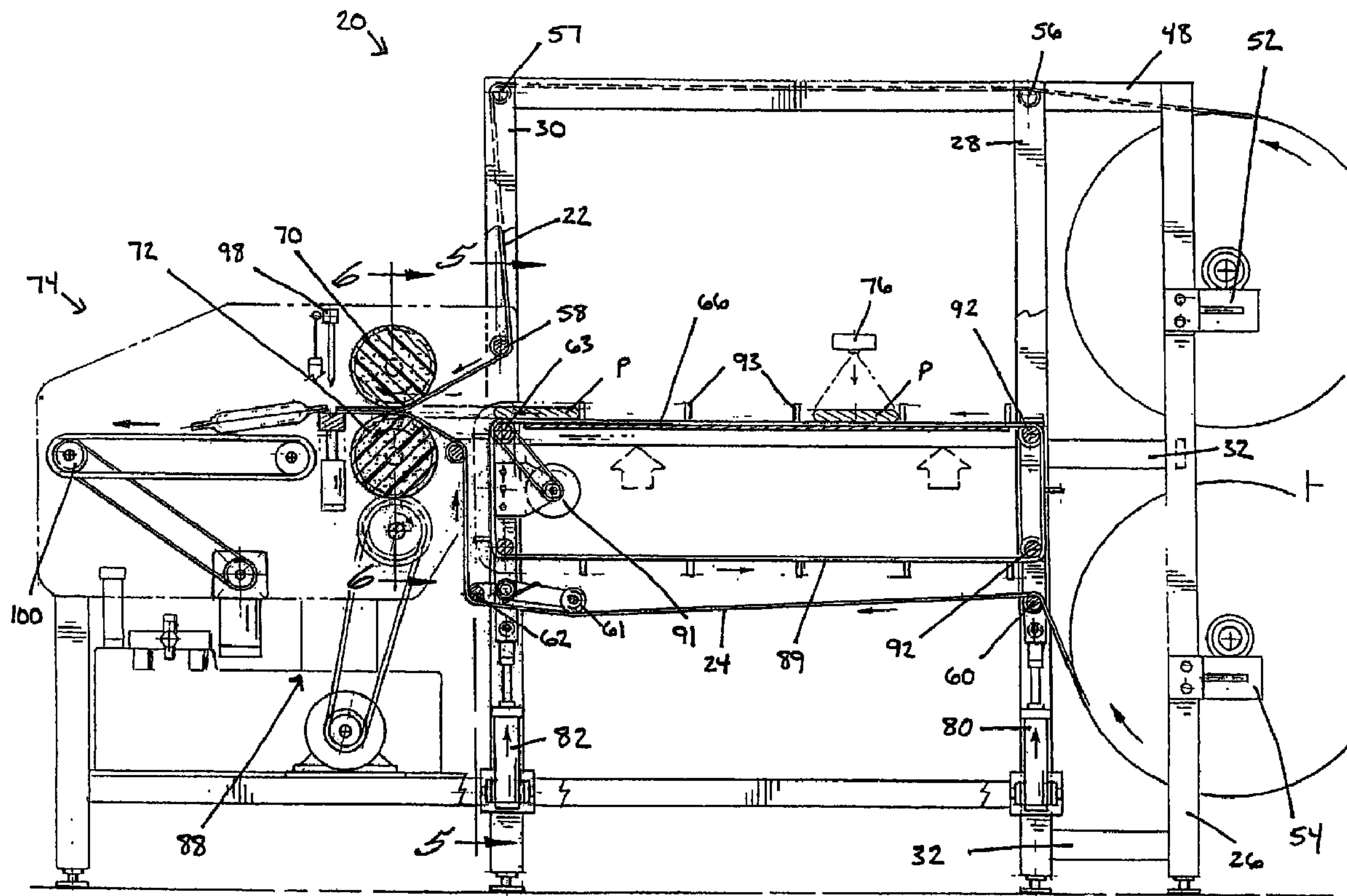




(22) Date de dépôt/Filing Date: 2006/03/27  
 (41) Mise à la disp. pub./Open to Public Insp.: 2006/09/30  
 (45) Date de délivrance/Issue Date: 2009/08/11  
 (30) Priorité/Priority: 2005/03/30 (US11/094,826)

(51) Cl.Int./Int.Cl. *B65B 11/50* (2006.01),  
*B65B 35/00* (2006.01), *B65B 51/10* (2006.01),  
*B65B 57/04* (2006.01)  
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(54) Titre : BERCEAU D'ALIMENTATION REGLABLE POUR EMBALLEUSE  
 (54) Title: ADJUSTABLE INFEEED BED FOR PACKAGING APPARATUS



(57) **Abrégé/Abstract:**

An apparatus for packaging an object, the apparatus having an adjustable infeed bed to center the object before a nipping operation. The packaging apparatus includes a pair of opposing rollers and an adjustable infeed bed. The pair of opposing rollers pushes together sheets of packaging material against each other and the object or product to be package. In order to accommodate objects of various heights, the infeed bed is adjustable so as to line up the center of the object to the center of the rollers. To determine the proper adjustment to the infeed bed, the packaging apparatus may also include a height detector for measuring a height dimension for an object.

**ABSTRACT OF THE DISCLOSURE**

An apparatus for packaging an object, the apparatus having an adjustable infeed bed to center the object before a nipping operation. The packaging apparatus includes a pair of opposing rollers and an adjustable infeed bed. The  
5 pair of opposing rollers pushes together sheets of packaging material against each other and the object or product to be package. In order to accommodate objects of various heights, the infeed bed is adjustable so as to line up the center of the object to the center of the rollers. To determine the proper adjustment to the infeed bed, the packaging apparatus may also include a height detector for measuring a height  
10 dimension for an object.

