United States Patent

Smith et al.

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[54] ADJUSTABLE DOCK SEAL ASSEMBLY

[72] Inventors: **Vernon O. Smith,** Ashley; **Alfred T. Dietrich,** Marion, both of Ohio

[73] Assignee: **Overhead Door Corporation,** Dallas, Tex.

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[52] **U.S. Cl.** **160/41,** 52/204, 160/23, 160/265

[51] **Int. Cl.** **E06b 7/00**

[58] **Field of Search** 160/41, 42, 133, 265, 264, 160/23; 52/173, 204

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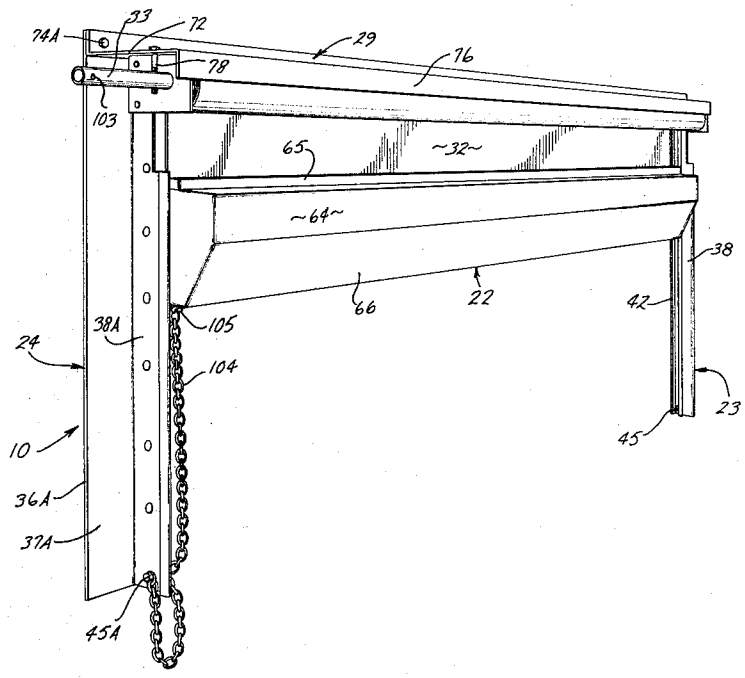
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Primary Examiner—Dennis L. Taylor
Attorney—Woodhams, Blanchard and Flynn

[57] **ABSTRACT**

A dock seal assembly for an opening in a wall, said seal assembly having a resiliently flexible head seal supported by upright, parallel track means mounted upon the wall adjacent the sides of said opening near the upper end thereof. Spring-biased annular means is supported upon the wall for rotation about a horizontal axis near the upper end of said opening and is connected to the head seal by sheet means which covers said upper end of the opening when the head seal is lowered. The sheet means also serves to raise the head seal when it is released from an anchored, lowered position.

