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(54) **TRANSFORMABLE SHOE WITH A SOLE THAT CHANGES ANGLES TO ORIENT TO DIFFERENT HEIGHT HEELS THAT CAN BE DETACHED OR ATTACHED**

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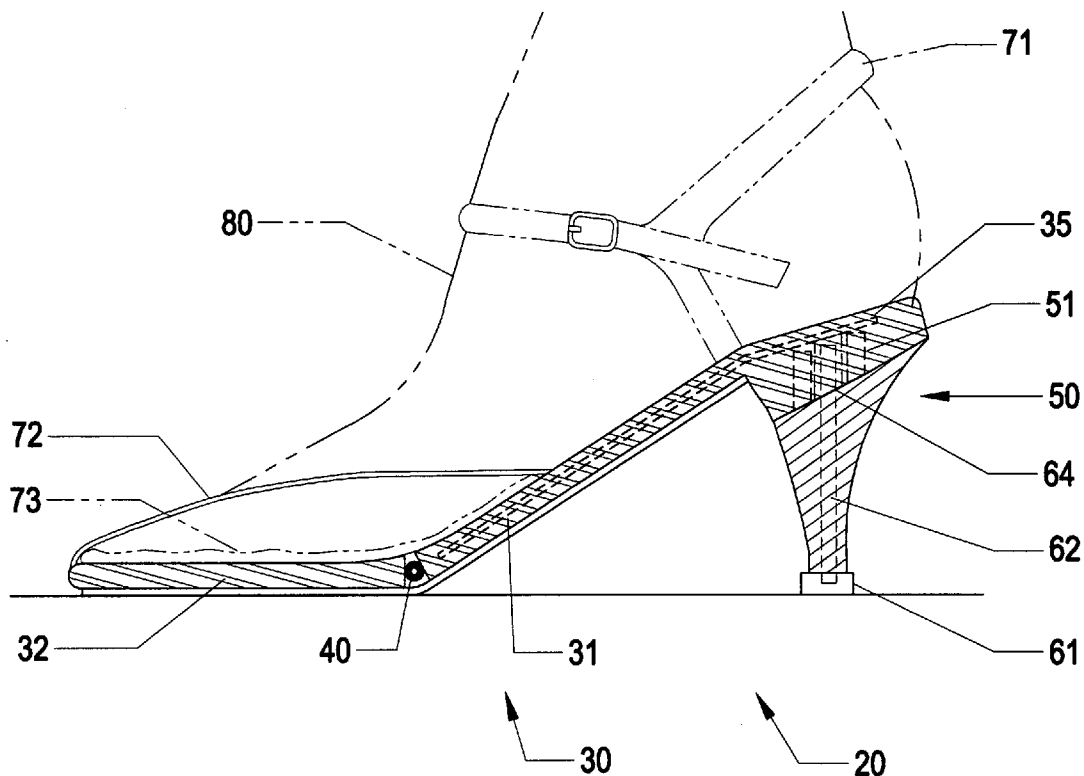
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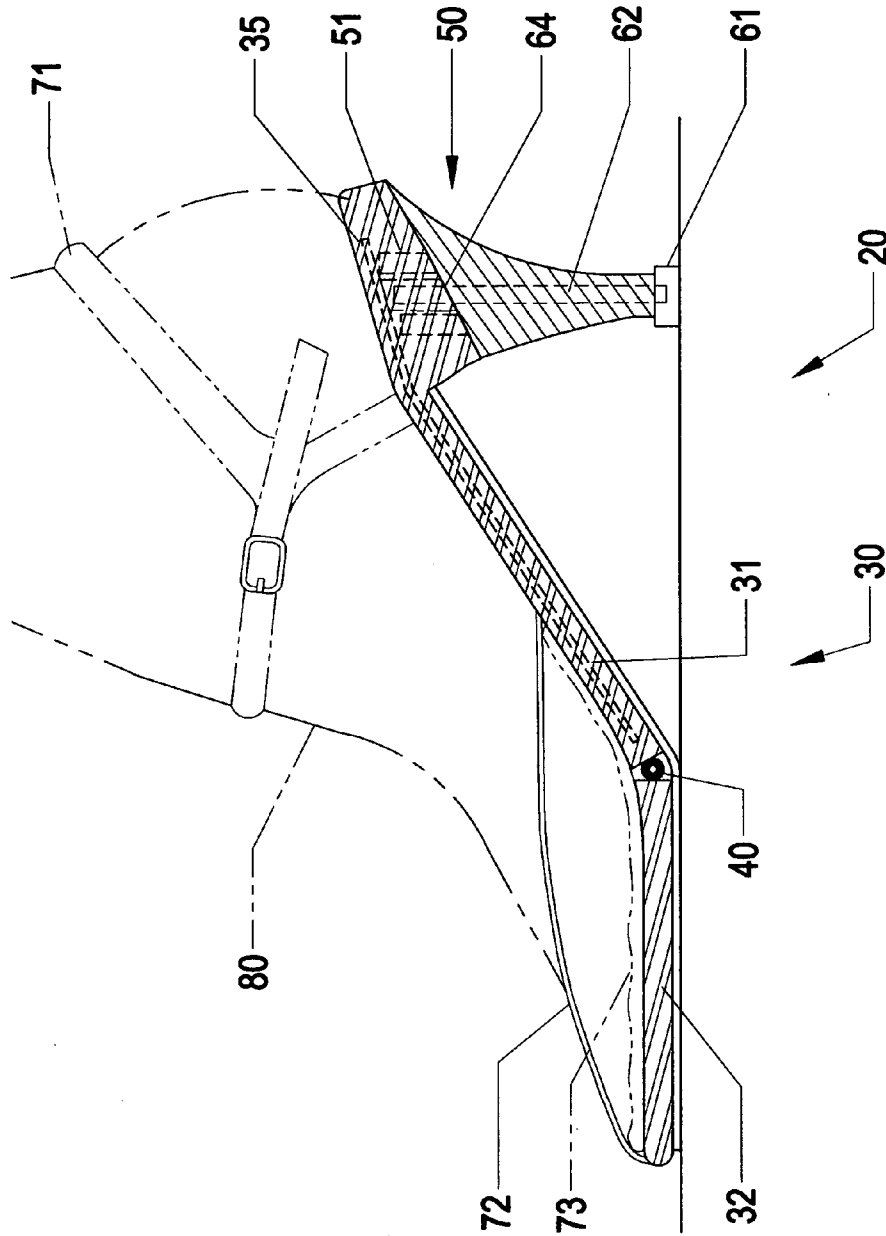
(57) **ABSTRACT**

A transformable shoe described wherein can transform into different heel heights. It is a shoe wherein the heel is detached or attached that transforms the shoe into heels of varying heights. The frame of the shoe contains two independent soles that are pivotally connected via a hinge. The two independent shoe soles will vary angles via the hinge upon attaching or detaching of the heel. Heels of varying heights can be attached to the bottom of the sole. The hinge connecting the two independent soles will rotate according to the height of the heels attached to the sole. The heel upon detachment from the shoe can be stowed by the person separately.

