

(19) **DANMARK**

(10) **DK/EP 4353929 T3**



(12) **Oversættelse af  
europæisk patentskrift**

Patent- og  
Varemærkestyrelsen

- 
- (51) Int.Cl.: ***E 05 B 63/18 (2006.01)***                      ***E 05 B 15/16 (2006.01)***                      ***E 05 B 65/00 (2006.01)***  
***E 05 C 3/14 (2006.01)***                      ***E 05 C 7/04 (2006.01)***                      ***E 06 B 11/02 (2006.01)***
- (45) Oversættelsen bekendtgjort den: **2025-05-19**
- (80) Dato for Den Europæiske Patentmyndigheds bekendtgørelse om meddelelse af patentet: **2025-04-23**
- (86) Europæisk ansøgning nr.: **22201006.8**
- (86) Europæisk indleveringsdag: **2022-10-12**
- (87) Den europæiske ansøgnings publiceringsdag: **2024-04-17**
- (84) Designerede stater: **AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR**
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- (54) Benævnelse: **FASTGØRELSE TIL DOBBELT LÅGE**
- (56) Fremdragne publikationer:  
**DE-U1- 202020 000 327**  
**FR-A1- 2 519 060**



# DESCRIPTION

Description

## Introduction

**[0001]** The present invention relates to gate latches, specifically for use with double gates, and to gates having such latches affixed.

## Background to the Invention

**[0002]** Various types of gate latches are known in the technical field, however the common function amongst all types is that the gates to which latches are affixed can be secured in the closed position.

**[0003]** A variety of latching means for use in conjunction with a swing gate, and its adjacent gatepost, are known in the art. Normally, these latching means incorporate rather complex structures arranged internal to the gatepost to which the gate latch affixes.

**[0004]** Less common are fastening means for use in conjunction with a swing gate that lies adjacent to another swing gate (AKA a double gate).

**[0005]** One known fastener that works to secure one swing gate of a double gate to the other swing gate works by being pivotally mounted to the top of one of the gates. When in the open position, the gates can swing freely (often in only one direction, due to the presence of a hinge stop). In order to close the gates and prevent the swinging thereof, the fastener is pivoted 180 degrees from a first position in which it lies across and is supported by the gate to which it is affixed to a second position in which it mounts the other gate as well. These types of gate fasteners are typically referred to as "throw over gate loops".

**[0006]** Types of locking mechanisms known in the art include those described in DE 202020000327 and FR 2519060.

**[0007]** DE 202020000327 describes a fastener with holes to allow a safety bolt or padlock to be inserted. FR 2519060 describes a fastener with an enlarged housing to accommodate a padlock.

**[0008]** A significant problem with known double gate fasteners of this kind, however, is that a

user must remember to close the gates after each use. Otherwise, the gates will either swing freely (when the fastener lies across and is supported by the gate to which it is affixed) or one will crash into the extended fastener of another (if the fastener has been left in the "closed" position, but not over and hence without securing each of the two gates). The first instance is likely to result in damage to the gates and the gate hinges, as well as being a security risk. The second instance is additionally likely to lead to damage of the fastener itself.

**[0009]** It is thus clear from the technical field that there exists a need for an alternative and, preferably, improved gate fastener that provides the end user with both convenience and security for minimal cost.

**[0010]** An aim of the present invention is therefore to provide a new and improved latching gate fastener for a double gate.

### **Summary of the Invention**

**[0011]** Accordingly, the invention provides a latching gate fastener suitable for securing a double gate, comprising:

a pivotable body that is suitably fixable (e.g., using a screw, pin or bolt) to a first gate; and

at least one ramp or strike plate that facilitates sideways latching of a second gate, such that when the two gates are out of alignment the second gate swings toward the first gate, allowing the second gate rail to contact the ramp and lift the pivotable body enough that the second gate rail passes under the ramp and into the recess of the pivotable body, where it is secured in the closed position,

wherein the pivotable body comprises at least one recess for receiving a gate rail on the second gate.

**[0012]** Preferably, the pivot point of the pivotable body is at a proximal end of the latching gate fastener. Preferably, the at least one ramp (or strike plate) is at a distal end of the latching gate fastener.