13 Claims, 5 Drawing Figures



Patented May 30, 1972 3,665,997

3 Sheets-Sheet 1

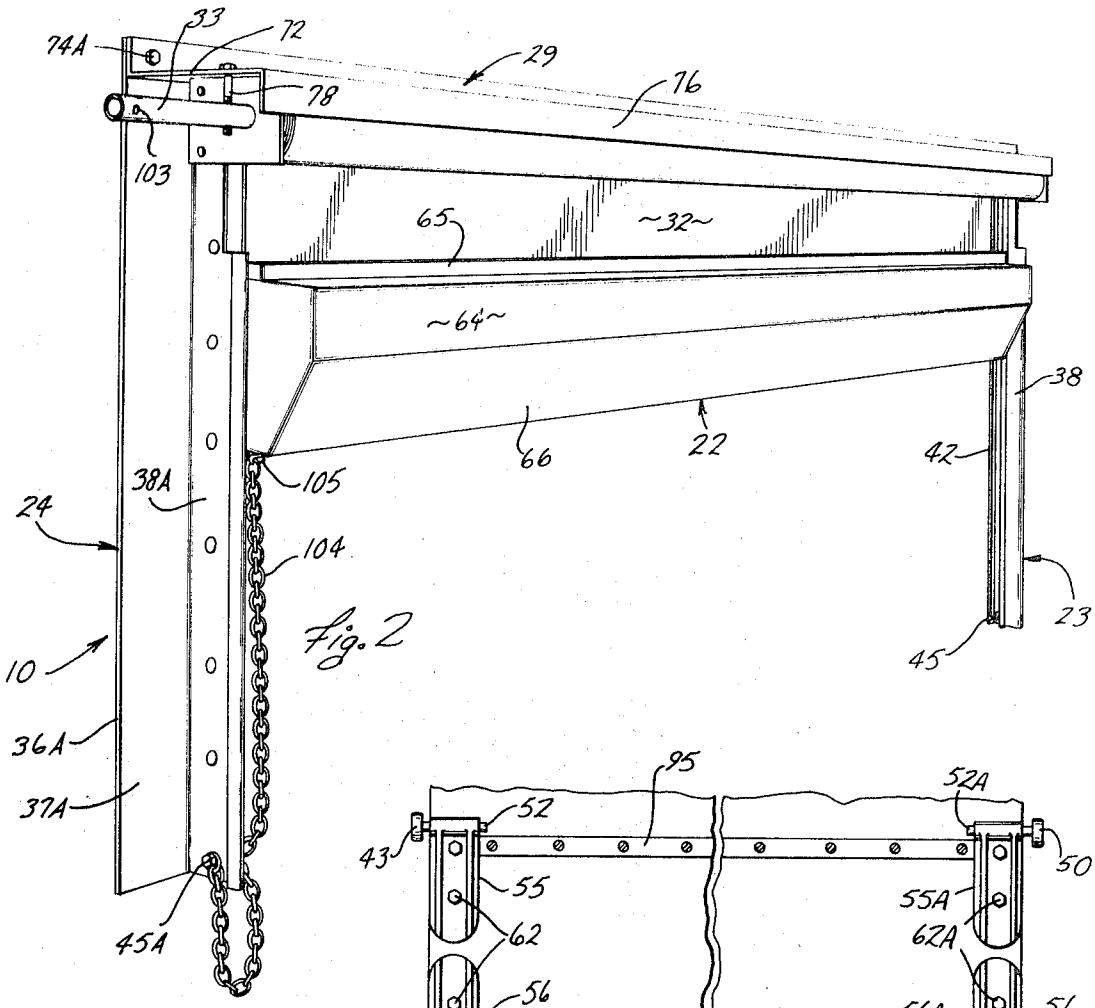


Fig. 2

Fig. 6

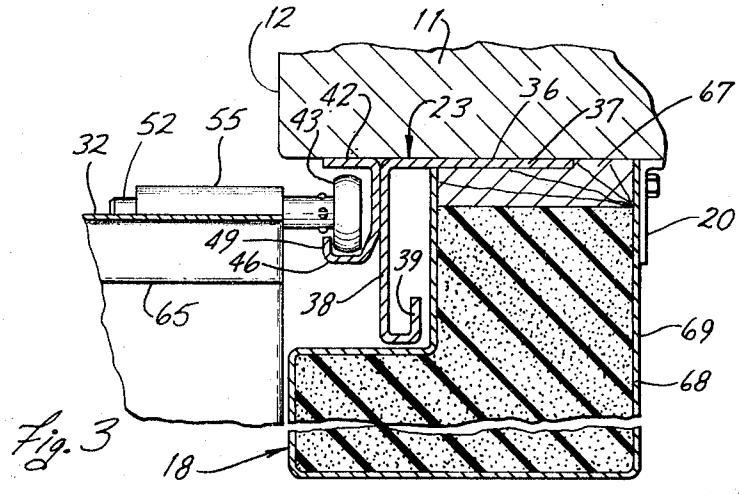


Fig. 3

INVENTORS
VERNON O. SMITH
ALFRED T. DIETRICH
BY
Woodhams, Blanchard & Flynn
ATTORNEYS

