Sept. 9, 1930. C. E. ROBERTS ET AL 1,775,602

METHOD AND APPARATUS FOR FINISHING COMPACTS

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Fig. 1

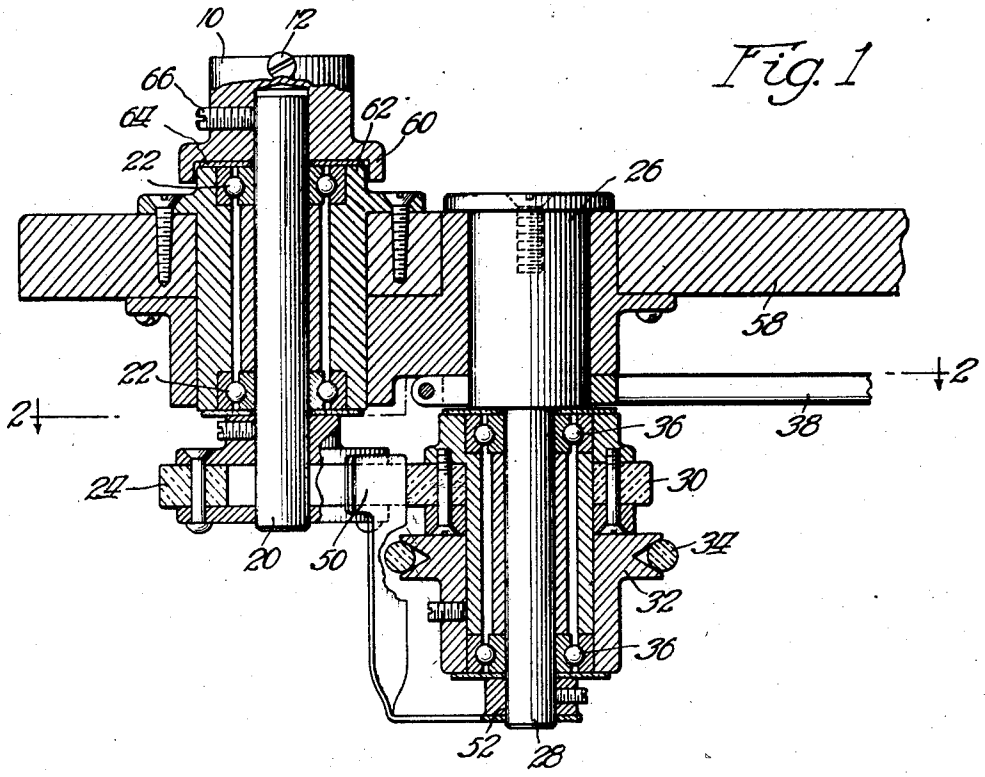
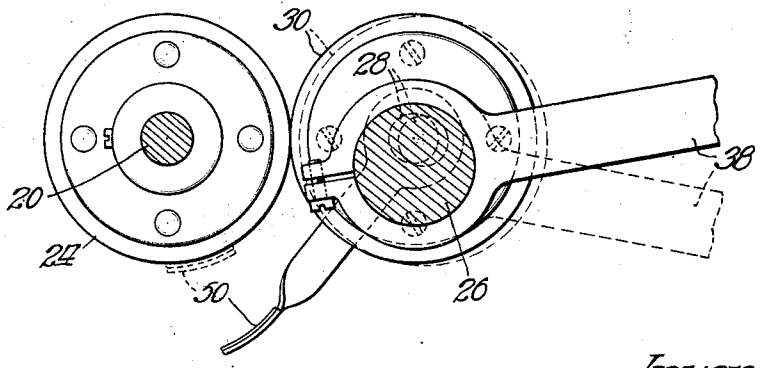