## ADJUSTABLE INFEED BED FOR PACKAGING APPARATUS

### FIELD OF INVENTION

The present invention relates to machines and methods for packaging objects using flexible or semi-flexible sheet materials, wherein an object is disposed between two portions of sheet material and the two portions are sealed together about the periphery of the object to form a package.

### BACKGROUND OF THE INVENTION

Flexible packaging has long been used to package products such as books, compact discs, cassette tapes, and a host of other types of objects to provide protection when shipping or mailing the objects, and in some cases to hermetically seal the objects from the outside environment. Web-handling machines have been developed to automate the process of packaging objects in flexible packaging materials. Dual-web machines bring a pair of webs into generally parallel confronting relation with each other and feed a product, or a group of products, between the webs. Longitudinal or side seals are then effected to seal the webs together along their side edges, and transverse or cross seals are similarly made ahead of and behind the packaged product(s), thus forming a package containing the product(s). The package is severed from the remainder of the webs to complete the process. Single-web machines work similarly, except a single web is either supplied to the machine as a C-fold, or a flat web is manipulated and folded into a C-fold configuration, the objects to be packaged are inserted between the two opposing portions of the C-folded web, and one longitudinal seal and two cross seals are formed.

Single-web machines typically include a longitudinal seal device such as a pair of rollers or the like forming a nip through which the overlying longitudinal

edges of the opposing web portions pass to effect a longitudinal seal on one side of the package. Dual-web machines include a similar longitudinal seal device through which the opposite longitudinal edges of the web portions pass to effect an opposite longitudinal seal. The longitudinal seal devices can apply pressure alone  
5 where cold seal materials are employed, or can apply pressure and heat in the case of heat-seal materials. The longitudinal seal devices are spaced apart by a distance corresponding to the width of the web material. Typically this distance is fixed, such that the machine is able to handle only one width of material.

10           With conventional machines, a problem that frequently arises is that the packaged object is not centered between the pair of rollers or the like that form the nip in the thickness direction of the object, i.e., in a direction normal to the surfaces of the web portions. If the object is offset in the thickness direction toward one roller, the frequent result is that the overlying longitudinal edges of the web  
15 portions are not properly aligned with each other; the edge (or both edges in the case of a dual-web machine) of the web portion toward which the object is offset tends to be pulled transversely inward toward the longitudinal centerline of the web portion because the web portion must curve outward to a greater extent than the other web portion. This results in package edges that are unsightly.

20

          Another problem with many types of flexible packaging machines of the above-noted type is that the web materials tend to become wrinkled as a result of being forced to bend and curve around the contour of the object being packaged. In some cases, no attempt is made to eliminate the wrinkling, and the result is that  
25 packages are made that are not very aesthetically pleasing. The problem tends to become worse as the height or thickness of the packaged object increases, since the web material is forced to curve and bend to a greater extent. Furthermore, different types of web materials behave differently with respect to wrinkling. Therefore, the conventional machines are not well suited to packaging a variety of  
30 objects of different thicknesses, sizes, and shapes, since a machine set-up that may minimize wrinkling for one object configuration and/or one type of web material

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may not work well for a different object configuration and/or different web material.

In light of the above considerations, a more versatile packaging machine and method are needed, able to handle various object configurations, including varying heights.

#### BRIEF SUMMARY OF THE INVENTION

The present invention addresses the above needs and achieves other advantages by providing an apparatus for packaging an object, with an adjustable infeed bed to center the object before a nipping operation. In general, the apparatus includes a pair of opposing rollers that form a nip, an adjustable infeed bed, and a height detector. Two opposing packaging material sheets are passed through the nip with an object disposed therebetween, and the sheets of packaging material are sealed together around the object to form a package. The infeed bed receives an object to be packaged and feeds it into the nip between the sheets. The infeed bed is adjustable for centering the object in its height direction relative to the nip based on the measurement from the height detector.

In another aspect of the present invention, there is provided an apparatus for packaging an object, comprising: a pair of opposing rollers forming a nip arranged to receive a pair of opposing packaging material sheets with an object disposed therebetween, the rollers exerting pressure on the sheets to adhere the sheets to each other around said object so as to form a package; a height detector configured to measure a height of the object; and an adjustable infeed bed upstream of the nip for supporting the object, said infeed bed being adjustable in position in a height direction of the object

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based on the height measured by the height detector so that the object is approximately centered to the opposing rollers; and a controller configured to synchronize the adjusting of the adjustable infeed bed in position in the height direction of the object based on the height measured by the height detector so that the object is approximately centered to the opposing rollers.

In another aspect of the present invention, there is provided an apparatus for packaging an object, comprising: a pair of opposing rollers forming a nip therebetween, a web supply system for supplying a pair of generally opposing web portions of flexible packaging material into the nip so that an object to be packaged when placed between the web portions is passed through the nip along with the web portions, the web portions having sealing material for sealing the web portions together; a height detector configured to measure a height of the object; and an adjustable infeed bed for supporting the object as the object is advanced to the rollers, said infeed bed being adjustable relative to the rollers based on the height measured by the height detector so that the object is aligned to the rollers; and a controller configured to synchronize the adjusting of the adjustable infeed bed in position in a height direction of the object based on the height measured by the height detector so that the object is aligned to the rollers.

In another aspect of the present invention, there is provided a method of packaging an object comprising: placing an object to be packaged on an infeed bed; measuring the height of the object with a height detector; sending a signal from the height detector to a controller and activating one or more actuators to adjust the infeed bed in a linear direction based on the signal sent to the controller so that a center of the object is substantially aligned with a nip between a pair of

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opposing rollers; and advancing the object and two portions of packaging material through the nip between the opposing rollers and enclosing the object between the portions to form a package.

