PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements relating to Capseals for Container Closures and Methods for forming the same

We, AMERICAN FLANGE & MANUFACTURING CO., INCORPORATED, a Corporation of the State of Delaware, United States of America, of 30, Rockefeller Plaza, New York 20, United States of America, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to capseals for container closures and particularly to such capseals as are customarily used for the sealing of closures employed on barrels and drums.

In capsealing barrels and drums, it is desirable to employ capseals which are not only tamper-proof, i.e., cannot be removed and replaced without being sufficiently destroyed to make that removal obvious, but also leak-proof. A high degree of success has heretofore been achieved by means of capseals which are internally scored and have effective gaskets secured therein. To achieve this success economically, however, it was necessary, employing the available gasket materials, to have the gaskets preformed prior to application to the capseals and to interrupt the scores at the position where the scores would otherwise cross behind or underneath the gaskets. Otherwise, particularly where capseals were used without plugs as the sole closures for openings, leakage could take place along the scores behind the gasket.

By interrupting the scores where the gasket crossed them, this likelihood of leakage was precluded but difficulties were introduced into the removal of the seals. Such seals would normally be removed by puncturing the tops thereof and tearing along the score lines. Considering that these capseals are made of relatively strong and thick material as against the sort of light-weight material used on bottle caps, it is obvious that there would be occasions when one would find it difficult, in tearing the metal, to jump from the scored part of the top of the capseal across the unscored gasket zone thereof, so that the tearing could be continued down the skirt. Alternatively it was proposed to provide tearing tabs extending from the free edge of the skirt so that the tearing could be commenced from there rather than making it necessary to puncture the top and tear by grasping the material between the score lines. This was no better while the score was interrupted at the position beneath the gasket.

The present invention not only facilitates the removal of capseals but also does so in a manner which, at the same time, reduces to a minimum any likelihood of leakage due to the score. It enables the scores to be continuous and enables a variety of score patterns to be employed which were heretofore unusable. It nevertheless does this in a manner which is simple and economical and, in addition, ensures that the gasket will stay in place in the capseal and will not fall out in shipment, as may happen with previously known capseals having preformed gaskets.

According to the invention, a capseal for container closures comprises a disc-like top and a skirt extending laterally therefrom around the periphery thereof, an internal score or scores formed in the material of said capseal, said score or scores being continuous and extending at least part way across said top thereof and continuing downwardly to the bottom of said skirt, a gasket received within said capseal and secured to the undersurface thereof, said gasket having a portion or portions extending into and filling said score or scores where it crosses the same.

Also according to the invention, in a method of forming a capseal for container closures, the capseal is formed with continuous internal scores and provided with an internal gasket by flowing the gasket material

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into the capseal with the gasket material in sufficiently fluid state to enable it to flow into and fill the scores where the gasket crosses them. Thus though continuous score lines are used, leakage behind the gaskets is precluded, since the scores are filled up at that position. The filling is merely by means of gasket material so, while leakage is prevented, the ease of removal provided by continuous scores is in no way interfered with.

It is accordingly a principal object of this invention to facilitate the removal of applied capseals from container closures.

Another object is to facilitate that removal while, at the same time, precluding the likelihood of leakage while those capseals remain applied.

Another object is to increase the number and types of possible scorings which may be applied to capseals for removal purposes.

Another object is to provide for the gasketing of capseals over wider range than was heretofore thought possible.

A more detailed object is to enable gasketed capseals to be continuously scored without allowing leakage behind the gaskets thereof.

Various embodiments of the invention will now be more particularly described with reference to the accompanying drawings, in which:—

Fig. 1 is a top plan view of the preferred form of capseal in accordance with the invention;

Fig. 2 is a bottom plan view thereof;

Fig. 3 is an elevation thereof looking at Fig. 1 from the right hand side;

Fig. 4 is a fragmentary section taken on lines 4—4 of Fig. 3 and looking in the direction of the arrows;

Fig. 5 is a fragmentary section taken on line 5—5 of Fig. 1 and looking in the direction of the arrows;

Fig. 6 is a fragmentary section taken on lines 6—6 of Fig. 1 and looking in the direction of the arrows;

Fig. 7 is a fragmentary vertical section of a closure complete with closure plug, showing the capseal of Fig. 1 applied thereto;

Fig. 8 is a view, similar to Fig. 5, of a capseal formed with a gasket continuous all over the inner surface thereof;

Fig. 9 is a view, similar to Fig. 1, of a modified form of capseal omitting the ears or tabs;