Fig. 2



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METHOD AND APPARATUS FOR FINISHING COMPACTS

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Fig. 3

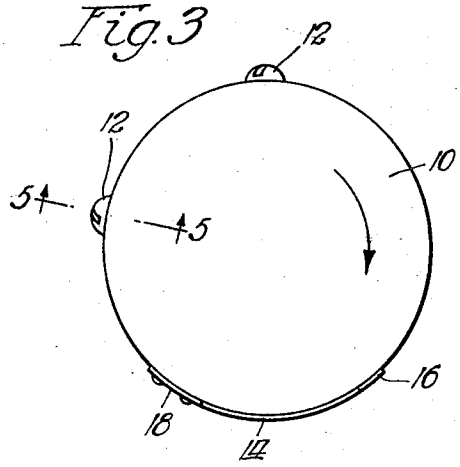


Fig. 5

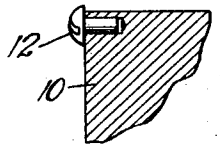


Fig. 6

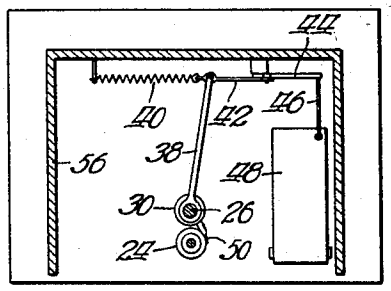


Fig. 4

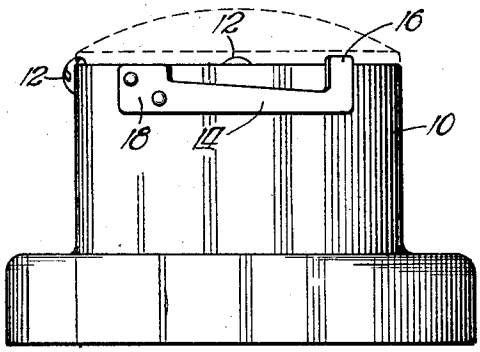
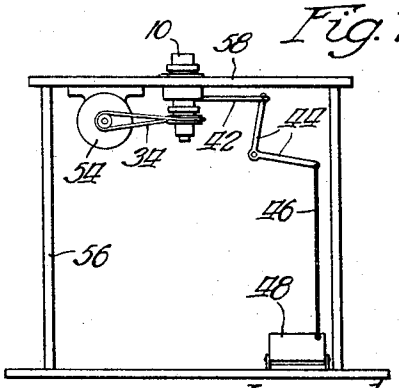


Fig. 7



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1,775,602

UNITED STATES PATENT OFFICE

CHARLES E. ROBERTS, OF OAK PARK, AND JOHN H. HELFRICH, OF WHEATON, ILLINOIS, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO SAID JOHN H. HELFRICH

METHOD AND APPARATUS FOR FINISHING COMPACTS

Application filed November 11, 1927. Serial No. 232,579.

Our invention relates to cosmetics, and more specifically to an improved method and apparatus for reducing face powder compacts to their final shape.

According to one method of manufacture of face powder compacts, the compact is originally formed on the metal backing sheet or plaque, by means of which it is supported during use by the purchaser. After the cosmetic material proper has been dried or otherwise reduced to the proper condition for use, it is customary to finish the mass of material to exact size by dressing off the surface with a sheet of sandpaper or the like. The compact is originally formed with a trifle excess material to enable this to be done.

In the accompanying drawings,

Figure 1 is a vertical central section through an apparatus for finishing compacts according to the invention;

Figure 2 is a section on line 2—2 of Fig. 1;

Figure 3 is a plan view of the compact holder;

Figure 4 is a side elevation of the compact holder with the compact indicated in dotted lines;

Figure 5 is a detail section on line 5—5 of Fig. 3;

Figure 6 is a section as on line 2—2 of Fig. 1, indicating the supporting means for the entire apparatus; and

Figure 7 is a front elevation of the entire apparatus.

