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Behrend et al.

[11] **3,845,985**

[45] **Nov. 5, 1974**

[54] **DRAFT SHIELD**

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[73] Assignee: **said Behrend, by said Pahlow**

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[21] Appl. No.: **338,460**

[52] **U.S. Cl.** **297/184**

[51] **Int. Cl.** **A47c 7/10,** A47c 29/00

[58] **Field of Search** ..... 297/184; 5/362; 135/5 R, 135/5 B; 280/32.5

[56] **References Cited**

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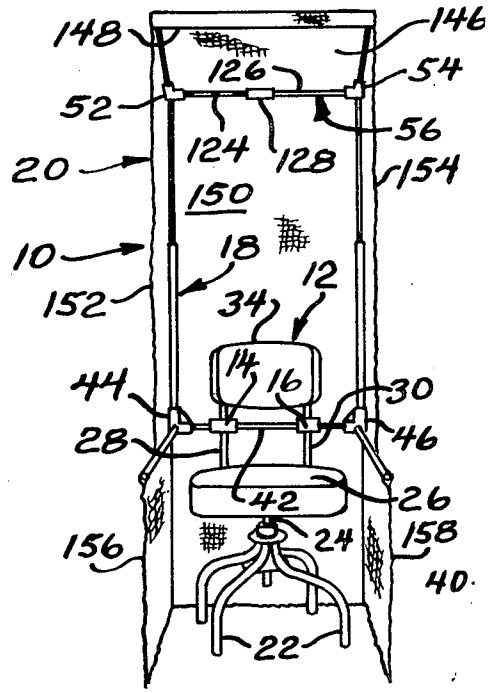
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Assistant Examiner—A. M. Calvert
Attorney, Agent, or Firm—Anthony S. Zummer

[57] **ABSTRACT**

The present draft shield is particularly adapted for mounting on an office chair to protect from drafts the occupant of the chair. The subject draft shield generally includes; a clamp, which is particularly adapted for releasably mounting on an office chair, a frame connected to the clamp, and a curtain supported by the frame. The frame includes a clamp rod secured to the clamp. A lower bracket joint is mounted on each end of the clamp rod. A telescoping post is mounted on each lower bracket joint. The posts are selectively pivoted, either to position each post substantially parallel to the clamp rod to facilitate storage of the draft shield or to position each post substantially perpendicular to the clamp rod. An upper bracket is mounted on the top of each of the posts. An upper bracket rod extends between the upper brackets. A roof rod is secured to each of the upper brackets and extends upward and away from the post. A front rod is connected to the roof rods. The curtain is supported on the upper rod, the roof rod and the front rod. The curtain includes panels hanging downward to provide an enclosure adjacent to an occupant of the office chair. A side rod is pivotedly mounted on each of the lower bracket joints and may be selectively positioned parallel to the respective post or perpendicular to the respective post. A side curtain is removably mounted on each of the side rods.

