COMMONWEALTH OF AUSTRALIA

NATIONAL STANDARDS COMMISSION

Weights and Measures (National Standards) Act 1960-1966

Weights and Measures (Patterns of Instruments) Regulations

Certificate of Approval

CERTIFICATE NUMBER 6/9C/13

In respect of the pattern of

Mercury Self-indicating Portable Platform Weighing Machine and Variants.

Submitted and manufactured by: Mercury Scale Co. Pty. Ltd.,
32 Dew Street,
Thebarton,
South Australia. 5031.

This is to certify that the pattern and variants of the instrument illustrated and described in this Certificate have been examined by the National Standards Commission under the provisions of the abovementioned Regulations and have been approved as being suitable for use for trade.

Approval was granted for the pattern and variants on 24th May, 1968.

Approval was granted on condition that all instruments made in conformity with this Certificate:

1. are appropriately marked NSC No 6/9C/13; and

2. comply with the General Specifications for Weighing and Measuring Instruments to be Used for Trade.

28/5/71

Cont'd over

This Certificate comprises:

Pages 1 to 5 dated 28th May, 1971.
Figures 6/9C/13 - 1 to 16 dated 28th May, 1971.

Date of issue 28th May, 1971.

Signed

A person authorised by the Commission to sign Certificates under the abovementioned Regulations.

DESCRIPTION OF PATTERN

The pattern is of a self-indicating portable platform weighing machine (see Figure 2) of 501 lb capacity. The dial face is graduated to 501 lb in 1-lb intervals. The instrument is known as the Mercury Self-indicating Portable Platform Weighing Machine and comprises the components tabulated in Column 5 of Figure 1.

DESCRIPTION OF VARIANTS

The components tabulated in Columns 6 and 7 of Figure 1 make up variants known as Mercury Self-indicating Portable Platform or Hopper Weighing Machines.

The variants are limited to a capacity of 2500 lb or 1200 kg.

DESCRIPTION OF COMPONENTS

1. Lever system (see Figures 3 and 5) — the two main second-order levers have cantilevered knife-edges which are force-fits in machine-tapered holes. The nose-end knife-edges of the two levers are coupled together while an extension of one lever is coupled to the headwork pullrod.

2. Lever system (see Figure 11) — the two main levers are of the form shown in Figure 11. The knife-edge mounting and coupling arrangements are similar to Component 1.

3. Lever system (see Figure 14) — the two main second-order levers have the load and fulcrum knife-edges supported between two side-plates which form the short arms of the main levers (see Figure 15). The knife-edges are a push-fit into their sockets and are locked by socket-headed set screws which seat in locating dimples in their shanks. The form of the lever is similar to Component 2 and the coupling arrangements similar to Component 1.

4. Lever system (see Figure 12) — the two main second-order levers are of the form shown in Figure 12. The knife-edge mounting is similar to Component 1 (see insert Figure 12). The nose-end knife-edges of the two main levers are coupled to the headwork pullrod.

5. Lever system (see Figure 12) — the lever system is similar to Component 4, except that the load and fulcrum knife-edges are mounted between two side-plates similar to Component 3.

6. Lever system (see Figure 13) — the two main second-order levers' load and fulcrum knife-edge mountings are similar to Component 3. The nose-end knife-edges of the two main levers are coupled to a second-order transfer lever which is coupled to the headwork pullrod.

7. Swinging-link lever suspension, fixed platform support (see Figures 4 and 6) — the platform is mounted on the load knife-edges of the main levers on self-aligning bearings (see Figure 6); the levers are suspended in swinging links (see Figure 4) at the four corners of the basework frame (see Figure 5).

8. Fixed lever suspension, swinging-link platform support (see Figure 16) — the platform is provided with free lateral support by swinging links suspended from the load knife-edges. The fulcrum knife-edges are supported in self-aligning bearings mounted in brackets fixed to the basework frame.

9. Swinging-link lever suspension, swinging-link hopper suspension — the hopper is suspended below the lever system by swinging links while the levers are suspended from an overhead frame by swinging links fitted with bearings.

10. Fixed lever suspension, swinging-link hopper suspension — the hopper is suspended within the lever system on short links fitted with bearings while the levers are supported on self-aligning bearings mounted in fixed brackets similar to Component 8.

11. Wheels, levelling screws and level indicator (see Figures 2 and 5).

12. Self-indicating resistant mechanism (see Figures 3 and 7) — the mechanism is mounted in a circular dial housing and comprises temperature-stable springs, a rack and pinion, and air dashpots. Part of the spring resistant is mounted between a load beam and the dial housing; the other part is mounted between the

load beam and a zero-adjustment beam, which is supported by the zero-adjustment screw fitting from the dial housing.

