

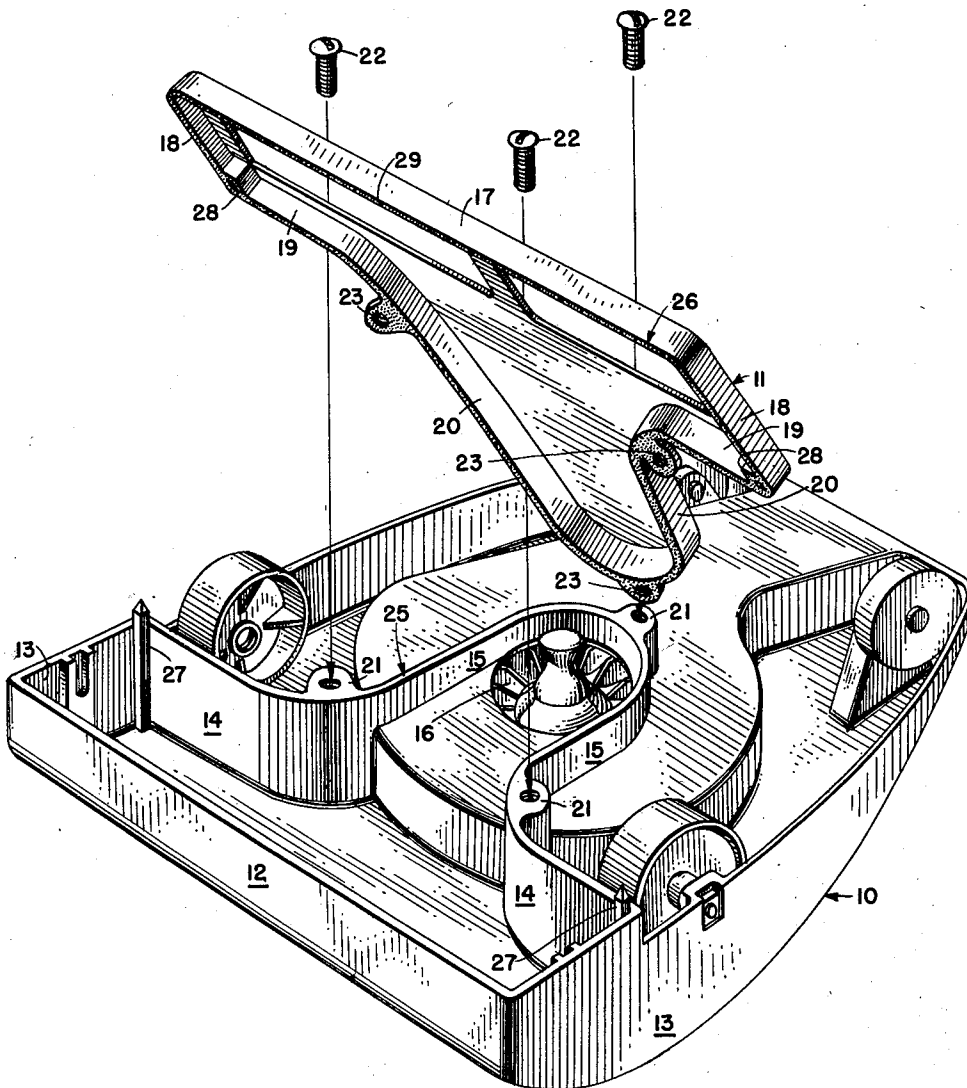
Jan. 7, 1958

W. G. SECK

2,818,638

FLOCKING METHOD FOR SEALING JOINTS

Filed March 16, 1951



INVENTOR:

WERNER G. SECK

BY

Harry S. Demaree

ATT'Y

1

2,818,638

FLOCKING METHOD FOR SEALING JOINTS

Werner G. Seck, Canton, Ohio, assignor to The Hoover Company, North Canton, Ohio, a corporation of Ohio

Application March 16, 1951, Serial No. 215,949

1 Claim. (Cl. 29—527)

The present invention relates to joints and to the method of sealing the same.

The present invention is specially useful in sealing between mating surfaces which have to be separated frequently. It is also specially useful in sealing mating surfaces which are of narrow width, which are irregular in contour and which have numerous openings for receiving screws, etc.

Specifically, according to the present invention, an adhesive or cement is applied to one or both of the mating surfaces and thin fibers or flock are applied to the cement surface after which heat may be applied to set the adhesive or cement.

When the cement has set the surface is soft and forms an excellent seal. The flock being soft it will give under pressure and fill any voids which may be present. After the cement has set the surface of the flock is non-tacky and may be separated from the mating surface as frequently as desired without injuring the flocked surface.