**[0013]** The pivotable body comprising a recess for receiving a gate rail may otherwise be known as a throw over gate loop.

**[0014]** Hence, the invention provides a gate fastener, comprising

a proximal pivot point, for pivotal attachment to a gate, and

a distal throw over gate loop,

further comprising a distal strike plate for latching upon horizontal engagement with a second gate.

**[0015]** The ramp / strike plate is a sloped surface or projection that advantageously facilitates sideways latching of the second gate into the fastened position. Contrary to known throw over gate loops in the art, the gate fastener of the present invention allows for the pivotable body to be left in the "closed" position, without the second gate being secured within the recess, while allowing sideways movement of the second gate to result in movement of the fastener into the secured position without a user manually lifting the pivotable body. As shown in the example below, the angle and arrangement of the strike plate / ramp with respect to the second gate rail is such that when the second gate rail engages it laterally this results in upwards movement of the fastener body, meaning the end of the fastener adjacent the second rail is raised, then the second rail passes into the recess and the fastener drops into a closed position, securing the second rail and holding the double gates together. This not only protects the gate fastener from damage from lateral impacts as the gate slams into the side of the gate fastener, it also allows for the gates to be closed automatically in the case they are unintentionally left open. Closing can be achieved by pushing the gates together, e.g., by a user or otherwise, e.g., by the action of the wind.

**[0016]** In a preferred embodiment the ramp / strike plate is at an angle 30-60 degrees from horizontal. Preferably, the ramp is angled 50 degrees from horizontal.

**[0017]** When referring to the "open" and "closed" positions of the gate fastener / pivotable body, the open position refers to situations wherein the pivotable body is pivoted upward such that the second gate can freely pass under the gate fastener, while the closed position refers to situations wherein the pivotable body is pivoted downward such that the second gate either sits within its recess or contacts the at least one ramp. This contrasts from the definition of the gate itself being "open" or "closed", in that the gate is open when a user can freely pass through it, i.e., the gate does not sit within the recess of the pivotable body, however the gate may be open at times when the gate fastener is in the closed position.

**[0018]** As such, it is preferred that the latching gate fastener comprises at least two ramps, one each on opposing surfaces of the pivotable body. This allows for the gates to swing towards one another in either direction, whilst facilitating the latching of the gate fastener as the pivotable body is moved upwards and over the second gate rail, allowing the second gate rail to fit into the recess in the pivotable body and thus be secured in the closed position.

**[0019]** The ramp surface is suitably flat and smooth. Generally, the fastener is made of metal (although other materials, e.g., plastic, may be suitable). The one or more ramps / strike plates may be composed of or have fitted thereto an outer lining, typically non-metallic. The lining may absorb impacts with the second rail. The lining may be of material that assists the smooth and controlled movement of the second gate rail into the recess. In the example below, a

rubber pad is mounted to the ramp for this purpose. Although a pad is not essential to the invention, it assists in providing a smooth and controlled latching action, as well as protecting the gate finish. The pad is suitably composed of a hard rubber or high-density polyethylene (HDPE). A brass plate may optionally be fitted in place of the pad.

**[0020]** Typically, a handle is provided to assist lifting the pivotable body away from the second gate and into the "open" position. Preferably, the handle is provided at the distal end of the gate fastener.

**[0021]** It is preferred that the latching gate fastener further comprises a locking means to prevent pivoting of the pivotable body. This provides the benefit that, when desirable, the gate fastener can be locked in position to more permanently secure the two gates together, i.e., by preventing a user from lifting the pivotable body away from the second gate rail. Optionally, however, the locking means may be used to secure the gate fastener more permanently in the open position (i.e., where it does not contact the second gate when the two gates are brought in alignment with each other).

**[0022]** Hence, the invention provides a gate fastener, comprising

a proximal pivot point, for pivotal attachment to a gate, and

a distal throw over gate loop,

further comprising one or more lugs, apertures and/or ears for attachment of a retainer that when in place restricts pivoting of the throw over gate loop and locks the fastener to a second gate.

