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(54) NESTING RACK

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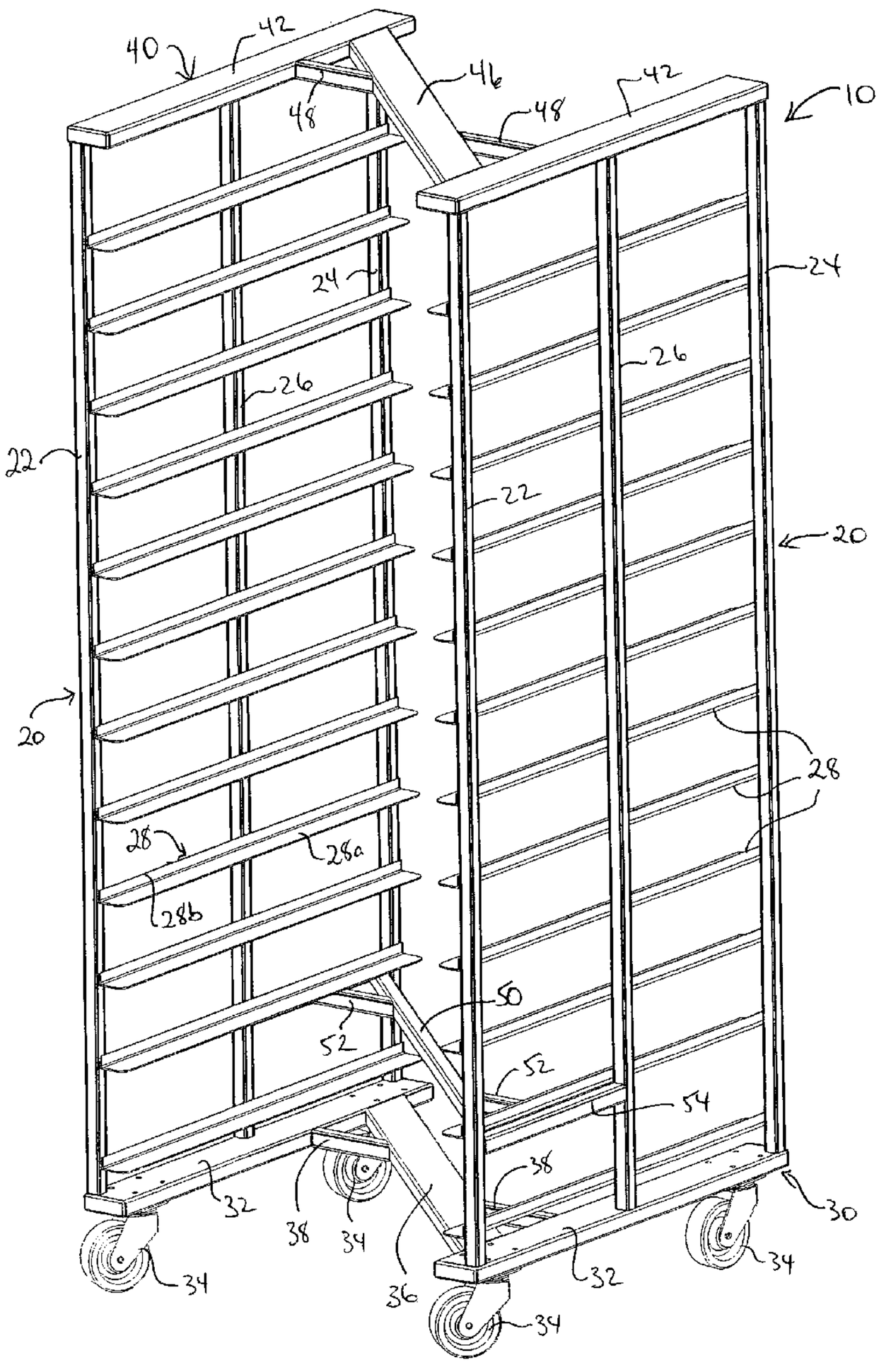
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(57) **ABSTRACT**

A bakery rack comprising a base frame supporting side frames and a top frame, the base and top frames each comprising a pair of spaced apart members connected by a cross brace extending from a rear portion of one member to a front portion of the other member. A plurality of racks can thus be stored in nested relation with a portion of one rack disposed between the side frames of another rack. The bakery rack is substantially laterally and vertically symmetrical, and is easy and inexpensive to manufacture because it utilizes substantially identical components for many different purposes, while providing a nesting rack which takes up significantly less storage space than a conventional rectangular bakery rack.