5           In other aspects of the present invention, the adjustable infeed bed may have an upstream end and downstream end. In some embodiments, the downstream end is adjustable relative to the opposing rollers, while in other embodiments, both the downstream and upstream ends are adjustable to the  
10 rollers. The apparatus may further include at least one actuator such as a pneumatic cylinder, hydraulic cylinder, electric motor or the like for adjusting the infeed bed. The infeed bed may have at least two positions for centering the object between the rollers. In one embodiment, the adjustable  
15 infeed bed may include a conveying belt for advancing the object toward the opposing rollers. Alternatively, the adjustable infeed bed may include an upper surface arranged to support one of the packaging material sheets in such a manner that the sheet supports and advances the object toward the  
20 rollers.

In at least one embodiment, each roller includes a resiliently compliant roller portion that is deformed by the object between the packaging material sheets. The resiliently compliant roller portion has a tendency to return to its undeformed shape. This tendency exerts pressure on the packaging material to closely conform  
5 to the object being packaged.

In another embodiment, the present invention provides an apparatus for packaging an object. The apparatus includes a pair of opposing rollers, a web supply system, and an adjustable infeed bed. The rollers together form a nip. The  
10 web supply system supplies a pair of generally opposing web portions of flexible packaging materials into the nip, so that an object placed between the web portions passes through the nip along with the web portions. The facing surfaces of the web portions have a sealing material for sealing the web portions together as the portions pass through the nip and form a package around the object. The  
15 adjustable infeed bed is for advancing the object to the rollers so that the object is fed into the nip between the web portions. The position of the infeed bed relative to the rollers is adjustable in order to adjust the position of the object relative to the nip in a height direction of the object.

20 The infeed bed has a downstream end and an upstream end. In one embodiment, the infeed bed includes at least one actuator such as a pneumatic cylinder or the like for adjusting the position of the downstream end relative to the rollers. In other embodiments, the infeed bed may further include at least one actuator, such as a pneumatic cylinder or the like for adjusting the upstream end  
25 relative to the rollers. Also, the apparatus may further comprise a height detector for measuring the height of the object to determine the proper adjustment to the infeed bed.

According to another embodiment of the invention, a method is provided  
30 for packaging an object or product. The method includes advancing a pair of packaging material sheets along two paths that converge into and through a nip formed by two opposing rollers, determining a dimension of an object to be

packaged in a height direction, centering the object relative to the nip in the height direction, feeding the centered object in the nip between the two packaging material sheets, and sealing the sheets together around the object. The method may also include measuring the height of the object with a height detector.

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In yet another embodiment of the invention, a method of packaging an object includes placing the object on an infeed bed, adjusting the position of the infeed bed so that a center of the object in a height direction thereof is substantially aligned with a nip formed by a pair of opposing rollers, advancing the object along the infeed bed to the opposing rollers and between two portions of a packaging material, and advancing the object and the portions through the nip and enclosing the object between the portions to form a package. The method may also include measuring the height of the object. For example, the height may be determined with a height detector. Furthermore, the method may include a step of sending a signal from the height detector to a controller and activating one or more pneumatic cylinders or the like to adjust the infeed bed based on the signal sent to the controller.

The present invention has several advantages. The adjustable infeed bed allows the packaging to accommodate objects of various heights. More specifically, the infeed bed aligns or centers each object relative to the rollers based on the object's height. The centering results in a more symmetric and aesthetic package and reduces any stress variances within the package. Also, the height detector can provide the necessary information to set the infeed bed in an automatic fashion.

#### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S)

Having thus described the invention in general terms, reference will now be made to the accompanying drawings, which are not necessarily drawn to scale, and wherein:

30

Figure 1 is a side view of a packaging apparatus in accordance with one embodiment of the invention, partially broken away to display the adjustable infeed bed;

5 Figure 2 is a side view of the packaging apparatus as shown in Figure 1 with the adjustable infeed bed in a comparatively lower position for a taller object than in Figure 1;

Figure 3 is a perspective view of the downstream end of the infeed bed according to one embodiment of the present invention;

10 Figure 4 is a cross-section view the infeed bed taken along line 4-4 of Figure 3;

Figure 5 is another cross-section view of the packaging apparatus taken along line 5-5 of Figure 1; and

Figure 6 is yet another cross-section of the packaging apparatus taken along line 6-6 of Figure 1.

15

#### DETAILED DESCRIPTION OF THE INVENTION

The present inventions now will be described more fully hereinafter with reference to the accompanying drawings, in which some but not all embodiments of the inventions are shown. Indeed, these inventions may be embodied in many 20 different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will satisfy applicable legal requirements. Like numbers refer to like elements throughout.

A packaging apparatus **20** in accordance with one embodiment of the 25 invention is shown in Figures 1 and 2. The apparatus **20** is of the dual-web type for advancing a first or upper web **22** and a second or lower web **24** in generally parallel opposing relation with a product **P** disposed between the webs **22, 24** and sealing the webs **22, 24** together to capture the product **P** therebetween. The packaging apparatus **20** includes a main frame having a plurality of spaced vertical 30 support columns. More specifically, the main frame has three pairs of vertical columns **26, 28, 30**. Each pair **26, 28, 30** has a column on one side of a

longitudinal axis of the apparatus **20**, and a corresponding support column on the opposite side of the longitudinal axis. One or more transverse members are rigidly connected between each pair of support columns **26, 28, 30**. Upper and lower longitudinal members **32** are rigidly connected between the support columns of **26** and **28** on the same side of the longitudinal axis. The frame also includes a pair of upper longitudinal members **48**. The upper ends of the vertical support columns **26, 28, 30** on one side of the longitudinal axis rigidly connect to one of the upper longitudinal members **48**, as shown in Figures 1 and 2. Similarly, the upper ends of the vertical support columns **26, 28, 30** on the other side of the longitudinal axis rigidly connect to the other upper longitudinal member which is not visible in the drawings. As described in more detailed below, an infeed bed **40** is positioned between two pairs of the vertical support columns **28, 30**.