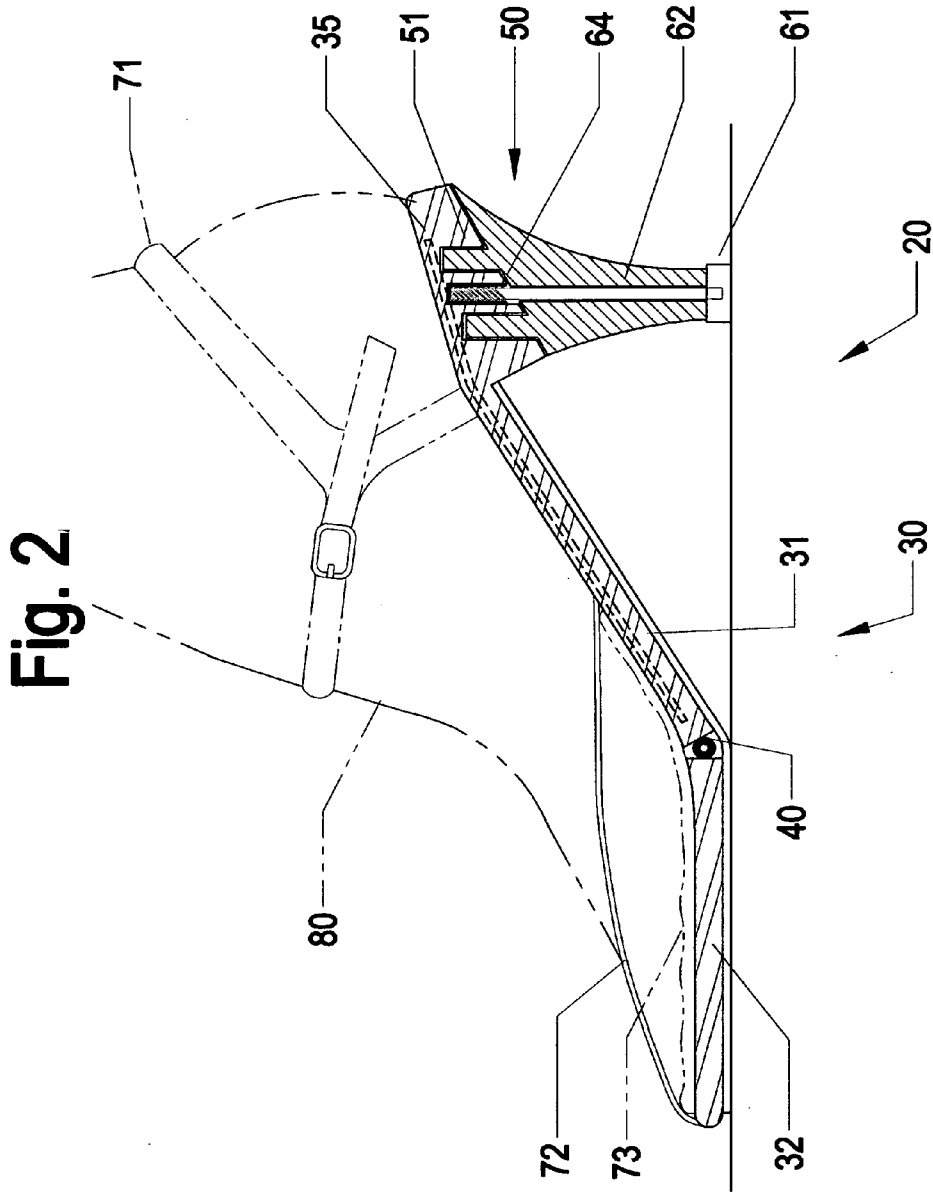


**SHOE WITH HIGH HEEL ATTACHED**

Fig. 1

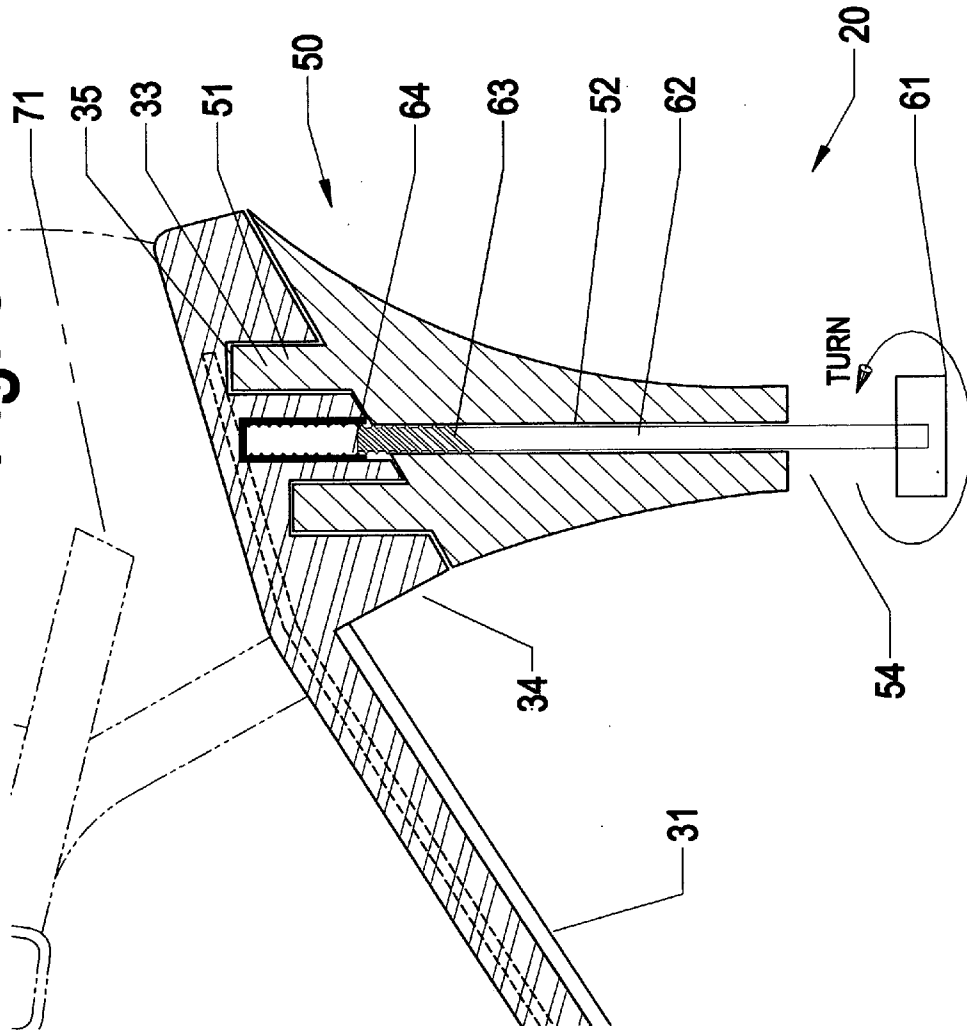


SHOE WITH HIGH HEEL ATTACHED



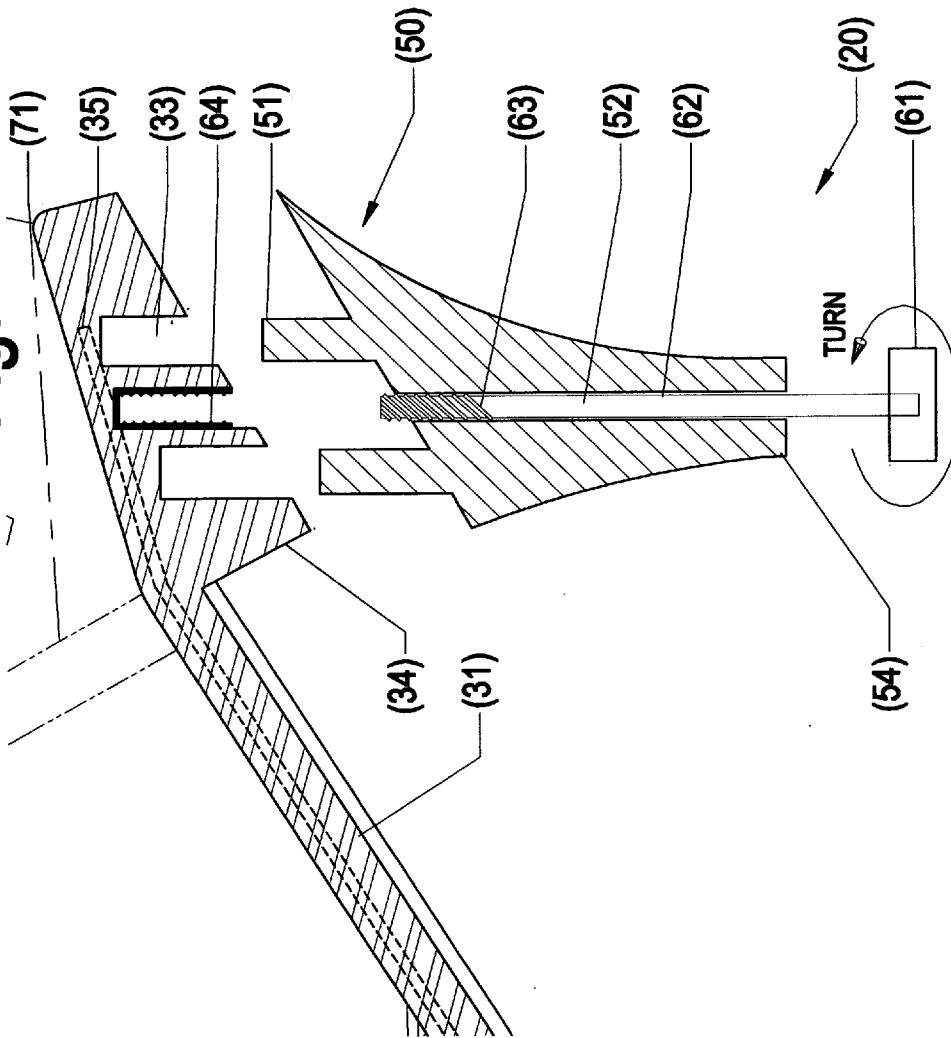
**SECTION VIEW OF SHOE WITH HIGH HEEL ATTACHED**