1 Claim, 13 Drawing Figures



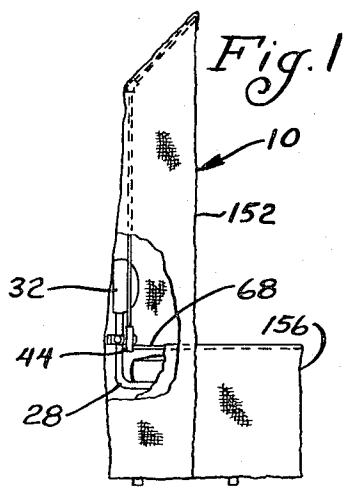


Fig. 1

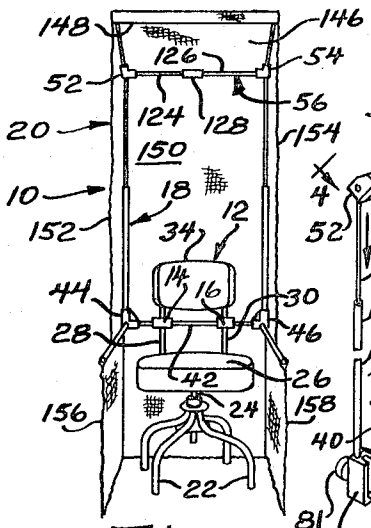


Fig. 2

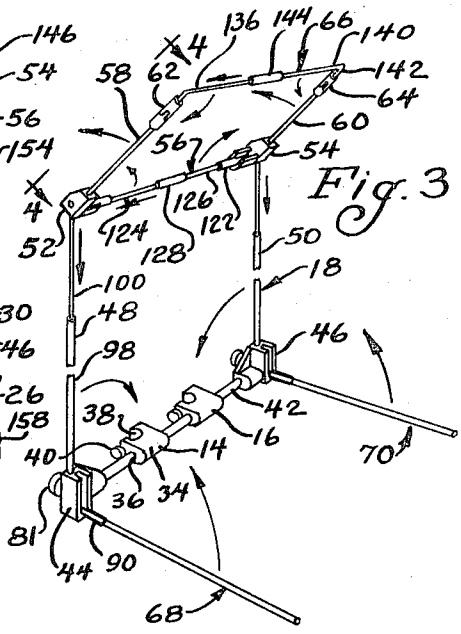


Fig. 3

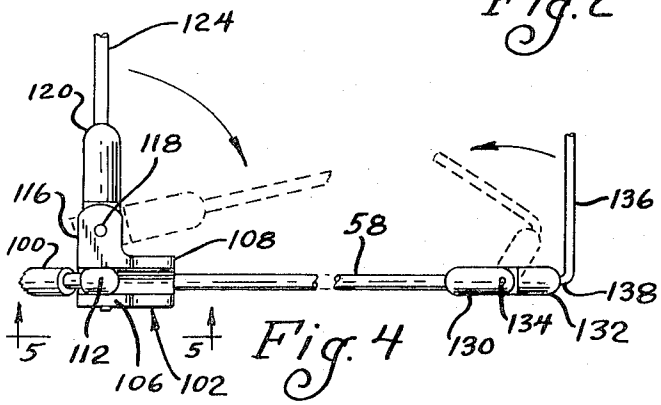


Fig. 4

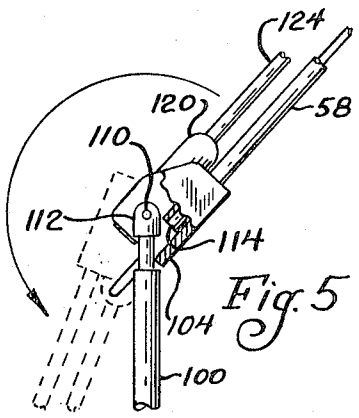


Fig. 5

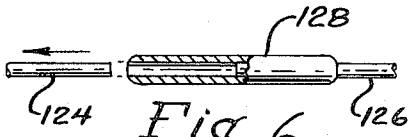


Fig. 6