The upstream columns **26** support web mounts **52, 54** that respectively support supply rolls of the webs **22, 24** in a rotatable manner. The upper web **22** is drawn from its supply roll and advanced over a guide **56** supported between the two upper longitudinal members **48** then over and around a guide **57** also supported between the upper longitudinal members **48** and spaced longitudinally downstream from the first guide **56**, then downward to a guide **58** supported between the columns **30** and then toward a pair of rollers **70, 72** discussed in more detail below.

The lower web **24** is drawn from its supply roll and advanced over a lower guide **60** supported between columns **28** then under a downstream guide and web tensioner **61** pivotally supported by columns **30** then under and around a guide **62** supported by columns **30**, then around a guide **63** also supported by columns **30** and then toward the pair of rollers **70**.

In general, according to the illustrated embodiments the lower web **24** traverses a path under the infeed bed **40** and then toward and into the pair of rollers **70, 72**. However in an alternative embodiment, not shown, the path of the lower web **24** may proceed over, rather than under, the infeed bed **40**. More specifically,

the lower web **24** can advance along a general planar upper surface **66** of the infeed bed **40**.

As shown in Figures 1 and 2 and as stated above, the apparatus **20** includes  
5 a pair of rollers **70, 72** that are rotatably mounted in the main frame at a downstream end thereof. The rollers **70, 72** form a nip through which the webs **22, 24** are advanced with the product **P** to be packaged disposed therebetween. As best seen in Figure 6, one or both of the rollers **70, 72** comprises a resiliently deformable material at least over a medial portion **85** of the roller's length, such  
10 that the passage of the product **P** through the nip deforms the roller(s) **70, 72** and the restoring force of the resiliently deformable material presses the webs **22, 24** toward each other so that the packaging material from the webs **22, 24** conforms closely to the product **P** and helps to push out the air that otherwise would be trapped between the product and material. The webs **22, 24** advantageously have  
15 cold seal or cohesive material on their facing surfaces such that the application of pressure by the rollers **70, 72** causes the webs **22, 24** to adhere to each other but not to the product **P**. The end portions **87** of each of the rollers **70, 72** advantageously comprise a generally non-deformable or substantially less-deformable material for firmly gripping the opposite edge portions of the webs **22, 24**. As seen in Figures  
20 1 and 2, the rollers **70, 72** advantageously are rotatably driven for advancing the webs **22, 24** through the apparatus **20**, thus comprising a web drive system. Alternatively, a separate web drive system can be employed if desired.

As best seen in Figures 1 and 2, the apparatus **20** may also have a housing  
25 **74** to shield or cover the rollers **70, 72**. The housing **74** preferably is pivotable relative to the main frame about hinges (not shown) for access to internal parts of the machine when required for maintenance and the like.

As mentioned above, the infeed bed **40** has a generally planar upper surface  
30 **66**. This surface **66** supports a conveying mechanism for advancing the product **P** to be packaged to the rollers **70, 72**. For example, the conveying mechanism may be a conveyor belt **89** that rotates around the infeed bed **40**, as best seen in Figure

3. More specifically the conveyor belt **89** rotates around a general perimeter of the infeed bed **40**. The belt **89** is driven by a motor **91** that drives one of four belt guides **92** proximate to each corner of the infeed bed **40**. The belt **89** may also have a series of dividers or pushers **93** that extend generally perpendicular to the belt **89**. The pushers **93** facilitate the advancement of the product or products *P* along the belt **89**.

Alternatively, in embodiments where the lower web **24** runs along the upper surface **66** of the infeed bed **40**, the lower web **22** will function as a conveyor and advance the product *P* to the rollers **70**, **72**. The product *P* may be placed on the conveying mechanism either manually by an operator or automatically by another conveyor belt (not shown) that leads to the infeed bed **40**.

Preferably, the center of the product *P* in its height direction is aligned with the nip formed by the rollers **70**, **72**. This facilitates a more symmetric package, reduces misalignment between the edges of the two webs **22**, **24**, and reduces any stress variation within the packaging material. Advantageously, the position or orientation of the infeed bed **40**, and more specifically the upper surface **66**, is adjustable relative to the rollers **70**, **72**. The position or orientation of the upper surface **66** is adjusted so that the center the product *P* in the height direction is aligned or lined up with the nip between the rollers **70**, **72**. This adjustability allows for the packaging apparatus **20** to accommodate a variety of products *P* of differing heights.

In order to determine the proper adjustment to the upper surface **66**, the apparatus **20** may also have a height detector **76** for measuring the height of the product *P*. Based on the height of the product *P*, the proper adjustment to the upper surface **66** may be determined. The height detector **76** can comprise various types of devices, including but not limited to an optical distance-measuring device such as a laser distance-measuring device. The height detector **76** is preferably mounted above the infeed bed **40** and is positioned and aimed down onto the upper surface **66**, as illustrated in Figures 1 and 2.

Adjusting the upper surface **66** can be accomplished in several ways. For example purposes only, and not as a limitation, the adjusting of the upper surface **66** may be accomplished by one or more hydraulic or pneumatic cylinders  
5 controlled by suitable fluid valves. Alternatively, an electric motor driving a suitable mechanism (e.g. gears, chains, etc.) may be used. One skilled in the art would appreciate that various methods and structures are available to adjust the upper surface **66**, including examples not mentioned herein.