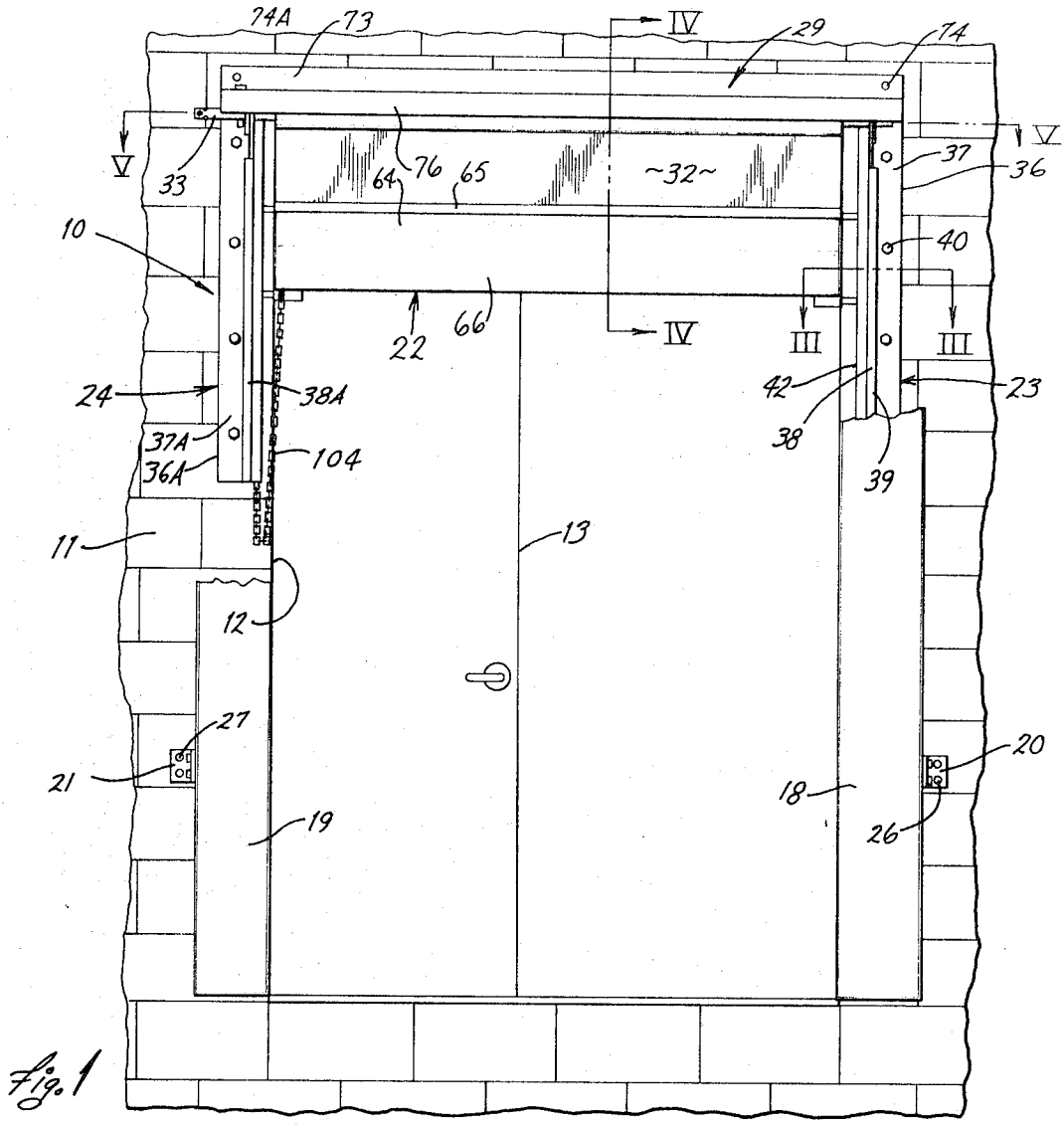


Fig. 1

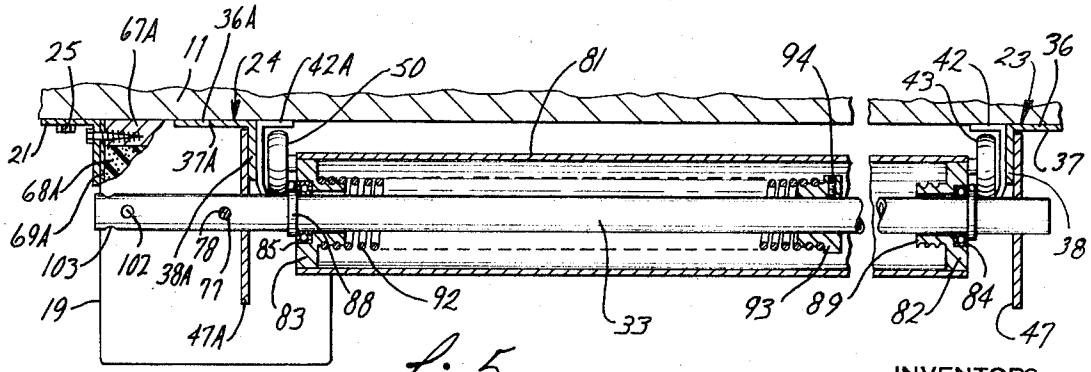


Fig. 5

INVENTORS
VERNON O. SMITH
ALFRED T. DIETRICH
BY
Woodhams, Blanchard & Flynn
ATTORNEYS