Fig. 10 is a vertical section taken on lines 10—10 of Fig. 9 and looking in the direction of the arrows;

Fig. 11 is a fragmentary vertical section taken on lines 11—11 of Fig. 9 and looking in the direction of the arrows;

Fig. 12 is a top plan view of a capseal similar to that of Fig. 1 but employing a modified form of scoring;

Fig. 13 is a bottom plan view thereof;

Fig. 14 is a view similar to Fig. 12 of a capseal embodying a further modification of scoring;

Fig. 15 is a bottom plan view of the capseal of Fig. 14;

Fig. 16 is a top plan view of a capseal employing a further scoring modification; and

Fig. 17 is a bottom plan view thereof.

The main parts of the preferred form of capseal, shown in Figs. 1 to 6, are the disc-like top generally indicated at 1 and the downwardly extending surrounding skirt generally indicated at 2. The top 1, as here shown, has a centre portion 3 surrounded by a depressed portion 4. In the reverse, this may be considered as the centre portion 3 being raised to encompass the head 5 of a plug 6 as seen by reference to Fig. 7. The invention is not, however, limited by this relationship of raised and depressed portions since the relationship here is solely for the purpose of encompassing the particular plug 6 and effecting a gasketing action against the bead 7 of the flange 8 into which the plug 6 is threaded. Other forms of plugs might well require different cap top formations to encompass them. Thus the various formations that the top could take could include a top that is a completely flat disc, without any depression, a top whose centre section 3 is raised considerably more than that shown in order to encompass a plug with a raised head or a head with raised formations thereon, or the reverse where the centre section is depressed. It is to be understood then that the relationship here shown and described is merely illustrative and that a well known form of plug and flange relationship has been selected to assist in that illustration.

The skirt generally indicated at 2 is cylindrical in formation, as indicated at 9. It extends laterally with respect to the head 1, departing from the depressed portion 4 thereof in a radius 10. The cylindrical portion 9, as best illustrated in Fig. 7, should preferably be of such length that, when the capseal is crimped in place over the container wall opening, the bottom edge 11 of the skirt will either engage with the upper surface of the container wall material 12 at the position 13, or come very close to engagement therewith, so as to preclude the insertion beneath the edge 11 of a tool capable of prying the capseal loose without destroying it.

The capseal here shown is provided with tabs 14 and 15 which are formed as a continuation of the skirt 2 and extend outwardly from the edge 11 thereof. Preferably there is a pair of these tabs 14 and 15, one at each end of a diameter of the cap, but one or the other may be omitted if desired. Furthermore one of the tabs is preferably perforated, as shown at 16, for the attachment of a suitable tag or label.

It is desired that capseals should give protection against unauthorised removal and, consequently, against pilferage or contamination of the contents of the container. It is also desired that they provide a liquid-tight seal against leakage of the contents of the container, as well as against breathing or sucking in of moisture vapour or other impurities from the outside should the plug gasket 17 fail in any way or should the capseal be employed without the plug. It is nevertheless desired that such capseals be readily removable in authorised manner. This authorised removal should be capable of being performed easily and quickly without too much effort on the part of the workman and without the possibility of the workman cutting or otherwise injuring himself.

Authorised removal is provided for in the present case by a pair of continuous parallel scores extending into the material of the capseal for a substantial distance from the inner surface thereof. These scores commence at the edge 11 of the skirt 9 as best shown at 18 and 19 in Fig. 6, their commencement being in alignment with the departure of the sides of the tab 15 from the edge 11. From there the scores extend preferably in parallel relationship up the skirt at 20 and 21, run continuously around the radius 10, across the depression 4, up under the top 3 and across that top in parallel portions 22 and 23 to the opposite side of the skirt where they continue on downwardly to terminate at the free edge 11 in alignment with the sides of the tab 14.

Preferably these scores are actual die cuts made in the material rather than being mere distortions of the material. This preference is dictated by several factors. One is that the material is generally of such thickness that mere ribbing or embossing of the capseal material would not effect a weakening of it to an extent to enable the capseal to be readily destroyed when desired. Furthermore such ribbing would project upwardly from the outer surface of the capseal and would thus interrupt or interfere with the showing of the customer's trade mark with which the tops of these capseals are usually lithographed. This is important, for the fillers of drums who capseal them generally want capseals carrying their trade mark or other identification, and want that identification to stand out clearly and to make as good a showing as possible. When the scoring is by means of an actual die cut into the material, such drawbacks are eliminated. In other words the capseal, while making a tight closure prior to destruction, is fully effective for the purpose intended but, at the same time, may be readily destroyed by grasping one of the tabs and pulling it up the skirt and across the top. Furthermore such die cutting leaves the top surface substantially smooth and uninterrupted. The cutting, as best shown at 20 and 21 in Fig. 4, and at 22 and 23 in Fig. 6, is in the form of a sharp deep **V**. The forming of such a cut has balked previous efforts to provide economical gasketing for the prevention of leakage.