**Fig. 3**



**HEEL BEING DETACHED FROM REAR SOLE**

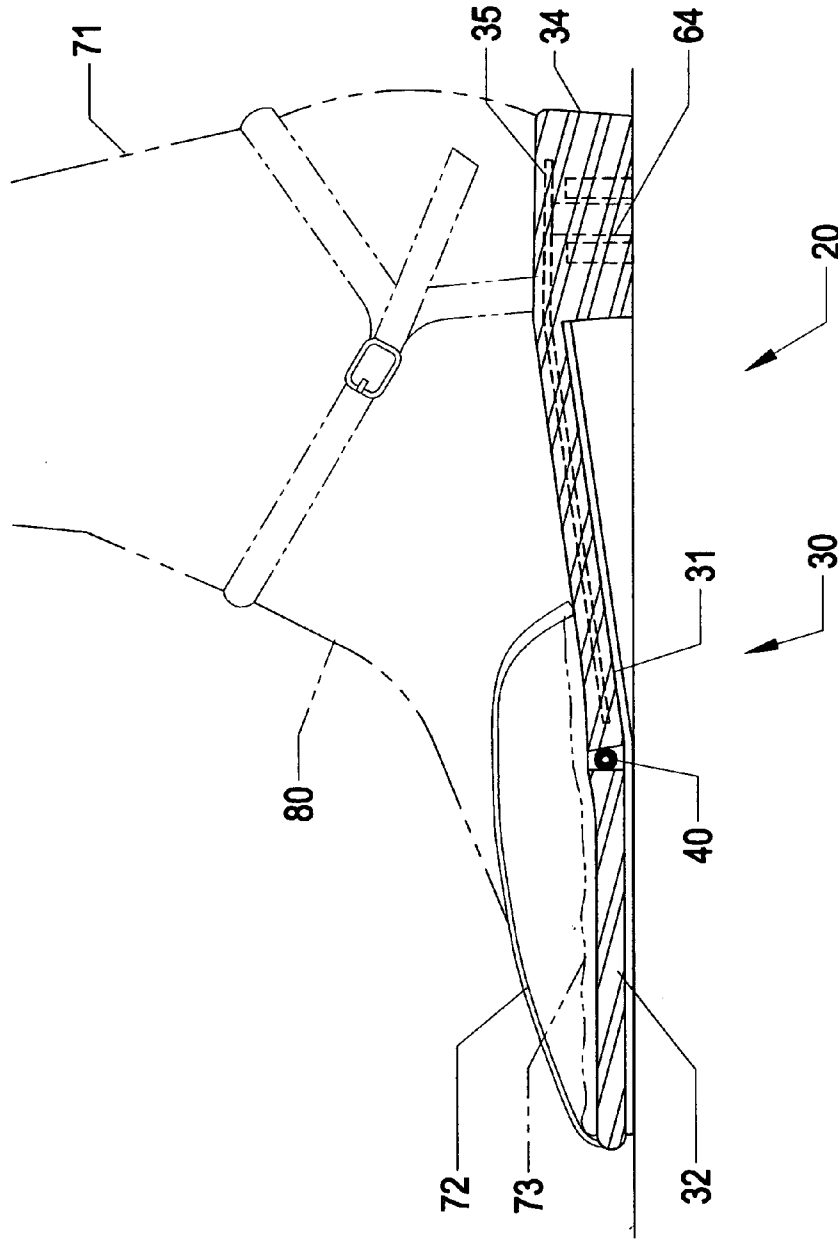
Fig. 4



HEEL BEING DETACHED FROM REAR SOLE

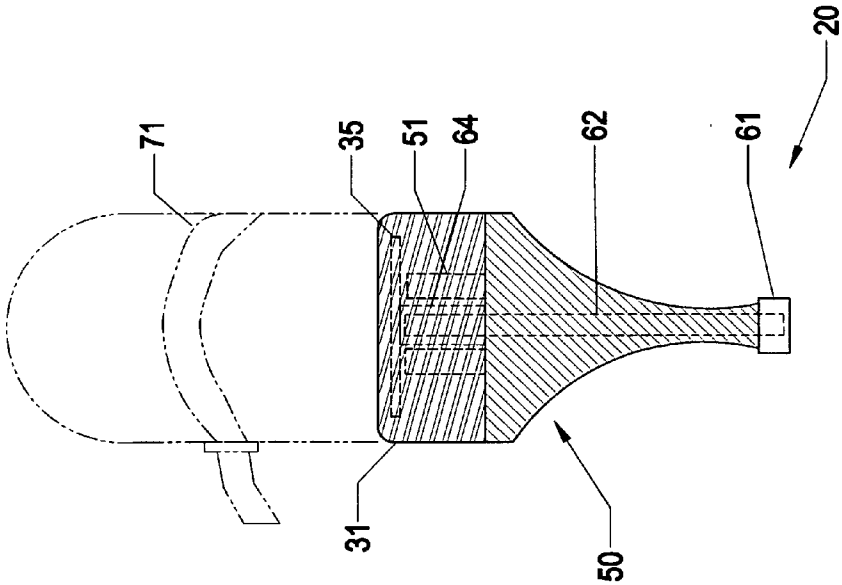


Fig. 6



SHOE (WITHOUT HIGH HEEL) IN FLAT POSITION

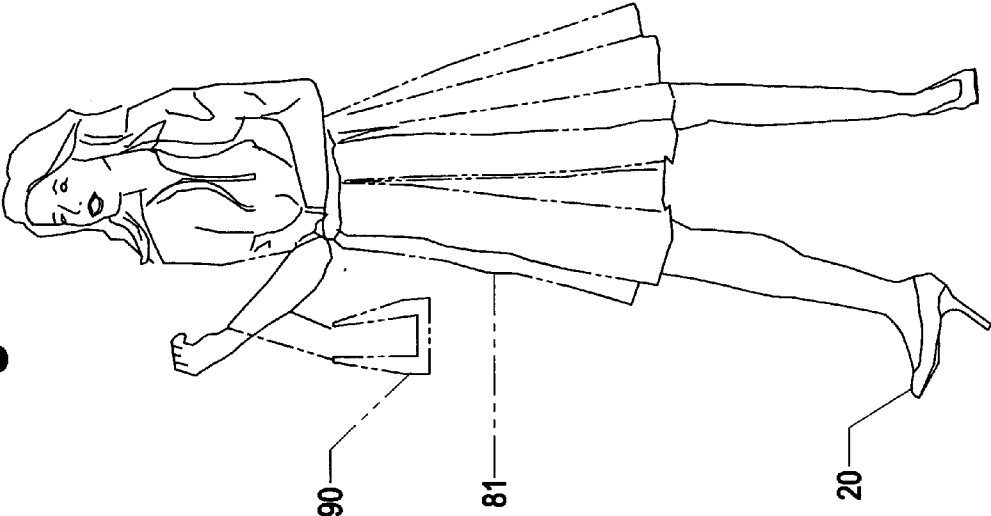
Fig. 7



SHOE WITH HIGH HEEL ATTACHED - REAR VIEW

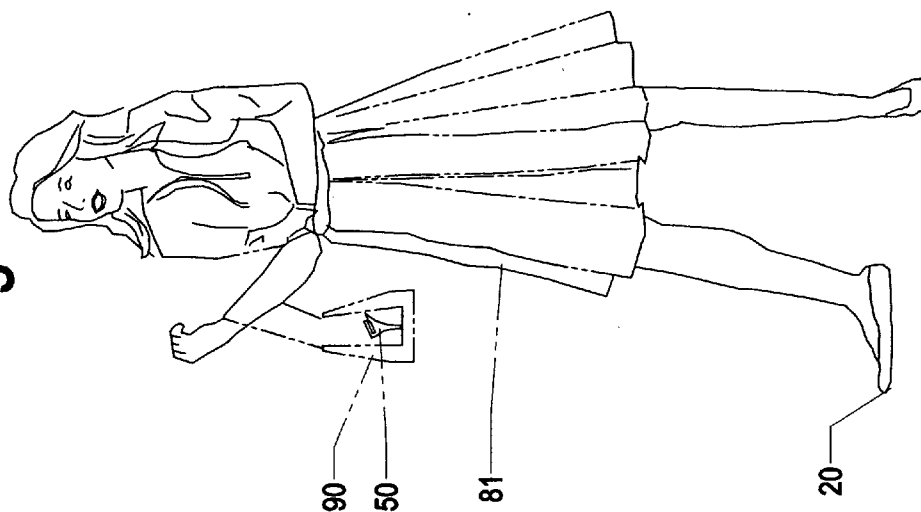


**Fig. 8**



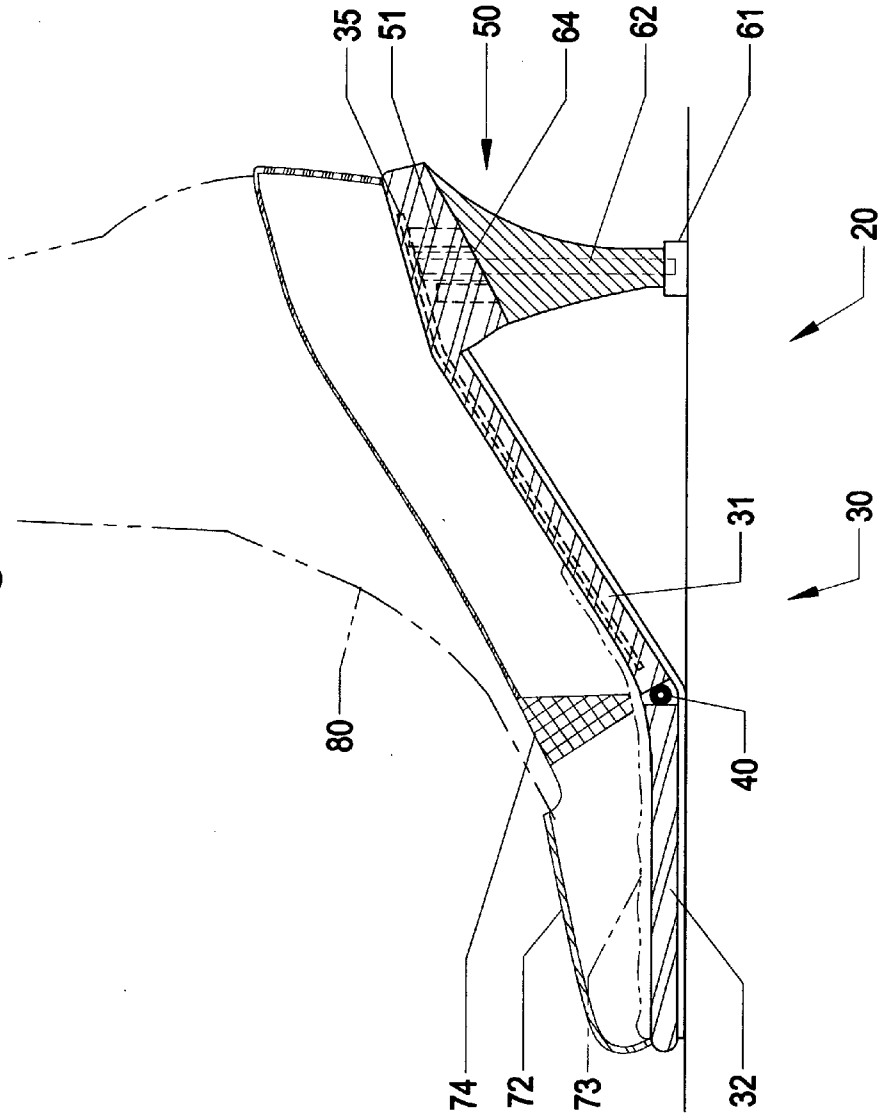
**SHOE WITH HIGH HEEL ATTACHED ON FOOT**