Attached to the load beam is a pivoted bronze rack which is kept in mesh with a hardened-steel pinion by an adjustable eccentric guide-pin and a spring; the indicator spindle is integral with the hardened-steel pinion and runs in ball bearings. Oscillation of the indicator is damped by the air dashpots mounted between the load beam and the dial housing. This mechanism is suitable only for dials with up to 1.5 graduations per degree.

13. Two-spring resistant (see Figures 3 and 7) — Component 12 is fitted with two springs.

14. Four-spring resistant — Component 12 is fitted with four springs arranged in pairs.

15. Two air dashpots (see Figures 3 and 7) — Component 12 is fitted with two air dashpots.

16. Two oil dashpots — Component 12 is fitted with two oil dashpots.

17. One oil dashpot in column or cabinet (see Figure 8) — the dashpot is mounted from the machine framework and the piston is attached to a yoke in the pullrod.

18. Ratio cam (see Figures 3 and 7) — the ratio cam is mounted on ball bearings between the resistant mechanism and the pullrod and is attached to them by steel tapes.

19. Main headwork lever (see Figure 9) — the main headwork lever is mounted in the column or cabinet between the pullrod and the resistant mechanism.

20. Intermediate levers — the levers are mounted in the cabinet between the pullrod and the resistant mechanism.

21. Tare bars (see Figure 10) — the tare bars are attached to the main headwork lever.

22. Two dials — the dial housing is fitted with two dials, one on the front face and one on the rear face.

25/3/88

NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

VARIOUS CERTIFICATES OF APPROVAL

The following changes are made to the approval documentation for the approvals listed overleaf

submitted by Mercury Weighing and Control Systems Pty Ltd
32 Dew Street
Thebarton SA 5031.

In the Certificates and Technical Schedules listed, the following changes should be made:

1) The submittor should be changed to read;

A & D Mercury Pty Ltd

(the address remains unchanged)

2) Any Mercury instrument or component of an instrument approved in the documentation, may now also be known as "AND Mercury" or similar.

Signed

J. Birch.

Executive Director

..../2

APPROVAL	PATTERN
TYPE: weighing instruments counter scales	
6/3/007	Model 92
6/3/008	Model 131
TYPE: counter machines semi-self-indicating	
6/4A/012	Model 304A
TYPE: counter machines freely-suspended < 30 kg (spring scales)	
6/5/011	Model 211 DA
TYPE: weighing instruments non-self-indicating	
6/9A/001	Models 692 and 682
6/9A/004	Model 522D
6/9A/007	Model 211
6/9A/008	Model 600
TYPE: weighing instruments self-indicating	
6/9C/005	Model 211D
6/9C/013	Up to 2500 lb or 1200 kg
6/9C/066	Model 522 AL
6/9C/067	Model SM100/479/522D
6/9C/081	Model SB-LP 1200
6/9C/088	Model 522D LT-10K
TYPE: weighbridges self-indicating	
6/10B/040	Model WB-LT
6/10B/045A	Model RVB-H20
TYPE: automatic weighing instruments (except belt conveyors)	
6/14B/012	Model HSD automatic hopper
TYPE: overhead weighing instrument (suspended load or receptor)	
6/18/005	With 211DA headwork
6/18/017	Model OHT 500
TYPE: digital indicators	
S114	Model 579
S128	Model 1300
S132	Model 900
S161	Model AD4316
S199	Model AD-4321
TYPE: load cells	
S117	Interface model SM25-12 kg
S163	Transducers model B5112.1K
S221	HBM model TRT-50 (Mercury model TRT3K-50)

28/5/71

FIGURE 6/9C/13 - 1

1	2	3	4	5	6	7
NO	COMPONENTS	DATE APPROVED	FOOT-NOTES	PATTERN	VARIANTS	
	BASEWORK COMPONENTS					
1	2-lever system — cast levers with cantilever knife-edges (Figures 3 and 5)	24 MAY 1968		*	A	
2	2-lever system — fabricated levers with cantilever knife-edges (Figure 11)	24 MAY 1968			A	
3	2-lever system — fabricated levers with end-supported knife-edges (Figure 14)	24 MAY 1968			A	
4	2-lever system — fabricated levers with cantilever knife-edges (Figure 13)	24 MAY 1968				B
5	2-lever system — fabricated levers with end-supported knife-edges (Figure 12)	24 MAY 1968				B
6	3-lever system — fabricated levers with end-supported knife-edges (Figure 13)	24 MAY 1968				B
7	Swinging-link lever suspension — fixed platform support (Figures 4 and 6)	24 MAY 1968	1	*	C	
8	Fixed lever suspension — swinging-link platform support (Figure 16)	24 MAY 1968			C	
9	Swinging-link lever suspension — swinging-link hopper support	24 MAY 1968	1		C	
10	Fixed lever suspension — swinging-link hopper support	24 MAY 1968				*
11	Wheels, levelling screws and level indicator (Figures 2 and 5)	24 MAY 1968		*	‡	‡
	HEADWORK COMPONENTS					
12	Self-indicating resistant mechanism — 1.5 graduations per degree (Figures 3 and 7)	24 MAY 1968		*	D	D
13	2-spring resistant (Figures 3 and 7)	24 MAY 1968		*	E	E
14	4-spring resistant	24 MAY 1968			E	E
15	2 air dashpots in dial housing (Figures 3 and 7)	24 MAY 1968		*	F	F
16	2 oil dashpots in dial housing	24 MAY 1968			F	F
17	1 oil dashpot in column (Figure 8)	24 MAY 1968			‡	‡
18	Ratio cam (Figures 3 and 7)	24 MAY 1968		*	‡	‡
19	Main headwork lever (Figure 9)	24 MAY 1968			‡	‡
20	Intermediate levers (1 or 2 optional on variants)	24 MAY 1968			‡	‡
21	Tare bars (1 or 2 optional on variants) (Figure 10)	24 MAY 1968			‡	‡
22	2 dials	24 MAY 1968	2		‡	‡