In the gasketing of previously-known capseals against leakage, preformed gaskets were used which were seated in place in the capseals and secured there by means of a suitable adhesive. The materials employed, to be effective for gasketing purposes, had to be resilient. Such materials as could be economically provided were relatively incapable of flowing out of their normal shape into small spaces and staying there. Thus if a score, or small depression, in the material passed behind the gasket, there was no assurance that the gasket material would be forced into such score or depression to a sufficient extent to close it off against leakage or breathing in of moisture. Hence the only really safe course was to interrupt the scores at the position where the gasket would lie against the inner surface of the capseal. This interruption immediately rendered the capseals difficult to remove and practically precluded the use of tabs for removal, since the skirt portion, carrying the tab, would be likely to tear off at the top of the skirt, whereas tearing across the disc-like top of the cap was necessary to enable the capseals to be removed effectively. Furthermore, such gaskets being preformed rather necessarily, from the practical and economic standpoint, had to be of rectangular shape in cross-section, to facilitate such forming. Thus they could not be contoured on their outer faces to fit any particular opposed surface.

These drawbacks have been largely eliminated by the gasketing of capseals in accordance with the present invention and additional improvements have been introduced into the art thereby. Here, as already pointed out, the scoring of the capseal is continuous from one free edge of the skirt up over the top of the cap and down to the opposite free edge. Thus if the scoring were not filled at the positions where the gasket crossed it, the likelihood of leakage would be present. The capseal of the invention is scored in the flat with continuous scores. Then it is formed into the cup-shape. Next it is seated on a suitable holder and spun at a substantial rate of speed while gasketing material, in fluid form, is introduced into it around the border of the top beneath the depression 4. The gasketing material is such as to be capable of flowing freely into desired position while in the fluid form but, after a quick curing, it hardens up into a resilient, fully effective gasket. Such a gasket is shown at 24 in Figs. 2, 4, 5 and 6. From that showing it is clear that the gasket lies across the open scores. It is further seen, from the enlarged

showing in Fig. 4. that V-shaped sections of the gasket material have flowed into and filled the score sections 20 and 21 at 25 and 26. Nevertheless there is no resulting deformation on the outer surface 27 of the gasket but, rather, it follows in a continuous smooth curve.

Not only does the gasket material flow into the portions of the score 20 and 21, which run up the skirt 9, but also, as seen in Fig. 5, it follows around the radius 10 and under the depression 4 and fills the score wherever it overlies it. This takes place even though, as best seen in Fig. 5, the exterior surface of the gasket adopts a rather smooth curve formation commencing at a thin edge at 28, thickening as it proceeds upwardly and terminating in another thin edge at 29.

The outer contour of the gasket just referred to is of importance from the standpoint of the manner in which the finished gasket flows when the capseal is secured in place on a closure. This feature is illustrated in Fig. 7 where the capseal gasket 24 starts by engaging with the rim of the plug head 5, extends between the depression 4 of the capseal and the top of the flange bead 7 and follows around that bead, between it and the radius 10, and part way down the skirt, terminating adjacent the lower end of the bead. Thus, regardless of possible surface irregularities of the flange bead, the gasket follows the surface of that bead around to a sufficient extent, and is held against it by the cap in such a manner, that surface irregularities are filled in and effective gasketing is assured. The gasket is trapped and can flow only around this curve since its inner end comes against the plug head 5 and its outer or bottom end is trapped between the bead and the cap skirt where the cap skirt turns in to underlie the bead.

A suitable gasketing material, capable of being applied as above described and operable to flow when cured as described, is presently marketed under the name of Darex (Registered Trade Mark) by Dewey and Almy Chemical Company. The invention is not so limited, however, but, rather, it embraces the various materials suitable for this purpose. Generally speaking the material should be of a nature that, when initially heated, it will be substantially fluid but, when cooled from such fluid state, it will turn into a rubber-like gel and remain permanently that way.