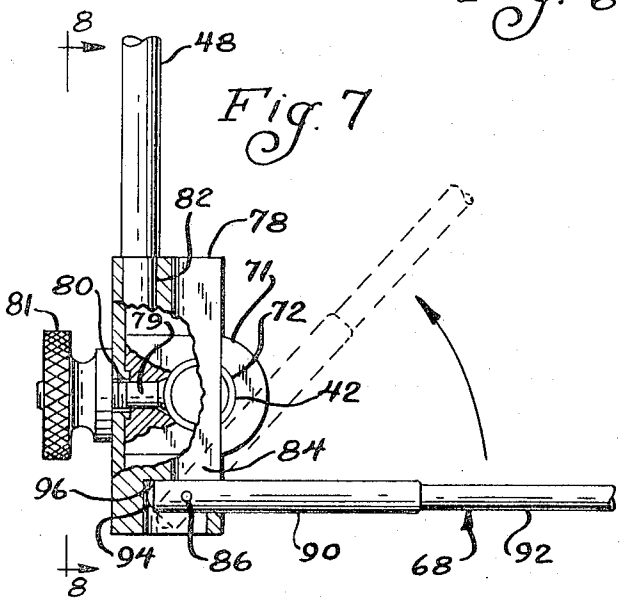


Fig. 7

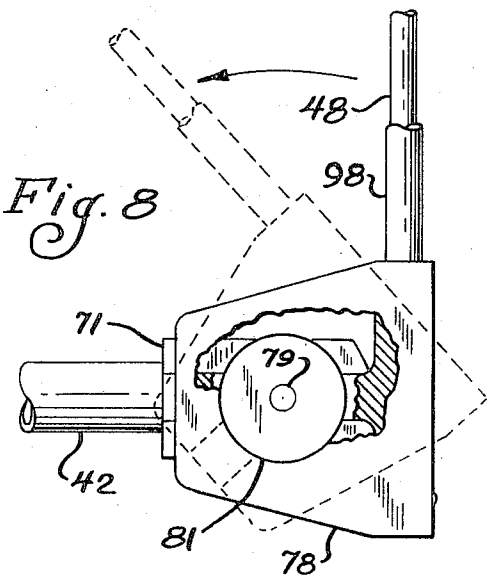


Fig. 8

Fig. 11

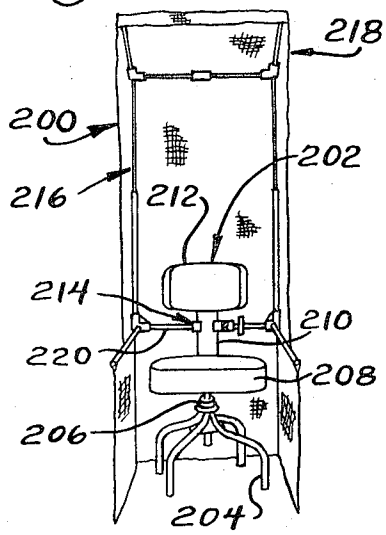
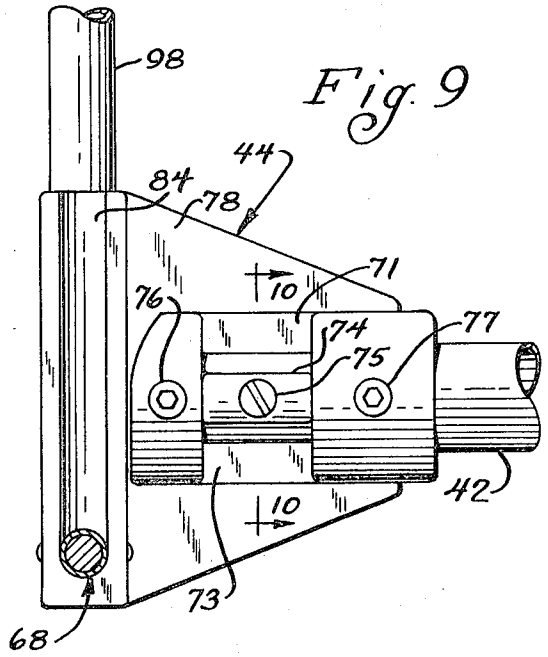


Fig. 9



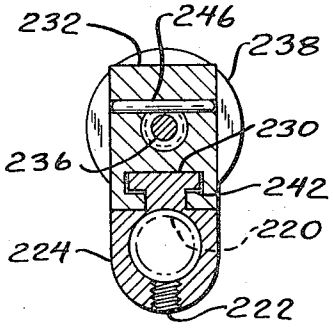


Fig. 13

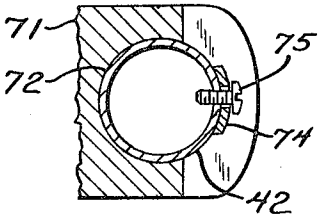
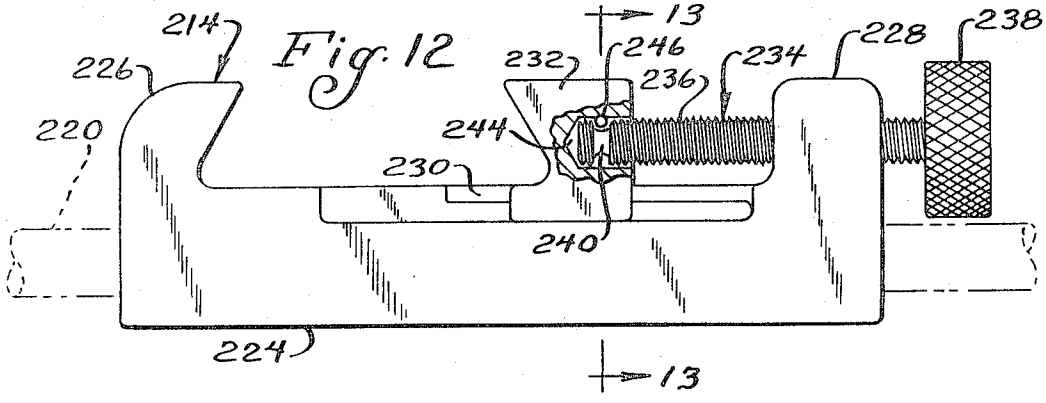