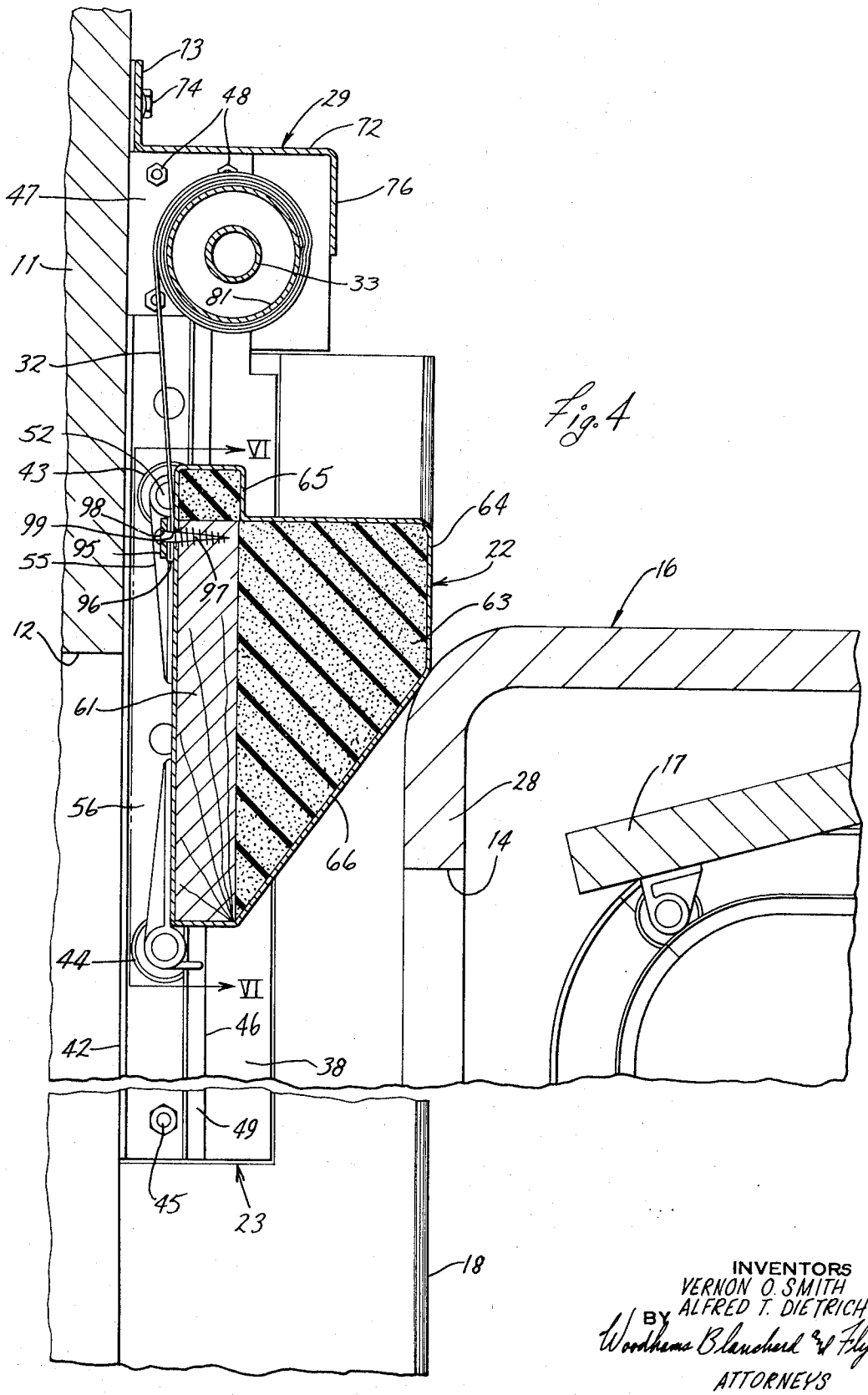


Fig. 4

INVENTORS
VERNON O. SMITH
ALFRED T. DIETRICH
BY
Woodhams Blanchard & Flynn
ATTORNEYS

ADJUSTABLE DOCK SEAL ASSEMBLY

BACKGROUND OF THE INVENTION

This invention relates in general to an adjustable dock seal and, more importantly, to a type thereof which has a vertically adjustable head seal supported on tracks and spring biased toward the raised position.

Persons familiar with the construction and operation of dock seals, which close space between the wall of a building and the rear end of a truck van backed up to an opening in the wall, are well aware that existing dock seals are not entirely satisfactory. In the first place, they are difficult to operate, particularly in cold weather, when they are most needed. That is, the dock seal usually includes sheet material which extends between the top of the opening in the wall and the top of the opening in the druck van, in order to shield the interior of the building and the van from the weather. This is due to the obvious fact that most trucks have openings which are of about the same width, but which vary substantially in height, particularly from the ground. Thus, during cold, wet or snowy weather, some form of shield must be provided between the truck and the wall at the upper end of the opening.

According to present practices, the shield material is usually draped from the upper edge of the wall and there is no means for storing it or protecting it against the weather when it is not in use. As a result, this material usually gets wet or freezes stiff or otherwise becomes difficult to handle when it is needed. Moreover, the sheet material is exposed to the wind and the eroding effects of the weather so that it usually wears out far more quickly than it would if it were protected.

Usually, the head seal of the dock opening has some form of padded, rigid member which extends across the opening and is connected to the lower edge of the shielding sheet material. Sometimes this rigid member is guided in tracks and sometimes it merely hangs loosely. In any event, it often becomes jammed while it is being raised or lowered because no simple and effective method has been provided for producing uniformly vertical movement of all parts and, as a result, racking of this element usually occurs.

Some attempts have been made to prevent racking of the rigid truck-engaging head member, but these have involved complicated, expensive structures which required substantial maintenance and could only be installed by highly skilled persons.

Accordingly, a primary object of this invention is the provision of a seal assembly for the edge of a truck dock opening in a wall, said structure including a head seal supported on the wall for automatic vertical adjustment and having sheet material that is automatically retracted or extended when the head seal is raised or lowered.

A further object of this invention is the provision of a dock seal assembly, as aforesaid, which can be shipped to the location of installation in a knocked-down condition and can be easily assembled and installed on the wall defining the dock opening by maintenance personnel having average mechanical skills and capable of following relatively simple installation instructions.

A further object of this invention is the provision of a dock seal assembly having a head seal and means including a sheet-like, weather shield connected between the head seal and a spring-biased roller means whereby the head seal is continuously urged toward a raised position and said weather shield is substantially completely protected from the weather when the head seal is in its raised position.

Other objects and purposes of this invention will become apparent to persons familiar with this type of equipment upon reading the following descriptive material and examining the accompanying drawings, in which:

FIG. 1 is a broken, front-elevational view of a dock seal assembly embodying the invention and in the installed position.

FIG. 2 is a perspective view of the upper part of said seal assembly.

FIG. 3 is a sectional view taken along the line III—III in FIG. 1.

FIG. 4 is a sectional view taken along the line IV—IV in FIG. 1 and including a fragment of a truck van.

FIG. 5 is a sectional view taken along the line V—V in FIG. 1.

FIG. 6 is a sectional view taken along the line VI—VI in FIG. 4.

For convenience in description, the terms "upper", "lower", "left", "right", "front", "rear" and words of similar import will have reference to the dock seal assembly of the invention as appearing in FIG. I which is a front view of the assembly. The words "inner", "outer" and derivatives thereof will have reference to the geometric center of the dock seal assembly and parts thereof.

SUMMARY OF THE INVENTION

The objects and purposes of the invention, including those set forth above, have been met by the provision of a pair of side rails and a canopy which are interconnected and mounted around the upper end of the dock opening in a wall. Roller means is mounted under the canopy for rotation around a horizontal axis and is spring biased in one rotational direction. An elongated head seal has rollers at its opposite ends for guiding same vertically along and between the side rails. A flexible sheet-like wheather shield is connected between the dock head seal and the roller means for covering the portion of the dock opening above the head seal when said head seal is in a lowered position. The spring-biased roller means, acting through the weather shield, counterbalances the head seal so that it can be easily raised and lowered.