In the embodiment of apparatus according to the invention selected for illustration, the compact is mounted for rotation on a support 10 by simply placing it on top of the support. It is held in place during rotation by abutment with two fixed abutments 12, and a resilient holding clip 14 having a tip 16 and a body portion curved around the side of the support 10 and riveted thereto at 18. The abutments 12 are equally spaced from a point diametrically opposite the tip 16. They are illustrated as having the form of simple rivets with a small segmental portion of the head of each rivet projecting above the plane of the flat top of the support. These rivets are a light driving fit, and when the portion of the head projecting above has been worn away by long use, the abutment can be loosened and rotated a few degrees about its axis, to bring a fresh segment into play.

It sometimes happens that the metal plates for the compacts are not exactly round or exactly true to size, and sometimes during rotation some defective plate may tip up or slip off the support. We have found that if the direction of rotation is as indicated in Fig. 3, any such plate that happens to fly off the support will fall clear of it without injuring the holding clip or the operator.

We have provided means for supporting and driving the compact support 10. The shaft 20 is suitably supported for rotation on a vertical axis, as by spaced ball bearings 22, and carries a friction driving pulley 24 at its lower end. On an axis parallel to that of the shaft 20, we mount a pivotal support 26 having an eccentric shaft 28 projecting from its lower end. On the shaft 28 we mount a friction drive pulley 30 in the same plane as the pulley 24, and a grooved pulley 32 for receiving power from suitable drive means such as a belt 34. The pulleys 30 and 32 are rigidly united into a unitary structure and suitably supported on the shaft 28 as by spaced ball bearings 36.

It will be apparent that the pulley 30 can be pressed against the pulley 24 by rotating the pivotal support 26.

For convenience in controlling the stopping and starting of the compact support, we have provided means normally urging the pulley 30 against the pulley 24 with sufficient force to drive it, and operator controlled means for intermittently interrupting the drive to remove a finished compact and replace it with an unfinished one. We have

illustrated an arm 38 clamped on the lower end of the pivotal support 26. The rear end of the arm may be actuated in one direction by a tension spring 40, and in the other direction by a drag link 42 pivoted to the vertical arm of a bell crank lever 44. From the horizontal arm of the bell crank lever 44 the pitman 46 extends down to the control pedal 48. When the operator wishes to remove a finished compact and replace it with an unfinished one, a touch of the operator's toe on the pedal 48 will move the drive pulleys out of engagement. A little additional movement will continue the rotation of the pivotal support 26 far enough to bring the brake shoe 50, which is rigidly mounted as at 52 on the lower end of the shaft 28, into frictional engagement with the pulley 24 to stop the rotation of the shaft 20 and the compact support. In operation, the operator, upon beginning work, will first start the electric motor 54 driving the belt 34. Thereafter, the compact support will rotate continuously except when the operator wishes to change compacts and touches the pedal 48.

The finishing of the compacts generates a considerable amount of powdered material of a sort that is very apt to injure ball bearings or bearings of any description. We have supported the apparatus as a whole on a wooden box or frame 56 having a top 58, which top is imperforate except for the openings receiving the bearings for the pivotal support 26 and the shaft 20. As these openings are completely filled by the parts received therein, the whole constitutes a complete imperforate barrier, below which the transmission mechanism is housed, protected from the fine powder or other dirt that may accumulate on or around the compact support. For completely sealing the only possible point of access to the bearings, we have formed the compact support with a depending flange 60 telescoped over the sleeve 62 in which the ball bearings 22 are mounted. A fibre washer 64 lying loosely between the juxtaposed annular faces at the bottom of the support 10 and at the top of the sleeve 62 completes the seal.

For finishing compacts of different sizes, it is necessary to have a support for each different size of compact. The support is removably clamped in place on the upper end of the shaft 20 by means of a set screw 66, so that it can be readily removed and replaced by one having different dimensions at the top.

Without further elaboration, the foregoing will so fully explain the gist of our invention, that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

What we claim is:

1. Compact finishing means comprising a rotatable support for rotating a compact exposed to a tool in the hands of the operator, positive holding means on said support for permitting rapid manual removal of a finished compact and installation of another unfinished one, and operator actuated control means for stopping and starting said support, said control means requiring no attention or exertion on the part of the operator when the tool is in use.

