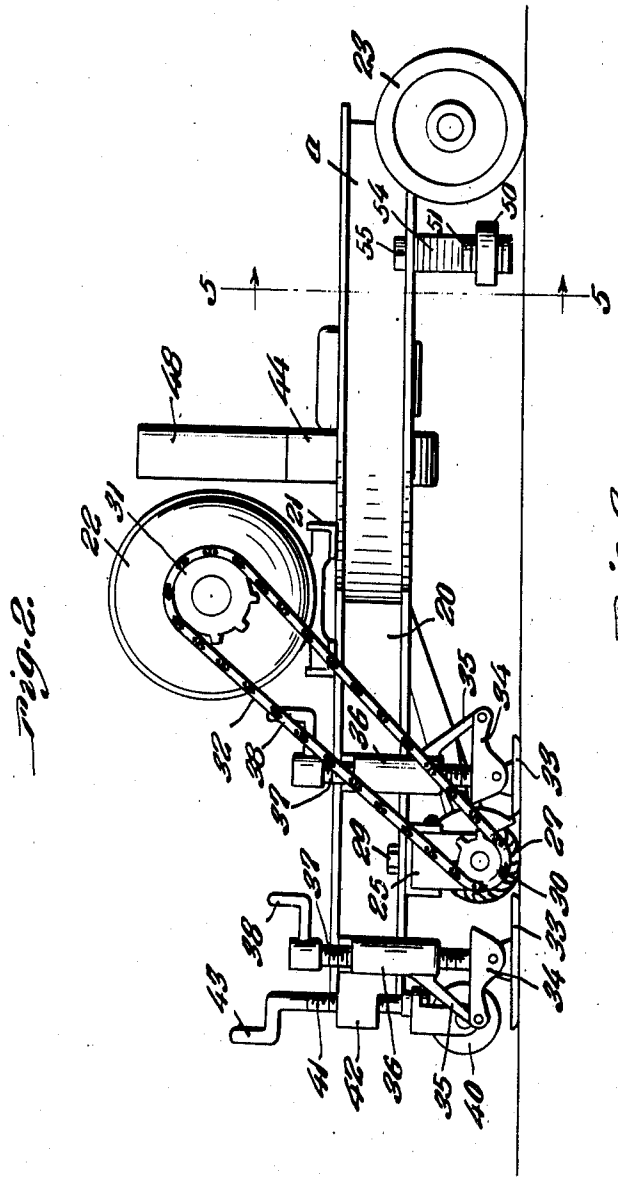


Fig. 2.