Fig. 10

Fig. 12



DRAFT SHIELD

BACKGROUND OF THE INVENTION

In many offices, there is a large general office area, with a large number of individuals seated at individual desks. Typically, this large general office area is heated in the winter and cooled in the summer by a forced air system, which not only provides heating and cooling but also provides ventilation for the area. Engineers and architects designing such a ventilating system strive to provide diffusers and the like so that there is no noticeable air flow or draft in any given area, though there is a change of air. Although this is the ideal design, the ideal is, in many instances, difficult, if not impossible, to achieve for any one of a variety of reasons. Accordingly, often in any given large area, there is one or more portions in which there is a draft. This draft is uncomfortable for employees. Not only does the draft tend to lower employee moral, but the draft also causes employees to suffer ill health.

Many devices and systems have been considered for the prevention of drafts in a large office area. None of these heretofore-known systems has been completely successful. One way of making certain that an office worker is not in a draft is to provide a suitable enclosure for the worker at the worker's desk. The enclosure should be one which is not only effective in protecting against drafts, but should also be easily erected and easily dismantled and stored.

SUMMARY OF THE INVENTION

The present invention relates to an improved construction for a draft shield. The present draft shield includes a clamp, which is adapted for mounting on an office chair, a frame connected to the clamp, and a curtain supported by the frame.

The frame includes a clamp rod and a rod connected to the clamp. A lower bracket joint is mounted on each of the opposite ends of the clamp rod. A telescoping post is mounted in each of the lower bracket joints. Each of the telescoping posts may be selectively positioned in an attitude substantially parallel to the clamp rod or in an attitude perpendicular to the clamp rod. An upper bracket is mounted on the top or upper end of each of the posts. An upper rod has opposite ends connected to the upper brackets. The upper rod is separable to allow the frame to be folded up for easy storage of the draft shield. A roof rod is connected to each of the upper brackets. A front rod has its opposite ends connected to the roof rods. The front rod is also constructed in a manner so that it may be separated for folding.

The curtain is mounted on the frame and hangs downward therefrom. The curtain has a rear panel, which has its upper end adjacent to the upper rod. The curtain also has a pair of side panels, each of which has its upper end adjacent to one of the roof rods. A side rod is pivotedly connected to each of the lower bracket joints. A side curtain is mounted on each of the side rods and extends almost to a supporting surface for the office chair.

It is a principal object of this invention to provide an improved draft shield construction which allows a draft shield to be erected and mounted on an office chair readily and simply, and which draft shield may be simply and easily collapsed for storage.

It is another object of the herein-disclosed invention to provide an improved draft shield which is simple and economical to manufacture.

It is a still further object of the present invention to provide a novel draft shield which may be readily installed.

Other objects and uses of the present invention will become readily apparent to those skilled in the art upon a perusal of the following specification in light of the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. **1** is a side elevational view of a draft shield embodying the present invention, mounted on a conventional office chair, with a portion of the shield broken away to show better the interrelationship of the chair and the draft shield;

FIG. **2** is a front view of the draft shield of FIG. **1**, mounted on the office chair;

FIG. **3** is a perspective view of a clamp and frame of the draft shield, with arrows showing how the frame is folded for collapsing the frame into a small package;

FIG. **4** is an enlarged top view of a portion of the frame shown in FIG. **3**, showing in dotted form a partially folded attitude of a portion of a front rod and a portion of a roof rod;

FIG. **5** is an end elevational view taken on Line **5—5** of FIG. **4**, showing an upper joint with the roof rod in an extended position, but an upper rod in a folded attitude, and showing the upper bracket in dotted form in a partially collapsed attitude;

FIG. **6** is an enlarged plan view, with a portion broken away, of a connector of the upper rod, with portions of the upper rod shown therein;

FIG. **7** is an enlarged side elevational view of a lower bracket joint, with a portion of the lower bracket joint broken away in order to show the interior construction, and showing a portion of a side rod in an extended position, and showing the side rod in dotted form in a partially raised attitude;