* - indicates required components

‡ - indicates optional components

A, B, C, D, E, F - indicates alternative components, one only of which is required

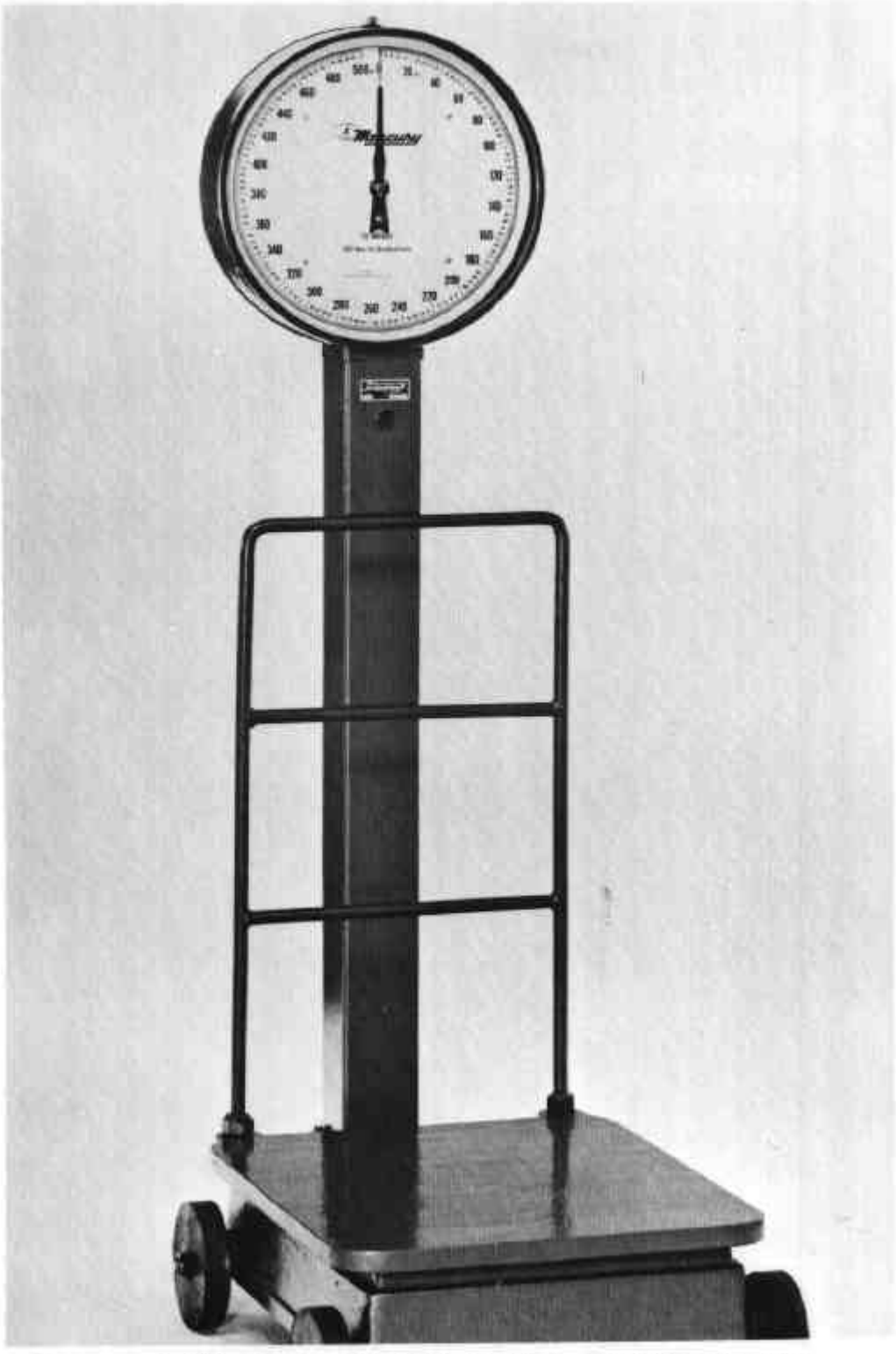
FOOTNOTES

1 - Variants are fitted with one or more of the components 18, 19 and 20 in conjunction with the components 7 and 9