DETAILED CONSTRUCTION

The seal assembly **10** (FIG. **1**), is provided to seal the space between the wall **11** (FIG. **4**) defining the opening **12**, which is normally covered by a door **13**, and the surfaces which define the opening **14** in the rear end of a truck van **16** backed up to the wall **11** adjacent said opening **12**. For purposes of description, the truck van **16** may be of any convenient, conventional type mounted upon a truck chassis (not shown) and having any type of closure member, such as an upwardly acting door **17**, which closes the opening **14** when said van **16** is not being loaded or unloaded.

The seal assembly **10** (FIG. **1**) comprises a pair of side seals **18** and **19** and a head seal **22**. The side seals **18** and **19** are secured to the wall **11** by means including the L-shaped brackets **20** and **21**, respectively, which brackets may be anchored upon the wall **11** by convenient means such as the bolts **26** and **27**, respectively.

The head seal **22** is mounted upon and extends between a pair of upright guide rails **23** and **24** which are supported upon the wall **11** adjacent the right and left sides, respectively, of the opening **11** near the upper end thereof. The rails **23** and **24** are of such length that the head seal **22** can move vertically along said rails, while remaining in proper engagement therewith, between raised and lowered positions which will cover the normal maximum range of the height of the header **28** (FIG. **4**) on the van **16**. Normally, this distance in header height on truck vans differs about 3 feet and, accordingly, guide rails **23** and **24** (FIG. **1**) are preferably designed to permit 3 feet of vertical movement of the head seal **22**. The width of a truck van **16**, or the opening through the rearward end thereof, is reasonably standardized because of statutory provisions limiting the maximum width of vehicles which may travel on public highways. Thus, the seal requirements for openings of many sizes and shapes can be inventoried with a relatively small number of parts, the only variations being in width and these are minimized. Yet, substantially identical installation procedures can be followed regardless of the changes in size and shape.

The guide rails **23** and **24** are connected near their upper ends to the opposite ends of a canopy **29**, beneath which a flexible weather curtain **32** is supported by means including a shaft **33**.

The guide rail **23**, for example, is comprised of an elongated mounting member **36** having an L-shaped cross section. The flange **37** of the member **36** is parallel with and bears against the front surface of the wall **11** where it is held by the bolts **40**. The forwardly projecting flange **38** of the angle **36** is spaced from the adjacent edge of the opening **12** and has an integral return **39** near its frontward edge both to strengthen such flange and diminish harmful engagement with such edge.

A channel-shaped roller track **42** (FIG. 3) is rigidly secured, as by spot welding, to the inner side of the flange **38** adjacent the rearward edge thereof, hence, adjacent the flange **37**. The track **42** opens inwardly to receive rollers **43** and **44** (FIG. 4) mounted on the rightward end of the head seal **22**. The front flange **46** on the track **42** has a rearwardly projecting edge portion **49** which prevents accidental disengagement of the rollers **43** and **44** from within the track **42**. A bolt **45** (FIG. 4) extends through the flange **38** and the track **42** so that it will positively prevent accidental disengagement of the roller **44** from the track **42** through the lower end thereof.

The upper end of the return **39** (FIG. 4) stops short of the upper end of the flange **38** so that a mounting plate **47** (FIG. 4) can be secured to said flange **38** by bolts **48** and project frontwardly of said flange **38**. The rightward end of the shaft **33** extends through and is supported within appropriate coaxial openings in the flange **38** and mounting plate **47**.

The guide rail **24** may be and preferably is a mirror image of the guide rail **23**. Accordingly, the parts of said guide rail **24** having corresponding parts in the guide rail **23** will have the same numerical designations in addition to the suffix "A". More specifically, as shown in FIG. **1**, the guide rail **24** has a track **42A** which is secured to the flange **38A** of the mounting angle **36A**. Thus, the rollers **50** and **59** (FIG. **6**), which are supported upon the left end of the head seal **22**, are received within the track **42A** (FIG. **5**) for the purpose of guiding the upward and downward movement of the head seal.

The rollers **43** and **44** (FIG. **6**) are rotatably mounted upon axles **52** and **53**, respectively, which in turn are mounted upon the end of the head seal **22** by the brackets **55** and **56**, respectively. The rollers **50** and **51** are mounted upon the other end of the head seal **22** by axles **52A** and **53A** and brackets **55A** and **56A** (FIG. **6**) which may be substantially identical with the axles **52**, **53** and the brackets **55**, **56**, respectively.

The head seal **22** has a backboard **61** fabricated from wood or any other relatively rigid material to which the brackets **55**, **56**, and **55A**, **56A** are rigidly secured by means such as the screws **62** and **62A** (FIG. **6**). An elongated and relatively thick block-like cushion of foamed material **63**, such as foamed rubber or resilient foamed plastic, is mounted upon and secured to the front side of the backboard **61** by means, such as an adhesive. The lower front edge of the cushion **63** is beveled at **66** to effect a wedging engagement with the header **28** of the truck van opening **14**. A strip **65** of padding, such as foamed rubber, is secured to and extends along the upper edge of the backboard **61** to soften the impact between the head seal **22** and the tube **81** when the head seal is permitted to move upwardly without restraint in response to urging by the spring **92** in tube **81**.

The front, ends, top and bottom of the cushion **63**, as well the top, and sides of the strip **65** and the edges and rear side of backboard **61**, are preferably covered with a flexible, durable and water-repellent material, such as canvas or plastic sheet material **64**. The rearward edges of the sheet material are secured to the backboard **61**, as by an adhesive. The head seal **22** preferably extends up to, but not materially beyond, the side edges of the opening **12**, when said head seal is in the raised position.