10 In the illustrated embodiment, the infeed bed **40** is adjusted by two pairs of pneumatic cylinders **80** (only one is visible in Figure 1 and 2) and **82** (as shown in Figure 3). More specifically one pair **80** is located at the upstream end of the infeed bed **40** and the other pair **82** is located at the downstream end of the infeed bed **40**. Figure 1 illustrates the pneumatic cylinders **80** and **82** having adjusted the  
15 infeed bed **40** to a raised position for a relatively thin product *P*. Alternatively, Figure 2 illustrates the pneumatic cylinders **80** and **82** having adjusted the infeed bed **40** to a lowered position for a relatively thick product *P*.

In particular, as shown in Figure 5, each pneumatic cylinder **80**, **82** is  
20 rigidly attached between one of the vertical columns **28**, **30** of the main frame and rigidly attached to the infeed bed **40**. Also each cylinder **80** and **82** is slidably attached to a guide rail, for example see the pair of rails **83** in Figure 5. The guide rails are supported by a corresponding vertical column for additional support. The position of the infeed bed **40** is adjusted by the extending or retracting the  
25 cylinders **80** and **82**.

In some embodiments, the position of the entire upper surface **66** may be adjusted according to the height of the product *P*. Alternatively, in other  
embodiments, an upstream end of the upper surface **66** may be fixed and serve as a  
30 pivot point about which the infeed bed **40** pivots to adjust a downstream end of the upper surface **66**.

The apparatus **20** may also include a controller **88** comprising a microprocessor. The controller **88** is programmed to control the various motors and actuators of the apparatus **20** that effect movement of the moving parts such that the movements are properly synchronized with respect to determining the height of the product *P*, adjusting the infeed bed **40**, and advancing the web of materials **22, 24** and the product *P* to and through the rollers **70,72**.

The operation of the apparatus **20** is now explained with primary reference to Figures 1 and 2. Rolls of upper and lower webs **22, 24** are mounted in the web mounts **52, 54**, respectively. The upper web **22** is threaded through the machine by advancing the web over and around the guides **56, 57, 58** and then through the nip between rollers **70, 72**. The lower web **24** is threaded by advancing the web under and around the guides **60, 61, 62, 63** and then through the nip. To begin a packaging sequence, a product *P* is placed on the conveying mechanism on the upper surface **66**. A cycle start button is pressed, which causes the controller **88** to execute a series of operations as follows: the controller **88** causes the height detector **76** to measure the height of the product *P*, the signal from the detector **76** is relayed back to the controller, and based on the height of the product *P*, the controller **88** activates the various motors or actuators to cause the infeed bed **66** to be adjusted, if necessary, in order to center the product *P* to the nip between the rollers **70, 72** before the product *P* is advanced into the nip. Either simultaneously with the adjusting of the infeed bed **40** or after the adjustment is completed, the controller **88** causes the various motors to drive the rollers **70, 72** to advance the webs **22, 24** and the product *P* up to and through the nip to produce a package, which is cut off by the cutoff device **98** and conveyed by an out-feed conveyor **100** to the machine discharge. The process generally as described above is repeated for each subsequent package.

The present invention has several advantages. The adjustable infeed bed **40** allows the packaging of objects or products *P* of various heights in a consistent manner. More specifically, the infeed bed **40** substantially aligns or centers each object relative to the rollers **70, 72** based on the object's height. The centering

produces a more symmetric and aesthetic package and reduces any stress variances within the package. The height detector 76 can provide the necessary information to set the infeed bed 40 properly.

5           Many modifications and other embodiments of the inventions set forth  
herein will come to mind to one skilled in the art to which these inventions pertain  
having the benefit of the teachings presented in the foregoing descriptions and the  
associated drawings. Therefore, it is to be understood that the inventions are not to  
be limited to the specific embodiments disclosed and that modifications and other  
10   embodiments are intended to be included within the scope of the appended claims.  
Although specific terms are employed herein, they are used in a generic and  
descriptive sense only and not for purposes of limitation.

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CLAIMS:

1. An apparatus for packaging an object, comprising:

a pair of opposing rollers forming a nip arranged to receive a pair of opposing packaging material sheets with an object disposed therebetween, the rollers exerting pressure on the sheets to adhere the sheets to each other around said object so as to form a package;

a height detector configured to measure a height of the object;

an adjustable infeed bed upstream of the nip for supporting the object, said infeed bed being adjustable in position in a height direction of the object based on the height measured by the height detector so that the object is approximately centered to the opposing rollers; and

a controller configured to synchronize the adjusting of the adjustable infeed bed in position in the height direction of the object based on the height measured by the height detector so that the object is approximately centered to the opposing rollers.

2. The apparatus of Claim 1, wherein the adjustable infeed bed has an upstream end and a downstream end and at least one downstream actuator configured to extend and retract in a linear direction for adjusting the position of the downstream end in the height direction and at least one upstream actuator configured to extend and retract in a linear direction for adjusting the position of the upstream end in the height direction.

3. The apparatus of Claim 2, wherein the adjustable infeed bed includes a conveying belt for advancing the object toward the opposing rollers.

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4. The apparatus of Claim 2, wherein the adjustable infeed bed has at least two positions for centering the object relative to the rollers.

5. The apparatus of Claim 2, wherein the adjustable infeed bed has a range of positions for centering the object relative to the rollers.

6. The apparatus of Claim 2, wherein the adjustable infeed bed includes an upper surface for supporting one of the packaging material sheets and the sheet supports and advances the object toward the rollers.