**Fig.**



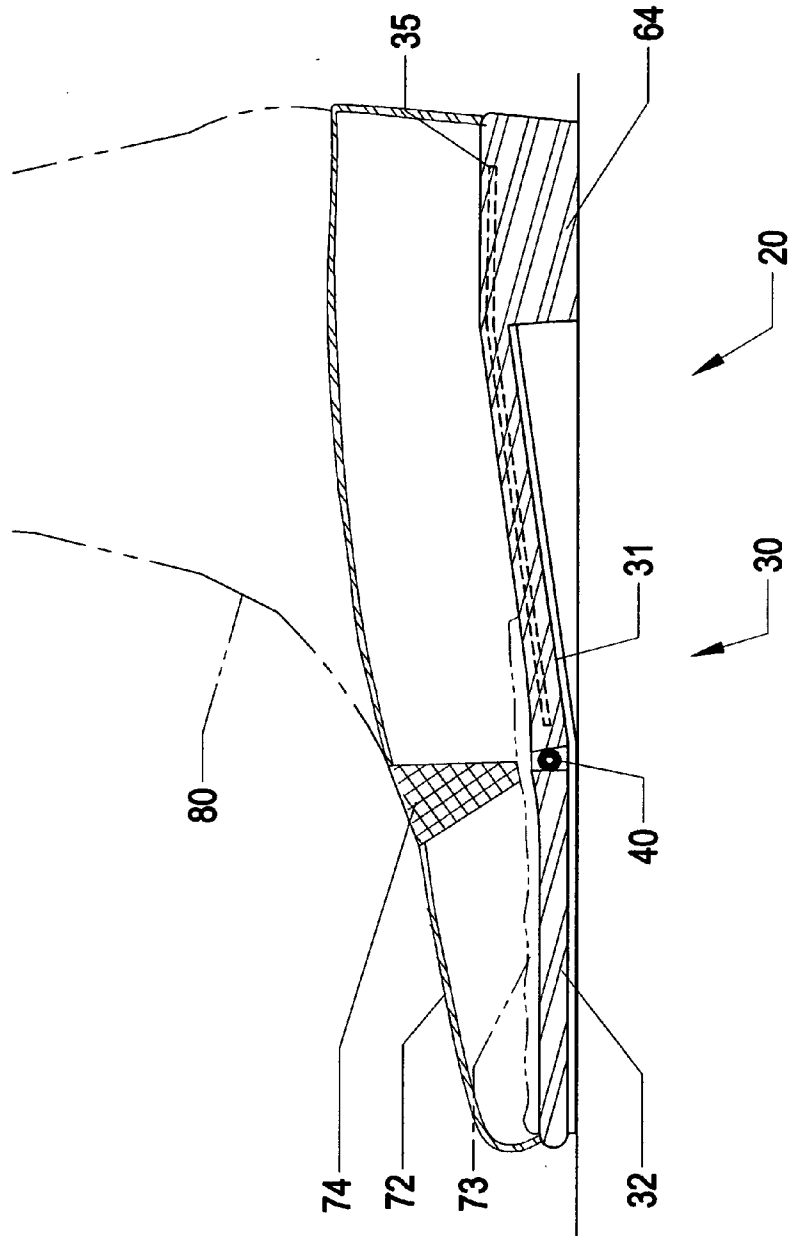
**SHOE WITH HIGH HEEL DETACHED AND SHOE AND IN PURSE**

Fig. 10



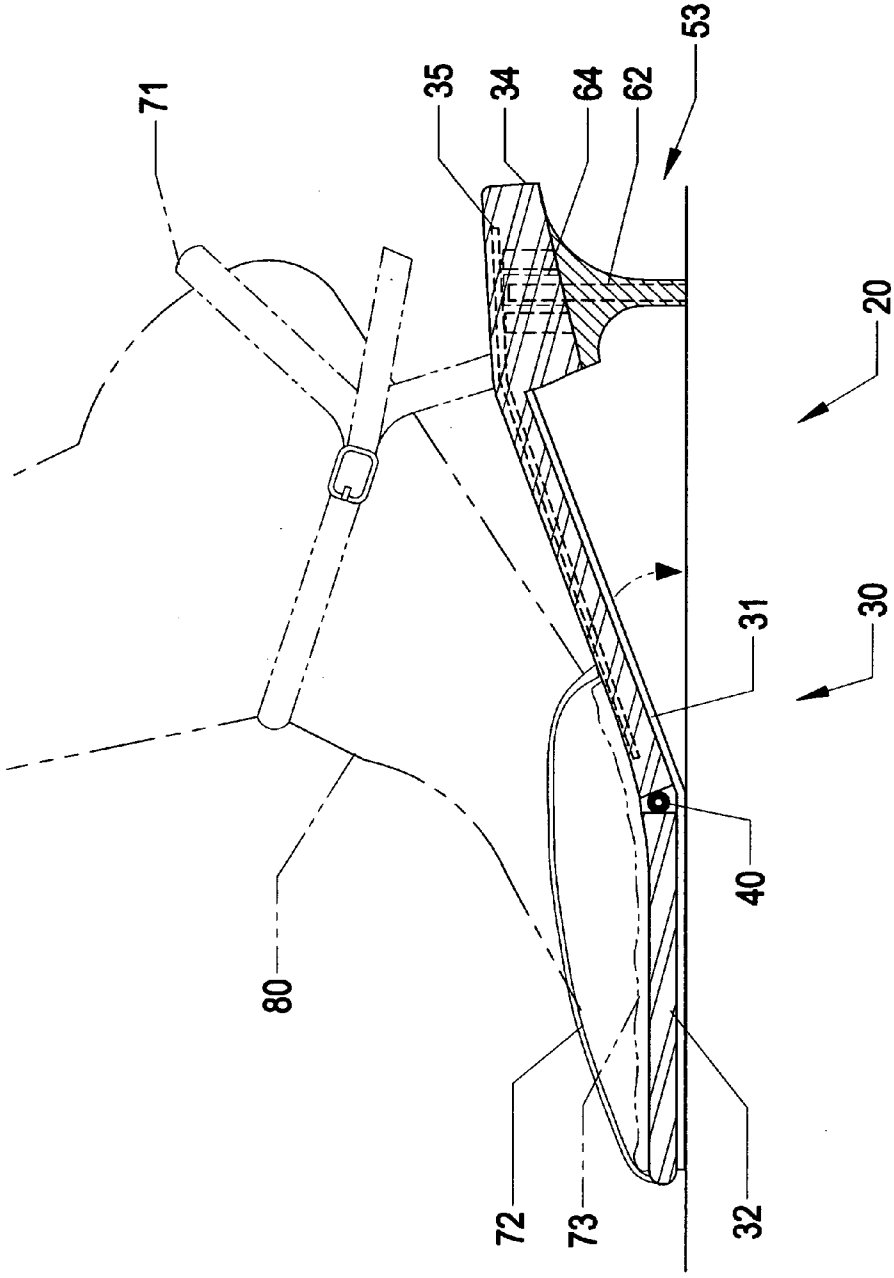
SHOE WITH HIGH HEEL ATTACHED WITH FULL BODY

Fig. 11



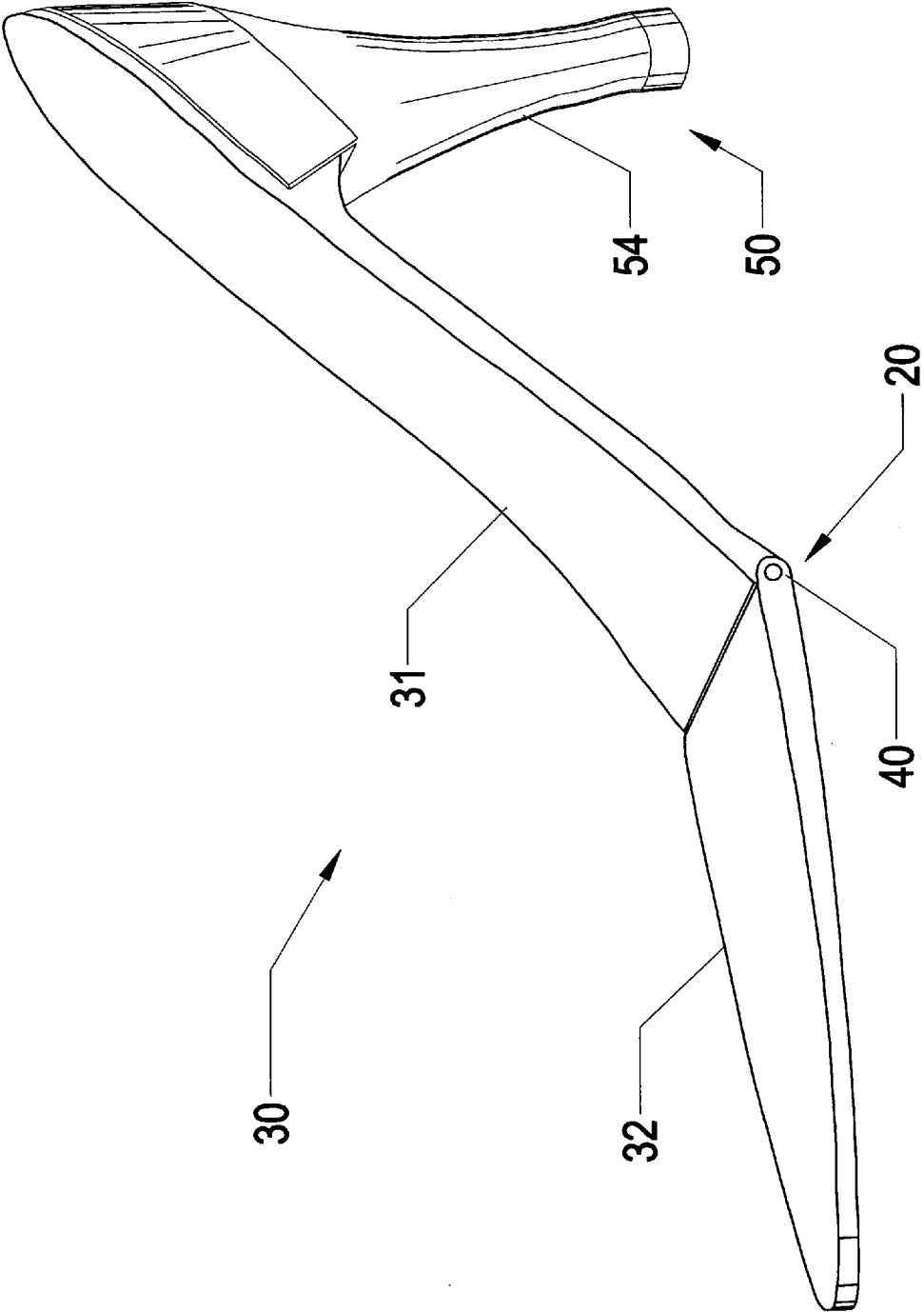
SHOE WITH HIGH HEEL DETACHED WITH FULL BODY

Fig. 12



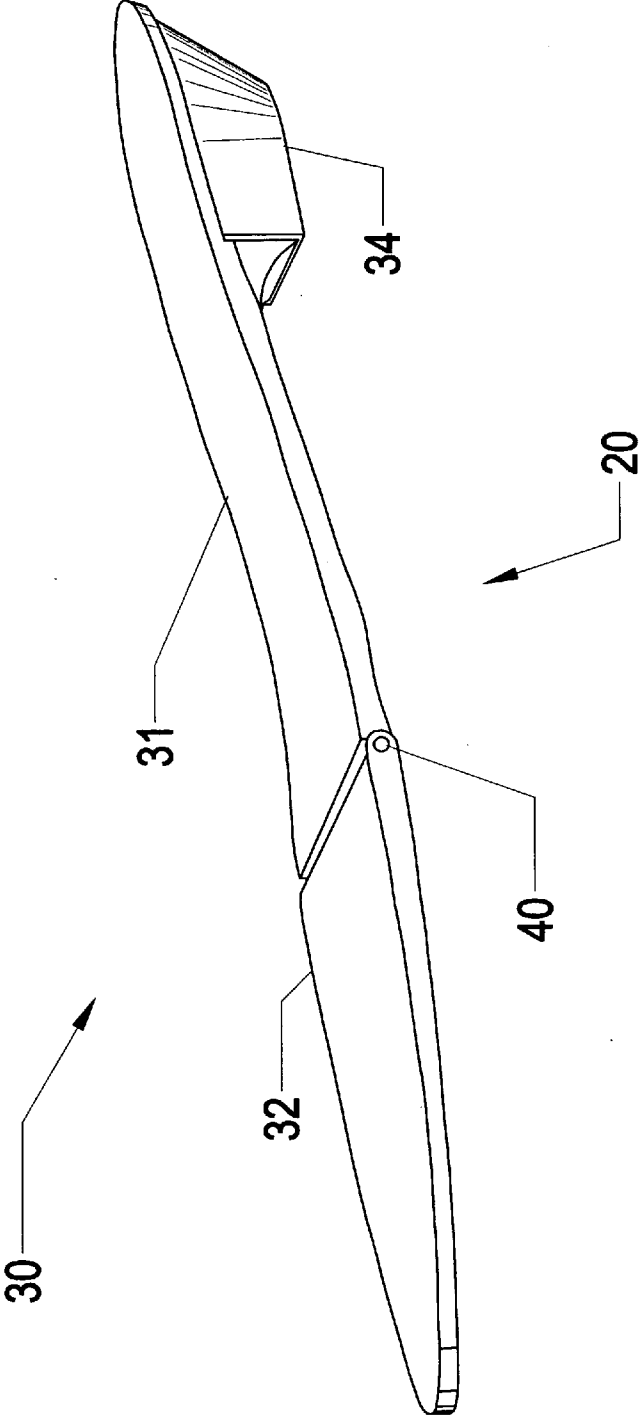
SHOE ROTATING TO HEELS OF VARYING HEIGHTS