The side seal **18** (FIG. **3**), for example, has a backboard **67** which is fabricated from rigid material, such as wood, which is secured to the wall **11** by any convenient means, such as an adhesive. The side seal **18** extends above the opening **12** and preferably up to the canopy **29**. The backboard **67** is preferably notched to overlay the flange **37**, to which it may also be secured by an adhesive. An elongated, substantially rectangular cushion, which may be a block-like piece of thick foamed material **68**, is sculptured so that it fits around the guide rail **23** and projects sidewardly up to the edge of the opening **12** in the wall **11**. Thus, the inner side of the foamed material **68** is closely adjacent the rightward end of the head seal **22**.

The front surface of the foamed material **68** and the side and top surfaces of the foamed material and the backboard **67** are covered by flexible, durable and water-repellent sheet material **69**, such as canvas or a plastic material, for example. The foamed material **68** may be of any convenient resilient type, such as foamed rubber, and the sheet material **69** is secured to the side edges of the backboard **67** by means such as adhesive.

The side seal **19** may be, and preferably is, a mirror image of the side seal **18**. Accordingly, the side seal **19** has a backboard **67A** (FIG. **5**), a cushion **68A** and a sheet material covering **69A**. The side seals **18** and **19** preferably extend from the lower end of the opening **12** to just below the canopy **29**.

A mounting plate **47A** is secured to the upper end of the guide rail **24** (FIG. **2**) and the shaft **33** extends through coaxial openings in said plate and rail. The canopy **29** has a horizontal section **72** with an integral upwardly projecting rear flange **73** which is secured to the upper end of the flange **37** by a bolt **74** and to the upper end of the flange **37A** by the bolt **74A**. The canopy **29** has an integral, downwardly extending flange **76** which is integral with the frontward edge of the horizontal section **72** and is preferably adjacent the frontward edges of the mounting plates **47** and **47A**. The ends of the horizontal section **72** preferably project beyond the mounting plates **47** and **47A**.

The shaft **33** has a transaxial opening **77** through which a detent pin **78** may be slideably received adjacent the mounting plate **47A**. The detent pin **78**, which may be a bolt, also extends through an opening in the horizontal section **72** of the canopy **29** whereby rotation of the shaft **33** relative to the mounting plates **47** and **47A** is positively prevented.

The shaft **33** is encircled by and spaced inwardly from a coaxial, cylindrical tube **81** which extends between and is spaced slightly from the mounting plates **47** and **47A** (FIG. **5**). The tube **81** has a pair of annular end members **82** and **83** which are rigidly secured within the opposite ends of the tube **81**. Bearings **84** and **85** are disposed within the end members **82** and **83**, respectively, for rotatably supporting the tube **81** upon the shaft **33**. A pair of lock collars **87** and **88** are mounted upon the shaft **33** adjacent the remote sides of the end members **82** and **83**, respectively, to act as bearing retainers and, at the same time, position the tube **81** upon the shaft **33**.

The end member **83** has an axially inwardly projecting hub **89** of reduced diameter, upon which one end of the elongated helical spring **92** is firmly secured. The other or rightward end of the spring **92** is sleeved upon and firmly secured to a lock collar **93** which in turn is firmly secured to the shaft **33** by means including the set screw **94**.

Accordingly, rotation of the tube **81** relative to the shaft **33** is resiliently and yieldably opposed by the helical spring **92**. Another similar spring may be connected between the end member **82** and the shaft **33** in a manner similar to that described above with respect to the spring **92**, thereby increasing resistance to relative rotation between the shaft **33** and the tube **81**.

One horizontal edge of the weather curtain **32** is secured to and extends lengthwise of the tube **81**. The other, lower edge of the curtain **32** is secured to and extends lengthwise of the upper rear edge of the backboard **61**. More specifically, the lower edge **96** of the curtain **32** is folded upon itself and a relatively stiff, elongated element, such as the metal strip **95**, extends along and covers the lower edge **96** of said curtain. A plurality of screws **97** are inserted through aligned openings **98** and **99** in the strip **95** and lower edge **96** after which they are threadedly received into the backboard **61** (FIG. **4**).

The curtain **32** is wound upon the tube **81** so that the tension in the spring **92** is increased as the head seal **22** is lowered. After continuous use, it may be necessary to increase the tension of the spring **92**. Moreover, during installation, it may be necessary to adjust said tension on the spring **92**. This is accomplished by means of the openings **102** and **103** (FIG. **5**) in the shaft **33** at the leftward end thereof. That is, having removed the detent pin **78** from the shaft **33**, an elongated instrument, such as a drift pin or screwdriver (not shown), can be inserted into one or the other of the openings **102** and **103** after which the shaft is rotated around its axis to increase the tension of the spring **92**. The detent pin **78** is then reinserted through the opening **77**.

A chain **104** (FIG. **2**) is secured at its lower end to the guide rail **24** near the lower end thereof and at its upper end to a screw eye **105** in the backboard **61** adjacent the guide rail **24**. The chain **104** is of sufficient length to remain loose when the head seal **22** is in its raised position, about as appearing in FIG. **4**. When the head seal **22** is lowered, one of the links in the chain **104** is sleeved onto the inwardly projecting end of the stop bolt **45A** (FIG. **2**), which prevents the spring **92** from raising the head seal **22**. The lower end of the chain is secured to the guide rail **24** by the bolt **45A**.