7. The apparatus of Claim 2, wherein each of the rollers includes a resiliently compliant roller portion that is deformed by the object between the packaging material sheets, the resiliently compliant roller portion tending to return to its undeformed shape thereby exerting pressure on the packaging material sheets to closely conform to the object.

8. An apparatus for packaging an object, comprising:

a pair of opposing rollers forming a nip therebetween,

a web supply system for supplying a pair of generally opposing web portions of flexible packaging material into the nip so that an object to be packaged when placed between the web portions is passed through the nip along with the web portions, the web portions having sealing material for sealing the web portions together;

a height detector configured to measure a height of the object;

an adjustable infeed bed for supporting the object as the object is advanced to the rollers, said infeed bed being

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adjustable relative to the rollers based on the height measured by the height detector so that the object is aligned to the rollers; and

a controller configured to synchronize the adjusting of the adjustable infeed bed in position in a height direction of the object based on the height measured by the height detector so that the object is aligned to the rollers.

9. The apparatus of Claim 8, wherein the adjustable infeed bed includes a downstream end, an upstream end, and at least one actuator for adjusting the position of the downstream end relative to the rollers.

10. The apparatus of Claim 9, wherein the adjustable infeed bed includes at least one actuator for adjusting the upstream end relative to the rollers.

11. A method of packaging an object comprising:  
placing an object to be packaged on an infeed bed;  
measuring the height of the object with a height detector;

sending a signal from the height detector to a controller and activating one or more actuators to adjust the infeed bed in a linear direction based on the signal sent to the controller so that a center of the object is substantially aligned with a nip between a pair of opposing rollers; and

advancing the object and two portions of packaging material through the nip between the opposing rollers and enclosing the object between the portions to form a package.

12. The method of Claim 11 further comprising:

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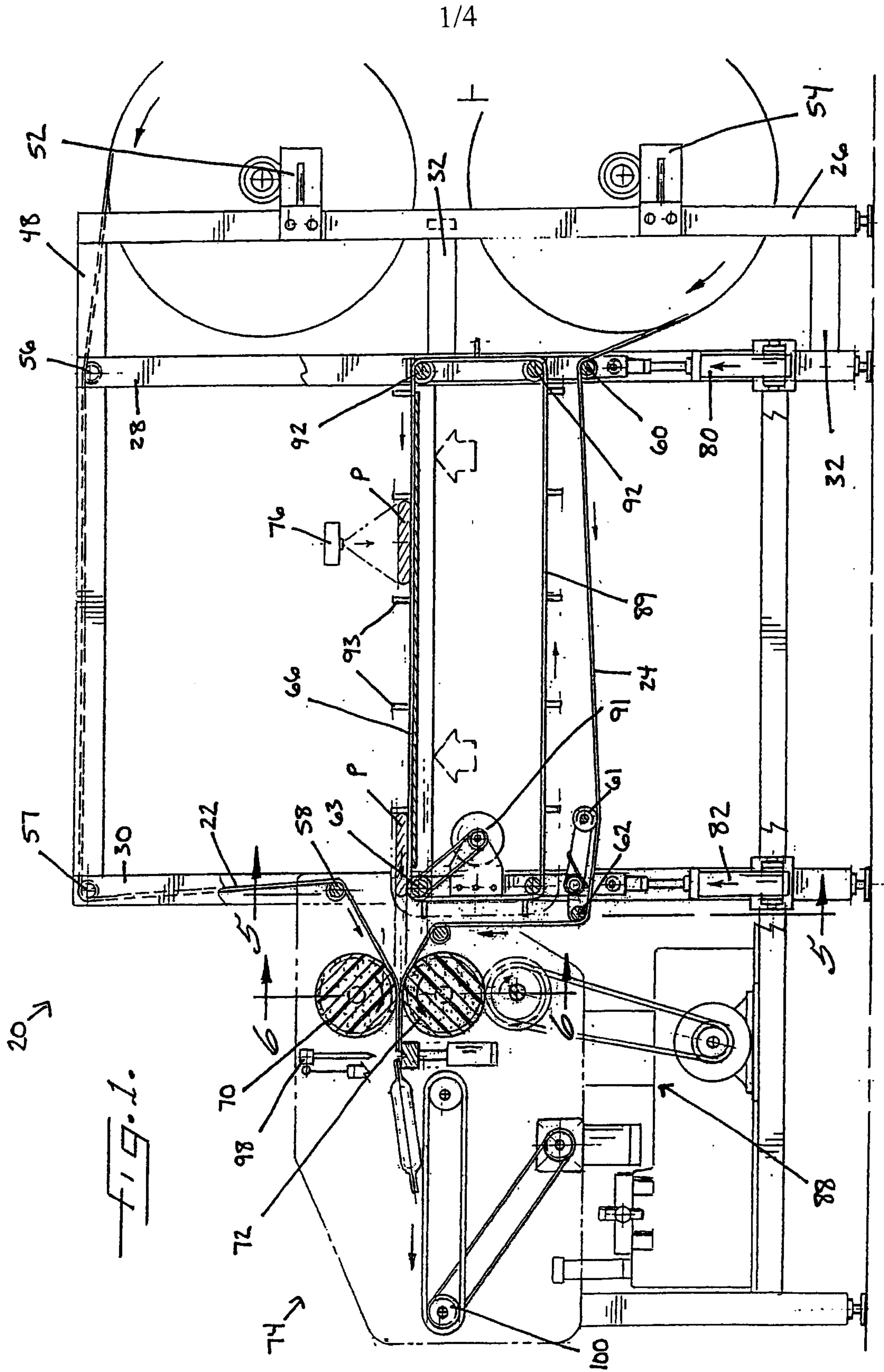
severing the package from the rest of the packaging material.