**[0023]** It is preferred that the locking means comprises at least one aperture in the pivotable body and a fastener passing through said aperture to lock the pivotable body in position. Preferably, the fastener is a pin for easy insertion / removal. Preferably, there are two apertures located on either side of the recess and aligned with one another under the gate rail, so that when the fastener is passed through the apertures, it blocks upward movement of the pivotable body. Preferably, the two apertures are positioned proximally of the gate fastener.

**[0024]** It is preferred that the latching gate fastener further comprises a pivot stop that in use allows partial pivoting of the pivotable body but prevents full pivotable movement of the pivotable body. Advantageously, the presence of the pivot stop means that the pivotable body cannot be pivoted into a position in which it cannot freely fall back into the closed position (unless the locking means are utilized to secure the fastening means in the open position more permanently). This is beneficial because it protects against user error, i.e., where the user has opened the gate and accidentally forgotten to close the gate after use.

**[0025]** Hence, the invention provides a gate fastener, comprising

a proximal pivot point, for pivotal attachment to a gate, and

a distal throw over gate loop,

further comprising one or more lugs, apertures and/or ears for attachment of a retainer that when in place restricts pivoting of the throw over gate loop between a first position in which it secures the fastener to a second gate and a second position in which the fastener is unlocked and from which when released the gate loop falls back into the first position.

**[0026]** It is preferred that the pivot stop comprises at least one aperture in the pivotable body and a fastener passing through said aperture to limit pivot range of the pivotable body. Preferably, the fastener is a pin, screw or bolt. Preferably, there are two apertures located on either side of the recess and aligned with one another under the gate rail, so that when the fastener is passed through the apertures, it limits upward movement of the pivotable body. Preferably, the two apertures are positioned distally of the gate fastener.

**[0027]** Preferably, the pivotable body is metal in composition. Typically, it is formed from a single extrusion.

**[0028]** The invention also provides a method for securing a double gate from opening, comprising

fixing a latching gate fastener having a pivotable body to a first gate, such that the pivotable body may be pivoted about a first gate rail of the first gate;

wherein in the closed position the pivotable body lies aligned with the first gate rail and at least partially houses it within a recess in the pivotable body; and

wherein in the closed position the pivotable body lies aligned with a second gate rail on a second gate and at least partially houses it within a recess in the pivotable body;

characterised in that the pivotable body comprises at least one ramp / strike plate for contacting the second gate rail, such that when the two gates are out of alignment the second gate swings toward the first gate, allowing the second gate rail to contact the ramp and lift the pivotable body enough that the second gate rail passes under the ramp and into the recess of the pivotable body, where it is secured in the closed position.

**[0029]** The latching gate fastener for use in the method of the invention is preferably as described elsewhere herein and illustrated in the example in more detail.

**[0030]** In another embodiment, the invention provides a gate comprising the latching gate fastener of the invention.

## Examples

**[0031]** The invention is now illustrated in specific examples, with reference to the accompanying drawings (Figures 1-3) which show a perspective view of a latching gate fastener according to the invention that is mounted on a double gate in the closed position (Figures 1 and 2) and in the open position (Figure 3).

**[0032]** There is shown a gate fastener (2) according to the invention mounted on a double gate (8, 12). A pivot pin (30) is secured through two aligned apertures (6) in the gate fastener (2) and a corresponding set of aligned apertures (not shown) in the top rail (16) of the first gate (8). This provides the gate fastener (2) with a pivotable body (4) that pivots about an axis (6). The pivot pin (30) passing through the apertures (6) in the fastener and rail both secures the fastener to the rail and enables it to pivot about axis (6). An inverted U-shaped recess (14) runs the length of the body and fits over the top rails (16, 26) of both gates (8, 12).

**[0033]** A further pin or bolt (28) is secured through two aligned apertures (24) in a downwardly projecting portion or lug of the pivotable body (4). This provides the gate fastener (2) with a pivot stop, such that when the pivotable body (4) is pivoted about axis (6) upwards and away from the gate rail (26) of the second gate (12), i.e., by pulling on the handle (20), pivoting is restricted by the pivot stop pin or bolt (28) abutting the underside of the gate rail (16) of the first gate (8).