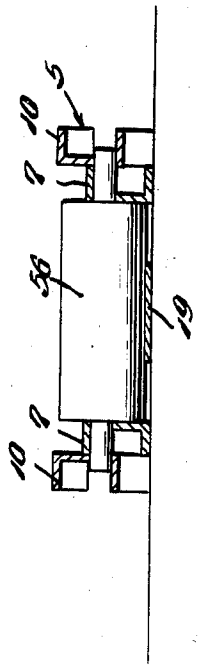


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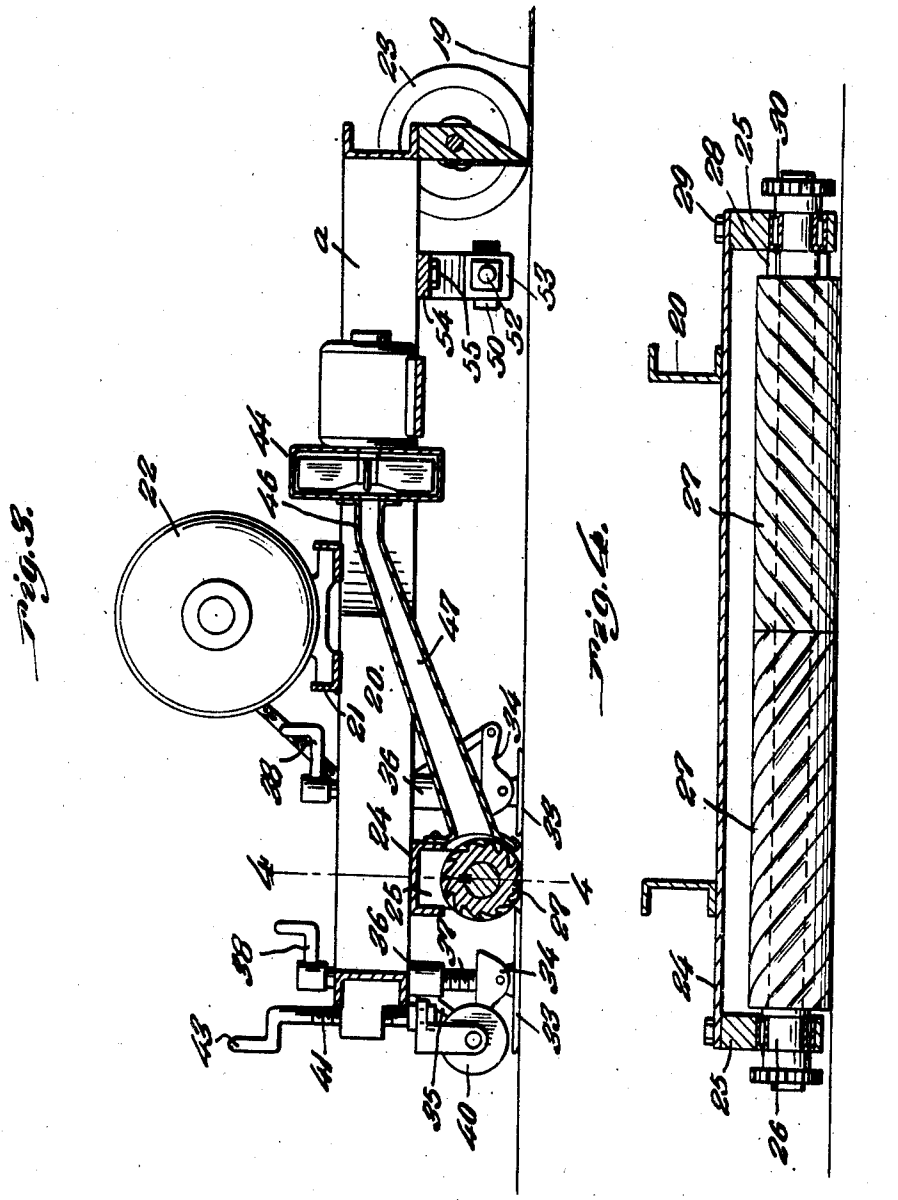


Fig. 3.

Fig. 4.

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Fig. 6.

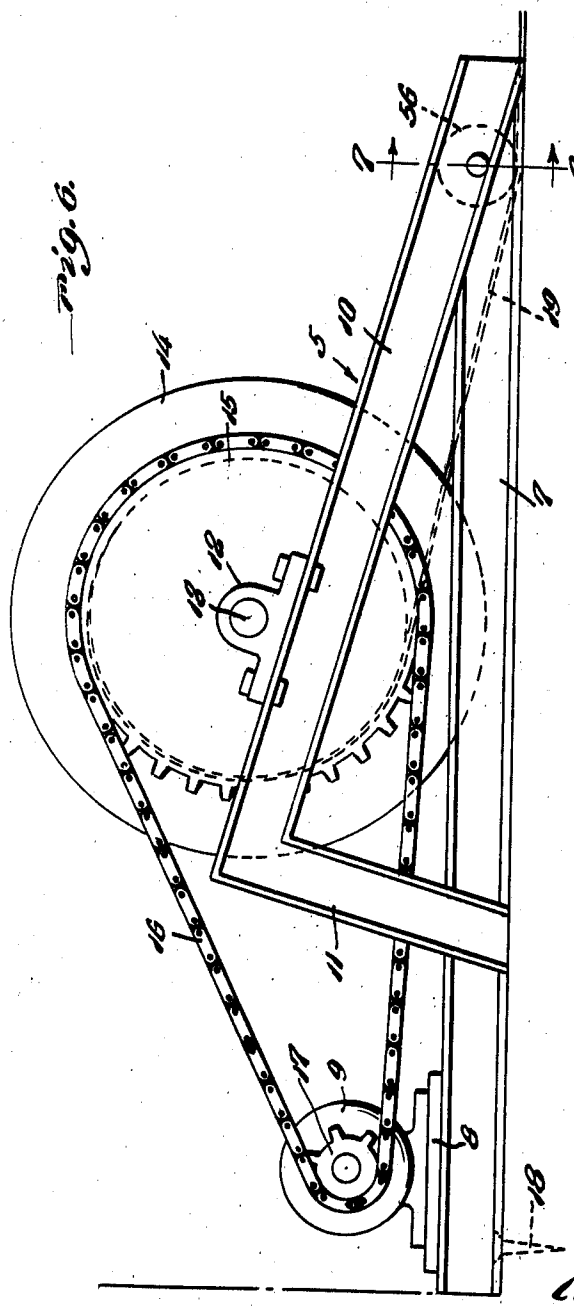
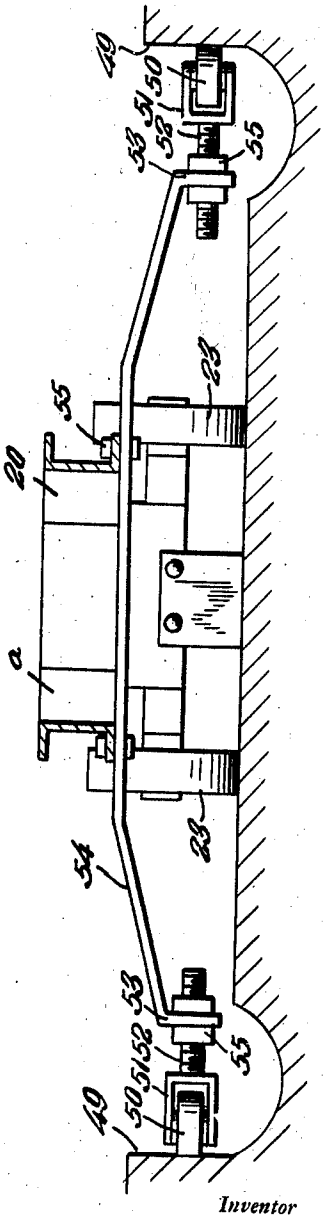