2 - Tare bars (Component 21) are not fitted to instruments with two dials (Component 22)

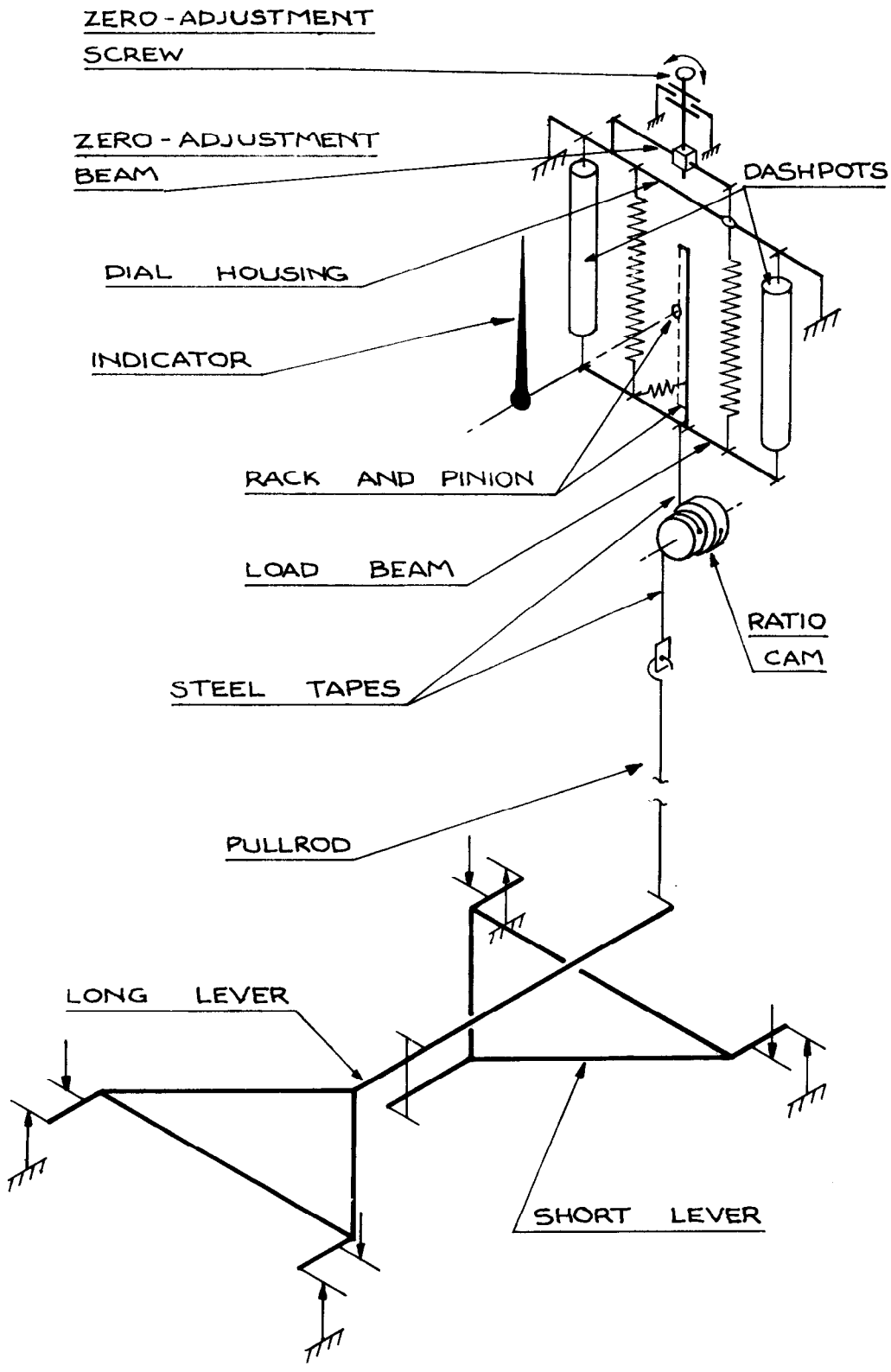
Compatibility Table for Components Described in this Certificate