Fig. 13

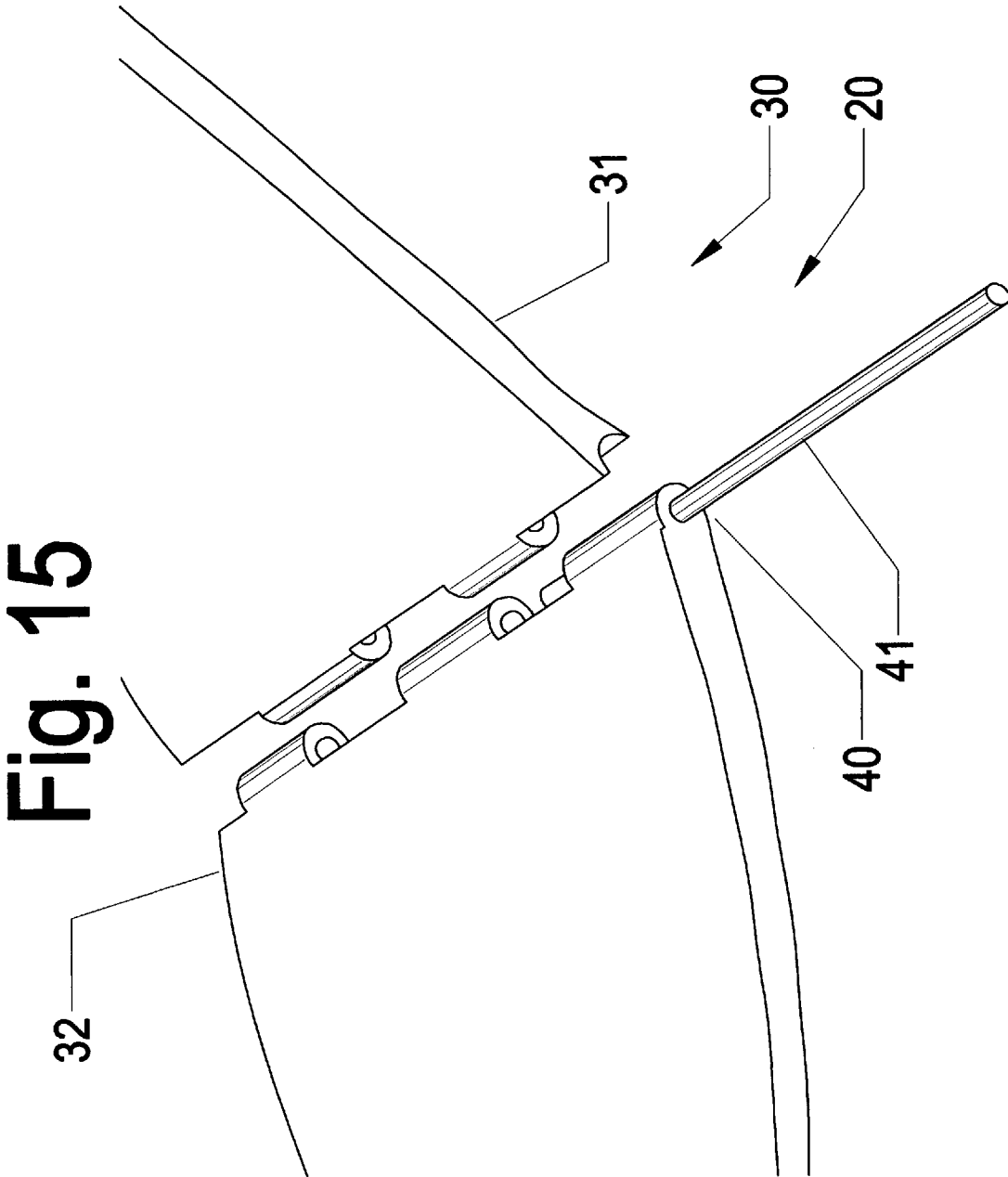


3D VIEW OF SHOE W/ HIGH HEEL ATTACHED

Fig. 14



3D VIEW OF SHOE SOLE IN FLAT POSITION

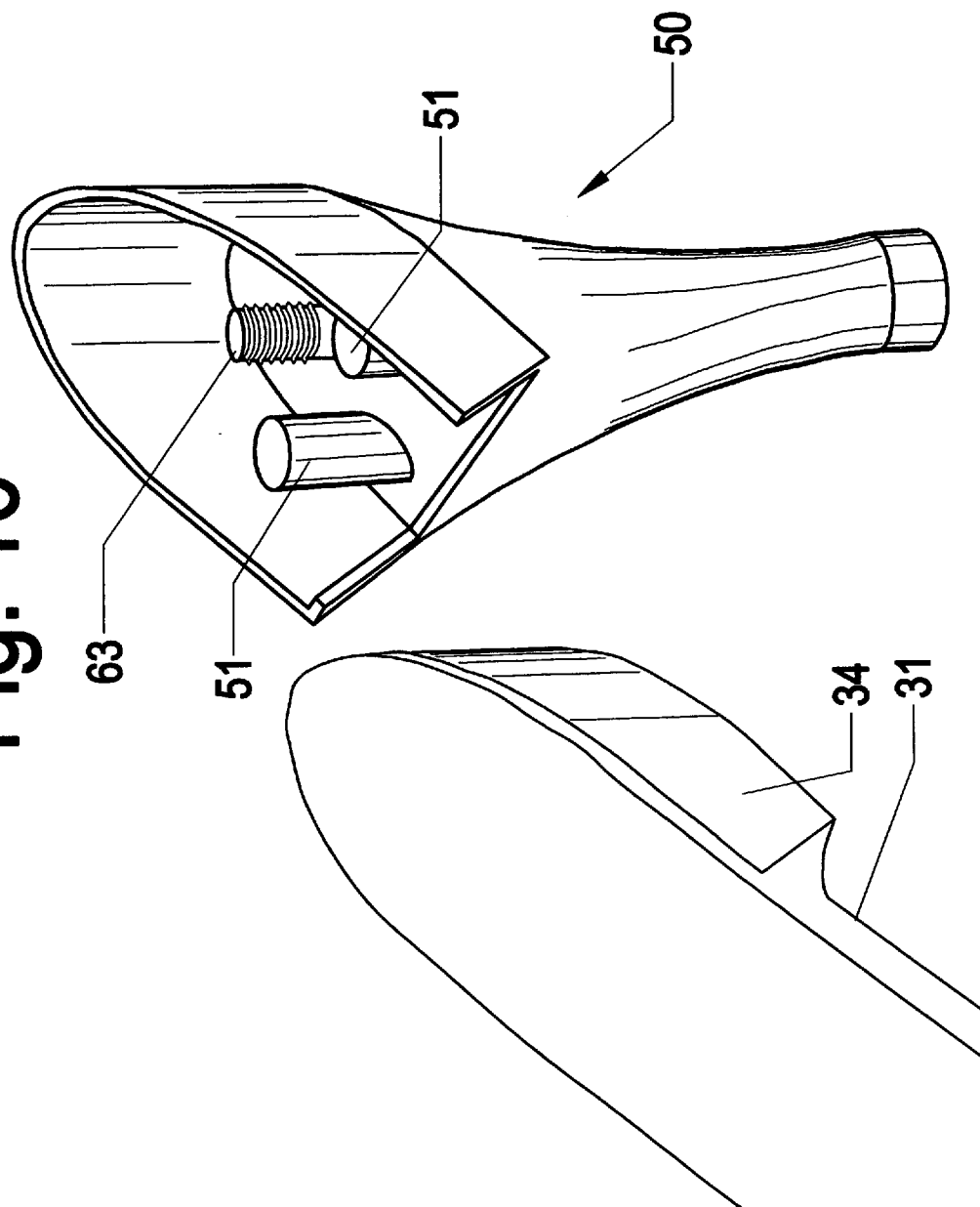


**Fig. 15**

**3D VIEW OF SOLE HINGE EXPLODED VIEW**

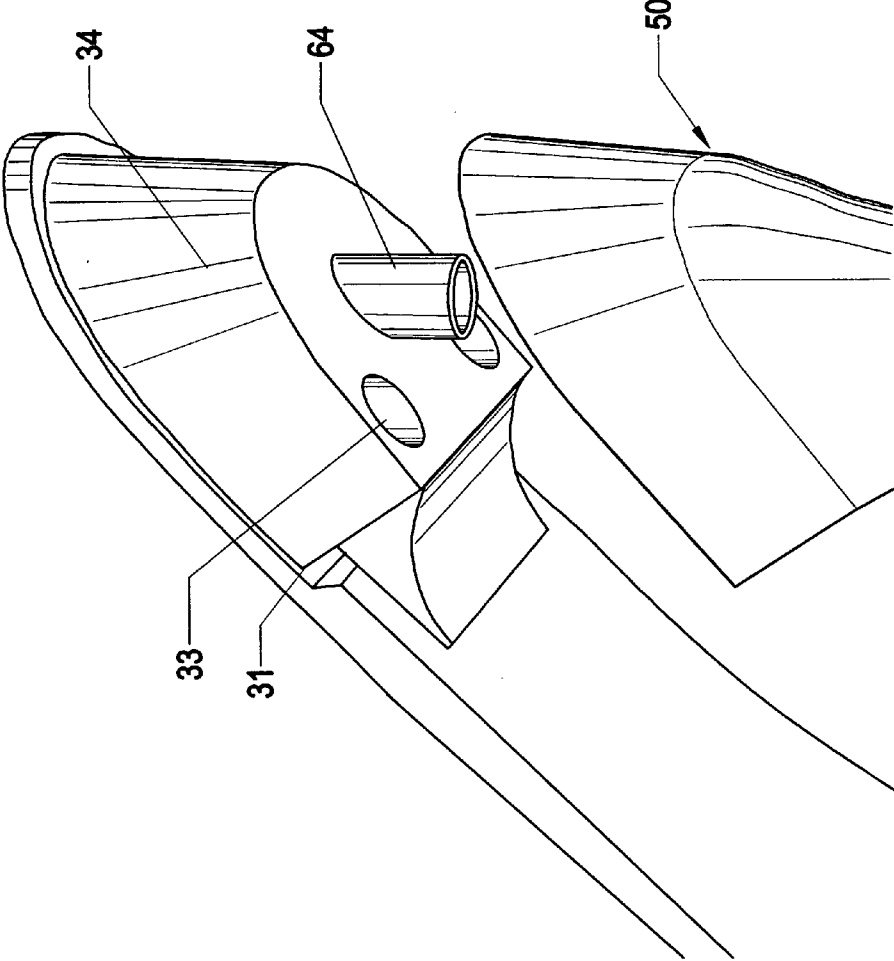


**Fig. 16**



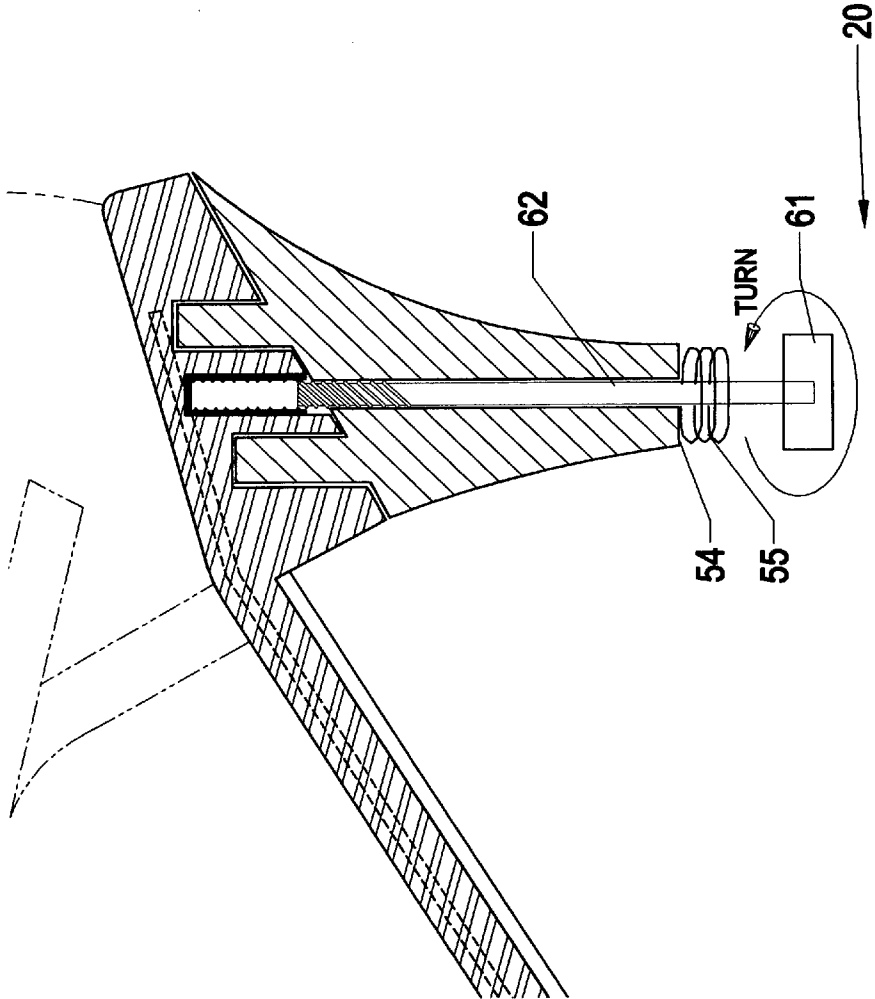
**3D VIEW OF SHOE WITH HEEL DETACHED**

**Fig. 17**



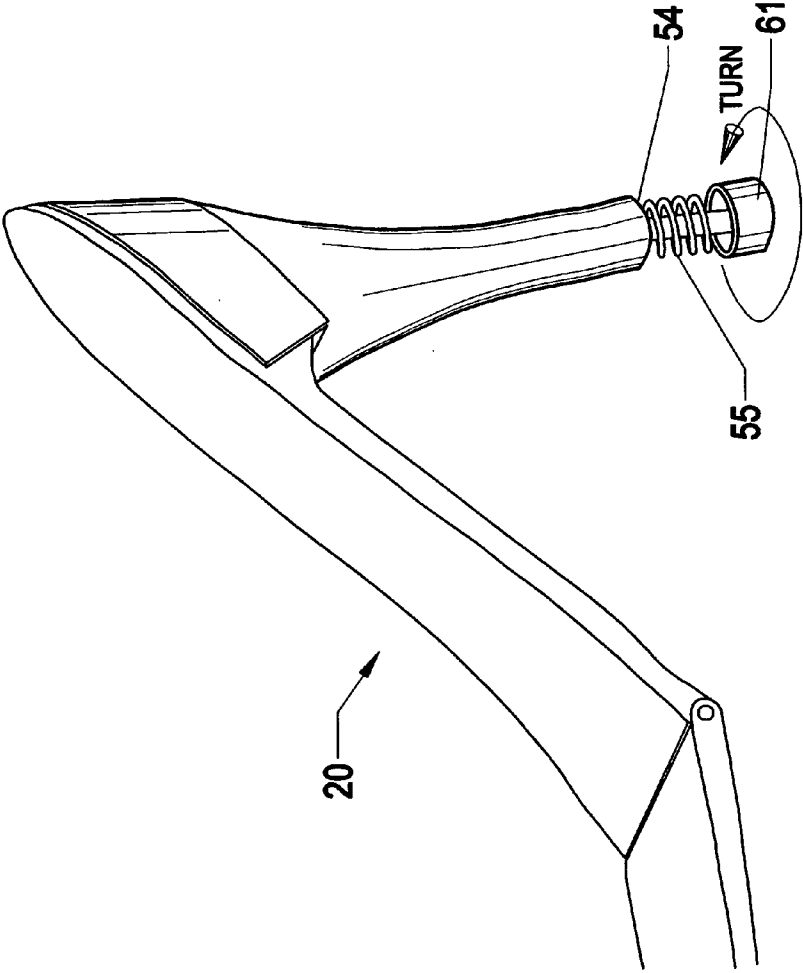
**3D VIEW OF SHOE SOLE WITH HIGH HEEL DETACHED**

Fig. 18



HEEL ATTACHED TO REAR SOLE W/ OPTIONAL HEEL SPRING

**Fig. 19**



**3D VIEW OF HEEL ATTACHED TO REAR  
SOLE W/ OPTIONAL HEEL SPRING**

**TRANSFORMABLE SHOE WITH A SOLE  
THAT CHANGES ANGLES TO ORIENT TO  
DIFFERENT HEIGHT HEELS THAT CAN BE  
DETACHED OR ATTACHED**

- [0001] I claim priority for Provisional Patent application No. 61/200,923 filed on Dec. 5, 2008
- [0002] There are previous patents that include detachable heels and or hinged soles.
- [0003] Schupbach U.S. Pat. No. 7,185,448 2007
- [0004] Schupbach teaches a replacement heel that slides into the rear part of the sole.
- [0005] The flexible sole will not provide for a strong enough support to absorb the weight of the person's downward force. Also there is no post in the heel to absorb the central weight. Also the connection of the heel to the sole seems weak.
- [0006] Watt U.S. Pat. No. 5,953,836 1999
- [0007] Watt teaches a replacement heel that snaps into the rear part of the sole.
- [0008] There is no means in this patent to convert the sole to a flat style shoe.
- [0009] Harman II Ser. No. 378,548 1997
- [0010] Harman II teaches a replacement heel that slides into the rear part of the sole.
- [0011] This invention does not provide a post in the heel to absorb the central weight. There is no means in this patent to convert the sole to a flat style shoe.
- [0012] Bryden U.S. Pat. No. 4,059,910 1997
- [0013] Bryden teaches a sandal with a hinge in the sole.
- [0014] There is no means for a replacement heel.
- [0015] Goldenberg U.S. Pat. No. 5,524,365 1996
- [0016] Goldenberg teaches a replacement heel that snaps into the rear part of the sole with a spring loaded device.
- [0017] There is no means in this patent to convert the sole to a flat style shoe.
- [0018] Lewis U.S. Pat. No. 5,456,026 1995
- [0019] Lewis teaches a replacement heel that slides into the rear part of the sole. There is no means in this patent to convert the sole to a flat style shoe.
- [0020] Goldsmith U.S. Pat. No. 5,477,625 1995
- [0021] Goldsmith teaches a replacement heel that attaches into the rear part of the sole. It connects by means of a strap wrapping around the rear of the heel.
- [0022] The connection device is weak and unstable. It will not withhold the downward pressure from the person's weight. Also there is no post in the heel to absorb the central weight. There is no means in this patent to convert the sole to a flat style shoe.
- [0023] Handel U.S. Pat. No. 5,309,651 1994
- [0024] Handel teaches a replacement heel that rotates into the rear part of the sole. The sole flexes in the arch section of the sole.
