July 9, 1974 MITSUJI YAMAGUCHI 3,823,058

FOLD-OVER FACE-TYPE FLOOR MAT

Filed Nov. 6, 1972 9 Sheets-Sheet 1

Fig. 1

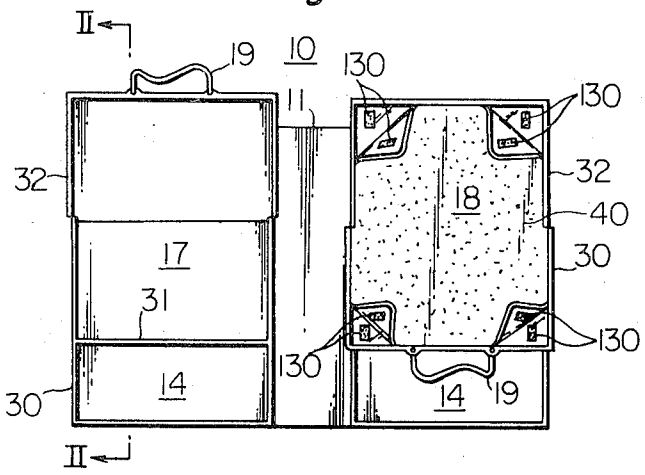


Fig. 2

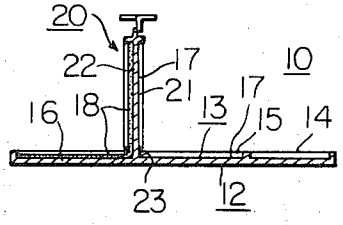


Fig. 3

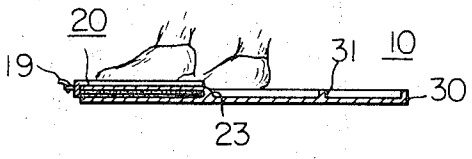


Fig. 4

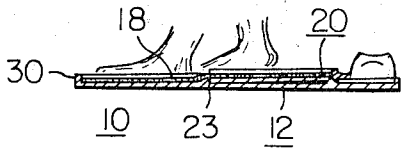


Fig. 5

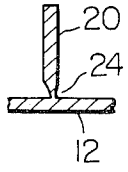


Fig. 6

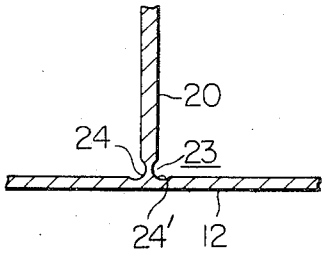


Fig. 7

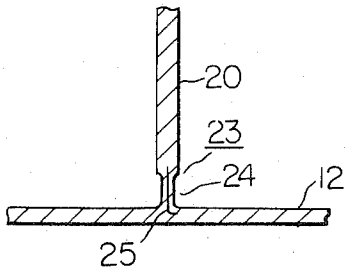


Fig. 8

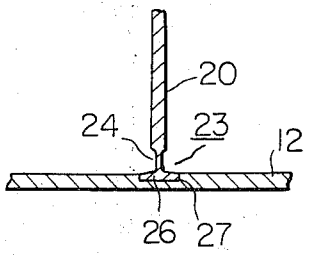


Fig. 9