OPERATION

The seal assembly **10** is installed upon a wall **11** by first mounting one or the other of the guide rails **23** and **24** in an upright position upon the wall **11** at a prespecified distance from the adjacent edge of the opening **12** and so that it extends a prespecified distance above the upper edge of the opening. A conventional spirit level may be used to position the guide rail accurately, if it is suspected that the adjacent edge of the opening is not plumb. The other guide rail is then mounted upon the wall **11** on the opposite side of the opening **12**. However, before securing said other guide rail to the wall, it is accurately placed in an upright position at a specified distance from the previously mounted guide rail. This can be done by means of a measurement or a spacing gauge furnished with the seal assembly. Also, before finalizing the anchoring of said other guide rail upon the wall **11**, it will be advantageous to mount the shaft **33** and the tube **81** on the mounting plates **47** and **47A**, with the tube **81** therebetween, after which the angular relationship between the shaft or the tube and one or the other of the guide rails is made perpendicular. This can be done by using a conventional carpenter's square.

Since the seal assembly **10** will have been ordered in terms of a door opening of a predetermined width, the spacing between the guide rails **23** and **24** can also be predetermined even though it may be more economical to furnish the assembly with horizontal elements which are slightly longer than necessary to close the opening. That is, it may be economically advantageous to stock head seals **22**, canopies **29**, weather curtains **32**, shafts **33** and tubes **81** in standard sizes which vary in increments, such as 3 or 4 inches. Thus, special handling or special measuring at the location of installation are not required, other than the width and height of the opening around which the seal assembly **10** is being installed.

The head seal **22** may or may not be attached to the weather curtain **32** prior to installation, but the curtain will normally be attached to the tube **81**. However, preferably, all three of these elements will be connected together when they arrive at the installation site.

The canopy **29** can now be installed by connecting the flange **73** thereof to the upper ends of the flanges **37** and **37A** on the guide rails **23** and **24**. If desired, the flange **73** can also be secured to a portion of the wall **11** above the opening **12**.

The stop bolts **45** and **45A** will be installed after the rollers **43**, **44** and **50**, **51**, at the opposite ends of the head seal **22**, have been inserted into the lower ends of the guide rails **23** and **24**, respectively. However, to minimize inconvenience, the detent pin **78** will be removed from the shaft **33** during the installation of the head seal **22** into the rails **23** and **24**. Thereafter, a long instrument such as a screwdriver or a drift pin is inserted into the openings **102** or **103** and the shaft **33** is rotated until the head seal **22** is in its fully raised position, about as shown in FIG. **4**, adjacent the tube **81** upon which the curtain **32** will then be very nearly completely wound. The detent pin **78** then will be reinserted through the opening **77** in the shaft **33** whereby a subsequent lowering of the head seal will be opposed by the spring **92**. The weight of the head seal **22** will probably create some pretensioning of the spring **92** before the aforesaid rotation of the shaft **33** moves the head seal **22** into its raised position. The chain **104** will be connected at one end of the head seal **22** and at the other end to the guide rail **24** by means of the stop bolt **45A**, for example.

The side seals **18** and **19** may then be mounted upon the wall **11** by means including the L-shaped brackets **20** and **21** (FIG. **1**) so that both sides and the top of the opening **12** have padded flexible sealing elements extending therealong by which the corresponding edges of a truck van can be sealingly engaged, as appearing in FIG. **4**, it being understood that the foam cushions comprising the side seals **18** and **19** will readily resiliently compress when the rear edges of the truck van are backed thereagainst. By raising or lowering the head seal **22**, adjustment can be quickly made for the wide range of different distances between the header of the truck opening and the ground. Normally, a piece of metal, plywood or the like is placed across the opening between the bed of the truck and the threshold of the opening **12**, in a conventional manner, so that no sealing structure is required at the lower end of the opening **12**. Variations in the elevations of truck beds are usually within a relatively small range and, therefore, little or no adjustment is required at the lower end of the opening. Likewise, the widths of truck vans are sufficiently standardized that variations therein pose no problem provided the side seals **18** and **19** are of reasonable width. Moreover, the most urgent need for a good weather seal occurs at the top of the opening **12** where rain, snow, sleet and the like can most easily enter said opening.

Because the tube **81** is spring biased, and because the tension on the spring **92** increases as the head seal **22** is lowered, it is necessary to positively hold the head seal **22** in a lowered position. This is accomplished by means of the chain **104** which is looped around or hooked by the stop bolt **45A**. Thus, when the chain **104** is released from the stop bolt **45A**, the spring **92** automatically retracts the head seal **22** into its raised position. Thus, except for the relatively brief period when a truck is being loaded or unloaded at the opening **12**, the weather curtain **32** will be rolled upon the tube **81** where it is protected from the weather by the canopy **29**.

The bevel **66** on the cushion **63** facilitates a firm, wedged and weather-tight engagement between the head seal **22** and the van header **28** where the van **16** is moved against the side seals **18** and **19** before the head seal **22** is moved down from its retracted position, which will occur frequently. The strip **65** will absorb the shock of impact between the head seal **22** and tube **81** when the chain **104** is disconnected from the bolt **45A** and merely released, whereby the head seal **22** will move upwardly rapidly under the urging of the spring **92**.