FIG. **8** is a rear elevational view of the lower bracket joint, with a portion broken away in order to show better the construction thereof, and showing in dotted form a portion of the lower bracket joint and the associated post tilted slightly in an attitude for positioning in a collapsed attitude;

FIG. **9** is an enlarged front elevational view of the lower bracket joint, showing the interconnection of the lower bracket joint with one end of a clamp rod;

FIG. **10** is an enlarged fragmentary cross-sectional view of a portion of the lower bracket joint of FIG. **9**, taken on Line **10—10** of FIG. **9**;

FIG. **11** is a front view of a second form of the draft shield, mounted on an office chair;

FIG. **12** is a top view of a clamp of the draft shield shown in FIG. **11**; and

FIG. **13** is a cross-sectional view taken on Line **13—13** of FIG. **12**.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawing, and especially to FIG. **2**, a draft shield embodying the present invention is shown therein and is generally indicated by numeral **10**. The draft shield is mounted on a conventional office chair generally indicated by numeral **12**. The draft shield **10** generally includes a pair of clamps **14** and **16**

removably mounted on the office chair **12**, a frame **18** secured to the clamps **14** and **16**, and a transparent curtain **20** removably mounted on the frame **18**. As may be seen in FIG. **2**, an occupant of the office chair **12** is protected from drafts by the draft shield **10** inasmuch as the curtain **20** extends to the rear and the sides of the occupant, as well as above the occupant.

The office chair **12** is of conventional construction in that it includes a plurality of legs **22** adapted for engagement with a supporting surface. The legs **22** are supportingly connected to a pedestal **24**. The pedestal in turn supports a seat **26**, which has a pair of parallel upright struts **28** and **30** connected thereto. The struts **28** and **30** are supportingly connected to a conventional back **32**.

The clamps **14** and **16** are removably secured to the struts **28** and **30**, respectively. The clamps **14** and **16** are identical in their construction. Clamp **14** includes a clamp body **34**, which has a rod apertrue **36** extending therethrough. An open-ended strut aperture **38** is formed in the body **34**, having its axis perpendicular to the axis of the rod aperture **36**. A fastener **40** is threadedly mounted in the body **34** and is adapted for engagement with one of the struts of the office chair, positioned in the strut aperture **38** to secure the clamp to the strut.

The frame **18** generally consists of a clamp rod **42**, with lower bracket joints **44** and **46** secured to opposite ends of the clamp rod. Telescoping posts **48** and **50** are secured to the lower bracket joints **44** and **46**, respectively. The posts **48** and **50** have upper brackets **52** and **54** secured to the upper end of the posts **48** and **50**, respectively. An upper rod **56** extends between the upper brackets **52** and **54**, and has its opposite ends secured to the brackets. The upper brackets **52** and **54** have roof rods **58** and **60**, respectively, secured thereto. The roof rods **58** and **60** have roof joints **62** and **64**, respectively, connected thereto. A front rod **66** has its opposite ends secured to the roof joints **62** and **64**. A first side rod assembly **68** is pivotedly connected to the lower bracket joint **44**; and a second side rod assembly **70** is pivotedly connected to the lower bracket joint **46**.

The clamp rod **42** is positioned in the rod apertures of the clamps **14** and **16**. The clamp rod is secured to the clamps **14** and **16** by conventional fasteners, which are not shown herein. The clamps are appropriately spaced along the clamp rod so as to receive the struts **28** and **30** of the office chair.

The lower bracket joint **46** is a mirror image of the lower bracket joint **44**. The details of construction of the lower bracket joint **44** may be best seen in FIGS. **7**, **8**, **9** and **10**. The lower bracket joint **44** generally includes an end block **71**, which has a rod aperture **72** formed therein for fixedly receiving one end of the clamp rod **42**. The end block **71** has a slot **73** contained therein, opening into the rod aperture **72**. The rod **42** has a clamp rod lock **74** fixed to it by a conventional screw **75**. The clamp rod lock **74** fits into the slot **73** to prevent the rod **42** from being pulled out of the end block **71**. A pair of set screws **76** and **77** is mounted in the end block and in engagement with the end of the rod **42** to hold the rod. The bracket joint **44** also includes a double rod bracket **78**, pivotedly mounted on the end block **71**. A threaded stud **79** has one end fixed in the end block **71**. Stud **79** extends through double rod bracket **76** through a pivot stud aperture **80** so that the bracket **78** may pivot about the stud **79**. The threaded stud **79** has a knob **81** threadedly mounted thereon, which knob is engageable with the double rod bracket **78** to lock frictionally the double rod bracket to the end block **71**.

