Jan. 19, 1943. B. JANKELSON 2,308,812

DENTAL UNIT

Filed April 20, 1936 2 Sheets-Sheet 1

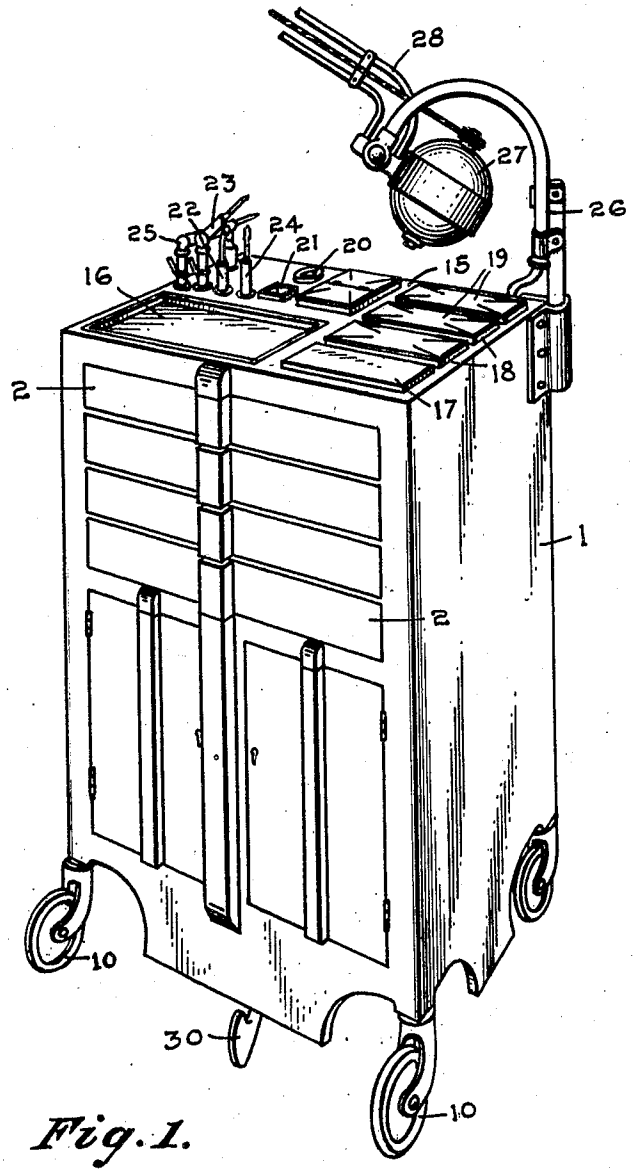


Fig. 1.

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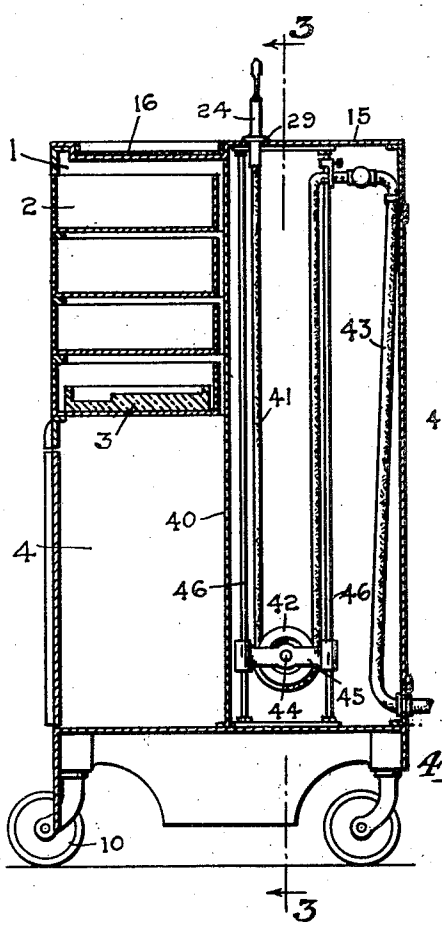


Fig. 2.