FIGURE 6/9C/13 - 2



Mercury Self-indicating Portable Platform Weighing Machine
28/5/71

FIGURE 6/9C/13 - 3

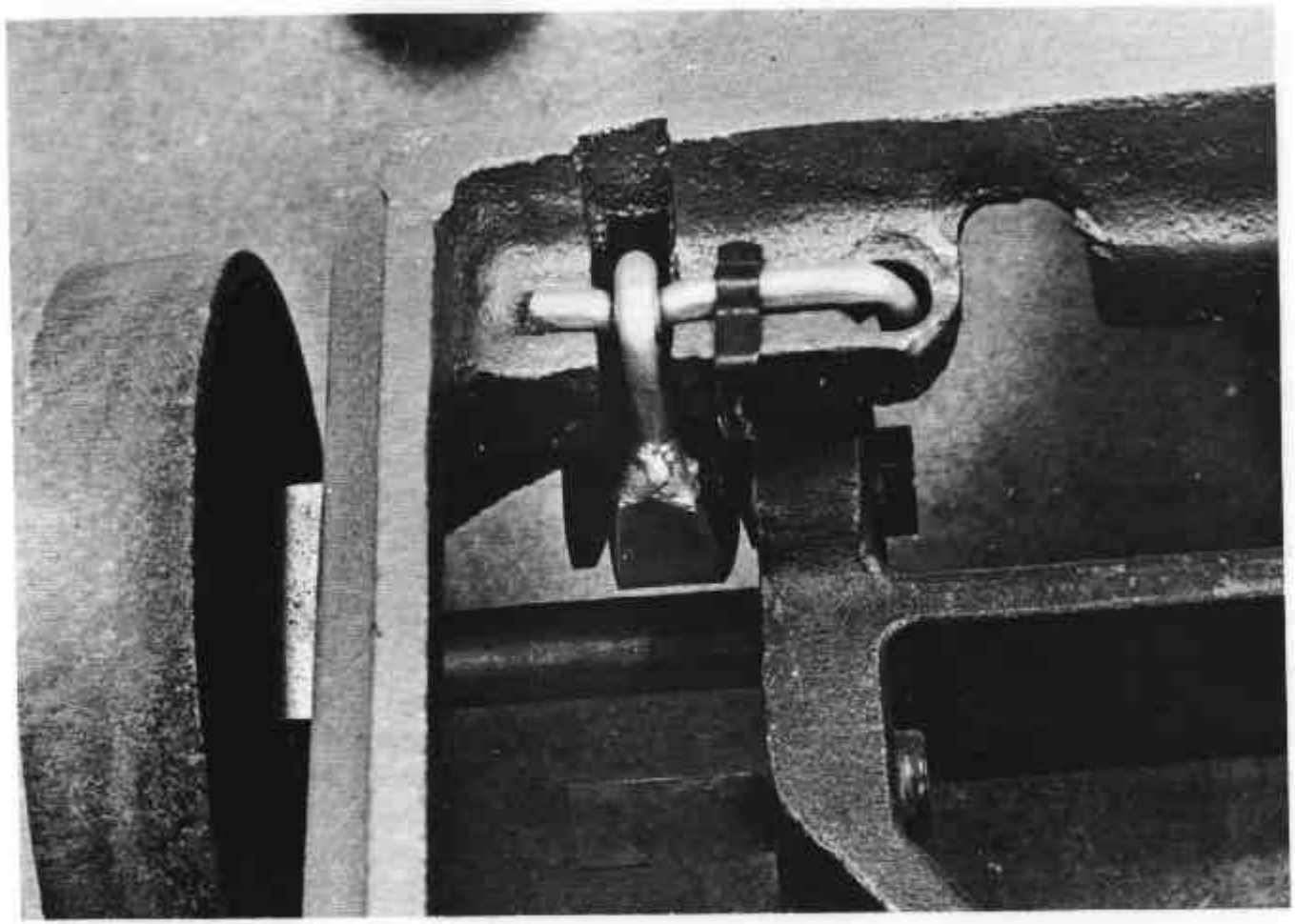


Basework-Headwork Lever Diagram

28/5/71