The double rod bracket includes a post aperture **82**, which aperture **82** fixedly receives one end of post **48**. The double rod bracket **78** also includes a side rod groove **84**, which is substantially parallel to the post aperture **82**. The side rod assembly **68** is pivotedly mounted in the side rod groove **84** on a side rod pivot pin **86**. The pivot pin **86** is generally perpendicular to the axis of the groove **84**.

The side rod assembly **68** includes a side rod sleeve **90**, which is supported on the pin **86**. A side rod **92** has one end fixed in the rod sleeve **90**. As may be seen in FIG. **7**, the double rod bracket **78** includes a side rod sleeve recess **94** and an abutment **96** adjacent to the recess for engagement with the end of sleeve **90** when the side rod is in an attitude substantially perpendicular to post **48**. The side rod assembly may be pivoted about pin **86** from the attitude shown in FIG. **7** to an attitude wherein the side rod is substantially parallel to post **48**.

The vertical posts **48** and **50** are identical in construction; and post **48** is described below. The post **48** includes a lower female portion **98**. Female portion **98** is fixed in the post aperture **82** to provide a lower rod for the vertical post. A male portion **100** is telescopically and slideably mounted in the female portion **98**, and provides an upper rod for the vertical post.

The upper bracket **52** is mounted on the upper end of the upper rod **100**. The upper bracket **54**, which is a mirror image of bracket **52**, is mounted on the upper end of post **50**. The upper bracket **52** includes a body **102**, which has a floor **104** and a pair of side walls **106** and **108** formed integral with the side walls. A bracket pivot pin **110** extends through the side walls **106** and **108**. A pivot sleeve **112** is pivotedly connected to the pivot pin **110**. The pivot sleeve **112** is fixed to the upper end of rod **100**, as may be seen in FIG. **5**. A roof rod aperture **114** is formed integral with the floor **104** for receiving one end of roof rod **58**. A yoke **116** is formed integral with side wall **108**, with an upper rod pin **118** positioned therein.

The upper rod **56** has its opposite ends pivotedly connected to the upper brackets **52** and **54**. The upper rod **56** includes an upper rod sleeve **120** pivotedly connected to upper rod pin **118**, as may be seen in FIG. **4**. A second upper rod sleeve **122** is pivotedly connected in a like manner to upper bracket **54**. An upper rod section **124** is fixed in the upper rod sleeve **120**; and an upper rod section **126** is fixed in the upper rod sleeve **122**. A connector **128** is fixed to the section **126**, and is slideably and frictionally engageable with the section **124**, as may be best seen in FIG. **6**. It is apparent that the upper rod may be selectively separated at the connector **128**.

As was mentioned above, the roof joints **62** and **64** are mirror images of each other, and are connected to the front rod **66**. The roof joint **62**, as may be seen in FIG. **4**, includes a clevis **130**, which is fixedly mounted on one end of roof rod **58**. A pivot sleeve **132** is pivotedly connected to the clevis **130** through a roof joint pin **134**.

The front rod **66** includes a first section **136**, which has an end **138** set at a right angle to the first section

and fixed in the pivot sleeve **132.** The front rod also includes a second section **140,** having a right-angle end **142** fixed to the roof joint **64.** A connector sleeve **144** is fixed to the section **140,** and is slideably and frictionally engageable with the section **136** in much the same manner that the straight section **124** of the upper rod is frictionally engageable with the connector **128.**

The transparent curtain **20** is, in this instance, made of a sheer nylon material which is transparent but does not allow air to flow readily through the material. The curtain includes a roof panel **146,** which is generally rectangular in configuration, and is substantially the same size as the rectangle formed by the roof rods **58** and **60,** the upper rod **56,** and the front rod **66.** A short retaining panel **148** is fixed to the front edge of the roof panel **146.** A rear panel **150** has its upper edge secured to the opposite edge of the roof panel. The rear panel **150** is sufficiently long to extend from the roof panel to the ground, as may be seen in FIG. **2.** A pair of side panels **152** and **154** is attached to the ends of the roof panel **146.** The side panels **152** and **154** are also secured to the rear panel **150** and extend to the same level as the rear panel. A lower side panel **156** is mounted on the side rod assembly **68;** and a second lower side panel **158** is mounted on the side rod assembly **70.**

It may be seen that the curtain **20** is held in place by the panel **148** draping over the edge of the front rod **66** and the remaining panels forming a box around the upper portion of the frame to hold the curtain in position. The lower side panels each have a hem formed in their upper ends to receive the respective side rods.