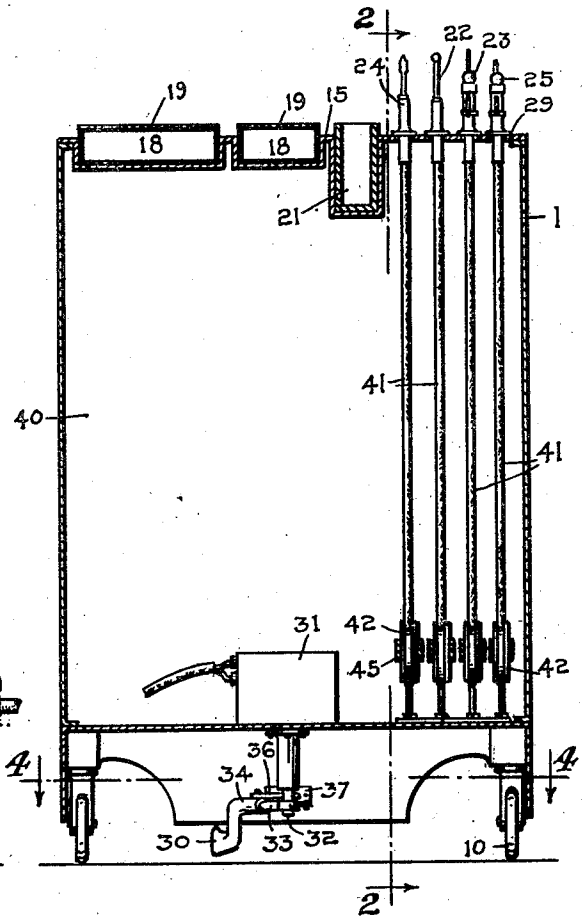


Fig. 3.

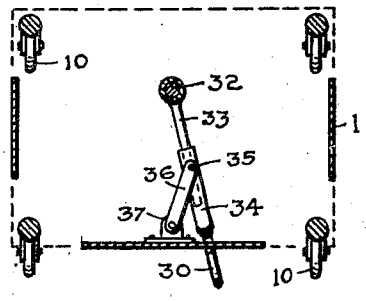


Fig. 4.

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Patented Jan. 19, 1943

2,308,812

UNITED STATES PATENT OFFICE

2,308,812

DENTAL UNIT

Bernard Jankelson, Seattle, Wash.

Application April 20, 1936, Serial No. 75,363

12 Claims. (Cl. 32—22)

The present invention applies to dental units, comprising: a cabinet having drawers, and a top having a flat working surface; wheels for mobilizing the cabinet; and an engine mounted on the cabinet.

By the term "dental unit" I refer to a single machine, or apparatus, which combines and has embodied in it a plurality of the instruments that a dentist requires when he is working on a patient. These instruments are among others; the engine and its controller, extensible arm, and hand piece; a spray bottle and air supply; a warm air nozzle and air supply; a small light for oral work, and its cord; the various hand tools, such as chisels, scrapers, probes, etc.; medicine holders, bottles, cotton holders, cements, and the like; and working surfaces such as a mixing slab and a tray for receiving used instruments.

By the term "cabinet" I refer to a piece of furniture having several drawers and/or shelves. The phrase "a top having a flat working surface" is self-explanatory, and has particular reference to that surface where the operator lays an instrument when he is thru with it or while he is using another.

The term "engine" when used broadly includes not only the electric motor but the speed controller for the motor, the extensible arm, and the hand piece carried by the arm.

The units now in use are not in the form of a cabinet but are large cast iron affairs with various instruments, trays, and drawers, carried on arms or brackets extending out from a standard. In addition to one of the units now in use, there is needed a cabinet for holding the various tools and instruments required by the operator. The present invention places all these elements in a single unit in such a manner and constructs the unit so that all the elements are readily accessible and within arm's reach of the operator.

The object of the present invention is the placing of all of the instruments used by a dental operator within arm's reach.

This object is accomplished by the new and novel design and construction of a mobile cabinet and its fittings. The cabinet has a top with: a place to set used instruments, receptacles for medicines and instruments, and holders for sprays and the like with their attached cords. The cabinet also has placed on it an engine and its attachments including the speed controller.

The ready mobility of the cabinet allows it to be placed close to the operator and in a position where he can easily reach all of the instruments with only the movement of an arm. This mobility also allows the cabinet to be easily set aside and out of the way when the operator does not need his instruments. It also allows the operator to shift his position and still keep the cabinet in the most advantageous location.

The manner in which these objects have been attained will be clear from a consideration of the drawings and description herewith.

Figure 1 is a perspective of the complete assembly.