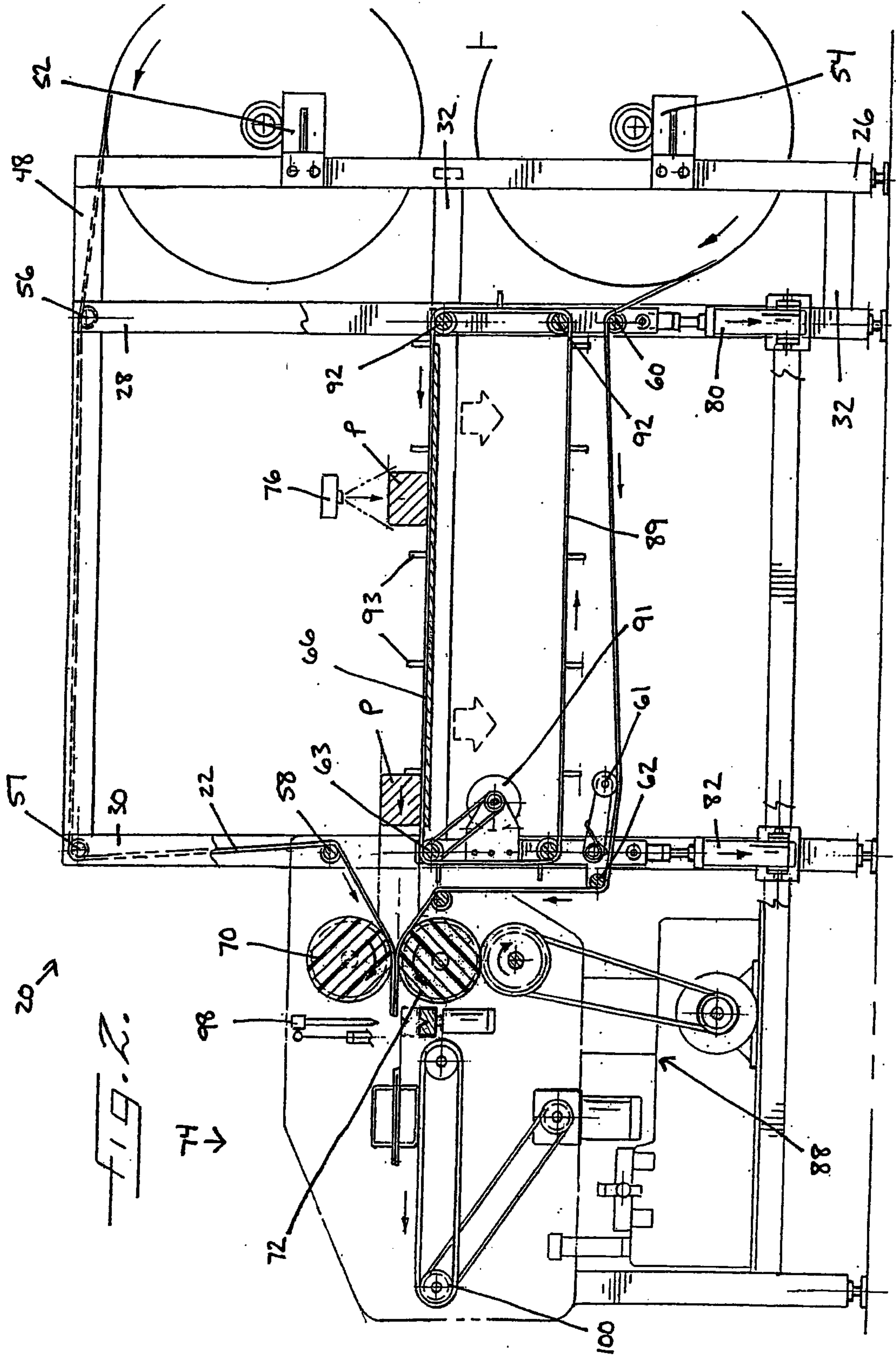
13. The method of Claim 11, wherein activating one or more actuators to adjust the infeed bed includes extending and retracting at least one downstream actuator in a linear direction for adjusting the position of a downstream end of the infeed bed in a height direction and at least one upstream actuator in a linear direction for adjusting the position of an upstream end in the height direction.