The instant draft shield is simply and easily assembled on an office chair. The clamps **14** and **16** are secured to the struts of chair **12,** thereby securing the clamp rod **42** to the office chair. The frame **18** is then extended. The locks of the lower bracket joints are loosened; and the posts **48** and **50** are pivoted to an attitude perpendicular to the clamp rod. The side rod assemblies **68** and **70** are pivoted downward. The upper brackets are pivoted about their pins. The straight sections of the upper rod are folded out, and the section **124** is placed into frictional engagement with the section **128.** The sections of the front rod are folded out away from the respective roof rods; and the section **136** is placed into frictional engagement with the connector **144.**

Next, the curtain is mounted on the frame. The curtain **20** is placed on the portion of the frame formed by the front rod, upper rod, and roof rods **58** and **60.** The retaining panel **148** is placed over the front rod, so that the roof panel **146** lies within the rods. The side panels and rear panel drape downward. The upper rods of the vertical posts are then extended upward to a suitable height. The lower side panels **156** and **158** are then placed on the side rod assemblies **68** and **70.**

It may be appreciated that, though the assembly of the instant draft shield has been described utilizing the side rod assemblies, it is readily apparent that, in certain instances, it may not be necessary to utilize the side rod assemblies. The side rod assemblies may be kept in their attitude parallel to their respective vertical posts.

It should also be appreciated that, though the present description has been made as having two clamps **14** and **16,** it is readily apparent that certain office chairs do not have two struts, but rather have a single strut for the back rest. A draft shield **200,** also embodying the present invention, is shown in FIG. **11** mounted on a conventional office chair **202,** which chair **202** has a single strut.

The office chair **202** is of conventional construction in that it includes a plurality of legs **204** adapted for engagement with a supporting surface. The legs are supportingly connected to a conventional pedestal **206.** The pedestal in turn supports a seat **208,** which has a single strut **210** connected to a conventional back **212.**

The draft shield **200** generally includes a single clamp **214,** which is removably connected to the single strut **210** of chair **202.** The draft shield also includes a frame **216,** which frame is identical in construction to the frame **18** described in detail above. A transparent curtain **218** is mounted on the frame **216.** The transparent curtain **218** is identical in construction to the curtain **20** described in detail above.

The frame **216** includes a clamp rod **220,** which is identical to the clamp rod **42** of the frame **18.** The clamp rod **220** is mounted in the clamp **214** and is held therein by a plurality of set screws **222.**

The construction of the clamp **214** is best seen in FIGS. **12** and **13.** The clamp **214** includes a body **224,** with a clamping ear **226** formed integral with one end thereof and a pedestal **228** formed integral with the other end thereof. A T-shaped way **230** is formed integral with the body **224** and extends from the pedestal **228** toward the clamping ear **226.** A clamping slide **232** mates with and is slideably mounted on the way **230.** A threaded adjustment bar **234** is threadedly mounted in the pedestal **228** and is connected to the slide **232.**

The threaded adjustment bar **234** is conventional in that it includes an elongated threaded body **236,** which is threadedly mounted in the pedestal **228.** A knurled adjustment knob **238** is fixed to one end of the elongated threaded body **236.** A connector groove **240** is formed in the body adjacent to the other end of the body for connection of the adjustment rod to the slide **232.**

The slide **232** contains a slide groove **242,** which mates with the T-shaped way **230.** The slide also has a mounting aperture **244,** which receives one end of the threaded body **236.** A connector pin **246** is mounted in the slide **232,** extending through the aperture **244,** and is positioned in groove **240** of the threaded bar **236.**

It may be seen how the slide **232** may be moved along the way **230** by simply rotating the knurled knob **238** to adjust the distance between the slide **232** and the clamping ear.

The frame **216** is easily mounted on the single strut **210** by moving the slide **232** away from the clamping ear **226,** positioning the strut between the clamping ear **226** and the slide, and then tightening the slide to hold securely the clamp onto the strut, thereby removably securing the frame **216** to the office chair.