- [0025] The rotating heel is weak and will not effectively support the person's downwardly weight on the heel. The flexing sole is not strong enough to support the arch area of the person's foot.
- [0026] Clifton U.S. Pat. No. 5,079,857 1992
- [0027] Clifton teaches a replacement heel that screws into the rear part of the sole.
- [0028] There is no means in this patent to convert the sole to a flat style shoe.
- [0029] Felice U.S. Pat. No. 3,481,053 1969
- [0030] Felice teaches a sandal with a hinge in the sole.
- [0031] There is no means for a replacement heel.
- [0032] Gillead U.S. Pat. No. 3,478,447 1969
- [0033] Gillead teaches a heel that changes height.
- [0034] There is no hinge in the sole and the heel is not replaceable.
- [0035] Sarkissian U.S. Pat. No. 3,464,038 1969
- [0036] Sarkissian teaches a sole that changes angle.
- [0037] There is no means for a replacement heel. There is no hinge in the sole.
- [0038] Kaedian U.S. Pat. No. 3,455,038 1969
- [0039] Kaedian teaches a heel that detaches.
- [0040] There is no hinge in the sole.
- [0041] Holden U.S. Pat. No. 3,266,177 1966
- [0042] Holden teaches a heel that extends in height.
- [0043] There is no means for a detachable heel. There is no hinge in the sole.
- [0044] Theisman U.S. Pat. No. 3,152,408 1964
- [0045] Theisman teaches a heel that extends in height.
- [0046] There is no means for a detachable heel. There is no hinge in the sole.
- [0047] Gullo U.S. Pat. No. 3,121,962 1964
- [0048] Gullo teaches a sandal with a hinge in the sole.
- [0049] There is no means for a detachable heel.
- [0050] Goldberg U.S. Pat. No. 3,032,895 1962
- [0051] Goldberg teaches a sandal with a hinge in the sole.
- [0052] There is no means for a detachable heel.
- [0053] Romano U.S. Pat. No. 2,707,341 1955
- [0054] Romano teaches a heel that detaches.
- [0055] There is no hinge in the sole.
- [0056] Barrons U.S. Pat. No. 2,599,648 1952
- [0057] Barrons teaches a heel that detaches.
- [0058] There is no hinge in the sole.
- [0059] Fitz U.S. Pat. No. 2,590,648 1952
- [0060] Fitz teaches two hinges in the sole.
- [0061] There is no means for a replacement heel.
- [0062] Fathauer U.S. Pat. No. 2,517,472 1950
- [0063] Fathauer teaches a sandal with a hinge in the sole.
- [0064] There is no means for a replacement heel.
- [0065] Morrow U.S. Pat. No. 2,478,664 1949
- [0066] Morrow teaches a sandal with a hinge in the sole.
- [0067] There is no means for a replacement heel.
- [0068] Napton U.S. Pat. No. 2,450,250 1948
- [0069] Napton teaches a heel that rotates.
- [0070] There is no means for a replacement heel. There is no hinge in the sole.
- [0071] Srajer U.S. Pat. No. 2,239,471 1941
- [0072] Srajer teaches a sandal with a hinge in the sole.
- [0073] There is no means for a replacement heel.
- [0074] Kirke U.S. Pat. No. 2,177,571 1939
- [0075] Kirke teaches a sandal with a hinge in the sole.
- [0076] There is no means for a replacement heel.
- [0077] Pearson U.S. Pat. No. 2,129,099 1938
- [0078] Pearson teaches a heel that detaches.
- [0079] There is no hinge in the sole.
- [0080] Ron U.S. Pat. No. 1,158,265 1925
- [0081] Pearson teaches hinge in the sole.
- [0082] There is no means for a replacement heel.