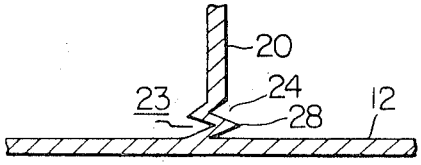


Fig. 10

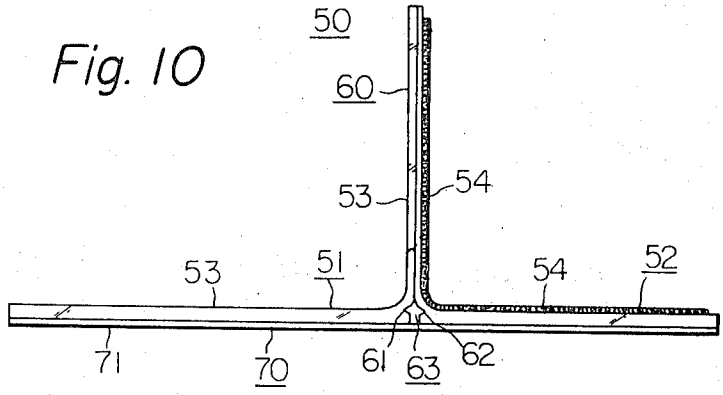


Fig. 11

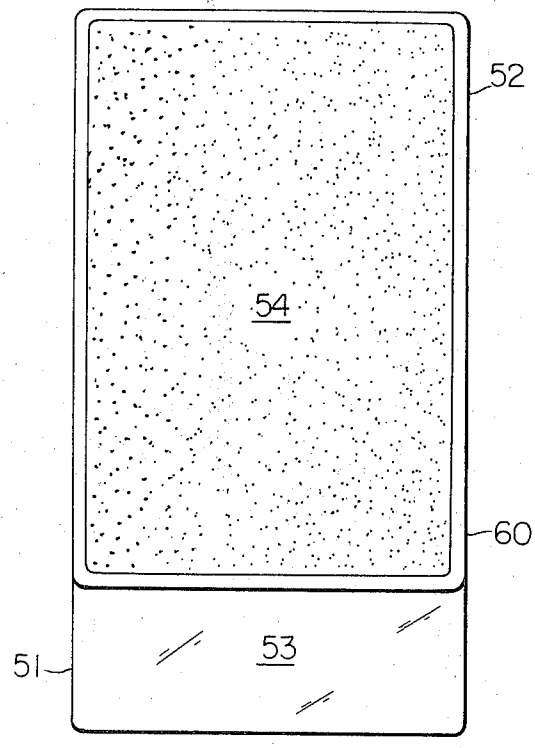


Fig. 12

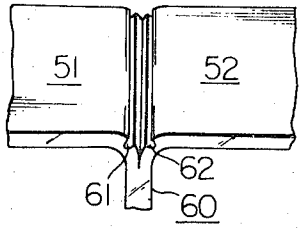


Fig. 13

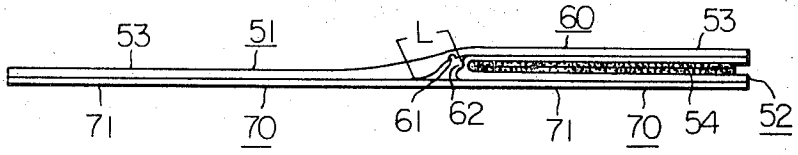


Fig. 14

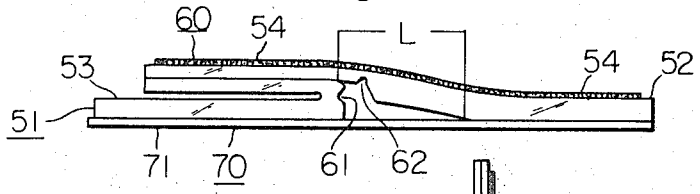


Fig. 15

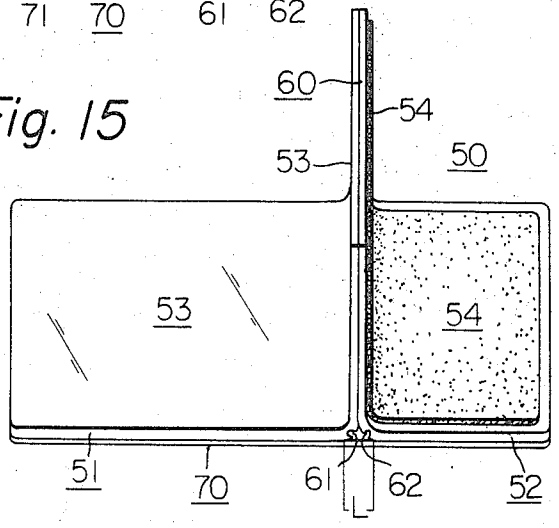


Fig. 16

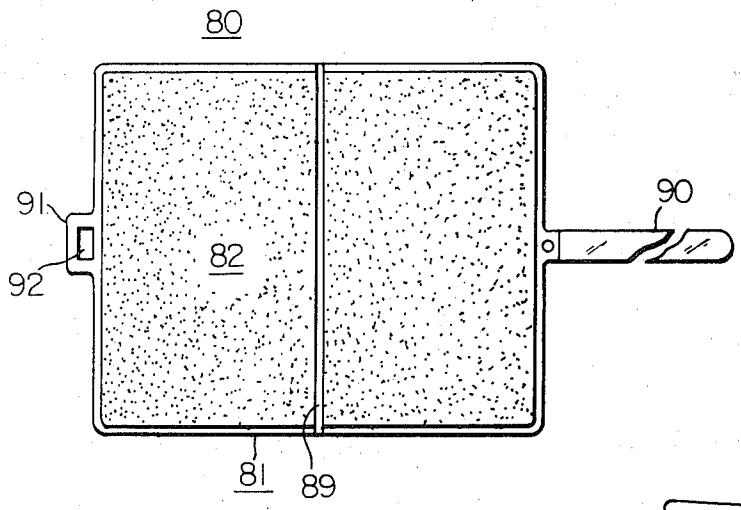


Fig. 17

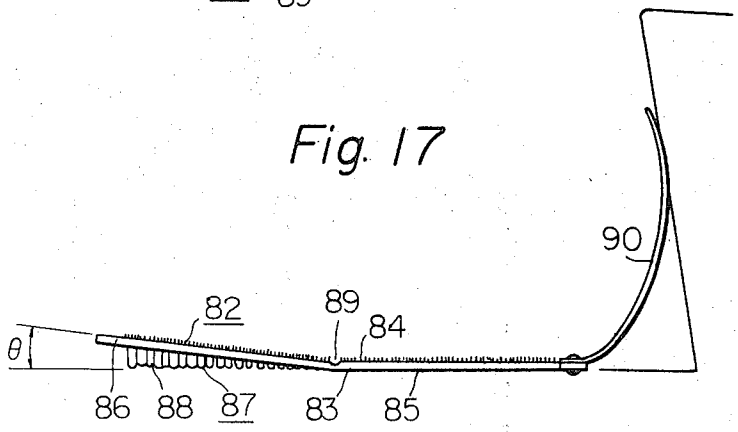


Fig. 18

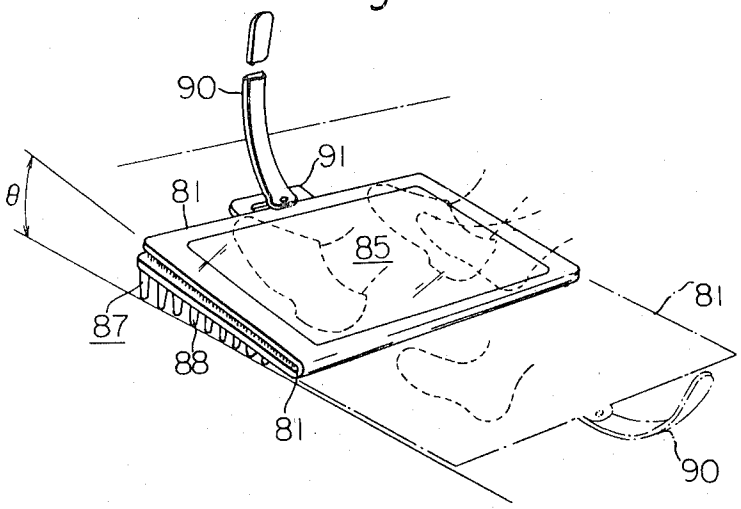
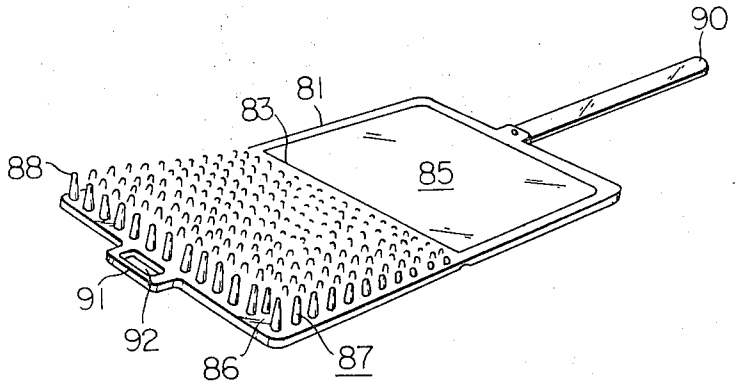