Fig. 5.



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Patented Feb. 22, 1944

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UNITED STATES PATENT OFFICE

2,342,267

BOWLING ALLEY LEVELING MACHINE

Charles Edwin Goff, Sherrill, N. Y.

Application October 31, 1941, Serial No. 417,397

4 Claims. (Cl. 144—117)

This invention relates to new and useful improvements in bowling alley resurfacing machinery.

The principal object of this invention is to provide a bowling alley surfacing machine which will perform the functions of a planer and jointer simultaneously.

Another important object of the invention is to provide a machine wherein the parts are so related as to permit ready adjustment whenever the need requires.

Another important object of the invention is to provide a machine which in operation will be accurate and substantially fool-proof.

These and other objects and advantages of the invention will become apparent to the reader of the following description.

In the drawings:

Figure 1 represents a fragmentary top plan view of the machine.

Figure 2 is a side elevational view of the traveling assembly of the machine.

Figure 3 is a longitudinal sectional view through the traveling assembly of the machine.

Figure 4 is a transverse sectional view taken substantially on line 4—4 of Figure 3.

Figure 5 is a transverse sectional view taken substantially on line 5—5 of Figure 1.

Figure 6 is a side elevational view of the stationary assembly of the machine.

Figure 7 is a section on line 7—7 of Figure 6.

Referring to the drawings wherein like numerals designate like parts, it can be seen that numeral 5 generally refers to the stationary assembly of the machine which is to be installed at the forward end of an alley to be surfaced. Numeral 6 generally refers to the traveling assembly which moves along the alley.

The stationary assembly generally referred to by numeral 5 comprises a pair of channeled base members 7, 7 bridged at adjacent ends by a platform 8 supporting an electric motor 9. An inclined channeled member 10 rises from one end of each of the channeled members 7 and is supported at its upper end by a leg 11. Bearings 12 are provided on the inclined members 10 and through these bearings 12 is disposed a shaft 13 carrying a drum 14 and to which is secured a sprocket wheel 15 over which a sprocket chain 16 is trained. This sprocket chain 16 is also trained over a small sprocket wheel 17 driven by the motor 9. This describes the stationary assembly of the machine which can be held in place by screws 18 passing downwardly through openings in the bottom flanges of the base members 7.

As can be clearly seen in Figure 1, an elongated metal tape 19 extends from the drum 14 to the traveling assembly 6.

The traveling assembly 6 comprises a horizontally disposed frame 20 bridged by a cradle 21 supporting a pair of electric motors 22, 22. One end of this frame 20 is tapered as denoted by reference character *a* and a pair of non-steerable wheels 23, 23 is provided at this end of the frame.

A downwardly flanged channeled beam 24 is transversely disposed and secured to the under side of the frame 20 and in each end of this beam 24 is a bearing structure 25.