## BACKGROUND OF THE INVENTION

**[0083]** 1. Field of Invention

**[0084]** This invention relates generally to shoes with heels of varying heights. The heels are detachable from the sole and replaced with different ones of different heights.

**[0085]** 2. An Analysis of the Prior Art as Related to the Developmental History of the Invention.

**[0086]** This invention in its present form was developed as a result of research into the problem associated with making shoes with detachable heels that can be replaced with heels of different heights. This invention can also function as a flat style shoe when no heel is attached to the sole. Upon investigation it became apparent that shoes as currently manufactured cannot transform into shoes with varying heel heights or no heel at all. The reason for this problem is the current manufacturing process. Currently high heels are permanently attached to the sole of the shoe. The heels cannot be removed unless they are broken away from the sole. A shoe with a broken high heel is unwearable for any walking distance.

**[0087]** Conversely shoes without heels or flat style shoes cannot be transformed into high heel or any other heel height. Currently the manufacturing process does not allow for shoes to be transformed into any style shoe other than what they are. The walking motion of high heel shoes is different than the walking motion of flat style shoes. The walking motion of high heel shoes involves putting more weight on the ball of the foot and toes. The toe portion of the shoe comes in contact with the floor surface at the same time as the heel. The downward pressure of the person's weight is thrust down on the ball and toes of the foot.

**[0088]** High Heel shoes can only be worn for a limited time due to this said downward pressure on the ball and toes of the foot. A person can only wear high heel shoes for only so many hours. After a time, discomfort sets in. The downward pressure on the ball and toes of the foot cause this discomfort. The person either has to stop walking or take off the high heel shoes. After the person cannot wear the high heel shoes, they have either the choice of changing shoes or removing them and going barefoot.

**[0089]** Also it is difficult for a person to wear high shoes on a bus, or a train, walking across a parking lot, getting in and out of the car, up and down staircases, on a slippery floor, outdoors in the rain or snow, etc. The surface area that comes in contact with the floor or ground of a high heel shoe is very small. The high heel surface area combined with the toe area of the shoe is very small as compared with that of a flat style shoe. Also when walking the downward pressure of the weight on the high heel can be very unstable on a slippery, wet, icy, uneven, or hilly surface. Wearing high heels on any of these surfaces can be very difficult or even dangerous.

**[0090]** A high heel is used by people for certain occasions, and a flat style shoe is used for other occasions. When a person goes out to a formal affair, they will need to wear high heel shoes. Formal affairs include weddings, concerts, dates, etc. These occasions usually include dancing. Women love to dance in high heels. Then later that night he/she cannot continue to wear the high heel shoes. The person needs to take the high heel shoes off because of the discomfort. At the end of a night of dancing you see a lot of girls walking around barefoot. The problem being a person has to carry two sets of shoes or walk around barefoot carrying the shoes.

**[0091]** Flat style shoes are worn in other occasions. These occasions usually involve a lot of walking or time spent on their feet. These include at work, school, shopping, strolling,

etc. The walking motion in a flat style shoe involves the initial contact of the sole will be with the heel. The heel hits the floor or ground first. The weight is then transferred to the toe portion of the shoe as each step is taken. This is a more natural motion of walking than that of a high heel shoe.

**[0092]** Arch support is required in the normal walking motion within the shoe. This occurs in a normal foot between the ball of the foot and the end of the heel area. There is an arch in a foot that must be supported. In a current conventional shoe design there is a raised arch in the sole of the shoe to support this natural arch in the foot.

**[0093]** A high heel must absorb the downward weight of the person. When standing or walking in high heels the person's weight is concentrated on the central part of the heel and the ball of the foot. In the current method of construction of a high heel shoe the central part of the heel contains a post. The post is attached to a steel shank embedded in the sole of the shoe. This shank can be made of a flexible metal or other strong material. This shank can be flexible enough to assume the flat position of the sole and still be strong enough to provide the necessary strength within the sole to absorb the downward weight from the person's weight. The post extends down from the sole to the bottom of the heel. The heel is centered around this post. This post is usually a metal material.

**[0094]** Also there is a geometric distance from the ball of the foot to the heel. This distance remains constant whether the shoe is in the flat style position or it is in the high heel position. The sole rotates and changes angle from the flat position to the high heel position and the distance from the ball of the foot to the heel does not change.

**[0095]** A significant comfort advantage over the current high heel shoes is the stability provided by the hinged connection between the front sole and the rear sole. This allows balancing forces from the front toe section to be applied to aid in controlling instability within the shoe when the high heel is attached.

**[0096]** High heel shoes can be worn for a limited amount of time but are required at certain occasions. Flat style shoes can be worn for a much longer period of time are worn for other occasions.

**[0097]** The current problem is that a person needs two pairs of shoes and this is not always the case. An example of this situation is a person is at work wearing their flat style shoes and receives an invitation to go to a formal affair that requires high heel shoes. The person needs to go home or shopping to obtain a pair of high heel shoes.

**[0098]** The term dress shoes include a wide variety of shoes, e.g., opera pumps to high fashion shoes. Dress shoes can have a wide range of heel heights and shapes, from a modest 2 inch heel to a 4 or 5 inch stiletto heel. The higher the heel, the more difficult the shoes are to walk in for extended periods and distances than flat heeled shoes, and they slow down the walker. Thus it has become the norm for people to wear low heeled walking shoes to and from work, and then to change shoes when they reach their place of business or the club for dancing. This necessitates someone carrying high heel shoes along with a pair of flat walking shoes back and forth, or maintaining an extensive shoe wardrobe at the workplace.

**[0099]** It is theorized that a shoe could be built with a two piece sole capable of changing angles to allow for the attachment of different size heels could be produced. It would serve as a flat style shoe with a low heel along with heels of various heights. Such a shoe could be worn comfortably as a flat style

shoe and then easily transformed into a high heel or other height heel shoes. Conversely, a high heel shoe could easily be transformed back into a mid height heel, or a flat style shoe again.

**[0100]** The high heels or mid range heels that have been detached can be stored in the persons purse or other storage device.

**[0101]** Other advantages for a replacement heel include:

**[0102]** 1. The heel can also be replaced with a different heel of a different style or color. In the field of footwear, a need has been recognized for a more economical way to match the footwear to the person's wardrobe than having one or more pairs of shoes for each suit, dress, or casual outfit that a person may own. For example, red heels to match a red purse.

**[0103]** 2. Replacement heels can be used to replace broken heels. High heels are sometimes easily broken when stepping off a curb or something similar. Replacing a heel is more economical than replacing a pair of shoes.

**[0104]** 3. Replacement heels of various height heels. If a person is at an occasion that requires a midrange heel, it can easily be replaced with just that.

**[0105]** 4. The heel can be replaced with a custom shape heel. Heels can be of different designs and shapes and can be easily attached to the shoe. An example of this would be a cocktail waitress can be wearing a set of heels that look like a "martini glass".

#### SUMMARY OF THE INVENTION

**[0106]** The present invention provides a transformable shoe that provides the wearer with a combination of shoe styles. The shoe can transform from a high heel shoe to a flat style shoe or anywhere in between. This is accomplished by providing a sole that can change angles to accommodate for different height heels. The sole will consist of a front toe section and a rear sole section. The two sections can be connected with a hinge. The hinge will rotate the rear sole section to accommodate for different height hinges.

**[0107]** Also the design of the sole of the invention solves the problem of discomfort present in current high heel shoes. The current design of high heel shoes the sole from front to rear is a rigid frame. A hinge in the sole will provide some flexibility. This flexibility in the sole can reduce discomfort because balancing forces from the toes to counteract instability in the heel area and reduce the wobbling situation that exists in a rigid sole.

**[0108]** The walking motion while wearing high heels is different than flat style shoes. The normal walking motion of wearing flat style shoes consists of the heel comes in contact with the floor or ground first. Then the persons weight is transferred to the arch of the foot and then finally the toes. The walking motion while wearing high heel shoes is different. The high heel comes in contact with the floor or ground and the same time as the toe section.

**[0109]** The invention provides for replaceable heels of different heights or styles. The person can easily detach the high heel and replace it with a mid height heel. The person can also detach the heel and transform the shoe into a flat style shoe. The heels can be stored in the persons purse. Wearing a flat style shoe provides the wearer with more comfort and the walking motion is more natural. The person can easily transform the flat style shoes by attaching the high heel back onto the sole of the shoe.

**[0110]** The invention also provides for a fashion statement. The ability to replace heels can easily change the wardrobe.

An example of this is replacing a high heel with a red color high heel to match the persons red purse. Replacement heels can also be different shapes or styles. An example of this is a cocktail waitress can replace her high heel with a high heel that is a "martini" glass.

**[0111]** The height of the high heel can be of any height. The hinge can rotate to any angle to accommodate for the desired heel height. If an extremely high heel height is required, the rotation of the hinge might not be enough to accommodate for this. In this case a platform of a desired height can be added to the front toe section of the sole to accommodate for a higher heel height.

**[0112]** The shoe frames and heels of the present invention can be transformed from a walking shoe, having a low heel height, to a shoe having a higher heel height, conveniently and rapidly. A high heel that is detachable and replaceable. In addition, the shape of the shoe frame can be changed to increase the comfort of the wearer depending on the height of the heel chosen.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0113]** 1 is an elevation view of the two part sole with the heel attached.

**[0114]** 2 is a cross sectional view of the two part sole with the heel detached.

**[0115]** 3 is a cross sectional view of the two part sole rotating to a flat position. The person's foot is inserted into the shoe.

**[0116]** 4 is a cross sectional view of the two part sole with the heel detached. The person's foot is inserted into the shoe. The hinge is being rotated to the lower height position.

**[0117]** 5 is a cross sectional view in the longitudinal direction of the two part sole with the heel attached.

**[0118]** 6 is a view of the person wearing the transformable shoe with the heel attached.

**[0119]** 7 is a view of the person wearing the transformable shoe with the heel detached. She has placed the detached heel in her purse.

**[0120]** 8 is a cross sectional view of the two part sole with a full body in the high heel position.

**[0121]** 9 is a cross sectional view of the two part sole with a full body in the flat heel position.

**[0122]** 10 is a cross sectional view of the two part sole with the mid-heel attached.

**[0123]** 11 is a 3D view of the two part sole in the high heel position.

**[0124]** 12 is a 3D view of the two part sole in the low heel position.

**[0125]** 13 is a 3D view of the two part sole's separated revealing the hinge.

**[0126]** 14 is a 3D view of the rear sole with the heel detached.

**[0127]** 15 is a 3D view of the rear sole with the heel detached.

**[0128]** 16 is an enlarged cross section view of the rear sole with the heel being attached to rear sole.

**[0129]** 17 is a cross section view of the rear sole with the heel attached with optional spring.

[0130] 18 is a 3D view of the rear sole with the heel attached with optional heel spring.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0131] The shoe frame as described hereinbelow is independent of the final appearance of the shoe which can vary according to the dictates of the shoe designer. The high strength shoe elements described herein are meant to be covered with standard liners, cushion materials, uppers, sole coverings and heel coverings, which can be made of various materials known to those skilled in the art such as leather, various man made materials and resins, fabric and the like. The transformable heel can be made of metal or other high strength material, which will be covered with leather, plastic, fabric and the like, or can be made of other materials. The basic structure of the shoe frame of the invention is independent of the size, shape, type and materials which provide the final appearance of the shoe.