**[0034]** With that pin or bolt (28) in place, sufficient pivoting movement of the body is permitted for the recess to clear the second gate rail to open the gate. Upon lifting of the handle (20) and hence opening of the gate fastener (2), which clears the top rail (26) of the second gate, the user can open and pass through the double gates (8, 12). The user can then close and realign the gates and allow the gate fastener (2) to drop back into its closed position.

**[0035]** If the gates (8, 12) remain open, despite the gate fastener (2) being in the closed position, there is provided a set of two ramps or strike plates (10) to assist in the closing / latching of the gates (8, 12). The ramps are fitted with rubber pads (18) to assist the smooth and controlled latching of the gates (8, 12) into their closed positions.

**[0036]** The gates (8, 12) can swing towards one another in either direction, since there are two separate ramps (10) on opposing surfaces of the gate fastener (2). As the top rail (26) of the second gate (12) swings towards and then contacts the ramp (10), sideways engagement of the top rail against the angled ramp pushes the body upwards and the pivotable body (4) of the gate fastener (2) is lifted, allowing the top rail (26) of the second gate (12) to be positioned under the U-shaped recess (14) which runs the length of the pivotable body (4). The pivotable body (4) then falls downward under its own weight and secures the top rail (26) of the second gate (12) within its recess (14), such that the gates (8, 12) are held in the closed position.

**[0037]** The gate fastener (2) is then optionally locked in the closed position using a pin (not shown) that passes through aligned apertures (22) in the downwardly projecting portions or lugs of the pivotable body (4), i.e., with the fastener in the closed position and the pin in place, when the user pulls on the handle (20) pivoting into a sufficiently raised position in which the gates can be opened is prevented by the locking pin abutting the underside of the gate rail (16) of the first gate (8).

**[0038]** The gate fastener (2) may also optionally be locked in the open position using a pin (not shown) that passes through aligned apertures (22) in the downwardly projecting portion of the pivotable body (4). This is achieved by inserting the pin through the apertures (22) when the gate fastener (2) is in the raised, open position and the apertures (22) sit above the top rail (16) of the first gate (8), i.e., when pushing down on the handle (20), pivoting is prevented by the locking pin abutting the topside of the gate rail (16) of the first gate (8).

### **Reference List**

#### **[0039]**

Latching gate fastener (2)

Pivotable body (4)

Pivot aperture / axis (6)

First gate (8)

Ramp / strike plate (10)

Second gate (12)

Recess (14)

First gate rail (16)

Rubber pad (18)

Handle (20)

Locking pin aperture (22)

Pivot stop apertures (24)

Second gate rail (26)

Pivot stop (28)

Pivot pin (30)

[0040] The invention hence provides a latching gate fastener for double gates.

## REFERENCES CITED IN THE DESCRIPTION

### Cited references

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

### Patent documents cited in the description

- DE202020000327 [0006] [0007]
- FR2519060 [0006] [0007]

**PATENTKRAV**

1. Låsende lågefastgørelse (2) til sikring af en dobbelt låge (8, 12), og som omfatter:  
et drejbart legeme (4), der kan fastgøres til en første låge (8); og  
mindst én rampe eller slagplade (10), der letter sideværts låsning af en anden låge (12),  
5 således, når de to låger ikke flugter med hinanden, at den anden låge drejer mod den første låge,  
hvilket gør det muligt for den anden lågeskinne at komme i kontakt med rampen og løfte det  
drejbare legeme tilstrækkeligt til, at den anden lågeskinne går ind under rampen og ind i  
indskæringen i det drejbare legeme, hvor den sikres i den lukkede position,  
hvor det drejbare legeme omfatter mindst én indskæring (14) til modtagelse af en  
10 lågeskinne (26) på den anden låge.
2. Låsende lågefastgørelse ifølge krav 1, hvor der er mindst to ramper til stede på  
modstående flader af det drejbare legeme.
- 15 3. Låsende lågefastgørelse ifølge krav 1 eller 2, hvor den mindst ene rampe eller de mindst  
to ramper omfatter en gummiflade (18) til at komme i kontakt med den anden låge.
4. Låsende lågefastgørelse ifølge et hvilket som helst foregående krav, og som endvidere  
omfatter et håndtag (20) til at løfte det drejbare legeme væk fra den anden låge.  
20
5. Låsende lågefastgørelse ifølge et hvilket som helst foregående krav, og som endvidere  
omfatter et låsemiddel til at forhindre drejning af det drejbare legeme i anvendelse.
6. Låsende lågefastgørelse ifølge krav 5, hvor låsemidlet omfatter mindst én åbning (22) i  
25 det drejbare legeme og en fastgørelse, der går gennem åbningen (f.eks. en stift).
7. Låsende lågefastgørelse ifølge et hvilket som helst foregående krav, og som endvidere  
omfatter et drejstop, der i anvendelse muliggør delvis drejning af det drejbare legeme, men  
forhindrer fuld drejelig bevægelse af det drejbare legeme.  
30
8. Låsende lågefastgørelse ifølge krav 7, hvor drejstoppet omfatter mindst én åbning (24)  
i det drejbare legeme og en fastgørelse, der går gennem åbningen (f.eks. en skrue).
9. Låsende lågefastgørelse ifølge et hvilket som helst foregående krav, hvor det drejbare