Fig. 19



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FOLD-OVER FACE-TYPE FLOOR MAT

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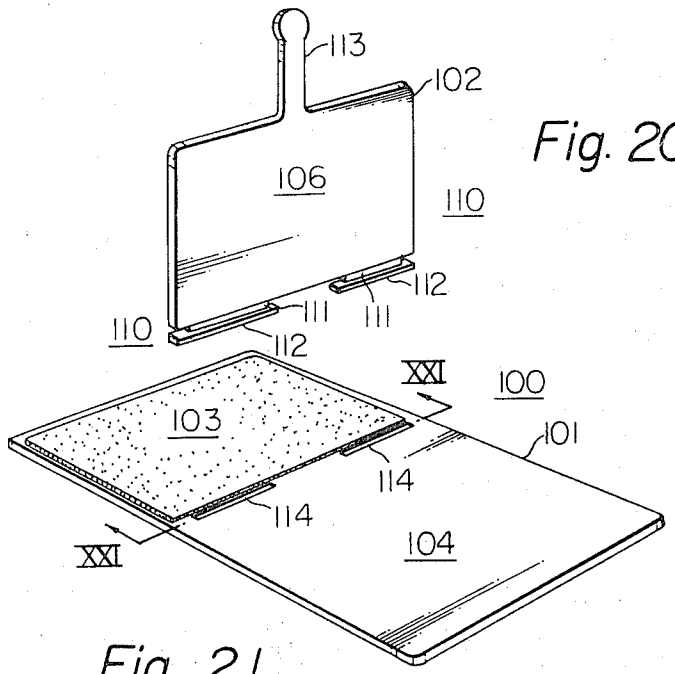


Fig. 20

Fig. 21

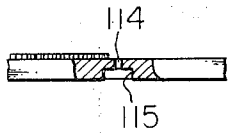


Fig. 22

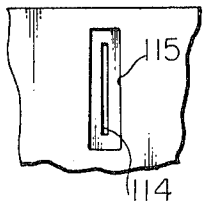
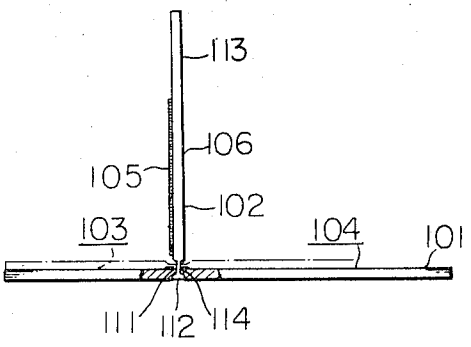


Fig. 23



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FOLD-OVER FACE-TYPE FLOOR MAT

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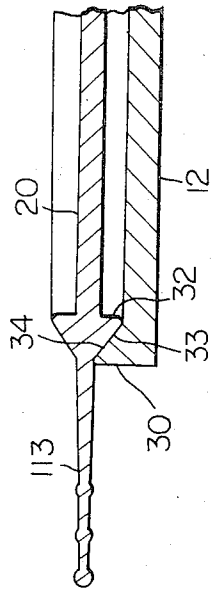


Fig. 24

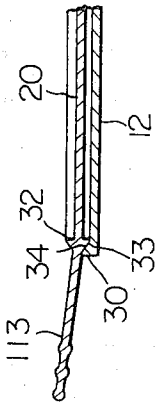


Fig. 25

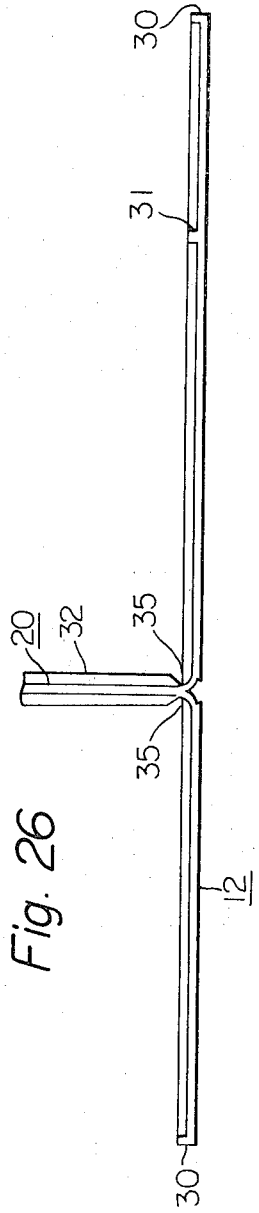


Fig. 26

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FOLD-OVER FACE-TYPE FLOOR MAT