Although a particular preferred embodiment of the invention has been disclosed in detail for illustrative purposes, it will be recognized that variations or modifications of the disclosed apparatus, including the rearrangement of parts, lie within the scope of the present invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A seal device for sealing the space between the header of an opening in the wall of a building and the header of the opening in the rear of a truck van, comprising:

a pair of elongated track means mounted along the opposite edges of said opening near the upper end thereof;

cylindrical means rotatably supported adjacent the upper ends of said track means, said cylindrical means extending between and substantially perpendicular to said track means;

spring means connected to said cylindrical means and yieldably resisting rotation thereof in one rotational direction;

elongated seal means extending transversely between said track means and including an elongated and thick blocklike cushion member constructed of a resiliently compressible material, said seal means having a resiliently flexible surface sealingly engageable by the header of said van;

guide means supported on the opposite ends of said seal means for moving engagement with said track means, whereby movement of said seal means is guided lengthwise of said track means;

flexible sheet means affixed along one edge thereof to said cylindrical means and along an opposite edge thereof to said seal means; and

said sheet means extending between said track means for covering the upper end of said opening in said wall means when said seal means is spaced substantially from said cylindrical means, the lengthwise axis of said seal means being substantially parallel with the rotation axis of said cylindrical means.

2. A device according to claim **1**, including elongated element means secured near one to said seal means;

anchor means affixed to one of said track means and spaced downwardly from said cylindrical means for engagement by said element means to hold said seal means in a lowered position against the contrary urging of said spring means.

3. A device according to claim **1**, including lock means releasibly connectible between said seal means and said track means for holding said seal means in a lowered position against the contrary urging of said spring means;

wherein said cylindrical means includes shaft means non-rotatably supported by said track means and tubular means rotatably supported on said shaft means, said sheet means being secured to said tubular means; and

wherein said spring means is a spiral spring connected between said shaft means and said tubular means.

4. A device according to claim **1**, including elongated and substantially parallel side seals adapted to be secured to said wall on opposite sides of said opening, said side seals having resiliently flexible surfaces engageable by said truck van and having recesses in which said track means are located, said side seals extending from said wall a distance somewhat greater than the corresponding extension of the seal means.

5. A device according to claim **3**, including canopy means adapted to be secured upon said wall above said tubular means, said canopy means extending beyond the opposite ends of said tubular means and projecting away from said wall over and slightly downwardly around said tubular means.

6. A device according to claim **3**, wherein said track means are vertical, coextensive, channel-shaped and open toward each other;

wherein a pair of support brackets are rigidly connected to the upper ends of said track means and project away from said wall, said brackets having openings through which the opposite ends of said shaft means are received;

wherein said guide means includes a pair of rollers supported upon both ends of said seal means for rotation around parallel axes and disposed within said track means;

bearing means mounted upon said shaft means and rotatably supporting the opposite ends of said tubular means; and

canopy means secured to said brackets and extending lengthwise beyond the opposite ends of said tubular means and projecting away from said wall beyond said tubular means.

7. A device according to claim **6**, wherein said shaft means and canopy means have alignable openings therethrough;

pin means removably receivable through said openings in said shaft means and canopy means for positively preventing rotation of said shaft means with respect to said brackets; and

grip means on said shaft means adapted to be engaged for rotating said shaft means to increase the tension on said spring means when said pin means is released from said shaft means.

8. A device according to claim **1**, including elongated and substantially parallel side seal devices adapted to be secured to said wall on opposite sides of said opening, each of said side seal devices including an elongated and thick block-like cushion member constructed of a resiliently compressible material and having a resiliently flexible surface sealingly engageable by the rear ends of the sidewalls of the truck van.

9. A device according to claim **8**, wherein the cushion member of said seal means and the cushion members of said side seal devices are constructed of a resilient foam material.

10. A device according to claim **9**, wherein said seal means is provided with an inclined surface on the lower front side thereof to permit said seal means to be moved downwardly to create a wedge-like sealing engagement with the rear header of the van after the rear end of the van has been disposed in sealing engagement with the side seal devices.

11. A device according to claim **1**, wherein said seal means includes an elongated resiliently compressible stop cushion fixedly secured to the upper side thereof and extending longitudinally therealong, said stop cushion being disposed for contacting said cylindrical means when said seal means is returned to its uppermost position by said spring means.

12. A door seal outlining the tops and sides of a door opening as formed in a wall and adapted to seal against the top and side rear edges of a truck van which backs against the seal, said seal comprising:

first and second side pad structures adapted to be vertically disposed adjacent and substantially coextensively along the opposite sides of said opening, each side pad structure including an elongated block of a compressible resilient material;

a pair of elongated track means mounted along the opposite sides of said opening at least adjacent the upper end thereof;

roll means rotatably supported adjacent the upper end of said opening, said roll means extending substantially perpendicularly between said pair of elongated track means;

flexible sheet means affixed along one edge thereof to said roll means and adapted to be rollingly disposed thereon, said sheet means having a width substantially equal to the width of said opening;

spring means interconnected to said roll means and yieldably rotatably urging same in one rotational direction to cause said sheet means to be rolled onto said roll means; and

a top pad structure disposed below said roll means and fixedly connected to said flexible sheet means along an opposite edge thereof, said top pad structure extending substantially perpendicularly between the first and second side pad structures and being slidably supported by said pair of track means for enabling said top pad structure to be vertically moved in the vicinity of the upper end of said opening, said top pad structure also including an elongated block of resiliently compressible material.

13. A door seal according to claim **12**, wherein said top pad structure has tapered surface means provided on the front surface thereof for permitting said top pad structure to be vertically displaced downwardly into a wedging and sealing engagement with the top rear edge of the truck van, and anchor means coacting with said top pad structure for permitting same to be fixedly secured in a selected position in opposition to the urging of said spring means.

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