As an alternative to the system shown in Fig. 1 of removing the capseals by grasping a tab and tearing up the skirt, an additional transverse score is provided at 30, preferably in the centre of the cap top. This score is formed into the material of the cap and stops just short of the parallel scores 22 and 23. The seal may be destroyed and removed, through the use of this score, by merely driving a screwdriver through the score 30, prying up the material of the seal at one side of the break and tearing along the parallel scores by using pliers or other suitable gripping instrument.

An alternative form of gasketing for the form of continuously scored capseal shown in Figs. 1 and 2, is shown in fragmentary section in Fig. 8. Here the gasketing material 31 not only lies part way up the skirt 9, as shown at 32, around the radius 10, as shown at 33, and across the depressed part 4 but, also, continues up the incline, as at 33, to lie underneath the raised top portion 3 and all the way across such portion. Thus the gasketing material forms a complete covering over the inner surface of the capseal and fills the scores throughout the whole of their extent from the outer end of the bead 7, inward over the whole of the cap surface.

Heretofore, even with scores interrupted at the normal gasket seat it has been difficult to protect the contents of the container, particularly where no plugs were used, from getting in contact with the raw metal in the scores. Discs of various materials were used, sometimes made up of layers of different materials, but little success was achieved in finding a commercial, economical arrangement. By adopting the Fig. 8 form, however, the problem is completely solved, all in one application of gasketing material.

In gasketing the cap of the Fig. 8 form, the fluid material is applied to the cap in the proper position while the cap is spinning. This causes a layer of adequate thickness to be formed over all of the surface of the cap, including the filling of the scoring. In addition the centrifugal force involved causes the gasketing material to build up to the form of a full gasket at 32, substantially the same as the gasket 24 of the previous form. Thus the contents of the container are protected from coming in contact with the metal of the cap and particularly from contacting that metal which might otherwise be in the raw unfinished state, having been scored. The gasket material here, due to its nature and manner of application, adheres readily to the inner surface of the cap throughout the same as does the gasket 24.

In the modification shown in Figs. 9, 10 and 11 the construction is the same as that shown in Figs. 1 to 6, except that the tabs 14 and 15 have been omitted. The same reference characters have been accordingly used. The starting positions 18 and 19 of the score portions 20 and 21 are properly spaced on the free edge 11 positions rather than being on either side of a tab, as in the previous figures. Again the continuous scores are filled by the extending portions of gasket 24, where that gasket overlies them. The scores continue across the top in scored

portions 22 and 23 and then run down the opposite side. Removal of this capseal must, however, be achieved by fracturing the top of the cap along the cross-score 30 by then grasping the material on one side of the fracture and tearing along the lines 22 and 23.

A capseal with another form of highly effective scoring, which, however, could not heretofore be employed, is shown in Figs. 12 and 13. Like the capseal of Figs. 1 and 2 this cap has a disc-like top 31 recessed downward at 32, with a laterally extending skirt 33 around its periphery and with tabs 34 and 35 extending outwardly from the edge thereof. Parallel scores are formed in the skirt, commencing in alignment with each side of the tabs as indicated at 36 and 37. These scores extend up the skirt and turn inwardly under the recessed portion where they communicate with scores 38 and 39. The score 39 extends continuously across the top of the cap into engagement with the side score at the opposite side of the opposed ear 34, while the scores 38 extend in parallel relationship for a substantial distance across the top but terminate at ends 40 just before they come into engagement with the diagonal score 39. Again a gasket 41 is flowed into the cap around the periphery of the interior thereof, filling the scores 38 and 39 where it crosses them.

This form of scoring takes advantage of the natural inclination to tear the material along somewhat of a diagonal, thus making the job of tearing a little easier for the workmen. Furthermore the cap is somewhat stronger since only one score line extends all the way across it. A further modification of scoring is illustrated in Figs. 14 and 15. Here the top 42 is depressed at 43 and has a laterally extending skirt 44 projecting downwardly as in the previous forms. Tabs 45 and 46 extend outwardly from the bottom edge of the skirt 44 and score lines commence at either side of the tabs 45 and 46, as shown at 47 and 48, extending up the skirt and around on top of the same. These scores may be parallel as they extend up the skirt but may also converge somewhat in that extent. From the top of the skirt, however, the continuing scores converge sharply as seen at 49 and 50, and end up in a single score portion 51. This latter extends across the centre of the cap to the opposite pair of converging, or, in this instance, diverging scores. Again a flowed-in gasket 52 borders the interior of the cap and fills the diagonal scores 49 and 50 where it crosses them as well, of course, as filling the portions of the skirt scores 47 and 48 where it overlies them.