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Fig. 27

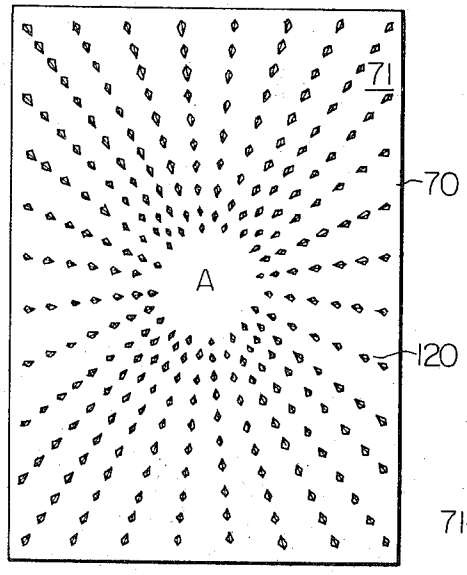


Fig. 29

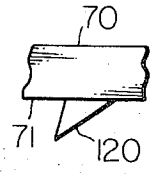


Fig. 30

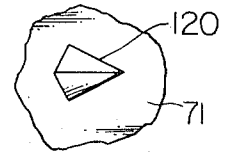


Fig. 31

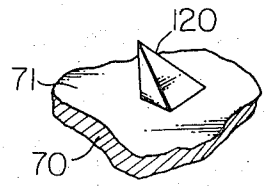


Fig. 28

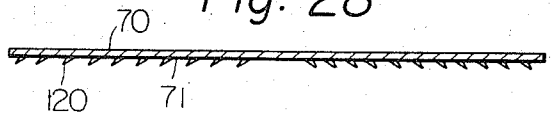


Fig. 32

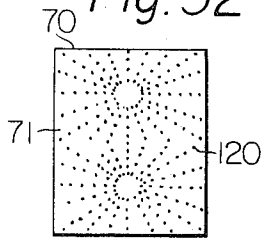
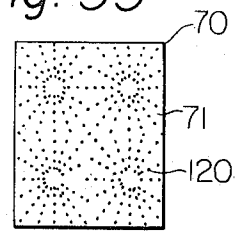


Fig. 33



United States Patent Office 3,823,058
Patented July 9, 1974

3,823,058

FOLD-OVER FACE-TYPE FLOOR MAT

Mitsuji Yamaguchi, Toyoyama-mura, Japan, assignor to Universal Climb Co., Ltd., Nagoya, Japan

Filed Nov. 6, 1972, Ser. No. 303,818
Int. Cl. B32b 3/00; B62d 25/20
U.S. Cl. 161—119 15 Claims

ABSTRACT OF THE DISCLOSURE

A fold-over face-type floor mat which comprises a flexible base sheet member and a flexible reversible face member integrally formed with or detachably secured to the base sheet member in the center in the longitudinal direction of the latter to divide the upper surface of the sheet member into two half surface portions. The reversible face member normally lies on either one of the two half surface portions of the base sheet member and is manually reversed. One face of the reversible face member provides a foot-in-footgear support face in cooperation with one of the two half surface portions of the base sheet member and the other face provides a bare foot support face in cooperation with the other half surface portion of the base sheet member. The bare foot support face may be covered with a cloth cover sheet or carpet which is detachably secured to the face or has short fiber pile embedded therein. The reversible face member may be alternatively formed by gluing portions of two identical flexible base sheet members together back to back.

BACKGROUND OF THE INVENTION

This invention relates to fold-over face-type floor mat suitable for use on the floor of a vehicle.

A variety of mat devices for use on the floor of a vehicle have been proposed up to now. Most of the conventional vehicle floor mat devices have been formed of a single sheet of one material.

The vehicle floor mat device was principally employed as a foot-in-footgear support means on which the occupant of a vehicle who may be the driver or passenger placed his foot-in-footgear and therefore, when the occupant desired to place his bare feet on the mat device, he had to spread a sheet or sheets of old newspaper or other available sheets over the mat device and then place his bare feet on the newspaper sheet or sheets.

Thus, the conventional vehicle floor mat devices could not readily conform to the vehicle occupant's demand who desired to place his bare foot on the mat device as he rides in the vehicles.

As far as we know, the conventional vehicle floor mat devices failed to provide the very advantageous arrangements, combinations and operative effects of component parts obtainable by the present invention as will be described hereinafter as the description of preferred embodiments of the invention progresses.

SUMMARY OF THE INVENTION

Therefore, one primal object of the present invention is to provide a fold-over face-type floor mat for use on the floor of a vehicle the face of which can readily be reversed in conformity with the occupant's desire and which comprises a flexible base sheet member and a flexible reversible face member integrally formed with or detachably secured to the base sheet member in the center in the longitudinal direction of the sheet member to divide the upper surface of the sheet member into two half surface portions, one face of said reversible face member providing a foot-in-footgear support face in cooperation with one of said two half surface portions and the other face providing a bare foot support face in cooperation with the other half surface portion of the base sheet member whereby the reversible face member can present either the foot-in-footgear support face or bare foot support face as the occupant desires and a comfortable foot rest is given to the occupant.

Another object of the present invention is to provide a fold-over face-type floor mat for use on the floor of a vehicle which comprises a pair of flexible sheet members in the same plane portions which are secured together in back to back relationship to provide a reversible face member which normally extends in a plane substantially parallel to the plane of the pair of base sheet members and which has one face on one side which provides a foot-in-footgear support face in cooperation with the upper surface of the remaining portion of one of the two base sheet members and the other face on the other side which provides a bare foot support face in cooperation with the remaining portion of the other base sheet member, said remaining portions of the two base sheet members extending in the opposite directions to define an included angle below their juncture and having transverse folding notches cut in the underside thereof adjacent to said juncture whereby the reversible face member can readily expose the foot-in-footgear support face or bare foot support face to the occupant as the case may be.

Another object of the present invention is to provide a fold-over face-type floor mat for use on the floor of a vehicle which comprises a single flexible foldable sheet member which has a bare foot support face provided by the entire upper surface of the sheet member and a foot-in-footgear support face provided by one-half portion of the underside of the sheet member whereas the other half portion of the underside of the sheet member is provided with an inclined buffering face whereby the buffering face gives a suitable inclination to both the bare foot and foot-in-footgear support faces for supporting the occupant's foot which inclines in conformity with the occupant's position on his seat within the vehicle.

Another object of the present invention is to provide a fold-over face-type floor mat for use on the floor of a vehicle which is particularly suitable for mass production at low cost while maintaining its good appearance and without impairing its commercial value which comprises a single flexible sheet member and a flexible reversible face member extending transversely of and detachably secured to the base sheet member in the center in the longitudinal direction of the base sheet member to divide the upper surface of the base sheet member into two half portions and having one face on one side which provides a foot-in-footgear support face in cooperation with one of the two half surface portions and the other face on the opposite side which provides a bare foot support face in cooperation with the other half surface portion.