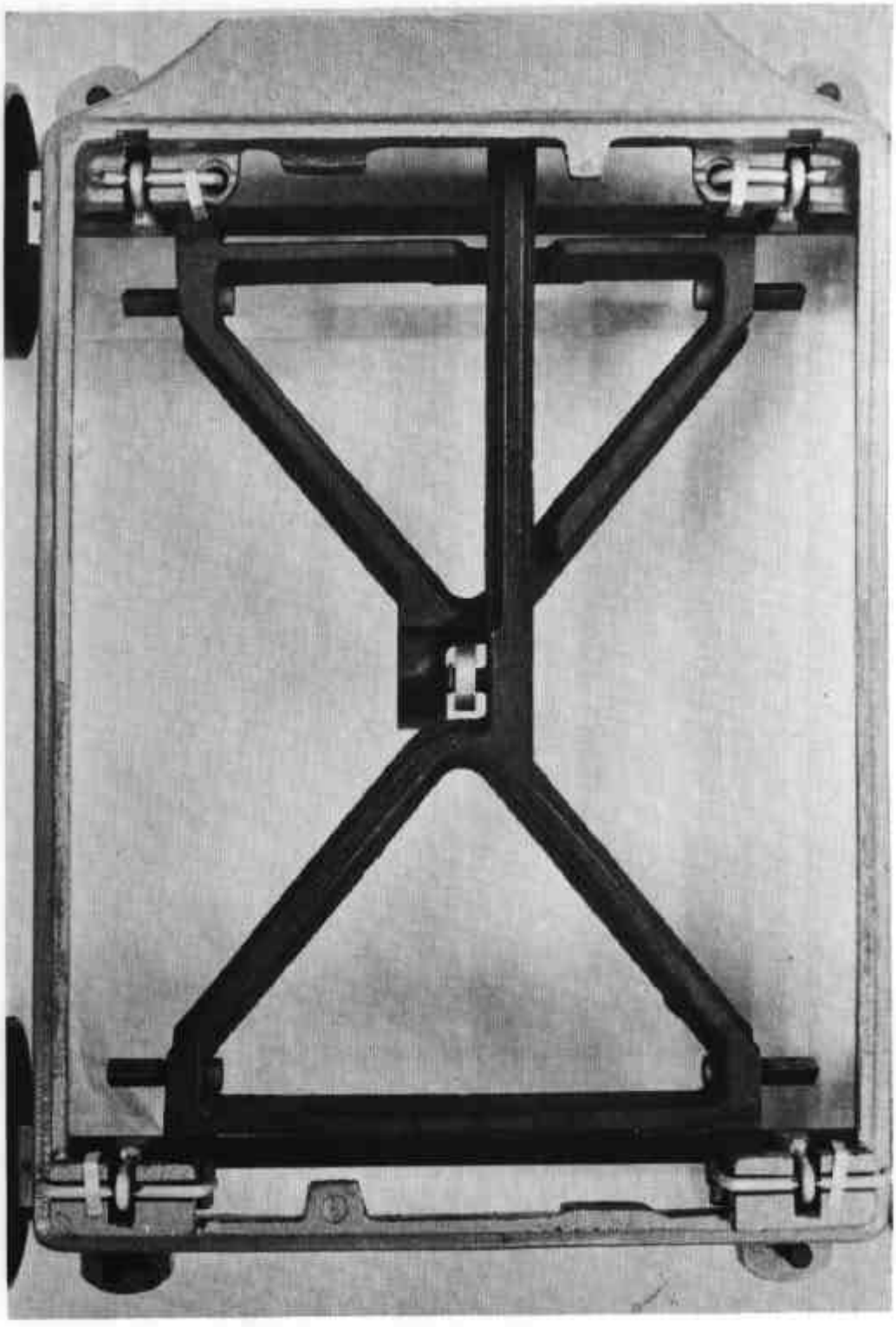
FIGURE 6/9C/13 - 4

28/5/71



Swinging-link Lever Suspension

FIGURE 6/9C/13 - 5

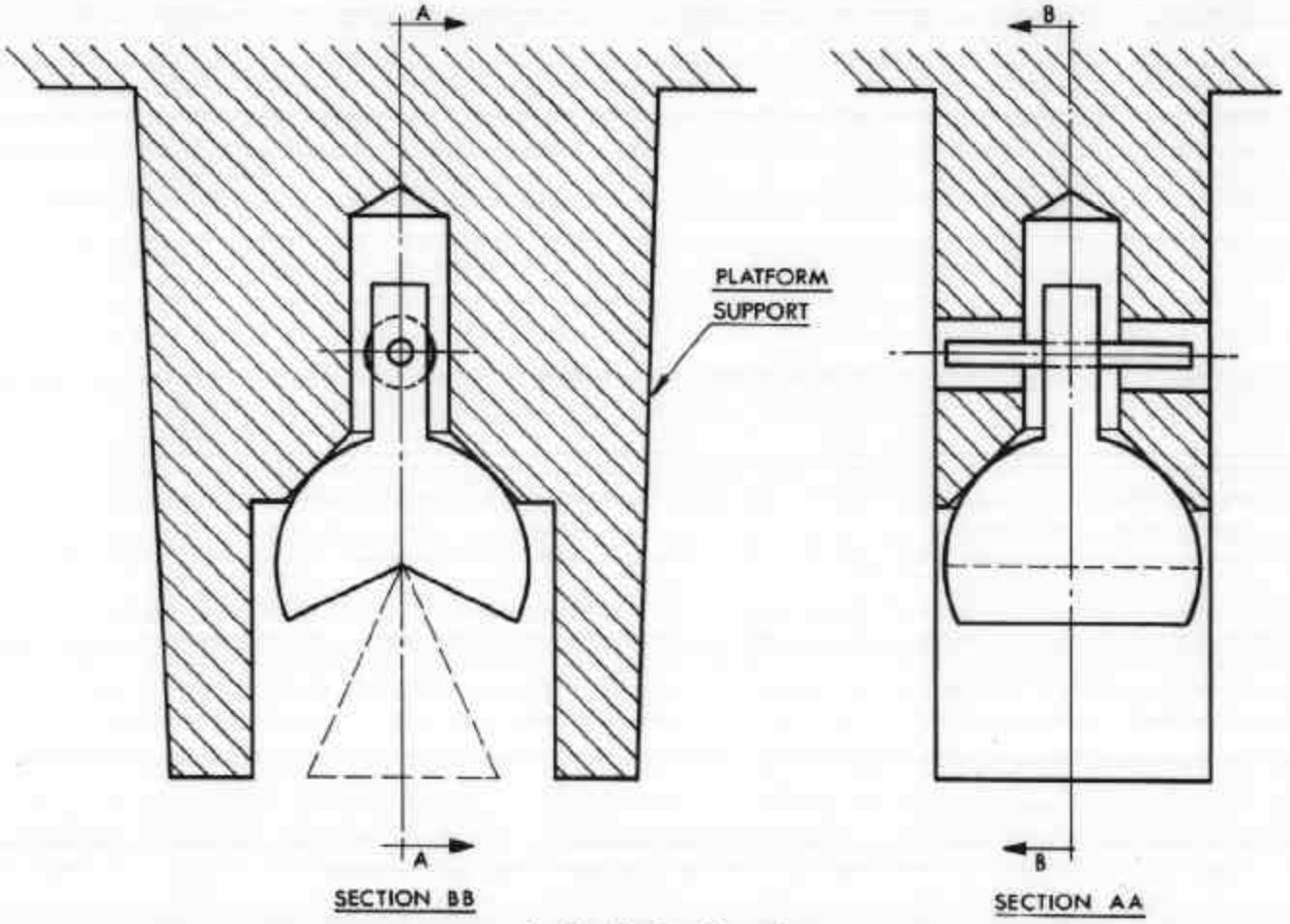


Basework (top view)