[0132] This invention provides for a sole with 2 sections connected with a hinge that can rotate and change angles to accommodate for different heel heights. The hinge described in the following drawings is a preferred method. The hinge can be accomplished by other methods other than described below. The hinge can be a separate piece and attached to the sole. The sole can also be of one continuous piece with a flexible material capable of change angles.

[0133] Heels of varying heights are attached and detached to the sole of the shoe. The drawings are indicating a preferred method of attachment and detachment of the heel to the sole. There can be other methods of attachment, such as sliding into grooves, clipping, or snapping.

[0134] Thus the toe portion of the sole and the heel portion of the transformable shoe sole of the invention can be constructed in a variety of methods. Generally each portion of the sole can be constructed in one piece or layers of materials plied together. It can be made of an injection molded polymer or other synthetic material. The two piece sole will have a hinge type joint in the metatarsal region. This is the approximate location of where the person's ball of the foot will be engaging. This hinge joint may have a built-in defined range of motion or can have an infinite amount of rotation. Its contacting surfaces may be texturized for example to cause some limited restriction to flexion and extension, and also to act as a shock absorber.

[0135] Other ways of adjusting the angle of the individual portions of the shoe sole will suggest themselves to one skilled in the art, and are meant to be included herein.

[0136] It is apparent that the shoe designer has a wide choice among the various embodiments shown here in both the shoe sole elements and the heel elements, depending on the ultimate design of the shoe, and the relative heights of the high heel and the low heel versions. The shoe frame and heel as described hereinabove are not meant to be limited to the details described herein, but many variations thereof will be apparent to one skilled in the art. For example, the shoe frame can be made of additional portions so as to allow for greater variation of the contour of the sole and the relative positions of the arch with respect to the heel and toe portions of the shoe, thereby providing for a wide variation in design.

[0137] The detachable heel can, as an option, contain a sturdy pin in its interior to provide for structural support when weight is applied by the person stepping down on the sole of the shoe.

[0138] The relative positions of the sole portions can be adjusted to allow for variations in the height and shape of the extended heel to be employed. Thus the invention is meant only to be limited by the appended claims.

[0139] The shoe frame and heel of the invention will be further described by reference to the drawings.

[0140] Parts List:

[0141] Shoe 20

[0142] Sole 30 Rear sole 31 Front sole 32 Pin hole 33 Rear sole heel 34 Optional sole shank 35

[0143] Hinge 40 Hinge axle 41

[0144] Heel 50 Heel pin 51 Heel Hollow 52 Mid heel 53 Heel Bottom 54

[0145] Post 60 Post bottom 61 Post Rod 62 Post nut 63 Post 64

[0146] Shoe body 70 Shoe strap 71 Shoe body 72 Shoe cushion 73 Shoe body elastic 74

[0147] Foot 80 Person 81

[0148] Storage Unit 90

[0149] 1-19 is an elevation view of the Shoe 20 having a front sole comprising a front sole 32 and a rear sole 31. The hinge 40 is connected both to the front sole 32 and to the rear sole 31. The hinge 40 has been rotated. A heel 50 is shown attached to the rear sole 31 via the post 60. The shoe 20 is shown in the high heel position. The person 81 has inserted the foot 80 into the shoe body 72 of the shoe 20 and is secured by the strap 71. The optional sole shank 35 is indicated inside the rear sole 31.

[0150] 2-19 is a cross sectional view of the Shoe 20 having a front sole comprising a front sole 32 and a rear sole 31. The hinge 40 is connected both to the front sole 32 and to the rear sole 31. The hinge 40 has been rotated. A heel 50 is shown attached to the rear sole 31 via the post 60. The shoe 20 is shown in the high heel position. The person 81 has inserted the foot 80 into the shoe body 20 of the shoe 20 and is secured by the strap 71.

[0151] 3-19 is a cross section view indicating the heel 50 has been detached from the rear sole 32. The foot 80 is stepping into the shoe 80. The foot 80 has been inserted into the shoe body 72 and the shoe strap 71. The foot 80 is applying weight to the rear sole heel 50.

[0152] 4-19 is a cross section view indicating the person 81 has stepped into the shoe 20. The heel 50 has been detached from the Shoe 20. The strap 71 has been secured around the person's foot 80. The hinge 40 has been rotated until the sole 30 is in the flat position. The foot's 80 full weight has been applied downwardly on the rear sole heel 50.

[0153] 5-19 is a cross section view in a longitudinal direction, indicates the Shoe 20 in the high heel position. The heel 50 has been attached to the rear sole 31 by inserting the post 60 into the post nut 64. This is accomplished by rotating the post bottom 61. The post nut 64 can be welded to a optional sole shank 35 which is inside the rear sole 31.

[0154] 6-19 is a view of a person 81 wearing the shoe 20 in the high heel position. The heel 50 is attached to the shoe 20. She is carrying a storage unit 90.

[0155] 7-19 is a view of a person 81 wearing the Shoe 20 in the flat heel position. She has detached the heel 50 from the rear sole 31. She has placed the detached heels 50 in her purse 90.

[0156] 8-19 is a cross sectional view of the shoe 20 having a sole comprising a front sole 32 and a rear sole 31. The Shoe 20 is comprised of a full shoe body 72 style The hinge 40 is connected both to the front sole 32 and to the rear sole 31. The



hinge 40 has been rotated. A heel 50 is shown attached to the rear sole 31 via the post 60. The shoe 20 is shown in the high heel position. The person 81 has inserted the foot 80 into the shoe body 72.

[0157] 9-19 is a cross section view indicating the person 81 has stepped into the shoe 20 and inserted the foot 80 into the shoe body 72. The Shoe 20 is comprised of a full body style. The hinge 40 has been rotated to the full extent such that the sole 30 is in the flat position. The shoe 20 is currently in the flat position. Because of the hinge 40 rotating and the sole 30 being in the flat position, the body elastic 74 has stretched.

[0158] 10-19 is a cross section view indicating the person 81 is stepping into the shoe 20. The heel 50 has been detached from the rear sole heel 34. The mid heel 53 has been attached to the rear sole heel 34. The shoe strap 71 has been secured around the person's foot 80. The hinge 40 has been rotated until the sole 30 is in the mid heel position. The foot's 80 full weight is being applied downwardly on mid heel 53.

[0159] 11-19 is a 3D view of the shoe 20 in the high heel position. The hinge 40 has been rotated to the high heel position. The heel 50 has been attached to the rear sole heel 34.

[0160] 12-19 is a 3D view of the shoe 20 in the flat heel position. The hinge 40 has been rotated to flat heel position. The heel 50 has been detached from the rear sole heel 34.

[0161] 13-19 is a 3D view of the front sole 32 separated from the rear sole 31, revealing the hinge 40. The hinge axle 41 is shown removed from the hinge 40. The hinge axle 41 will protrude thru the interior hollow of the hinge 40 within the front sole 32 and the rear sole 31.

[0162] 14-19 is a 3D view of the heel 50 being detached from the rear sole heel 34. The threaded post 60 the post bottom 61, and the heel pins 51 are indicated.

[0163] 15-19 is a 3D view of the heel 50 being detached from the rear sole heel 34. The threaded post nut 64 and the rear sole pin holes are indicated. The threaded post nut 64 can be secured (such as welded), to the optional sole shank 35.

[0164] 16-19 is a cross sectional view of the heel 50 attached to the rear sole heel 34. The two heel pins 51 have been inserted into the two pin holes 55. The threaded post 60 is sliding inside the heel hollow 52 of the heel 50. The post bottom 61 is being turned in a circular motion. This rotates the post 60 and the post threads 63. The post threads 63 will screw up into the post nut 64. The post nut 64 can be welded to the alternate sole shank 35. The post bottom 61 will turn until it fully comes in contact with the heel bottom 54.

[0165] 17-19 is a cross sectional view of the heel 50 being attached to the rear sole heel 34. The alternate heel spring 55 is attached to the heel bottom 54. The alternate heel spring 55 will serve as a shock absorber during walking.

[0166] 18-19 is a view of the heel 50 being attached to the rear sole heel 34. The alternate heel spring 55 is attached to the heel bottom 54. The alternate heel spring 55 will serve as a shock absorber during walking.

[0167] 19-19 is a 3D view of the heel 50 being attached to the rear sole heel 34. The alternate heel spring 55 is attached to the heel bottom 54. The alternate heel spring 55 will serve as a shock absorber during walking.

I claim:

1. A shoe assembly comprising:
  - a front sole section having a front sole section rear edge,
  - a rear sole section having a rear sole section front edge and a rear sole section axis,
  - a heel removably attached to said rear sole section, and
  - a hinge connecting said front sole section and said rear sole section,
 wherein:
  - said hinge is perpendicular to said rear sole section axis.
2. The shoe assembly of claim 1 wherein:
  - said rear sole section has a rear sole section rear edge, and
  - wherein said rear sole section axis extends from approximately the midpoint of said rear sole section rear edge to approximately the midpoint of said rear sole section front edge.
3. The shoe assembly of claim 1 wherein said hinge comprises:
  - a cylinder with an open center, and
  - an axle rod extending through the open center of said cylinder.
4. The shoe assembly of claim 1 wherein:
  - said heel has a heel top surface and a heel bottom surface,
  - said heel has a heel interior hollow,
  - said rear sole section has a rear sole section bottom surface, and
  - said rear sole section bottom surface has a rear sole section threaded hole.
5. The shoe assembly of claim 4 wherein:
  - said heel is removably attached to said rear sole section, further comprising:
    - means to connect said heel with said rear sole section.
6. The shoe assembly of claim 5 wherein said means to connect said heel top surface with said rear sole section bottom surface comprises:
  - a rod of rigid material,
  - wherein:
    - said rod enters said heel interior hollow,
    - the length of said rod is a least equal to the distance from said heel top surface to said heel bottom surface, and
    - said rod has rod threads.
7. The shoe assembly of claim 6 wherein:
  - said rod threads engage with said rear sole section threaded hole.
8. The shoe assembly of claim 7 wherein:
  - said heel provides structural support, and
  - said rod provides structural support of weight directed downwardly upon said rear sole section.
9. The shoe assembly of claim 8 wherein:
  - said heel top surface has heel top protrusions,
  - said rear sole section bottom surface has rear sole section bottom surface recesses, and
  - said heel top surface protrusions enter into said rear sole section bottom surface recesses.
10. The shoe assembly of claim 9 wherein:
  - said rod enters rear sole section bottom surface recesses, and
  - said rod snaps into rear sole section bottom surface recess.

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