A further object of the present invention is to provide a fold-over face-type floor mat device for use on the floor of a vehicle in which the base sheet member and reversible face member which are provided with foot-in-footgear and bare foot support faces, respectively, are provided with projections along the peripheral edges extending at right angles with respect to the planes of the respectively associated members and the projections are adapted to engage with each other when the reversible face member is placed against the base sheet member whereby when the foot-in-footgear support face is employed, the bare foot support face is protected against dirt, moisture and the like.

A still further object of the present invention is to provide a fold-over face-type floor mat for use on the floor of a vehicle in which the underside of the flexible base sheet member is provided with a plurality of projections extending downwardly where the sheet member contacts the vehicle floor and arranged radially as means for holding the mat device in position against movement

relative to the vehicle floor. The above and other objects and attendant advantages of the present invention will be more readily apparent to those skilled in the art from a reading of the following detailed description referring to the accompanying drawings which show preferred embodiments of the invention for illustration purpose only, but not for limiting the scope of the invention in any way.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of a first embodiment of fold-over face-type floor mat for use on the floor of a vehicle embodying the present invention showing the device in one operative condition;

FIG. 2 is a cross-sectional view taken substantially along the line II—II of FIG. 1 showing the reversible face member standing uprightly;

FIG. 3 is a cross-sectional view of the device of FIG. 1 showing when the reversible face member lies against the base sheet member so as to expose the foot-in-footgear support face;

FIG. 4 is a cross-sectional view of the device of FIG. 1 showing when the reversible face member lies against the base sheet member so as to expose the foot-in-footgear support face;

FIG. 5 is a fragmentary cross-sectional view of a modification of the connection between the base sheet member and reversible face member shown in FIG. 2;

FIG. 6 through 9 inclusive are fragmentary cross-sectional views of other modifications of the connection between the base sheet member and reversible face member shown in FIG. 2;

FIG. 10 is a side elevational view of another embodiment of fold-over face-type floor mat of the invention showing the reversible face member standing upright;

FIG. 11 is a plan view of said device of FIG. 10;

FIG. 12 is a fragmentary perspective view of said device of FIG. 10 as seen from the underside thereof showing the joint between the pair of sheet members in the embodiment of FIG. 10;

FIG. 13 is a side elevational view of a modification of said device of FIG. 10;

FIG. 14 is a side elevational view of said device of FIG. 13 showing the device in an operative condition different from that shown in FIG. 13;

FIG. 15 is a perspective view of said device shown in FIGS. 13 and 14;

FIG. 16 is a plan view of a further different embodiment of fold-over face-type floor mat for use on the floor of a vehicle embodying the present invention showing the device in one operative condition;

FIG. 17 is a side elevational view of the device of FIG. 16;

FIG. 18 is a perspective view of said device of FIG. 16 showing the device in an operative condition different from that shown in FIG. 16;

FIG. 19 is a perspective view showing the reverse side of the device shown in FIG. 16;

FIG. 20 is an exploded perspective view of a still further different embodiment of fold-over face-type floor mat embodying the present invention;

FIG. 21 is a fragmentary cross-sectional view taken along substantially the line XXI—XXI of FIG. 20 with portion thereof taken away and the reversible face member eliminated therefrom;

FIG. 22 is a fragmentary plan view of said device of FIG. 20 showing the underside thereof;

FIG. 23 is a side elevational view in partial section of said device of FIG. 20 with the reversible face member connected to the base sheet member;

FIG. 24 is a fragmentary longitudinally sectional view of a still further different embodiment of fold-over face-type floor mat of the invention showing a modified peripheral edge rim arrangement employed in the device;

FIG. 25 is a longitudinally sectional view of a modification of said peripheral edge rim arrangement of FIG. 24;

FIG. 26 is a longitudinally sectional view of a modification of said fold-over face-type floor mat shown in FIG. 10;

FIG. 27 is a plan view showing an arrangement of resilient projections which may be provided in the floor contacting or base sheet member of any of the fold-over face-type floor mat as shown in FIGS. 1, 10 and 20 in order to prevent the floor mat against movement relative to the floor of a vehicle;

FIG. 28 is a side elevational view of the floor contacting member having said resilient projections thereon as shown in FIG. 27;

FIG. 29 is a fragmentary side elevational view on an enlarged scale of one of said resilient projections shown in FIG. 27;

FIG. 30 is a plan view of FIG. 29;

FIG. 31 is a perspective view of FIG. 29; and

FIGS. 32 and 33 are plan views of other embodiments of resilient projections.

PREFERRED EMBODIMENTS OF THE INVENTION

The present invention will be now described referring to the accompanying drawings and more particularly, to FIGS. 1 through 4 inclusive in which a first embodiment of fold over face-type floor mat for use on the floor of a vehicle is shown. In FIG. 1, two foot support devices connected side by side by means of a flexible connection web **11** are shown; one of the devices is for the driver and the other is for the passenger, for example. Since the two foot support devices are identical, description will be made of only one of them with the understanding that the description applies equally to the other device.

The fold-over face-type floor mat **10** generally comprises a flexible rectangular base sheet member **12** having the upper surface **13** one end portion **14** of which is set aside as a doffed footgear receiving face defined in the manner as will be described hereinafter. The remaining portion of the base sheet member surface **13** is divided into two surface portions **15** and **16** of substantially the same area for the purpose to be described hereinbelow. A rectangular flexible reversible face member **20** is integrally formed with the base sheet member extending transversely of the sheet member at the junction between the two surface portions **15** and **16** in the manner and for the purpose as will be described hereinbelow.

The reversible face member **20** has a first face **21** on one side which is contiguous to the surface portion **15** of the surface **13** and provides a foot-in-footgear support face **17** together with the associated surface portion when the reversible face member **20** falls against the other surface portion **16** of the surface **13** and a second face **22** on the opposite side which is contiguous to the surface portion **16** of the surface **13** and provides a bare foot support face **18** together with the associated surface portion when the reversible face member **20** falls against the surface portion **15**.