28/5/71

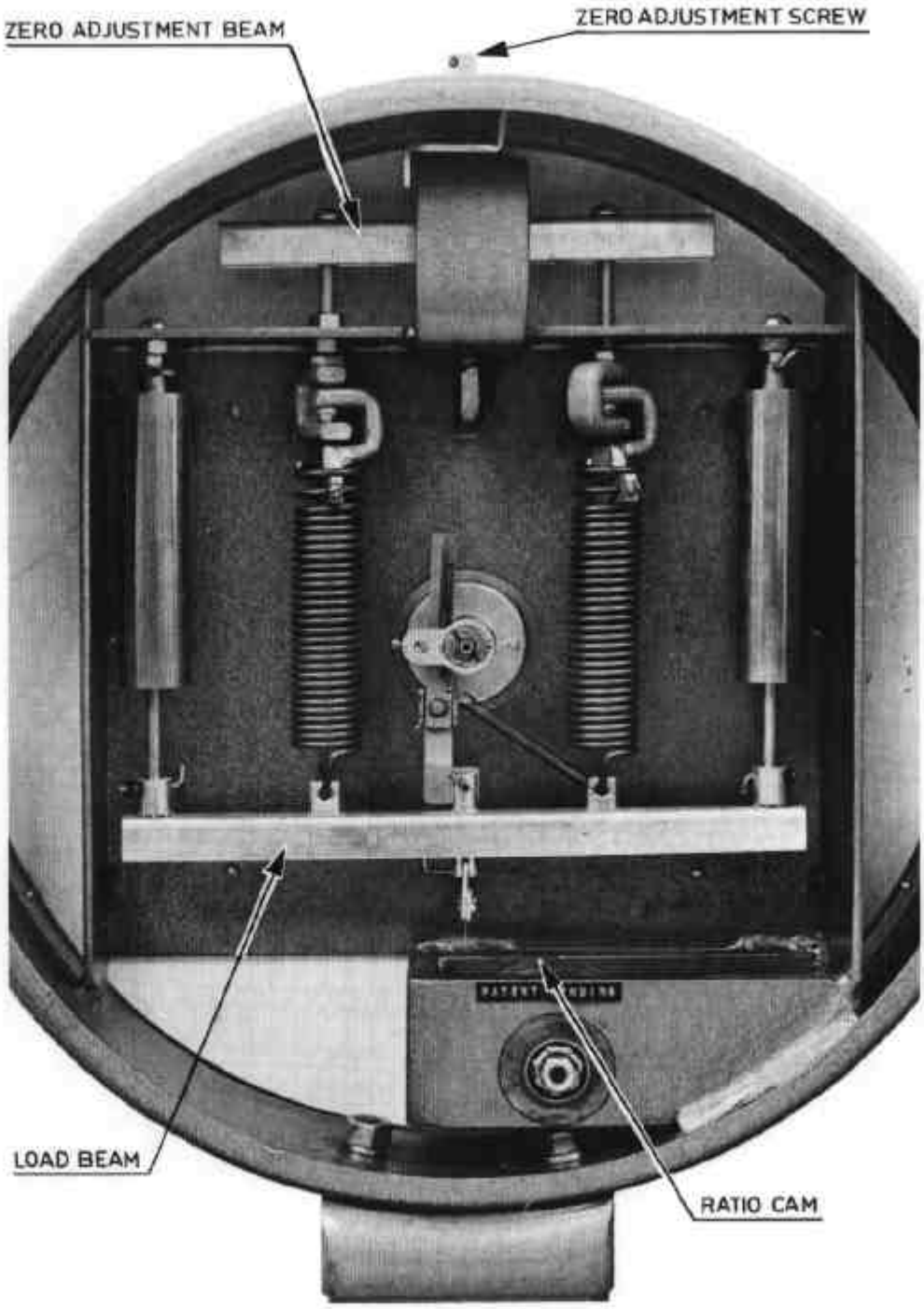
FIGURE 6/9C/13 - 6

28/5/71



Self-aligning Bearing