Figure 2 is a section on the line 2—2 of Fig. 3.

Figure 3 is a section on the line 3—3 of Fig. 2.

Figure 4 is a view of the controller linkage taken on the line 4—4 of Fig. 3.

The cabinet 1 is fitted with several drawers 2. These drawers contain instrument trays 3 which hold those instruments which the operator uses when he works on a patient's teeth. In the lower part of the cabinet are two compartments 4 that hold larger articles than can be carried in the small drawers. The cabinet is supported by wheels 10. These wheels are in practice rather large, well bearinged, and rubber tired so as to operate easily and smoothly. The top 15 of the cabinet is flat which allows the top to be used as a working surface. The surface includes among other things a flat working surface 16 for the reception thereon of used instruments. The surface 16 may be in the form of a removable tray which may be hinged to fit in the sterilizer. A sterilized instrument is readily available from one of the drawers and when not in use may be placed on the tray 16, with a minimum of inconvenience to the operator. The top also has a removable mixing slab 17 for use in the mixing of cements. The top 15 is also provided with a number of receptacles for holding medicines and cements. These receptacles are shown at 18 and are provided with covers 19. The front of the top, that portion nearest the operator, is thus provided with working surfaces, while along the right side of the top, and in a most convenient position, are placed the medicine and cement containers, and along the back of the top may be placed other receptacles 18, the cotton receptacle 20, and the waste receptacle 21, and a series of instruments that require that they be attached to power supply cords. These instruments are such as the light 22, the air nozzle 23, the spray 25, and a heated instrument 24 for working plastic materials. These instru-

ments fit in sockets or receptacles 29, which are shaped to receive and support the instruments in readily accessible positions. The spray bottle 25 has two of these sockets. In the bottom of most of these sockets is a hole extending through the top to allow the easy passage of the power-supply cords as the instruments are removed from or replaced in the top.

To one corner of the cabinet is fastened the engine bracket 26. This in turn supports the engine 27. The engine 27 is of the usual kind with an extensible arm 28, and the usual hand piece (not shown).

Projecting from the bottom of the cabinet is a lever 30 which actuates the engine speed controller 31.

It will thus be perceived that I have constructed a dental unit that will enable an operator to materially reduce the time required for him to obtain and replace instruments. The unit may be placed close to the side of the operator where a mere movement of the arm will bring him anything that he needs. Without removing his eyes from the work at hand and without shifting his body, an operator may secure any instrument he desires. This enables him to do his work better and quicker.

The controller box 31 is placed inside the cabinet and has a shaft 32 extending thru the bottom of the cabinet. To the lower end of the shaft is fastened an arm 33. A loose sleeve 34 fits over the end of the arm 33. The outer end of the sleeve, as the lever 30, extends beyond the front side of the cabinet, and is in a position to be easily engaged by the foot of the operator. Attached to the sleeve 34 is one end 35 of the link 36. The other end 37 of the link 36 is fastened to the bottom of the cabinet and close to the front side thereof. The controller has a neutral position at which point the engine has zero speed; a position one side or the other of this neutral position will run the engine in either the forward or reverse direction. When the controller is in this neutral position, the two ends 35 and 37 of the link 36 will be in line with the arm 33 and the shaft 32. Due to the loose sliding fit of the sleeve 34 with the arm 33, the link 36 will cause the sleeve 34 to move outward as it swings either side of the neutral point. This movement of the sleeve 34 and the lever 30 enables the operator to easily keep his foot in engagement with the lever and prevents disengagement of his foot and the lever when swung far to one side or the other.

The partition 40 forms with the sides and back of the cabinet a compartment in which are placed the various accessories which are adjuncts to such instruments as the engine, the spray, etc. It is here that the controller box 31 which is connected to the power-supply end of the engine, is placed. The flexible cords 41, attached at one of their ends to the instruments 22, 23, 24, and 25, are carried down and under pulleys 42, and up to the top of the cabinet, where each of their other ends is fastened and connected to a suitable source of power thru the conduit 43. The conduit 43 is flexible after leaving the cabinet so that the cabinet will not be restricted in its mobility. Each of the pulleys 42 has a shaft 44 which is carried in a double yoke 45 which has a hole in each end and thru each of which holes a rod 46 is placed. These rods act to guide the pulleys up and down as the cords 41 are run in and out. The pulleys also act as weights to retract the cords into the cabinet. This construction allows the powered instruments to be easily removed from the cabinet and as easily returned thereto, both the instruments and their cords are tractable in and out of the cabinet. The conduit 43 may be flexible inside the cabinet and have a weight arranged to retract the excess length to the interior of the cabinet.