The surface **13** of the base sheet member **12** is formed with an upwardly projecting peripheral rim **30** along the whole edge of the base sheet member **12** having a suitable height. In addition, an upwardly projecting demarcation rim **31** is provided at the junction between the doffed footgear receiving face **14** and surface portion **15** of the base sheet member surface **13** and has a height substantially equal to that of the peripheral rim **30**. The demarcation rim **31** merges into the peripheral rim **30** at the opposite ends.

The opposite faces **21** and **22** of the reversible face member **20** are also integrally formed with outwardly projecting rims **32** along the three side edges thereof which are shaped and positioned to fit on the rim **30** and/or demarcation rim **31** on the surface **13** when the reversible

face member **20** falls against either the surface portion **15** or **16**.

In order that the rim **32** may perfectly fit on the rims **30** and **31** as the reversible face assembly **20** falls against the surface portion **16** so as to expose the foot-in-footgear face **17**, the rim **30** on the surface portion **15** is preferably formed with a pair of notches (not shown).

The arrangement for the peripheral rims **30** and **32** may be varied as will be described in detail hereinafter.

A cloth cover sheet **40** is detachably secured to the surface portion **16** and second face **22** of the face member **20** by means of suitable fastening means **130** and is of a size sufficient to cover the surface portion area **16** and face **22**.

Alternatively, the cover sheet **40** may be formed of a conventional carpet or formed by directly and statically embedding short fiber strands in the surface portion **16** and face **22** so the strands partially protrude out of the surface portion and face within the scope of the invention.

The base sheet member **12** and reversible face member **20** may be formed of any suitable conventional material such as rubber or synthetic resin and the connection **23** between the sheet member **12** and reversible face member **20** may be formed with any one of the configurations as shown in FIGS. 5 through 9 inclusive.

In FIG. 5, one embodiment of connection arrangement for the base sheet member **12** and reversible face member **20** is shown and the connection arrangement **23** comprises a downwardly tapered root **24** of the face member where the member is integrally connected to the base sheet member **12**.

The connection arrangement **23** shown in FIG. 6 comprises the thinned root **24** of the face member **20** and a curved concave **24'** formed in the base sheet member **12** and the face member and base sheet member are integrally connected together by the root and concave.

The connection arrangement **23** of FIG. 7 comprises the thinned root **24** of the face member **20** and a flexible reinforcing piece **25** which extends through the thinned root **24** into the base sheet member **12** to connect the face member and base sheet member together. The flexible reinforcing piece **25** is made of cloth or the like.

The connection arrangement **23** shown in FIG. 8 comprises the reversed T-shaped root of the face member **23** including a thinned root **24** and an integral transverse arm **26** and a recess **27** formed in the base sheet member **12** for receiving the arm whereby the face member and base sheet member are integrally connected together.

The connection arrangement **23** shown in FIG. 9 comprises the root **24** of the face member **20** which includes bellows **28** where the face member is integrally connected to the base sheet member **12**.

From the foregoing description of the various embodiments of connection arrangement, it will be understood that the reversible face member **20** normally lies against either the surface portion **15** or **16** under its own weight and is manually reversed.

The reversible face member **20** is provided with a handle **19** at the outer edge remote from the root thereof for manual operation of the face member when it is desired to turn the member from the surface portion **15** to the surface portion **16** or vice versa.

FIGS. 10 through 12 show a second embodiment of fold-over face-type floor mat embodying the present invention and the floor mat of this embodiment **50** comprises a first rectangular flexible sheet member **51** and a second rectangular flexible sheet member **52** having a somewhat shorter length than the first sheet member **51** and the two sheet members extend in one common plane in the opposite directions toward each other. The second sheet member **52** has a plurality of short fiber strands embedded therein so as to partially project out of one surface or the upper surface of the sheet member **52**. As shown in FIG. 10, the inner half portions of the first and second sheet members **51** and **52** are secured into a unitary unit back to back to provide a reversible face member **60**. The face assembly **60** has one face on one side which provides a foot-in-footgear support face **53** together with the outer half surface portion of the first sheet member **51** when the reversible face member falls against the outer half surface portion of the second sheet member **52** and the outer surface on the opposite side which provides a bare foot support face **54** together with the outer half surface portion of the second sheet **52** when the reversible face member falls against the outer half surface portion of the first sheet member **51**. The underside of the free or outer half portions of the first and second sheet members **51** and **52** is secured to the upper surface of an underlying floor contacting or support member **70** formed of relatively soft material and the underside of the floor contacting member in turn contacts the floor of a vehicle.

Furthermore, in the floor mat of FIG. 10, in order that the reversible face member **60** may be easily turned in one or the other direction so as to expose either the foot-in-footgear or bare foot support face, the first and second sheet members **51** and **52** are formed on the opposite inner sides thereof with folding notches **61** and **62** at the juncture between the outer and inner half portions of the two sheet members. These notches **61** and **62** extend in parallel to the shorter sides of the sheet members **51** and **52** between the longer sides of the sheet members.

In order to further facilitate the positioning of the reversible face member **60**, the first and second sheet members **51** and **52** are slightly spaced from each other below the notches **61** and **62** to provide an opening **63** including the notches **61** and **62** with an included angle.

FIGS. 13 and 14 shows a modification of the fold in the first and second sheet members **51** and **52** which facilitates the positioning of the reversible face member **60** and at the same time, smooths the transitive variation in the configuration of the foot-in-footgear and bare foot support faces **53** and **54**.

In the arrangement of FIGS. 13 and 14, the distance L from the inner end of the junction between the first and second sheet members **51** and **52** to the upper surface of the floor contacting member **70** where the sheet members are secured to the floor contacting member **70** is within the range of about 3 to about 5 times as great as the thickness of the sheet members **51** and **52**.

And in order to facilitate the positioning of the reversible face member and lessen the stepwise variation in the configuration of the foot-in-footgear and bare foot support faces **53** and **54**, the thickness of the inner half portions of the sheet members **51** and **52**, which are secured together to provide the reversible face member **60**, is preferably smaller than that of the other or outer half portions of the sheet members which are secured to the floor contacting member **70**.