According to the present invention it is unnecessary to meticulously cut gaskets to fit irregular mating surfaces or to form screw and pin receiving openings therein at accurately spaced points.

Since the fibers or flock will adhere only to the surface to which the adhesive is applied it is only necessary to apply adhesive where desired and to apply the flock either by blowing it on, by passing the article through an atmosphere having the fibers or flock suspended therein or electrostatically in a manner similar to that disclosed in the United States patent to Miller 2,087,260.

The flock material may be wool, cotton, rayon or other fibers. For joints subject to high temperatures the flock may be asbestos fibers.

Other objects and advantages of the present invention will become apparent as the description proceeds when taken in connection with the accompanying drawings in which the single figure is a perspective view of the bottom of the main casting of a suction cleaner and the bottom plate therefor with the present invention applied thereto.

While the invention has been shown as applied to the joint between the main casting and bottom plate of a suction cleaner it is to be understood that it may be applied to other joints as well.

Referring to the drawings, the main casting of a suction cleaner is represented by the reference numeral 10 and the bottom plate by 11.

The main casting 10 is formed with a front wall 12, end walls 13 and rear walls 14 which form the upper part of the nozzle of the suction cleaner. The end walls 14 merge with rearwardly extending walls 15 which meet at their rear ends and form the upper part of the suction passage extending rearwardly from the nozzle to the fan eye 16.

The bottom plate 11 is provided with a front wall 17, end walls 18 and rear walls 19 which form the bottom part of the nozzle. The walls 19 merge with rearwardly extending walls 20 which meet at their rear ends and form the lower part of the suction passageway.

The main casting 10 is provided with three bosses 21 having threaded openings therein to receive the threaded ends of fastening screws 22. The bottom plate 11 has three bosses 23 thereon having openings therein which mate with the openings in bosses 21.

2

The lower edges of the walls 12, 13, 14 and 15 are machined to form a machined surface indicated by the reference numeral 25. The upper edges of walls 17, 18, 19 and 20 are machined to form a machined surface 26 to mate and seal with the machined surface 25 which is of the same contour.

After the surface 25 is machined the positioning pins 27 are applied to the corners between walls 13 and 14. The pins 27 coact with openings in bosses 28 formed on the bottom plate 11 to properly position the latter with relation to the main casting.

An adhesive or cement is applied to the machined surface 26 by means of a brush or otherwise and the flocking 29 applied by blowing, by passing the bottom plate 11 through an atmosphere having flock suspended therein or by an electrostatic method similar to that disclosed in the United States patent to Miller above referred to. When the electrostatic method is used the flock fibers will extend vertically from the surface 26. The cover plate 11 may then be heated to set the adhesive and bond the flock 29 to the surface 26.

It is obvious that once the adhesive is set the flock 29 will form a soft non-tacky surface which exactly mates with the machined surface 25 and which will give sufficiently to fill up any voids or irregularities which may be present.

Since the adhesive is applied only to the machined surface, the screw and pin receiving openings will be formed automatically without the necessity of any particular care in locating them at the proper position.

It is also obvious that the bottom plate 11 can be removed from the main casting 10 and replaced without harming the flock gasket 29 and without having to handle or replace it as with previous constructions.

While the flock 29 has been shown as applied only to the surface 26, it is to be understood that flock may also be applied to the surface 25. It has been found, however, that in the application shown it is necessary to apply the flock to only one of the mating surfaces.

While I have shown and described but a single modification of my invention it is to be understood that that modification is to be taken as illustrative only and not in a limiting sense. I do not wish to be limited to the particular structure and method shown and described but to include all equivalent variations thereof except as limited by the scope of the claim.

I claim:

The method of sealing the joint between two separable mating surfaces comprising, machining both of said surfaces, applying a heat curable cement to at least one of said surfaces, applying a fibrous flock to said cemented surface and applying heat thereto to set the cement and bond the flock to said surface.

References Cited in the file of this patent

UNITED STATES PATENTS

1,270,841	Kelly	July 2, 1918
1,772,912	Randall	Aug. 12, 1930
2,008,476	Taylor	July 16, 1935
2,087,260	Miller	July 20, 1937
2,251,211	Armstrong	July 29, 1941
2,313,750	Hothersall	Mar. 16, 1943
2,604,318	Jacobs	July 22, 1952

FOREIGN PATENTS

247,282	Great Britain	Feb. 11, 1926
397,952	Great Britain	Sept. 7, 1933
492,537	Great Britain	Sept. 22, 1928

OTHER REFERENCES

"Plastics," July 1945, pp. 321-331 (only pp. 321 and 325 are required).