2. Compact finishing means comprising a rotatable support for rotating a compact exposed to a tool in the hands of the operator, positive holding means on said support for permitting rapid manual removal of a finished compact and installation of another unfinished one, means for rotating said support continuously, and foot-actuated means for interrupting the rotation of said support, while removing a finished compact and installing an unfinished one.

3. Compact finishing means comprising a rotary support; a frame carrying journals for said support; said support extending through said frame, and projecting both above and below the same; said frame being otherwise imperforate; and transmission means housed under and protected by said frame for driving said support; said transmission means including a power receiving element fixed on said support, a driving element movable into and out of direct effective driving relationship with said receiving element, and operator actuated control means for moving said driving element into and out of driving relationship; said control means comprising yielding means normally urging said driving element into driving relationship, operator actuated means housed under said frame for positively withdrawing said driving element from driving relationship, and brake means housed under said frame moved into operating position upon withdrawal of said driving element.

4. Compact finishing means comprising a rotary support; a frame carrying journals for said support; said support extending through said frame, and projecting both above and below the same; said frame being otherwise imperforate; and transmission means housed under and protected by said frame for driving said support; said transmission means including a power receiving element fixed on said support, a driving element movable into and out of direct effective driving relationship with said receiving element, and operator actuated control means for moving said driving element into and out of driving relationship; said control means comprising an offset pivotal support for said driving element, resilient means tending to rotate said pivotal support to move said driving element into driving relationship, an operator actuated pedal for rotating said pivotal support in the opposite direction, and brake means rigidly mounted

on said pivotal support and moving into engagement after said driving element has moved out of driving relationship.

5. Compact finishing means comprising a rotary support, two fixed abutments and one resilient holding clip spaced about the periphery of said support, said clip having a curved body fitting the periphery of said support and below the plane of the top of said support, and a tip extending above the top of said support, said abutments being spaced on opposite sides of a point diametrically opposite said tip and each comprising a simple headed element driven lightly into the side of said support with a segment of its head projecting above the top of said support, and means for driving said support in such a direction that the tip of the clip follows the body thereof.

6. Compact finishing means comprising a rotary support, two fixed abutments and one resilient holding clip offset from the axis of rotation and spaced about the periphery of said support, said clip having a tip extending above the top of said support to engage the edge of the compact.

7. Compact finishing means comprising a rotary support, fixed abutment and resilient holding means spaced about the periphery of said support, said abutment means comprising a simple headed element driven lightly into the side of said support with a segment of its head projecting above the top of said support.

8. Compact finishing means comprising a rotary support facing upwardly, two fixed abutments and one resilient holding clip offset from the axis of rotation and spaced about the periphery of said support, said abutments being spaced on opposite sides of a point diametrically opposite said clip.

9. Compact finishing means comprising a rotary support, a fixed abutment and a resilient holding clip, said clip having a curved body fitting the periphery of said support and below the plane of the top of said support, and a tip extending above the top of said support, and means for driving said support in such a direction that the top of the clip follows the body thereof.

10. Compact finishing means comprising a rotary support facing upwardly, a resilient holding clip projecting above the plane of the top of said support, and fixed abutment means positioned to receive the thrust of said clip and hold a superimposed compact against displacement in a horizontal plane, said clip and abutment means being offset from the axis of rotation in different directions.

11. Compact finishing means comprising a rotary support facing upwardly, a resilient holding clip projecting upwardly above the plane of the top of said support, and a fixed abutment means positioned to receive the thrust of said clip and hold a superimposed compact against displacement in a horizontal plane, said clip and abutment means being offset from the axis of rotation in different directions, said abutment means leaving a clear space diametrically opposite said clip, to permit access of the operator's finger, for the quick removal of a compact.

In testimony whereof, we have signed our names to this specification.

CHARLES E. ROBERTS.
JOHN H. HELFRICH.