If it is desired to provide a space or face to receive the doffed footgear as required when the bare foot support face **53** of the reversible face member **60** is being used, the length of the first sheet member **51** which provides the foot-in-footgear support face **53** is preferably made longer than that of the second sheet member **52** which provides the bare foot support face **54** so that the foot-in-footgear support face **53** may have an ample space for the doffed footgear while the bare foot support face **54** supports the occupant's foot.

The first and second sheet members **51** and **52** in the second embodiment of foot support mat device of FIG. 10 are formed of the same resilient material as that of the corresponding part of the first embodiment of FIG. 1 and the peripheral edge and demarcation rims of the second embodiment may be also formed in the same manner as such rims in the first embodiment.

FIGS. 16 through 19 inclusive show a third and embodiment of fold-over face-type floor mat of the invention and the floor mat of this embodiment is particularly suitable for supporting the driver's foot in a vehicle. Therefore, the floor mat of this embodiment is given an angle for supporting foot at an angle desired by the driver in driving the vehicle.

The floor mat **80** of FIG. 16 generally comprises a rectangular sheet member **81** which can be folded in half and has the upper surface **82** in which short fiber strands are statically embedded so as to partially protrude out of the surface to provide a bare foot support face **84**. The lower surface or underside **83** of the sheet member **81** includes two half portions, that is, a planer portion forming the foot-in-footgear support face **85** and the other portion forming an inclined face **86** formed by an inclined buffering member **87**.

The buffering member **87** has a plurality of rows of resilient projections having different lengths with the row nearest to the inner edge of the half lower surface portion **86** being the shortest and the succeeding rows gradually increasing in length toward the outer edge of the associated half lower surface portion in conformity with foot supporting angle desired as determined by the seating position of the occupant within the vehicle. If desired, these projections may be replaced by foam resin blocks having a similar height variation (not shown) without departing from the scope of the invention.

In the floor mat **80** of this embodiment, in order to facilitate the folding of the sheet member **81**, the upper surface **82** of the sheet member **81** which provides the bare foot support face **84** is provided with a transverse folding score line **89** in the center of the sheet member to divide the sheet member into the two rectangular half surface portions which in combination provide the bare foot support face. These rectangular portions have longer sides in the width direction of the parent sheet member **81** and shorter sides in the length direction of the sheet member. A handle **90** is provided at one end of the sheet member substantially in the center of the end for manually folding the sheet member **81** and the handle is preferably formed of any suitable resilient material. Similarly, a loop **91** is provided at the other end of the sheet member substantially in the center of the end for receiving the handle **90** in the opening **92** of the loop **91**. When the handle **90** is inserted in the loop **91**, the foot support mat device **80** which is now in its folded condition can be conveniently carried about.

Since the floor mat **80** is provided with the inclined face **86** on the underside of one of the two half portions of the sheet member **81**, that is, the half portion different from that on which the foot-in-footgear face **85** is supported, when the foot-in-footgear support face **85** is used, the resilient projections **88** on the inclined face **86** is positioned right below the foot-in-footgear support face **85** and resiliently supports the latter so as to keep the face **85** from contacting the floor of a vehicle, the bare foot support face **84** can be protected against moisture and/or dust which may be present on the vehicle floor and kept clean.

And since the foot support mat device **80** is provided with the inclined buffering member **87**, the mat device is always maintained at a suitable angle in conformity with any particular seated position of the occupant by virtue of the buffering action of the buffering member whereby fatigue on the part of the occupant may be alleviated and a comfortable ride is assured.

It will be appreciated that the sheet member **81** of the floor mat of this embodiment may be formed of the same flexible material as that of the corresponding parts of the foregoing embodiments such as rubber or synthetic resin, for example, and the peripheral edge rim of the sheet member **81** can be also formed in the same manner as the corresponding rims in the previously described embodiments.

FIGS. 20 through 24 inclusive show a fourth embodiment of fold-over face-type floor mat of the invention and the floor mat **100** of this embodiment has a configuration particularly suitable for mass production at low cost while maintaining an acceptable appearance and without diminishing the commercial value of the product.

The floor mat **100** of this fourth embodiment generally comprises a rectangular flexible base sheet member **101** and a detachable flexible reversible face member **102**. The upper surface of the base sheet member **101** is divided into substantially equal two half portions **103** and **104** in the longitudinal direction. The half portion **103** forms a part of the bare foot support face and the other half portion **104** forms a part of the foot-in-footgear support face in co-operation with the associated faces of the reversible face member **102**, respectively in the manner as will be described hereinbelow.

The face member **102** is detachably attached to the base sheet member **101** traversely of the sheet member along the junction between the two half surface portions **103** and **104** and has one face **105** on one side which provides the bare foot support face in cooperation with the half surface portion **103** and the other face **106** on the opposite side which provides the foot-in-footgear support face in cooperation with the other half surface portion **104**. The inner or base edge of the reversible face member **102** is integrally provided with spaced reverse T-shaped tongues **111** and **112** and a handle **113** is integrally formed at the other or outer edge of the face member **102** in the center of the outer edge.

The base sheet member **101** is provided with spaced and aligned grooves or slits **114** along the junction between the two half portions **103** and **104** for receiving the tongues **111** and **112**.

The underside of the base sheet member **101** is provided with counter bores **115** surrounding the grooves **114** for receiving the arms of the reversed T-shaped tongues **111** and **112**.

The tongues **111** and **112** are not limited to the illustrated configuration, but may be designed to have any other suitable shape such as a L-shape.

Thus, the floor mat **100** can be easily and rapidly assembled by inserting the tongues **111** and **112** into the associated grooves **114** until the arms of the tongues are positioned in the associated counter bores **115**. Such assembling of the floor mat **100** is facilitated by virtue of the flexibility of the base sheet member and reversible face member **102**. Similarly, the disassembling of the floor mat **100** can be easily and rapidly carried out by pulling the sheet member and face member apart.

Also in the floor mat **100** of the fourth embodiment, the base sheet member **101** and reversible face member **102** are preferably formed of rubber or synthetic resin, for example and the sheet member and face member may be provided with peripheral edge rims in the same manner as the rims in the foregoing embodiments.