Normally the tearing of one tab to where the scores 50 and 49 converge into the line 51 should be sufficient to enable this cap to be lifted off. If not, however, a rap on the line 51 would cause it to fracture and the cap to pop off.

An extension of the idea of a single score line is illustrated at Figs. 16 and 17. Here the cap, like that of Fig. 9, is devoid of tabs, has a top 53 with a depressed portion 54 therearound and has a laterally extending skirt 55 extending downward from the portion 54. Here a single internal score runs up the inside of the skirt, at one end of a diameter, runs across the top and down the skirt at the opposite end of the diameter. A flowed-in gasket 56 fills the portion of this scoring, extending across the top where the gasket overlies it, and also fills the portion extending down the skirt on each end of the diameter where the gasket extends down alongside that skirt.

This capseal is highly effective when applied, and it may be removed with remarkable ease. A sharp rap on the score portion 57 running across the top of the cap, not only fractures that portion but is also likely to fracture one or both of the portions 58 running down the skirt. This results in the cap popping off without any more needing to be done.

What we claim is:—

1. A capseal for container closures comprising a disc-like top and a skirt extending laterally therefrom around the periphery thereof, an internal score or scores formed in the material of said capseal, said score or scores being continuous and extending at least part way across said top thereof and continuing downwardly to the bottom of said skirt, a gasket received within said capseal and secured to the undersurface thereof, said gasket having a portion or portions extending into and filling said score or scores where it crosses the same.

2. A capseal according to Claim 1, wherein the capseal is formed of a thin sheet metal and the score has portions extending from the bottom of the skirt at opposite ends of the diameter of the disc-like top and a joining portion extending across said top and joining with said skirt scores where said top and skirt depart from each other, the gasket being arranged within said capseal in engagement with the undersurface of said top, and crossing said top score at opposite ends thereof.

3. A capseal according to Claim 1 or 2, wherein a pair of scores are formed into the material of said capseal from the inner surface thereof, said scores commencing at the bottom edge of said skirt and extending up the same in substantially parallel relationship, said scores continuing up said skirt past the periphery of the disc-like top where said top and skirt come together and inwardly part way across said top.

4. A capseal according to Claim 3, wherein a tearing tab is provided forming part of said skirt and extending away from the free

portions 22 and 23 and then run down the opposite side. Removal of this capseal must, however, be achieved by fracturing the top of the cap along the cross-score 30 by then grasping the material on one side of the fracture and tearing along the lines 22 and 23.

A capseal with another form of highly effective scoring, which, however, could not heretofore be employed, is shown in Figs. 12 and 13. Like the capseal of Figs. 1 and 2 this cap has a disc-like top 31 recessed downward at 32, with a laterally extending skirt 33 around its periphery and with tabs 34 and 35 extending outwardly from the edge thereof. Parallel scores are formed in the skirt, commencing in alignment with each side of the tabs as indicated at 36 and 37. These scores extend up the skirt and turn inwardly under the recessed portion where they communicate with scores 38 and 39. The score 39 extends continuously across the top of the cap into engagement with the side score at the opposite side of the opposed ear 34, while the scores 38 extend in parallel relationship for a substantial distance across the top but terminate at ends 40 just before they come into engagement with the diagonal score 39. Again a gasket 41 is flowed into the cap around the periphery of the interior thereof, filling the scores 38 and 39 where it crosses them.

This form of scoring takes advantage of the natural inclination to tear the material along somewhat of a diagonal, thus making the job of tearing a little easier for the workmen. Furthermore the cap is somewhat stronger since only one score line extends all the way across it. A further modification of scoring is illustrated in Figs. 14 and 15. Here the top 42 is depressed at 43 and has a laterally extending skirt 44 projecting downwardly as in the previous forms. Tabs 45 and 46 extend outwardly from the bottom edge of the skirt 44 and score lines commence at either side of the tabs 45 and 46, as shown at 47 and 48, extending up the skirt and around on top of the same. These scores may be parallel as they extend up the skirt but may also converge somewhat in that extent. From the top of the skirt, however, the continuing scores converge sharply as seen at 49 and 50, and end up in a single score portion 51. This latter extends across the centre of the cap to the opposite pair of converging, or, in this instance, diverging scores. Again a flowed-in gasket 52 borders the interior of the cap and fills the diagonal scores 49 and 50 where it crosses them as well, of course, as filling the portions of the skirt scores 47 and 48 where it overlies them.