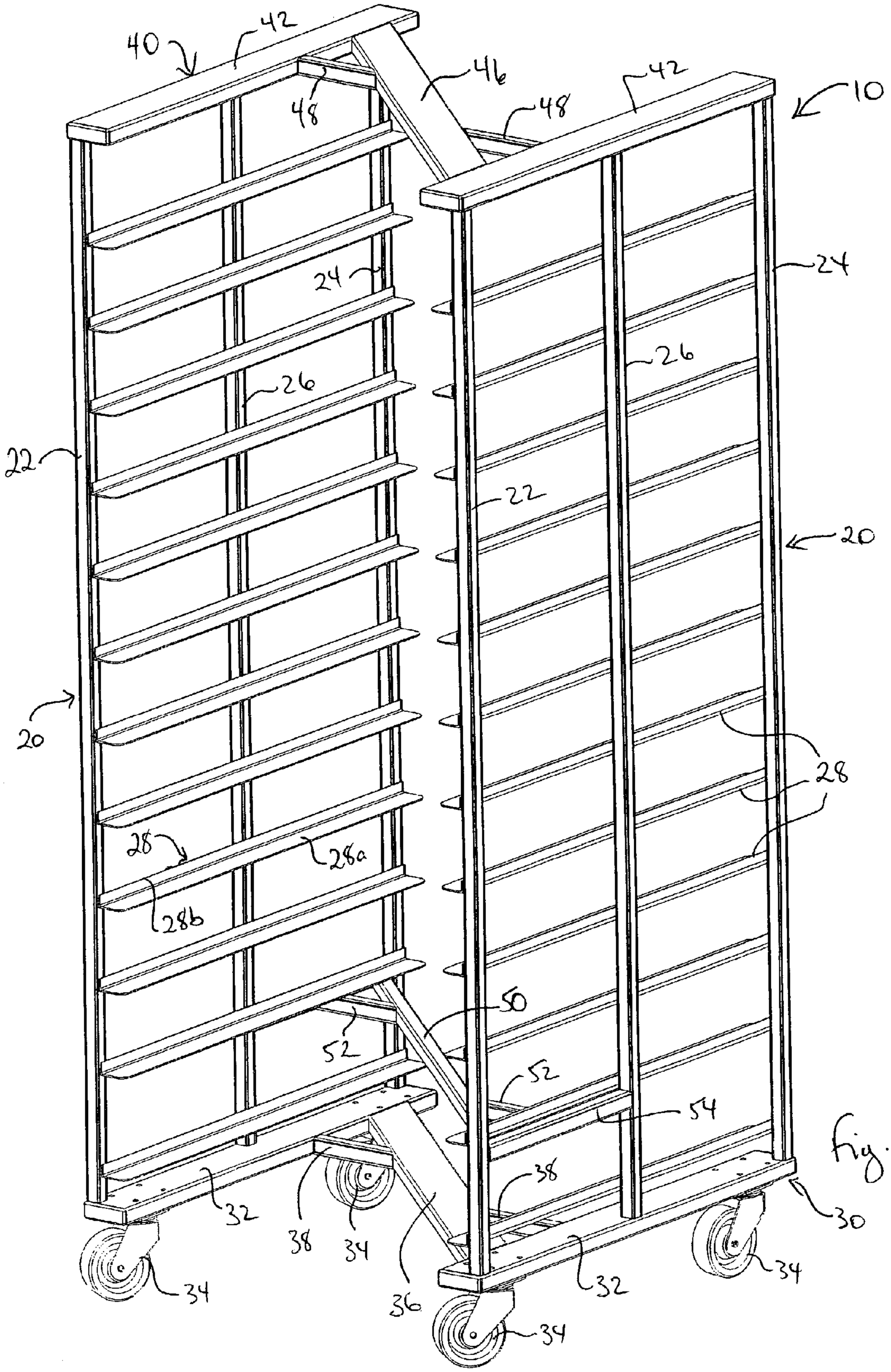

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fig. 1

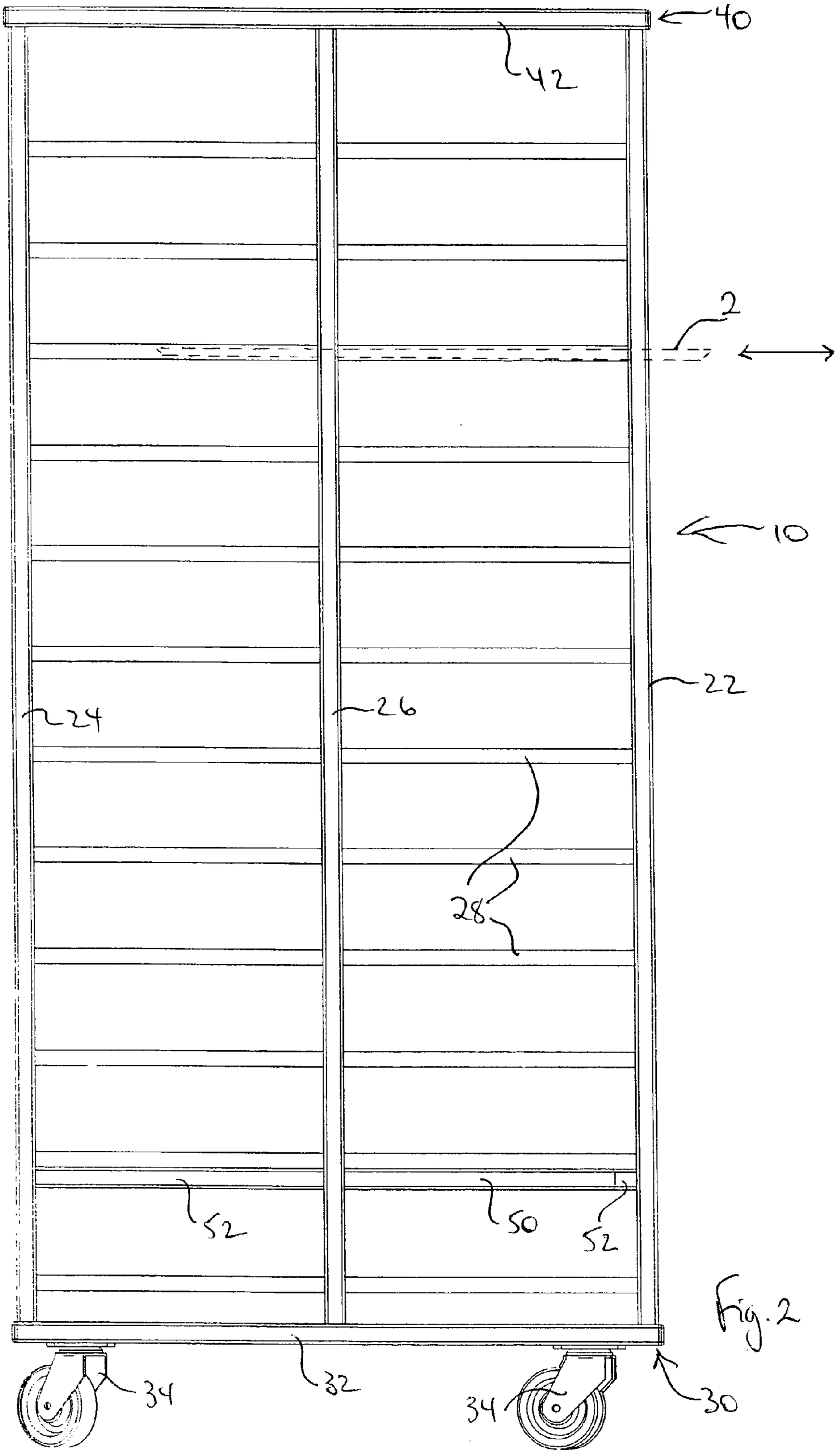


Fig. 2

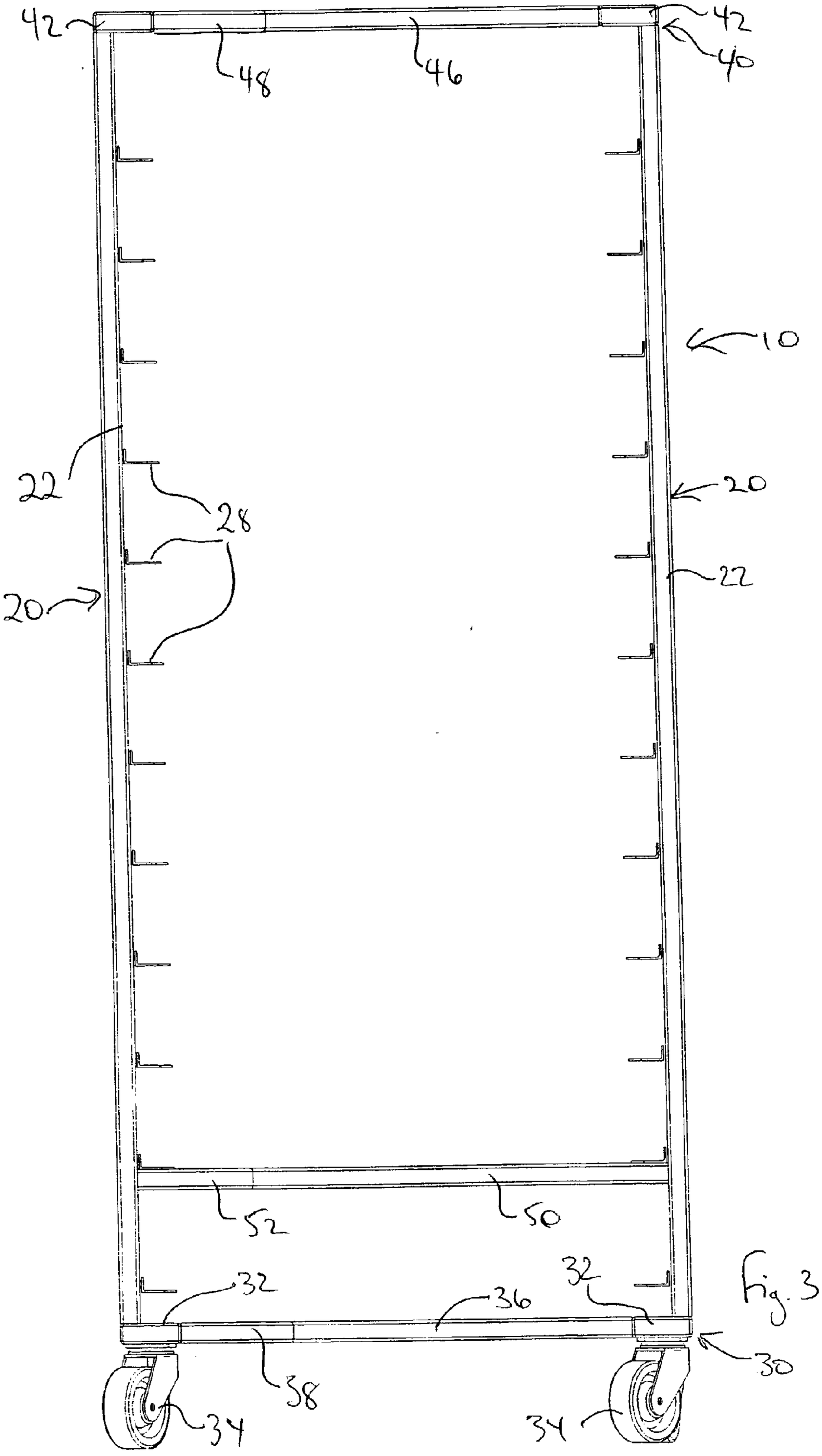


Fig. 3

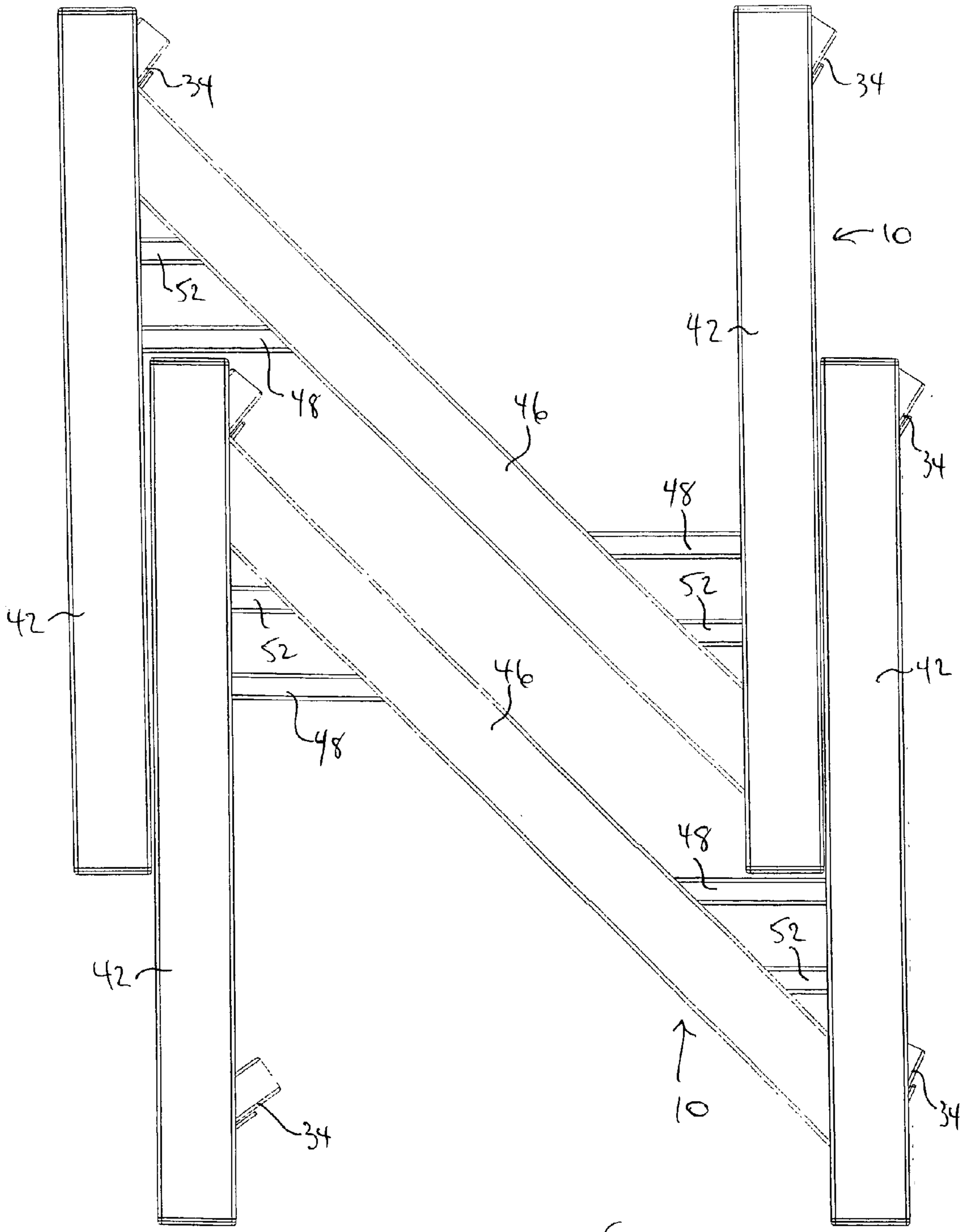


Fig. 4

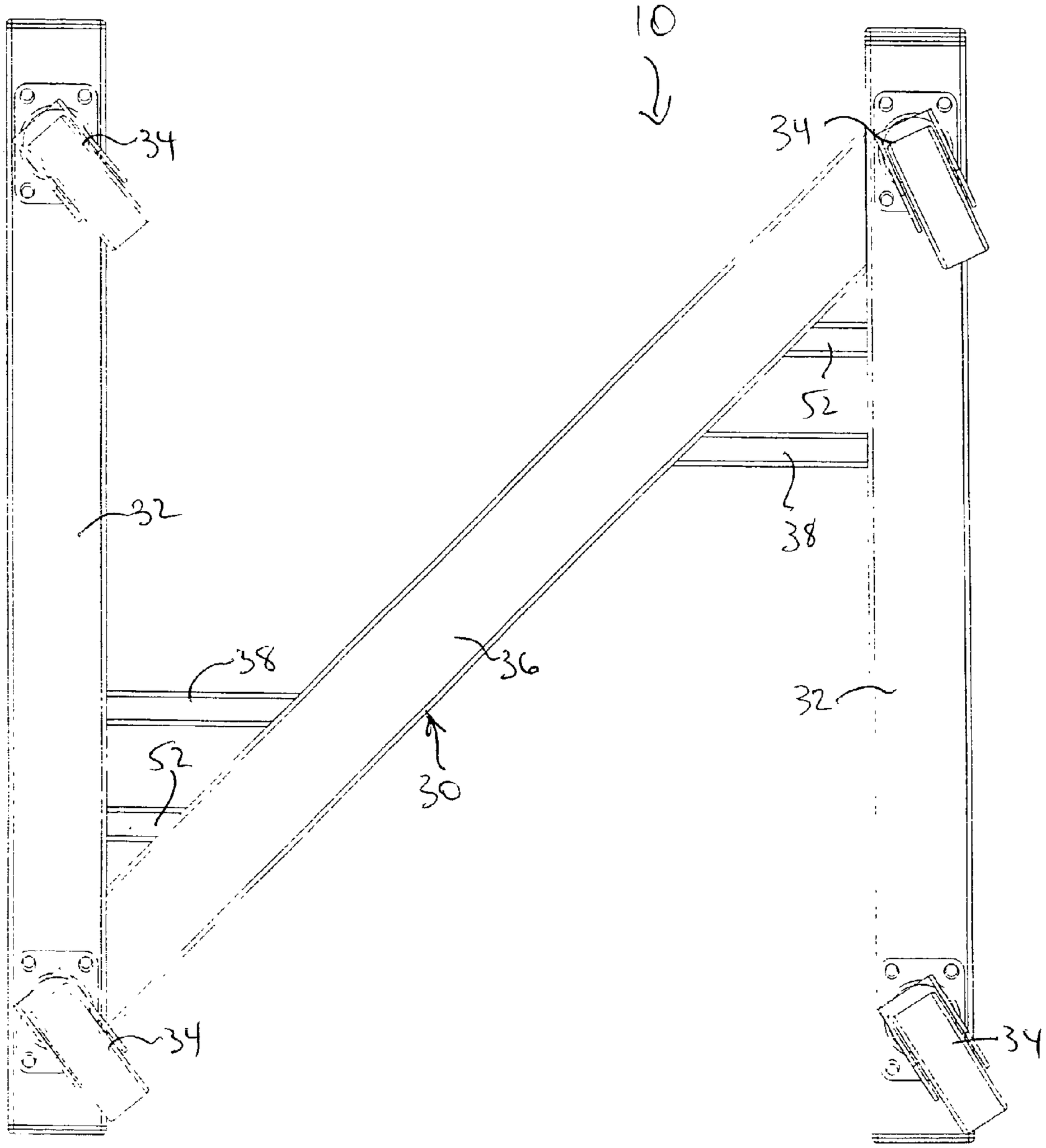


Fig. 5

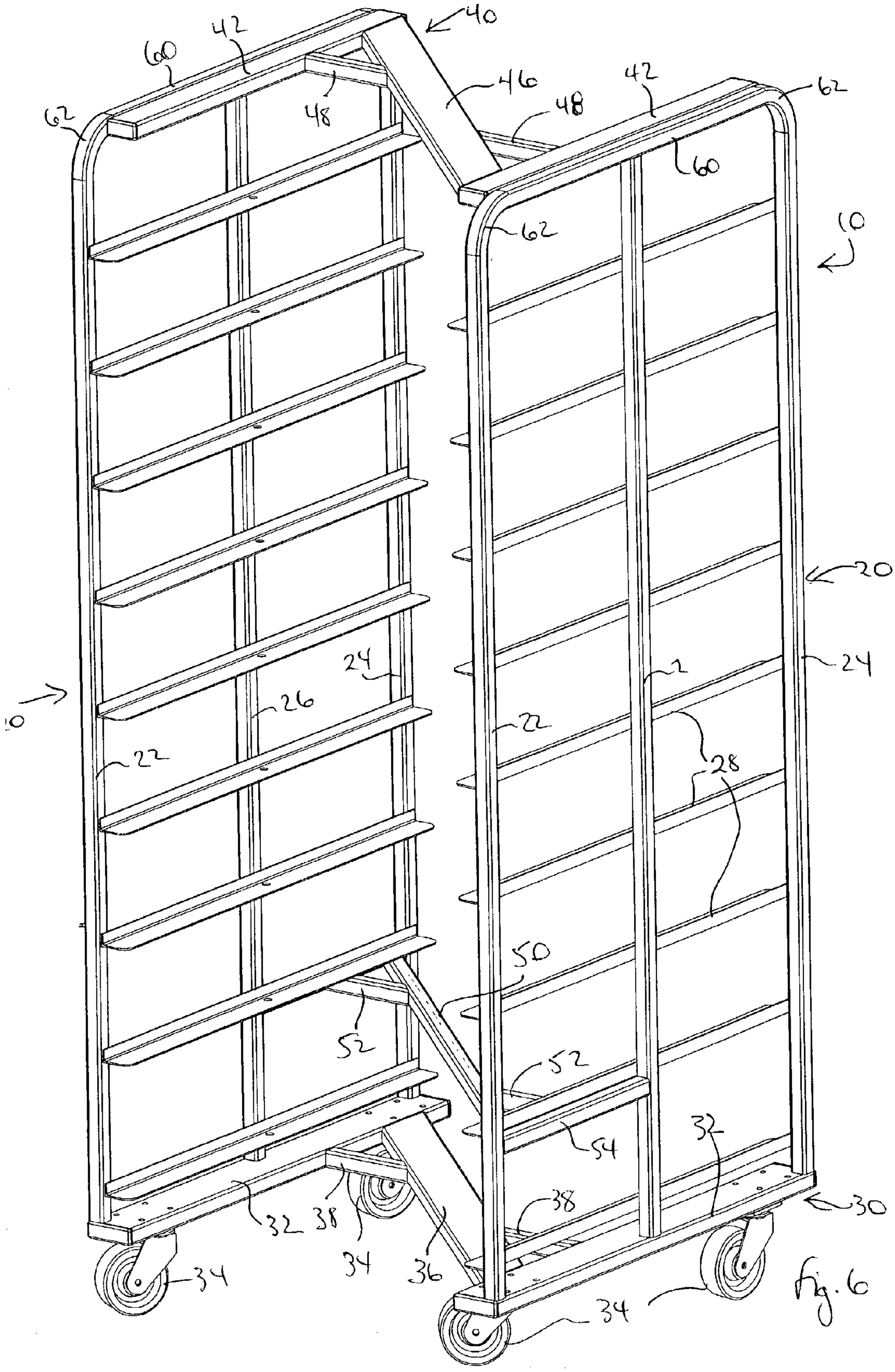

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Fig. 6

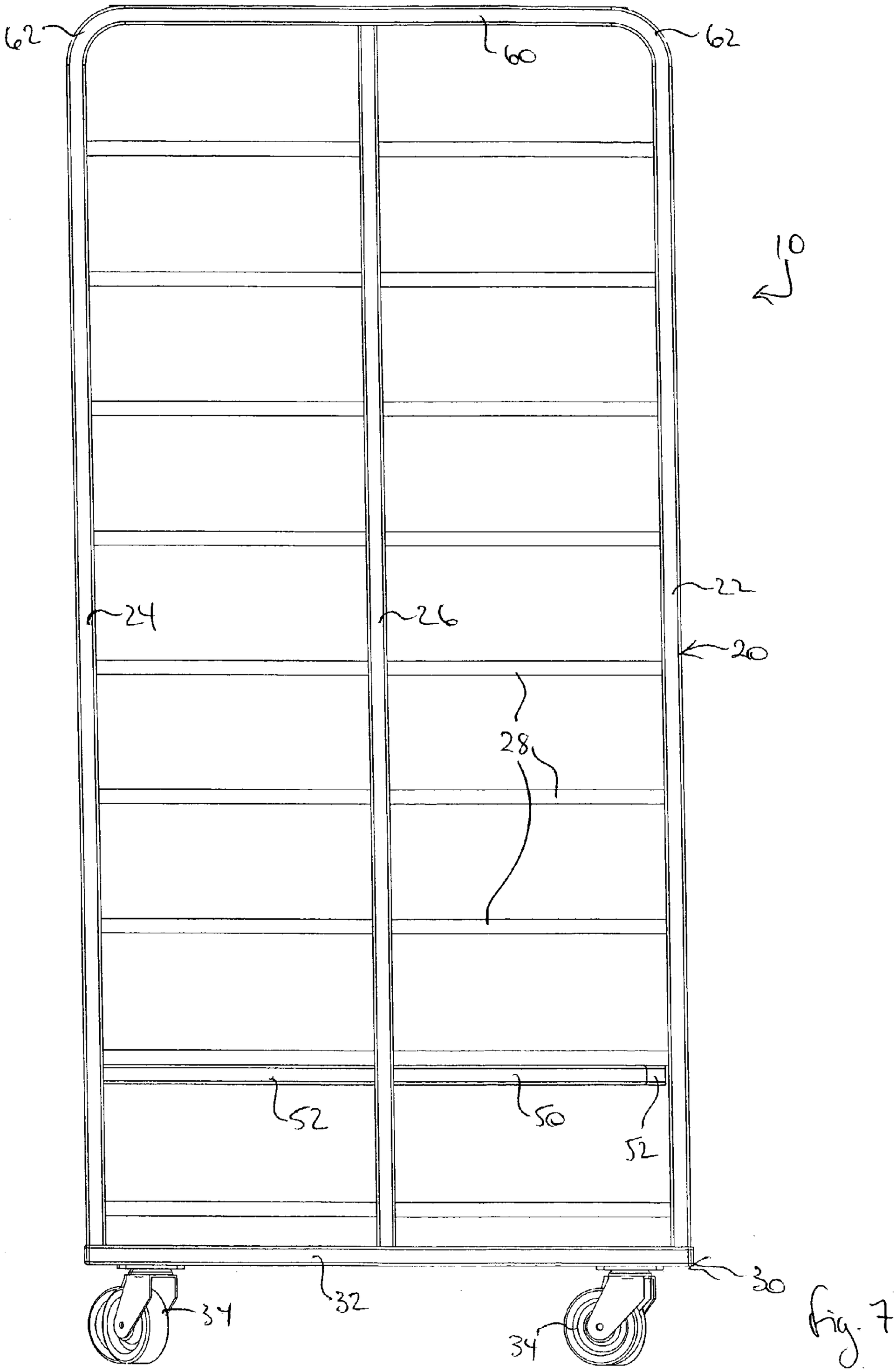


Fig. 7

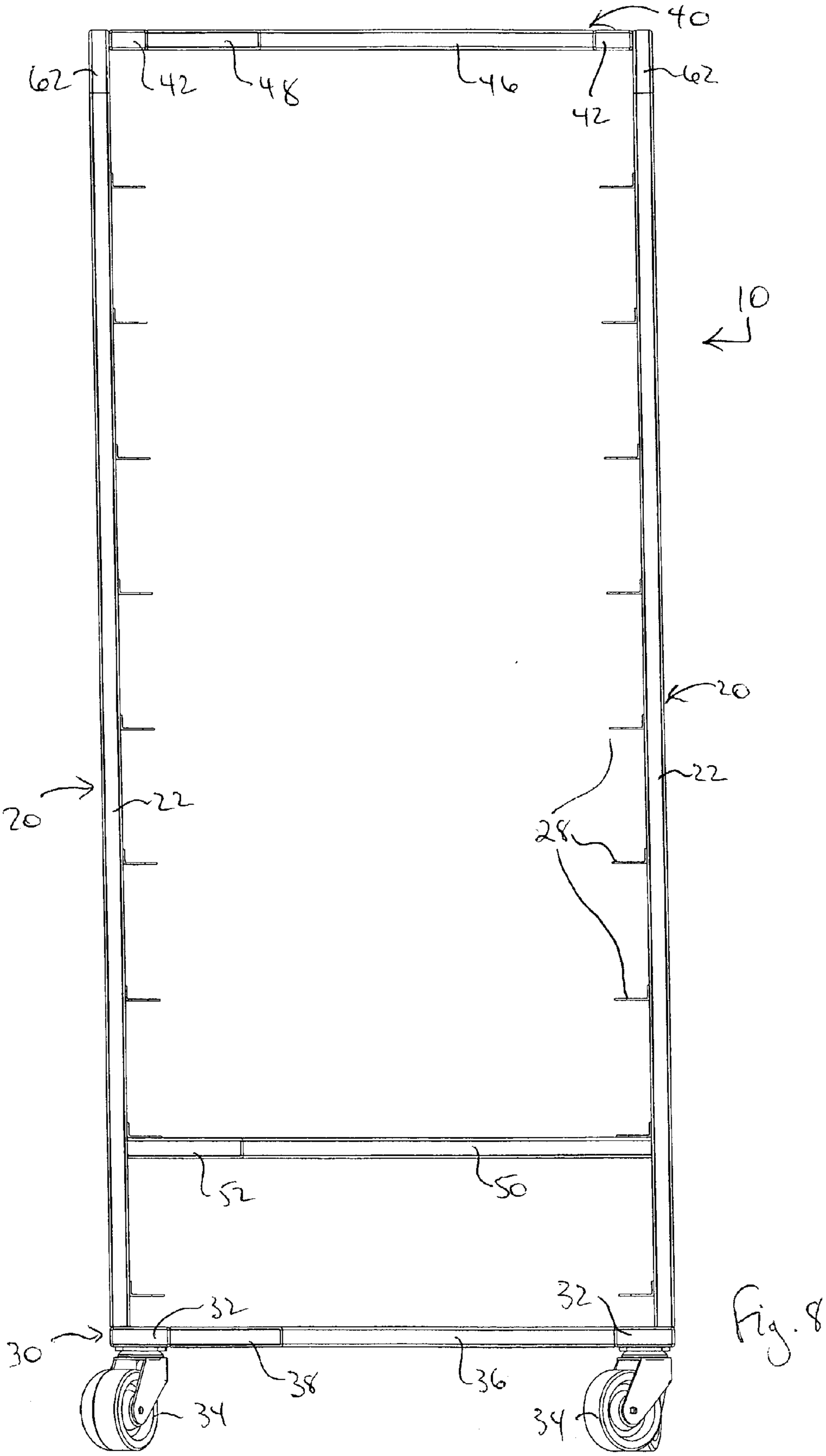


Fig. 8

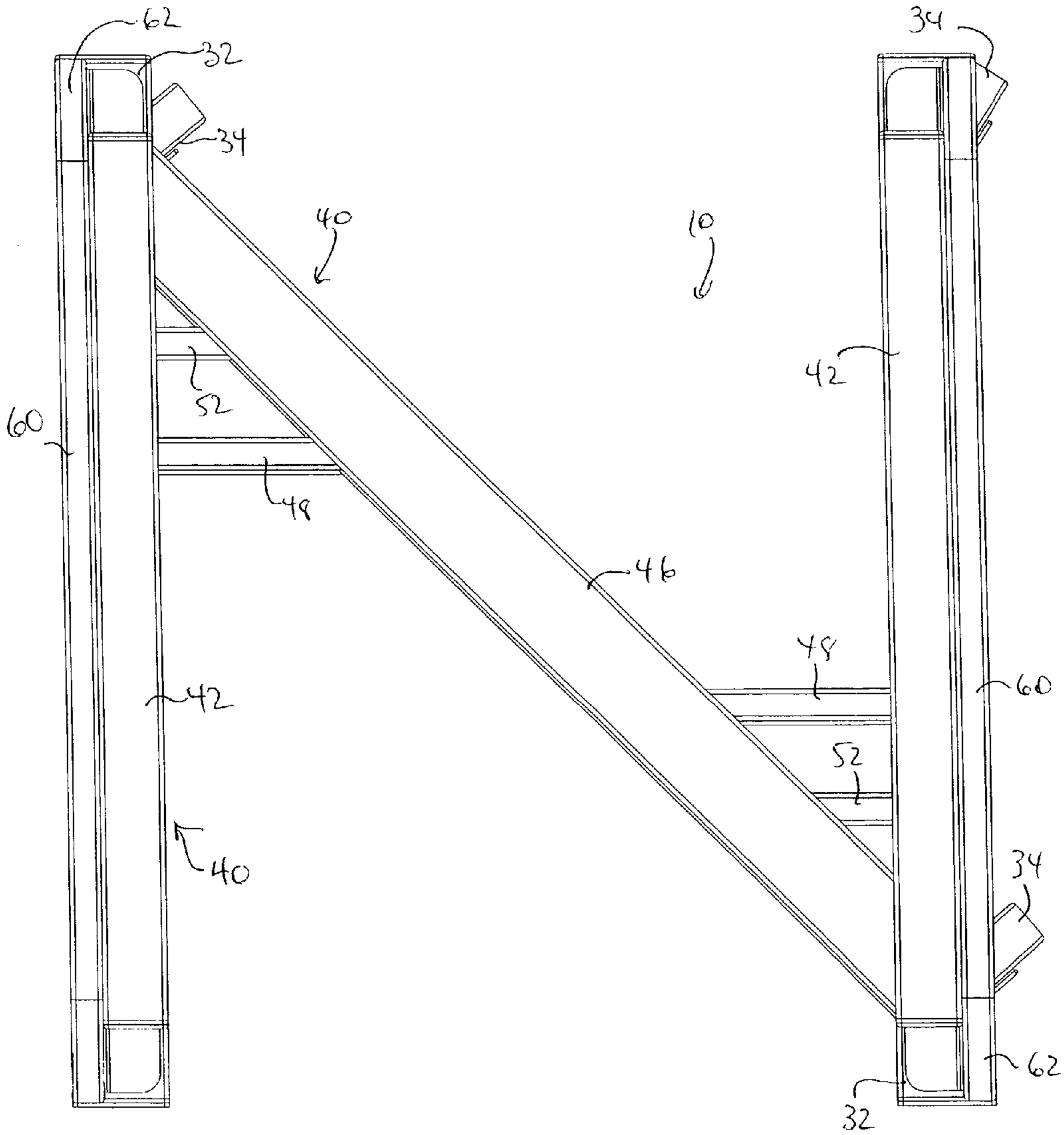


Fig. 9

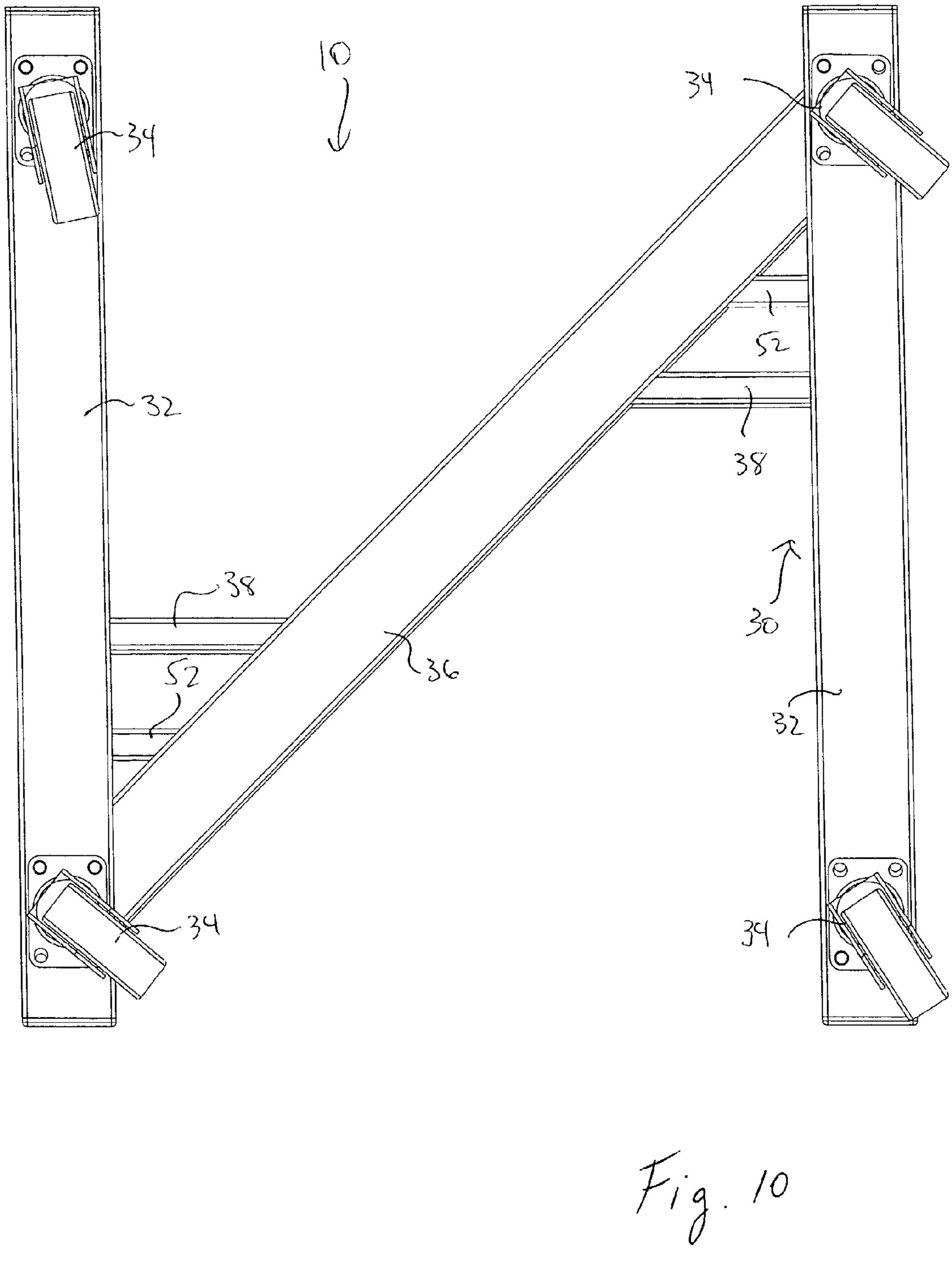


Fig. 10

NESTING RACK

FIELD OF THE INVENTION

[0001] This invention relates to racks. In particular, this invention relates to a nesting rack which reduces storage space requirements.