From the foregoing description it will be perceived that I have invented a new dental unit that has all of the advantages of the old units and more besides. I have done this by placing all of the old features in a new type of mobile cabinet and combining many new features with the old so as to form a new and novel unitary structure which is of great worth to a dental operator.

Having described my new and novel device, I claim:

1. A dental unit, comprising: a cabinet, having drawers therein for holding instruments, and a top having receptacles therein for holding powered instruments and medicines, and said top having holes therethru for the free passage of instrument cords; instrument cords in said holes; instruments connected to the ends of said cords; and wheels for mobilizing said cabinet.

2. A dental unit, comprising: a cabinet, said cabinet having drawers therein for holding instruments, and a top having a flat working surface, and receptacles for holding instruments and medicines; wheels for mobilizing said cabinet; an engine supported by said cabinet; a controller for said engine supported by said cabinet; and an extension projecting from the lower portion of said cabinet and adapted to be engaged by the foot of an operator, said extension being linked to said controller for its operation.

3. A dental unit, comprising: a cabinet having drawers therein for holding instruments, a top having receptacles for holding instruments and medicines, and said top having a flat working surface, and said top having holes therethrough for the free passage of instrument cords; instrument cords in said holes; instruments connected to the ends of said cords; and wheels for mobilizing said cabinet.

4. A dental unit, comprising: a cabinet having drawers therein for holding instruments, a top having a flat working surface, said top having receptacles for holding instruments and medicines, and said top having holes therethrough for the free passage of instrument cords; instrument cords in said holes; instruments connected to the ends of said cords; an engine supported by said cabinet; and wheels for mobilizing said cabinet.

5. A dental unit, comprising: a cabinet having drawers therein for holding instruments, a top having recesses therein for holding instruments and medicines, and said top having holes therethrough for the free passage of instrument cords; instrument cords in said holes; instruments connected to the ends of said cords; wheels for mobilizing said cabinet; an engine mounted on said cabinet; a controller for said engine supported by said cabinet; and an extension projecting from the lower portion of said cabinet and adapted to be engaged by the foot of an operator, said extension being linked to said controller for its operation.

6. A dental unit comprising: a cabinet having drawers therein for holding hand instruments; a top having thereon a flat working surface, therein receptacles for powered instruments, and therein receptacles for medicines; and means for mobilizing said cabinet.

7. A dental unit comprising: a cabinet having drawers therein for holding hand instruments;

a top having thereon a flat working surface, therein receptacles for powered instruments, and therein receptacles for medicines; an engine mounted adjacent said top; and means for mobilizing said cabinet.

8. A dental unit comprising: a cabinet having drawers therein for holding hand instruments; a compartment in back of said drawers; a top above said drawers and compartment; means for mounting on said top powered instruments; power cords adapted to be connected to such powered instruments and depending into and being tractable in and out of said compartment; and means for mobilizing said cabinet.

9. A dental unit comprising: a cabinet having drawers therein for holding hand instruments; a compartment in back of said drawers; a top above said drawers and compartment; said top having thereon a flat working surface, therein receptacles for medicines, therein receptacles for powered instruments, and holes for tractable cords supplying power to said powered instruments, which cords depend into said compartment and are tractable in and out of said compartment; and means for mobilizing said cabinet.

10. A dental unit comprising: a cabinet having drawers therein for holding hand instruments; means for mobilizing said cabinet; an engine supported by said cabinet; and means for controlling said engine, comprising, an extension projecting from said cabinet, which extension is adapted to be engaged by the foot of an operator.

11. A dental unit, comprising: a cabinet having drawers therein for holding hand instruments, and a top having thereon a flat working surface and therein receptacles for powered instruments; a dental engine supported by said cabinet; and wheels for mobilizing said cabinet.

12. A dental unit comprising: a cabinet having drawers therein for holding hand instruments; means for mobilizing said cabinet; an engine supported by said cabinet; and means projecting from said cabinet to a position adjacent the plane of the lowest parts of said mobilizing means, such projecting means controlling the speed of said engine, and being adapted to be engaged by the foot of an operator.

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