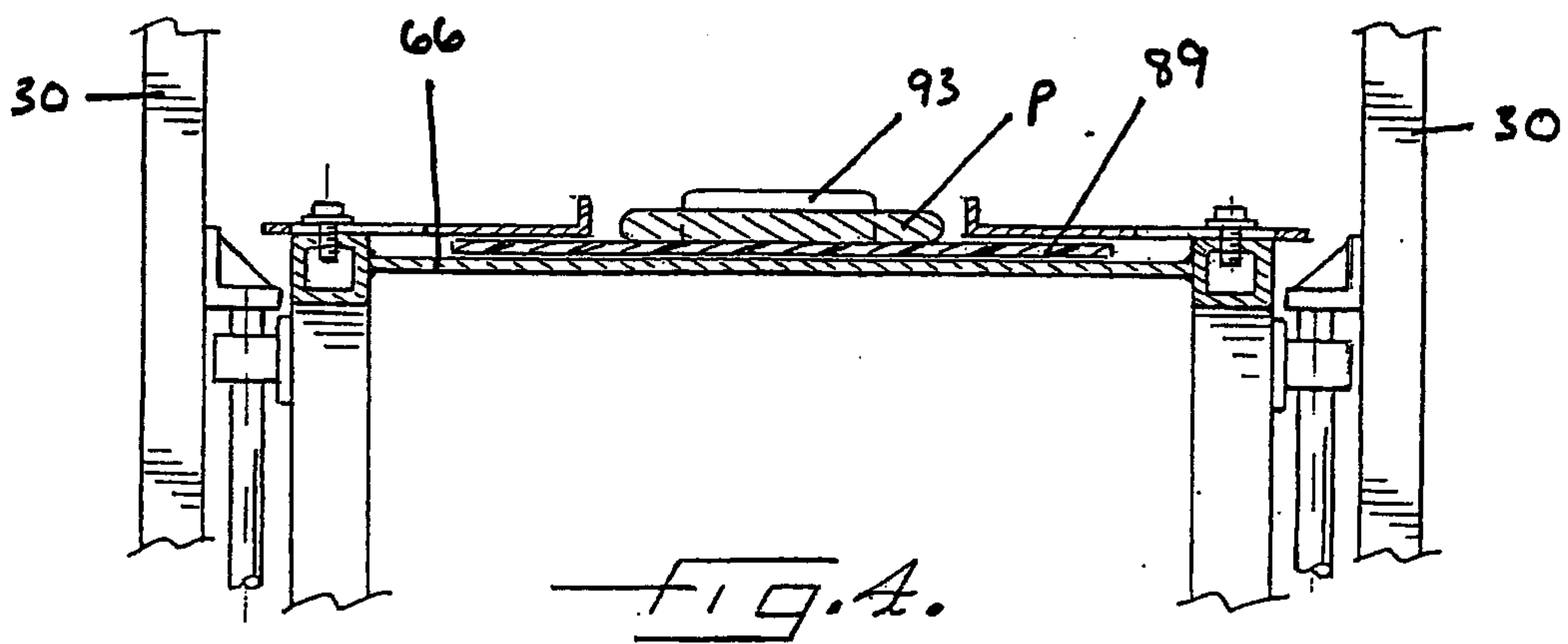
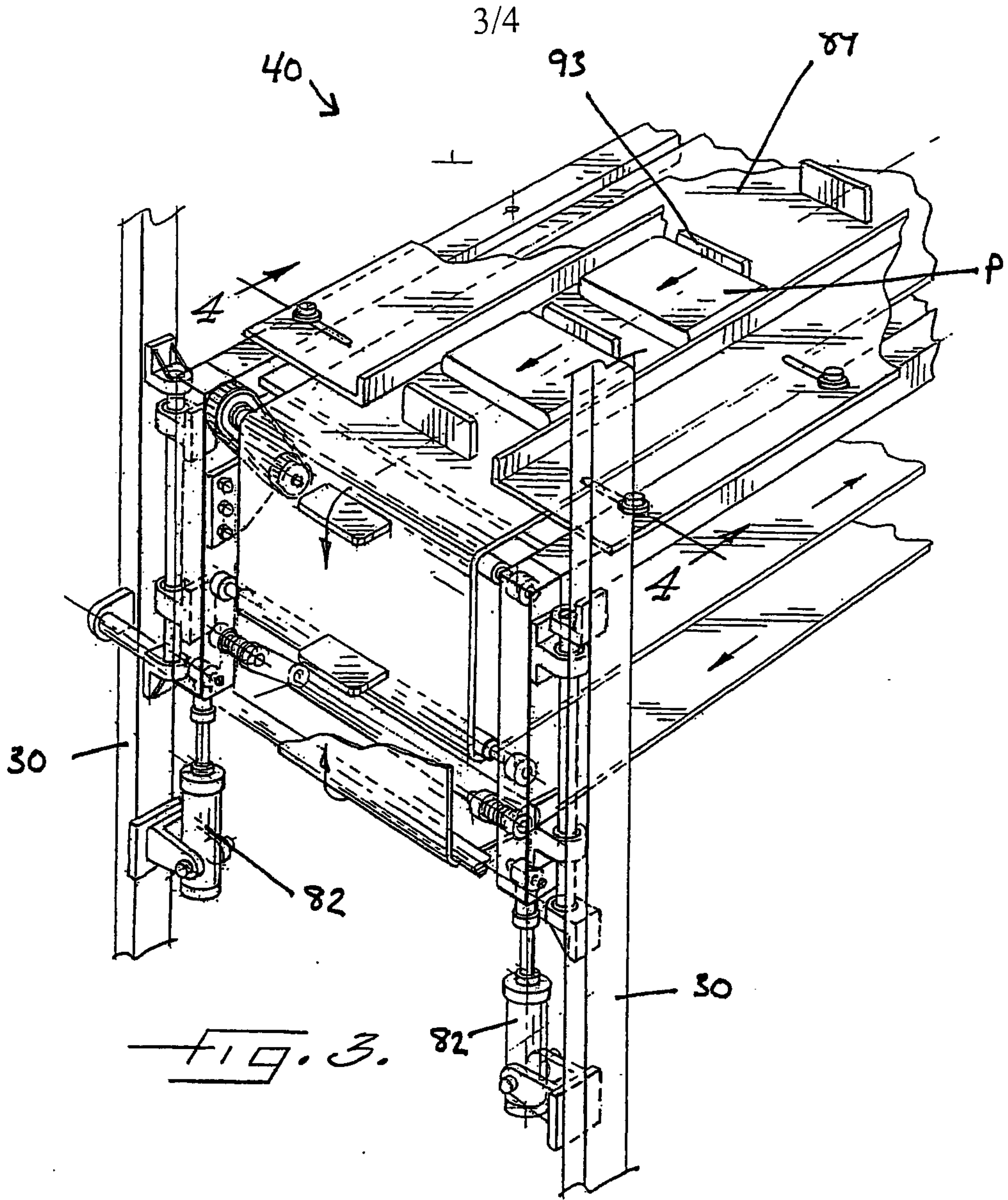
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