BACKGROUND OF THE INVENTION

[0002] So-called "bakery racks" are widely used in commercial premises such as bakeries, to temporarily store products such as baked goods. A typical bakery rack comprises a rectangular side frames welded to a base frame mounted on castors, having a series of pan supports vertically aligned on the sides of the frame. A pan on which baked goods, for example pastries, are baked can be removed from the oven and placed in the bakery rack for storage, where the pan is supported along its side edges by the pan supports.

[0003] Such bakery racks provide the advantages of being relatively lightweight, since the baking pan itself forming a shelf when placed on the pan supports and therefore built-in shelves are not required. Further, the open design of bakery racks allows for baked products to cool properly, without locking in moisture or humidity.

[0004] However, bakery racks take up a significant amount of floor space. An industrial or commercial premises such as a bakery may require many bakery racks to handle the daily production and inventory of baked goods, and at any particular point in time some of the bakery racks will be in use and some will be in storage. However, a conventional rectangular bakery rack takes up the same amount of space whether it is in use or in storage. Bakery racks are typically made from metal, for example aluminum, and are thus heavy and usually quite bulky, so reorienting bakery racks for stacking or to maximize space usage in a storage area is unfeasible. As such, bakery racks must be left upright on the floor even when not in use. In many industrial and especially commercial premises, floor space is at a premium and at any time when a number of bakery racks are in storage and not in use, a substantial amount of floor space is wasted.

SUMMARY OF THE INVENTION

[0005] The present invention provides a bakery rack having a configuration which allows the bakery rack to abut another like bakery rack in a nested relation when stored. Accordingly, while the side-to-side space taken up by the stored bakery rack is the same as in the case of any conventional rectangular bakery rack, the front-to-back space required for storage is significantly reduced where a number of bakery racks are stored nested one in the other.

[0006] In the bakery rack according to a preferred embodiment of the invention, a pair of substantially identical side frames on which the pan supports are mounted, are in turn on a base comprising base members which are substantially identical to one another. The base members are also substantially identical to top members ion a top frame affixed to the top of the bakery rack, which helps to maintain the side frames in proper vertical alignment. A cross brace extends between the rear end of one base member and the front end of the other base member, and a cross brace similarly extends between the rear end of one top member and the front end of the other top member. Each cross brace is further supported by truss members, to maintain the selected angular orientation of the cross brace in the top or bottom frame. Also, in the preferred embodiment a secondary cross brace extends between a rear portion of one side frame and a front portion of the other side frame.

[0007] A bakery rack according to one embodiment of the invention is thus easy and inexpensive to manufacture, providing both lateral and vertical symmetry and utilizing substantially identical components for many different purposes. The invention at the same time provides a nesting rack which takes up significantly less storage space than a conventional rectangular bakery rack.

[0008] In a further embodiment of the invention, the top frame is mounted inside the side frames, and the side frames have curved shoulders.