legeme er metal i sammensætning og, fortrinsvis, dannes ved en enkelt ekstrudering.

10. Fremgangsmåde til at sikre en dobbelt låge (8, 12) mod åbning, og som omfatter fiksering af en låsende lågefastgørelse (2) med et drejbart legeme (4) til en første låge (8), således at det drejbare legeme kan drejes omkring en første lågeskinne (16) på den første  
5 låge;

hvor i den lukkede position det drejbare legeme ligger på linje med den første lågeskinne og mindst delvis indeholder den i en indskæring (14) i det drejbare legeme;

hvor i den lukkede position det drejbare legeme ligger på linje med en anden lågeskinne  
10 (26) på en anden låge (12) og mindst delvist indeholder den i en indskæring i det drejbare legeme;  
og

**kendetegnet ved, at** det drejbare legeme omfatter mindst én rampe eller slagplade (10) til at komme i kontakt med den anden lågeskinne, således, når de to låger ikke flugter med hinanden, at den anden låge svinger mod den første låge, hvilket gør det muligt for den anden  
15 lågeskinne at komme i kontakt med rampen og løfte det drejbare legeme tilstrækkeligt til, at den anden lågeskinne går ind under rampen og ind i indskæringen i det drejbare legeme, hvor den sikres i den lukkede position.

11. Fremgangsmåde ifølge krav 10, hvor det drejbare legeme omfatter to ramper på  
20 modstående flader af det drejbare legeme, den første rampe til at komme i kontakt med den anden lågeskinne på en første side deraf, og den anden rampe til at komme i kontakt med den anden lågeskinne på en anden side deraf.

12. Fremgangsmåde ifølge krav 10 eller 11, hvor det drejbare legeme omfatter et låsemiddel,  
25 for eksempel to åbninger (22), der flugter med hinanden og placeres under én af den første eller anden skinne, således at en fastgørelse (f.eks. en stift) kan føres gennem hver af åbningerne, for således at forhindre drejbar bevægelse af det drejbare legeme, og efterfølgende låser de to låger sammen.

30 13. Fremgangsmåde ifølge et hvilket som helst af kravene 10 til 12, hvor det drejbare legeme omfatter et drejestop for således at muliggøre delvis drejning af det drejbare legeme, men forhindre fuld drejbar bevægelse af det drejbare legeme.

14. Fremgangsmåde ifølge krav 12 eller 13, hvor låsemidlet og drejestoppet begge omfatter

to åbninger, med tilsvarende fastgørelser, der flugter med hinanden og placeres under den første lågeskinne.

- 5    **15.**    Låge (8), der omfatter en låsende lågefastgørelse (2) ifølge et hvilket som helst af kravene 1 til 9.