Numeral 26 denotes an elongated shaft for carrying the rotary planers 27, 27. In assembling the planer factor of the machine, one end of the shaft 26 is inserted through one of the blocks 25 after which a pulley 27a is placed thereon. The planer rolls 27, 27 are then placed on the shaft 26 and secured in a definite position by a nut 28. After this the remaining bearing block 25 is slipped over the remaining end of the shaft 26 and secured in place by a machine screw or the like 29. Following this a sprocket 30 is placed on the remaining end of the shaft 26.

As can be seen in Figure 2, each of the motors 22 drives a sprocket 31 and trained over these sprockets 31 and their corresponding sprockets 27a and 30 are chains 32.

Forwardly and rearwardly disposed in relation to the planers 27, 27 are pairs of alley-riding gauge shoes 33, each having a rocker 34 thereon pivotally connected to an obliquely disposed leg 35 depending from an internally threaded barrel 36 secured to the frame 20. A screw 37 is feedable through each of these barrels 36 and against the rockable member 34 and each of these screws is controlled by a handle 38 at the upper end thereof. These shoes 33, when properly adjusted, regulate the depth of the cut of the planers 27, 27.

When the traveling machine is to be moved from point to point, caster wheels 40 may be employed. These are located at the wide end of the frame 20 and are carried by screw shafts 41 feedable threadedly through internally threaded blocks 42 carried by the frame. Each of these screw shafts 41 has a crank handle 43 at its upper end.

A suction unit 44 is mounted on a cross-member 45 within the frame 20 and has its intake side connected to a throat 46 which communicates with a fan-shaped hood 47, this hood having its open side facing the rear of the planers 27, 27 so

as to pick up shavings. These shavings are exhausted from the unit 44 through a spout 48 to a suitable collection receptacle.

As shown in Figure 5, numerals 49, 49 denote the side walls of a bowling alley, and it is against these that gauge wheels 50, 50 ride. These wheels are mounted in forks 51 from which threaded shanks 52 extend, these shanks extending through upstanding lugs 53 on the ends of an elongated cross-bar 54 which is secured by bolts or the like 55 to the frame 20. Jam nuts 55 are provided on each threaded shank 52, one on each side of the corresponding lug 53. These nuts and the threaded shanks 52 permit proper transverse adjustment of the machine on the alley A.

As can be seen in Figure 1, the tape 19 passes from the drum 14 under a roller 56 to connect to the adjacent end of the frame 20 of the traveling machine 6 and control of the motor 9 regulates the travel of the assembly 6.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention, what is claimed as new is:

1. A bowling alley resurfacing machine comprising a mobile cutting assembly, a hauling assembly including a winding element, an elongated ribbon-like connecting element, one end of the connecting element being connected to the mobile cutting assembly at a point thereon at the level of an alley to be resurfaced, the other end of the ribbon-like connecting element being attached to the winding element, and a guide on the hauling assembly for maintaining the adjacent end of the ribbon-like connecting element at alley level.

2. A bowling alley resurfacing machine comprising a mobile cutting assembly, a hauling assembly including a winding element, an elongated ribbon-like connecting element, one end of the connecting element being connected to the mobile cutting assembly at a point thereon at the level of an alley to be resurfaced, the other end of the ribbon-like connecting element being attached to the winding element, and a guide on the hauling assembly for maintaining the adjacent end of the ribbon-like connecting element at alley level, said hauling assembly including a frame, said guide consisting of a roll on the lower portion of the frame under which the ribbon-like connecting element passes in immediate opposed relation to an alley surface.

3. A surfacing machine comprising a frame, a cutting element carried by the frame and an elongated windable metallic ribbon-like element connected at one end to the frame and adapted to lie flatly upon the surface upon which the machine operates and to maintain said machine operating in a straight line with said ribbon-like element due to the inability of the ribbon-like element to flex laterally and winding means for the ribbon-like element.

4. A surfacing machine comprising a frame, a cutting element carried by the frame and an elongated windable metallic ribbon-like element connected at one end to the frame and adapted to lie flatly upon the surface upon which the machine operates and to maintain said machine operating in a straight line with said ribbon-like element due to the inability of the ribbon-like element to flex laterally and winding means for the ribbon-like element, said cutter element being in the form of a roll having spiral cutting portions spiraling outwardly from the intermediate portion of the roll to equalize operation of the machine and coact with the ribbon-like element to promote straight line movement of the machine.

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