[0009] The present invention thus provides a rack, comprising a base frame comprising a pair of spaced apart base members connected by a cross brace extending from a rear portion of one base member to a front portion of the other base member; side frames mounted to the base frame, each side frame comprising a series of pan supports affixed in vertically spaced relation to front and back risers; and a top frame mounted to the side frames, comprising a pair of spaced apart top members connected by a cross brace extending from a rear portion of one top member to a front portion of the other top member; whereby a plurality of racks can be stored in nested relation with a portion of one rack disposed between the side frames of another rack.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] In drawings which illustrate by way of example only a preferred embodiment of the invention,

[0011] **FIG. 1** is a perspective view of a bakery rack according to a first embodiment of the invention.

[0012] **FIG. 2** is a side elevation of the bakery rack of **FIG. 1**.

[0013] **FIG. 3** is a front elevation of the bakery rack of **FIG. 1**.

[0014] **FIG. 4** is a top plan view of the bakery rack of **FIG. 1**, showing a plurality of bakery racks in nested relation.

[0015] **FIG. 5** is a bottom plan view of the bakery rack of **FIG. 1**.

[0016] **FIG. 6** is a perspective view of a further embodiment of a bakery rack according to the invention.

[0017] **FIG. 7** is a side elevation of the bakery rack of **FIG. 6**.

[0018] **FIG. 8** is a front elevation of the bakery rack of **FIG. 6**.

[0019] **FIG. 9** is a top plan view of the bakery rack of **FIG. 6**.

[0020] **FIG. 10** is a bottom plan view of the bakery rack of **FIG. 6**.

DETAILED DESCRIPTION OF THE INVENTION

[0021] A first embodiment of the invention is illustrated in FIGS. **1** to **5**. In this embodiment, the bakery rack **10**

according to the invention comprises a pair of side frames **20** mounted to a base **30** and capped by a top **40**.

[**0022**] The side frames **20** are preferably substantially identical, and each comprises front and back risers **22**, **24** and an intermediate riser **26** which is generally centred between the front and back risers **22**, **24**. Affixed, for example welded, to the risers **22**, **24**, **26**, are a series of pan supports **28** which may conventionally comprise a supporting plate **28***a* depending substantially orthogonally from a back plate **28***b*. In the preferred embodiment the pan supports are substantially evenly spaced along the risers **22**, **24**, **26**. All components of the side frames are preferably formed from food grade stainless steel, but may alternatively be formed from plastic or another suitable material.

[**0023**] The risers **22**, **24**, **26** are mounted on and affixed, for example welded, to a base frame **30** comprising base members **32**. The base members **32** are preferably substantially identical, and each has mounted to its underside at the front and rear ends, respectively, a castor **34** to facilitate transporting the rack **10** about a commercial premises. The base members **32** are connected by a cross brace **36** which is suitably affixed, for example welded, to a rear portion of one base member **32** and a front portion of the other base member **32**. Trusses **38** are similarly affixed between the cross brace **36** and each respective base member **32**, to maintain the selected angular orientation of the cross brace **36** relative to the base members **32** and form a structurally secure, integrated base frame **30**.

[**0024**] In the embodiment illustrated in FIGS. **1** to **5**, the risers **22**, **24**, **26** are affixed at their top ends to a top frame comprising a pair of top members **42**. The top members **42** are connected by a cross brace **46**, which is suitably affixed, for example welded, to a rear portion of one top member **42** and a front portion of the other top member **42**. The top frame **40**, which is thus substantially identical to the bottom frame **30**, serves to retain the top ends of the side frames **20** in spaced apart relation and to hold the side frames **20** in a vertical orientation.

[**0025**] In the preferred embodiment a secondary cross brace **50** is affixed to side brace members **54**, which are respectively affixed on one side between the front riser **22** and the intermediate riser **26**, and on the other side between the rear riser **24** and the intermediate riser **26**. The secondary cross brace **50** is preferably disposed in a bottom portion of the rack **10**, and advantageously immediately beneath a pair of pan supports **28** so as not to interfere with the loading of the rack **10**.

[**0026**] In use, the bakery rack **10** serves as a storage area for pans **2**, which for example may be used for baking and subsequently storing baked goods. The pan **2** is slid onto pan supports **28**, as shown in phantom in **FIG. 2**, and a series of pans **2** can thus be stacked into the rack **10** for cooling and temporary storage of the baked goods.

[**0027**] When the rack **10** is not in use, it can be wheeled up against another rack so that the racks **10** abut in nested relation, as shown in **FIG. 4**. This configuration occupies considerably less floor space than the cumulative floor space occupied by each individual rack **10**.

[**0028**] A further embodiment of the invention is illustrated in FIGS. **6** to **10**. In this embodiment the top frame **40** is affixed to interior surfaces of top rails **60**. The ends of each top rail **60** join the front and rear risers **22**, **24** at curved shoulder portions **62**, so affixing the top frame **40** to the interior surfaces of the top rails **60** allows for a more secure attachment between the top and side frames **60**, **20**. The construction and use of this embodiment of the invention are otherwise as previously described in relation to the embodiment illustrated in FIGS. **1** to **5**.

[**0029**] Various embodiments of the present invention having been thus described in detail by way of example, it will be apparent to those skilled in the art that variations and modifications may be made without departing from the invention. The invention includes all such variations and modifications as fall within the scope of the appended claims.

I claim:

1. A rack, comprising

a base frame comprising a pair of spaced apart base members connected by a cross brace extending from a rear portion of one base member to a front portion of the other base member;

side frames mounted to the base frame, each side frame comprising a series of pan supports affixed in vertically spaced relation to front and back risers; and

a top frame mounted to the side frames, comprising a pair of spaced apart top members connected by a cross brace extending from a rear portion of one top member to a front portion of the other top member;

whereby a plurality of racks can be stored in nested relation with a portion of one rack disposed between the side frames of another rack.

2. The rack of claim 1 further comprising a secondary cross brace extending between a rear portion of one side frame and a front portion of the other side frame, at a position intermediate to the top frame and the base frame.

3. The rack of claim 1 further comprising a truss extending between a cross brace and the frame members to which the cross brace is connected.

4. The rack of claim 1 comprising castors affixed to the base frame.

5. The rack of claim 1 in which each side frame further comprises an intermediate riser disposed between the front and rear risers.

6. The rack of claim 5 in which the secondary cross brace is affixed to side braces affixed to side braces respectively extending between the front and intermediate risers of one frame and the rear and intermediate risers of the other side frame.

7. The rack of claim 6 in which the secondary cross brace is disposed in a bottom portion of the rack.

8. The rack of claim 7 in which the secondary cross brace is disposed immediately beneath a pair of pan supports.

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