FIGS. 24 through 26 inclusive show various types of peripheral edge rims which can be selectively provided in the various embodiments of foot support mat devices **10**, **50**, **80** and **100** as described hereinabove.

Referring now to FIG. 24, the peripheral edge rims **30** and **32** are preferably provided with mating sloped faces **33** and **34**, respectively so that the rims can smoothly engage and disengage from each other when the reversible face member is turned in one or the other direction so as to expose the bare foot support or foot-in-footgear support face.

In FIG. 25, the section of the peripheral edge rim **30** which engages the section of the peripheral edge rim **32** at the outer edge of the face member where the handle **113** is provided is shown as having a greater height as compared with the height of the associated section of the rim **32** and accordingly, when the face member is turned so as to expose the foot-in-footgear support face, the free end or outer end of the handle **113** is somewhat raised relative to the inner end or root of the same handle for easy manipulation of the handle.

Alternatively, as shown in FIG. 26, the peripheral edge rims **30** and **32** may be notched at **35** at the area adjacent to the junction therebetween so that the base sheet member and reversible face member can smoothly engage.

FIGS. 27 through 33 shows alternative arrangements of means which keep the floor mat in position on the floor of a vehicle against movement relative to the vehicle floor. In the arrangement shown in FIG. 27, such means comprises a plurality of resilient projections **120** formed on the underside of the base sheet member and arranged radially and outwardly extending from the center of the sheet member. Each of the resilient projections **120** preferably has a pyramid shape with the eccentric tip point as shown in FIGS. 29 through 31. The resilient projections **120** may aslo be in the shape of an oblique cone. The arrangement of the resilient projections **120** may be alternatively made as shown in FIGS. 32 and 33 in which the projections are divided into a plurality of groups with the projections in each group arranged radially and outwardly extending from the center of each group.

With the provision of such means, the foot support mat device can be held in position on the vehicle floor despite vehicle vibration and frictional force and pressure imposed by the occupant's foot while driving.

Although the best mode contemplated for carrying out the present invention has been herein shown and described, it will be apparent to those skilled in the art that modification and variation may be made without departing from what is regarded to be the subject matter of the invention.

What I claim is:

1. A vehicle floor mat comprising a flexible base sheet member a flexible reversible face member connected to said base sheet member to divide the surface of the base sheet member into two portions, said reversible face member being foldable with respect to the base sheet member and having a face on one side which provides a foot-in-footgear support face in cooperation with one of said two surface portions of the base sheet member and another face on the opposite side which provides a bare foot support face in cooperation with the other surface portion of the sheet member.

2. A vehicle floor mat comprising a first flexible sheet portion having a face on one side which provides a foot-in-footgear support face, a second flexible sheet portion having a face on one side which provides a bare foot surface face, and, reversible face member molded integrally and being foldable with respect to the sheet portions and having a face on one side which provides a foot-in-footgear support face in cooperation with said face of the first flexible sheet portion and the other face on the opposite side which provides a bare foot support face in cooperation with said face of the second flexible sheet portion.

3. A vehicle floor mat which comprises a pair of flexible base sheet members in the same plane inner portions of which are operatively secured together in back to back relationship to provide a reversible face member which normally lies in a plane substantially parallel to the plane of the other portions of said two sheet members and which has one face on one side and another face on the other side, the outer portions of said two resilient members extending in said same plane in opposite directions and providing an included angle on the underside thereof at their junction and having transverse notches cut in the underside of said outer portions of the base sheet members adjacent to said included angle and said one face of the reversible face member providing a foot-in-footgear support face in cooperation with the upper surface of the outer portion of one of the two sheet members and said other face of the reversible face member providing a bare foot support face in cooperation with the upper surface of the outer portion of the other sheet member.

4. The vehicle floor mat as set forth in Claim **2** in which a flexible floor contacting sheet member is secured to the underside of said outer portions of the two base sheet member.

5. The vehicle floor mat as set forth in Claim **1** wherein said reversible member is connected to said base member by a root extending from said reversible face member, the root of said reversible face member being thinner than the rest of the reversible face member.

6. The vehicle floor mat as set forth in Claim **1** wherein said reversible member is connected to said base member by a root extending from said reversible face member, the root of said reversible face member being in the form of bellows which are integrally formed with said base sheet member.

7. A vehicle floor mat comprising a single sheet member foldable into two portions and the entire one surface of said sheet member provides a bare foot support face whereas the reverse surface of the sheet member is divided into a foot-in-footgear support face and an inclined buffering portion gradually increasing the height from the fold line in the sheet member toward the outer edge of buffering portion.

8. A vehicle floor mat which comprises a flexible base sheet member the upper surface of which is divided into a first portion, and a second portion and a flexible reversible face member detachably secured to said base sheet member at the junction between said first and second surface portions of the base sheet member extending transversely of the sheet member and having a first face on one side and a second face on the opposite side which provide base foot support and foot-in-footgear support faces, respectively, in cooperation with said first and second surface portions of the base sheet member, respectively.

9. The vehicle floor mat as set forth in Claim **1**, in which a cloth cover sheet is detachably fastened to said bare foot support face by means of fastening means.

10. The vehicle floor mat as set forth in Claim **1**, in which said bare foot support face has a plurality of short fiber strands embedded therein so as to partially project out of the face.

11. The vehicle floor mat as set forth in Claim **1**, in which said foot-in-footgear support face has an area sufficient to provide a storage region where doffed footgear is placed while said bare foot support face is being used.

12. The vehicle floor mat as set forth in Claim **1**, in which said base sheet member and reversible face member are provided with projecting rims along their peripheral edges, said rims positioned for said two members to engage each other when said reversible face member lies against said base sheet member.

13. The vehicle floor mat as set forth in Claim **12**, in which said peripheral rims on the base sheet and reversible face member are provided with mating sloped faces which abut against each other.

14. The vehicle floor mat as set forth in Claim **1**, in which the underside of said base sheet member is provided with a plurality of resilient projections arranged radially.

15. The vehicle floor mat as set forth in Claim **14**, in which each of said resilient projections is in the form of a pyramid with the tip point off center.

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