The operation of the draft shield **200** is identical to the operation of the draft shield **10** described in detail above.

An occupant of the office chair may be seated in the chair behind a desk. The occupant of the office chair is protected from drafts from behind, from the sides, and from above. The occupant receives protection from drafts from the front by the desk in front of the occupant. Also, any air currents would be deflected by the draft shield, so that any steady state flow would be

around the draft shield, thereby diverting any drafts from the front.

As was mentioned above, the curtain **20** is transparent, so that co-workers and supervisors and the occupant of the office chair having the draft shield would be mutually visible.

At the end of the day or whenever the conditions of the draft have been eliminated, the draft shield may be readily removed. The draft shield is removed by simply lowering the upper rods of the vertical posts and removing the curtain **20** simply by lifting off the curtain and folding it into a neat, compact unit. The lower side panels **156** and **158** are slipped off their respective side rod assemblies and also folded into a neat, compact unit.

The frame is then folded into a neat, compact unit and may be conveniently stored. After the posts **48** and **50** have been telescoped to bring down the upper portion of the frame to a suitable height, the section **136** of the front rod is slipped out of its connector **144.** The sections **136** and **140** are folded downward, as shown by the arrows in FIG. **3.** The section **124** is slipped out of connector **128** of the upper rod; and the sections **124** and **126** are folded upward, as shown by the arrows in FIG. **3.** It may be appreciated that the sections of the upper rod and the front rod are parallel to their respective rods. The roof rods and the accompanying respective sections are pivoted about their respective bracket pivot pins **110** to place the elements into an attitude parallel to the respective vertical posts. The vertical posts are then reduced to their minimum height by telescoping the upper rod completely into the respective lower rod if the posts had not yet been so telescoped. The side rod assemblies **68** and **70** are also folded against their posts. The locks are released by releasing the respective knobs to pivot the double rod brackets of the lower bracket joints to an attitude substantially parallel to the clamp rod **42.** The clamps **14** and **16** are released from the respective struts to remove the frame from the office chair. In the case of draft shield **200,** clamp **214** is released from the strut **210** to release the frame from the office chair. The entire frame of the draft shield is a compact unit which may be easily and conveniently stored with the clamps and curtain.

Although a specific embodiment of the present invention has been shown and described in detail above, it is readily apparent that those skilled in the art may make various modifications and changes in the present invention without departing from the spirit and scope of the invention. It is to be expressly understood that the instant invention is limited only by the appended claims.

What is claimed is:

1. A draft shield of the character described mounted on an office chair and supported thereby comprising, a clamp releasably secured to an office chair, a clamp rod secured to the clamp, a lower bracket joint mounted on each of the opposed ends of the clamp rod, a post connected to each of the lower bracket joints, each post being selectively positionable to an attitude either substantially perpendicular to or substantially parallel to the clamp rod, an upper bracket connected to the upper end of each of the posts, an upper rod connected to the upper brackets, a front rod connected to the upper brackets and being spaced from and substantially parallel to the upper rod, and a curtain connected to the upper rod and the front rod, said curtain having a panel and a pair of side panels extending downward to protect from drafts an occupant of the office chair, a roof rod connected to each of the upper brackets and extendible outwardly therefrom, the front rod having each end connected to one of the roof rods, said front rod being separable to facilitate storage, and said upper rod being separable to facilitate storage, each of the posts includes a pair of telescoping members to facilitate storage of the draft shield, each lower bracket joint includes an end block secured to its respective end of the clamp rod, a double rod bracket pivotedly mounted on its respective end block, each double rod bracket having one end of its respective post secured therein, and a lock for selectively and releasably locking each double rod bracket to its repsective end block, including a side rod pivotedly connected to each of the double rod brackets for selectively positioning the side rod either substantially parallel to its respective post or in an attitude substantially perpendicular to said post, a side curtain supportable on the side rod for further protecting the occupant of the office chair, each of the posts including a pair of telescoping members to facilitate storage of the draft shield, and a roof rod connected to each of the upper brackets and being selectively positionable in an attitude either substantially parallel to its respective post or extending outward from its respective post, the front rod having each end connected to one of the roof rods, said front rod being separable to have portions positionable in an attitude substantially parallel to the respective roof rods, and said curtain being transparent.

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