# DRAWINGS

Drawing

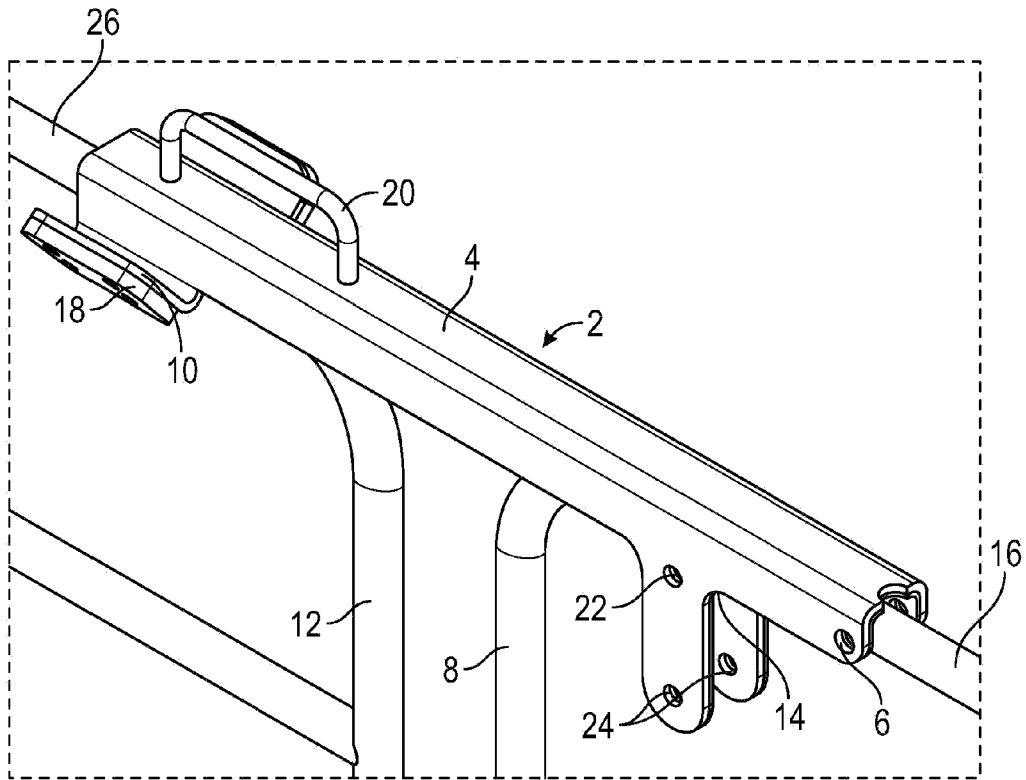


FIG. 1

