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- (56) Documents cited

GB A 2165132	GB	1080914
GB A 2053649	GB	0713097
GB A 2033720	US	4139111
GB A 2011238	US	3272287
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(58) Field of search

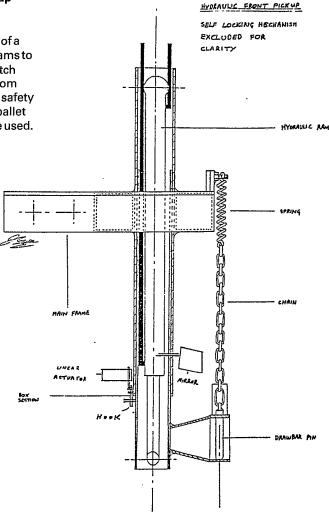
A1P

B8L

Selected US specifications from IPC sub-classes A01B B66F

## (54) Tractor front mounted pick-up hitch

(57) A hitch fitted to the front end of a tractor is operated by hydraulic rams to control the hitch pin and/or the hitch height. These may be operated from within the tractor as may also the safety lock. Other attachments such as pallet forks or front and weights may be used.



WI10399 / 2 HYDRAULIC FRONT PICKUP SELF LOCKING HECHANISM EXCLUDED FOR CLARITY HYDRAULIC RAM 1 111 SPRING - CHAIN MICROR HOOK DRAWBAR PIN

MAIN FRAME

BOX SECTION

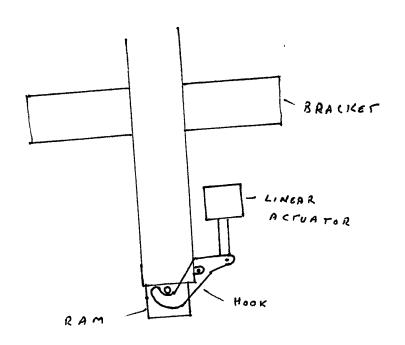


DIAGRAM 2

#### **SPECIFICATION**

### Tractor front mounted pick-up hitch

5 This invention relates to a tractor front mounted pick-up hitch.

It is normal for a tractor (particularly an agricultural tractor) to be fitted with a fixed or variable height pick-up hitch to the rear. Occasionally a fixed clevis 10 and pin type hitch is fitted to the front end. This leads to difficulties in parking trailers and trailed machinery particularly in low sheds due to lack of visibility when reversing and manoeuvrability due to the cab.

According to the present invention a hitch is
15 provided at the front of the tractor consisting of a
hydraulic ram which runs up and down in a hollow
steel section. The ram is operated by a hydraulic spool
valve from inside the tractor cab. The other end of the
hydraulic ram is fitted with another piece of hollow

- 20 section which fits inside the first hollow section and supports the hitch assembly. Its position is sensed by a micro-switch or similar and indicated in the cab. This hitch assembly consists of a "V" shaped opening with a hitch pin running down through the centre. Alter-
- 25 natives to the hitch may be fixed. e.g. (a) pallet forks (b) arms to take front end weights. The hitch pin may be operated by (1) mechanical method using spring and chain which comes into operation when main ram is lowered. See Diagram (1). (2) Hydraulic ram control 30 or (3) Solenoid. The position of the hitch would be

30 or (3) Solenoid. The position of the hitch would be sensed by a micro-switch or similar and indicated in the cab by a dashboard light.

The ram maybe locked in the up position by a linear actuator operated hook. See Diagram (2). This is 35 sensed by a micro-switch or similar and is indicated in the cab. The hook may alternatively be operated by a hydraulic ram or an electrical solenoid.

The positioning of the trailer hook to the hitch is observed in a mirror fixed to one side of the ram 40 support.

The front mounted hitch is fixed to the front trunion block of the tractor. The design of the brackets will depend on the make and size of tractor.

A typical example is when a tractor driver simply
45 unhitches the trailer from the rear of the tractor and
while remaining in the cab re-hitches it to the front by
lowering the ram; aligning hitch as seen in morror to
the trailer hook; lifting ram and remotely controling the
pin insertion; when ram returns to full height initiating
50 locking device and then driving tractor forward to
push the trailer into the shed. Putting the machine into
the shed this way around will enable him to see
exactly where it should be positioned.

#### 55 CLAIMS

- 1. A front mounted pick up hitch.
- A front mounted pick up hitch as claimed in Claim (1) with a variable height control using a 60 hydraulic ram.
  - 3. A front mounted pick up hitch as claimed in Claim (2) with remote control.
  - 4. A front mounted pick up hitch as claimed in Claim (2) or (3) with cab indicator.
- 55 5. A front mounted pick up hitch as claimed in

Claims 1-6 with controlled hitch pin.

- 6. A front pounted pick up hitch as claimed in Claim (5) with remote control.
- 7. A front mounted pick up hitch as claimed in 0 Claims (5) and (6) with indicator.
  - 8. A front mounted pick up hitch as claimed in Claims (1) to (7) with locking system.
  - A front mounted pick up hitch as claimed in Claims (1) to (8) with solenoid operated locking system.
  - 10. A front mounted pick up hitch as claimed in Claim (9) with indicator in cab.
  - 11. A front mounted pick up hitch as claimed in Claims (1) to (10) except the hitch may be replaced by other attachments such as pallet forks.
  - 12. A front mounted pick up hitch as claimed in claims (1) to (10) except hitch replaced by front end weights.

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