Normally the tearing of one tab to where the scores 50 and 49 converge into the line 51 should be sufficient to enable this cap to be lifted off. If not, however, a rap on the line 51 would cause it to fracture and the cap to pop off.

An extension of the idea of a single score line is illustrated at Figs. 16 and 17. Here the cap, like that of Fig. 9, is devoid of tabs, has a top 53 with a depressed portion 54 therearound and has a laterally extending skirt 55 extending downward from the portion 54. Here a single internal score runs up the inside of the skirt, at one end of a diameter, runs across the top and down the skirt at the opposite end of the diameter. A flowed-in gasket 56 fills the portion of this scoring, extending across the top where the gasket overlies it, and also fills the portion extending down the skirt on each end of the diameter where the gasket extends down alongside that skirt.

This capseal is highly effective when applied, and it may be removed with remarkable ease. A sharp rap on the score portion 57 running across the top of the cap, not only fractures that portion but is also likely to fracture one or both of the portions 58 running down the skirt. This results in the cap popping off without any more needing to be done.

What we claim is:—

1. A capseal for container closures comprising a disc-like top and a skirt extending laterally therefrom around the periphery thereof, an internal score or scores formed in the material of said capseal, said score or scores being continuous and extending at least part way across said top thereof and continuing downwardly to the bottom of said skirt, a gasket received within said capseal and secured to the undersurface thereof, said gasket having a portion or portions extending into and filling said score or scores where it crosses the same.

2. A capseal according to Claim 1, wherein the capseal is formed of a thin sheet metal and the score has portions extending from the bottom of the skirt at opposite ends of the diameter of the disc-like top and a joining portion extending across said top and joining with said skirt scores where said top and skirt depart from each other, the gasket being arranged within said capseal in engagement with the undersurface of said top, and crossing said top score at opposite ends thereof.

3. A capseal according to Claim 1 or 2, wherein a pair of scores are formed into the material of said capseal from the inner surface thereof, said scores commencing at the bottom edge of said skirt and extending up the same in substantially parallel relationship, said scores continuing up said skirt past the periphery of the disc-like top where said top and skirt come together and inwardly part way across said top.

4. A capseal according to Claim 3, wherein a tearing tab is provided forming part of said skirt and extending away from the free

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edge of the same, and the two internal scores commence at the free edge of said skirt, one on either side of said tab.

5. A capseal according to Claim 3 or 4, wherein the scores commence at the free edge of the skirt at one end of a diameter of the capseal and extend within the same continuously up the skirt, across the disc-like top and down the skirt at substantially the opposite end of said diameter, and the gasket is a flowed-in gasket secured to the undersurface of the top of the capseal.

6. A capseal according to Claim 5, wherein the surface of the gasket continues smoothly over the scores.

7. A capseal according to Claim 5 or 6 and including a cross score between said parallel scores at substantially the mid-point of the disc-like top.

8. A capseal according to any one of Claims 1 to 4, wherein pairs of parallel scores are formed in the interior of the skirt at opposite ends of a diameter of the disc-like top, and a diagonal score extends across said top, said diagonal score commencing at the top end of one score of one of said pairs of skirt scores and terminating at the top end of the remote score of the other of said pairs of skirt scores, the gasket being a flowed-in gasket provided within said top and extending around the periphery thereof.

9. A capseal according to Claim 8 and including parallel scores extending part way across said top and commencing at the other score of each of said pairs of skirt scores.

10. A capseal according to any one of Claims 1 to 4, wherein pairs of spaced scores are formed in the interior of the skirt at opposite ends of a diameter of the disc-like top, said skirt scores extending from the bottom free edge of said skirt to the position where said skirt and said top came together, pairs of converging scores being formed in said top in the undersurface thereof, said converging scores commencing at the top ends of the skirt scores and converging to points part way across said top, and a single score joining said points of convergence.

11. A method of forming a capseal for container closures, wherein the capseal is formed with continuous internal scores and provided with an internal gasket by flowing the gasket material into the capseal with the gasket material in sufficiently fluid state to enable it to flow into and fill the scores where the gasket crosses them.

12. A capseal for a container closure, substantially as hereinbefore described with reference to Figs. 1 to 7, Fig. 8, Figs. 9 to 11, Figs. 12 and 13, Figs. 14 and 15 or Figs. 16 and 17 of the accompanying drawings.

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