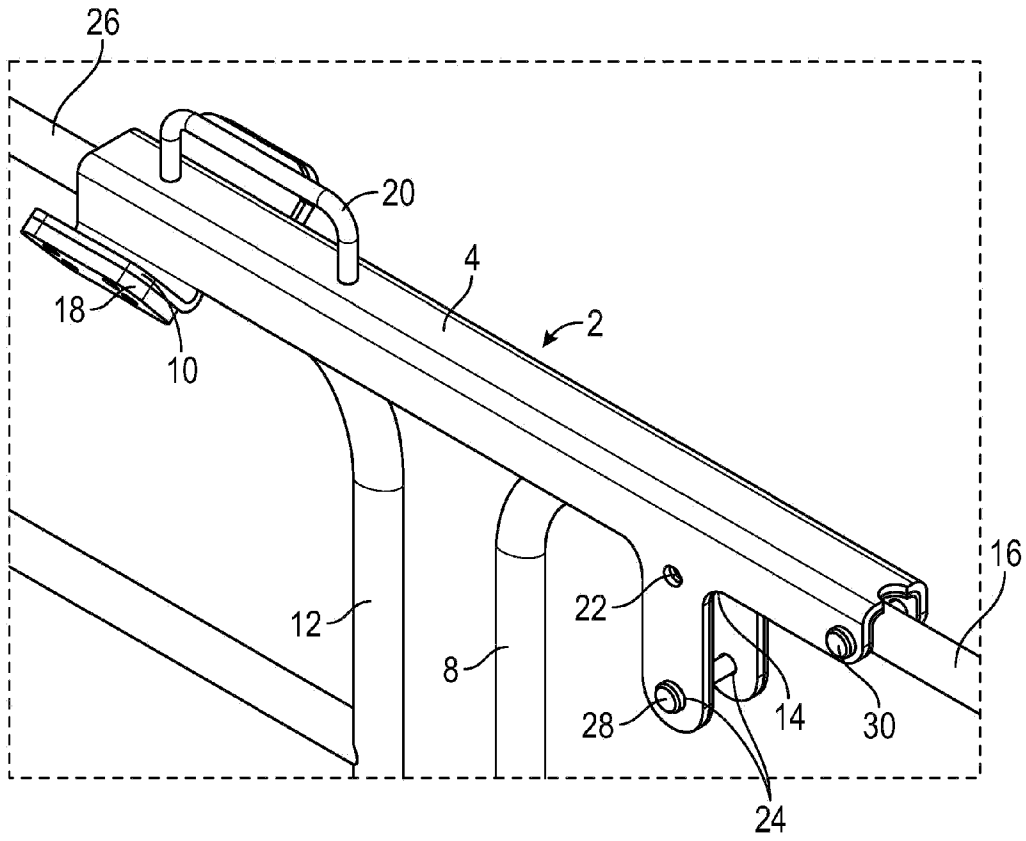


FIG. 2

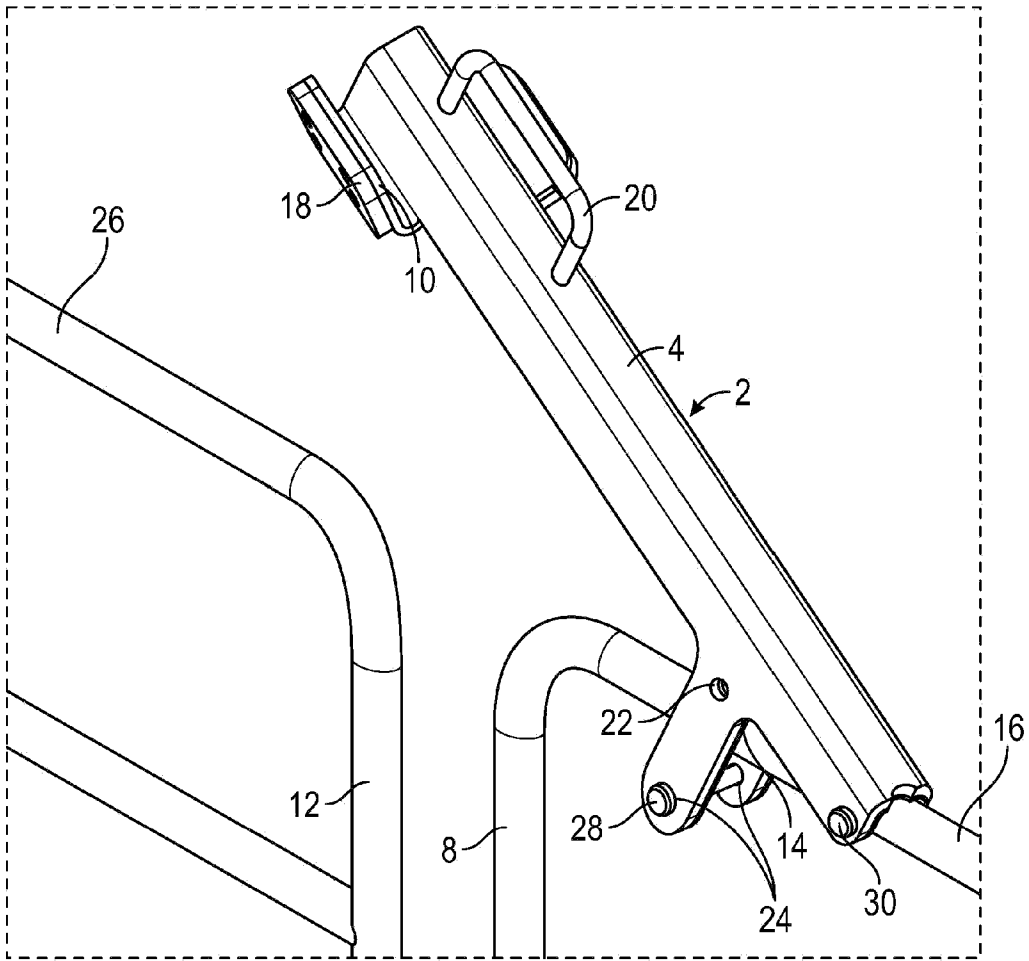


FIG. 3