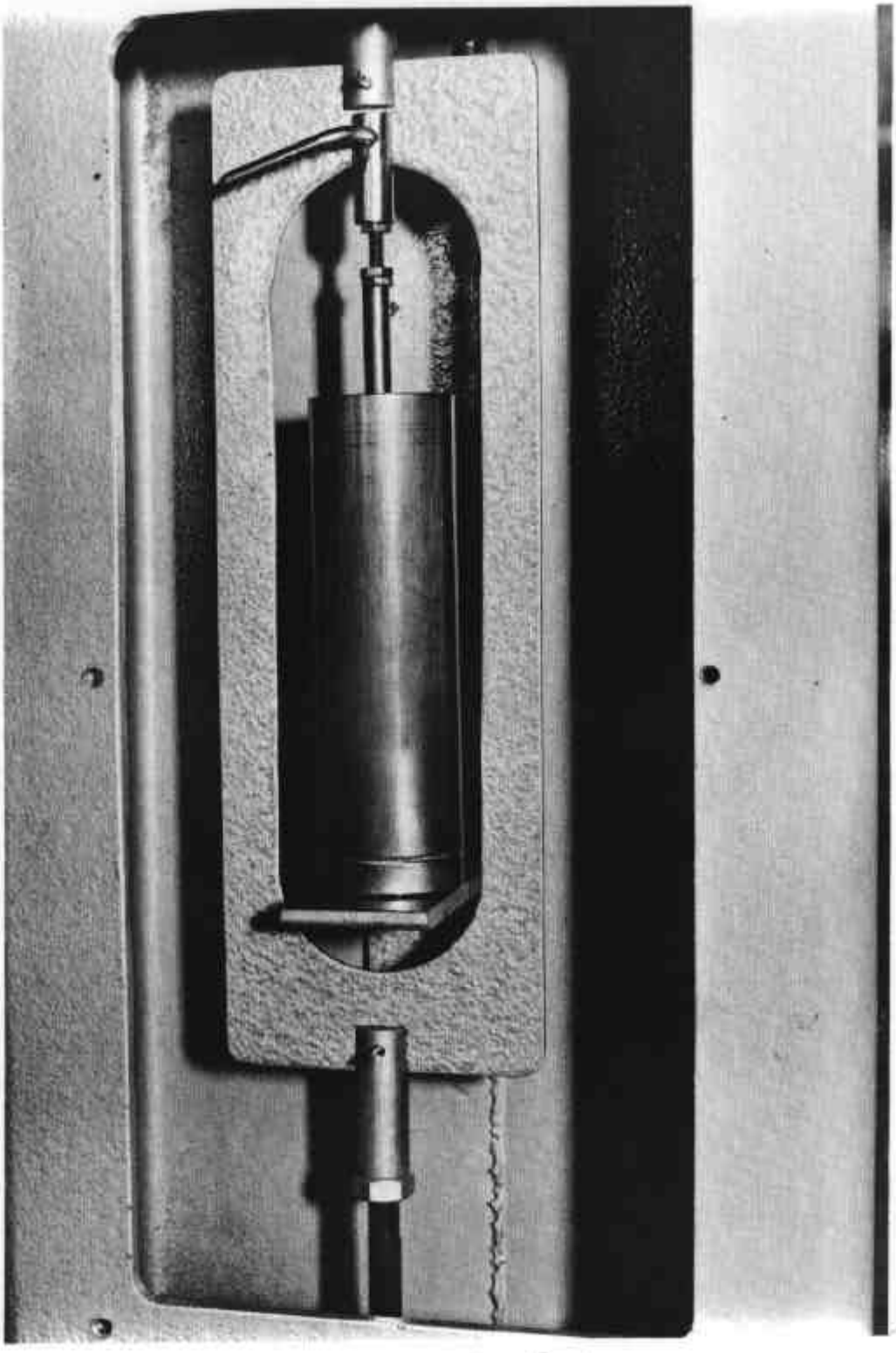
FIGURE 6/9C/13 - 7



Headwork Mechanism

28/5/71

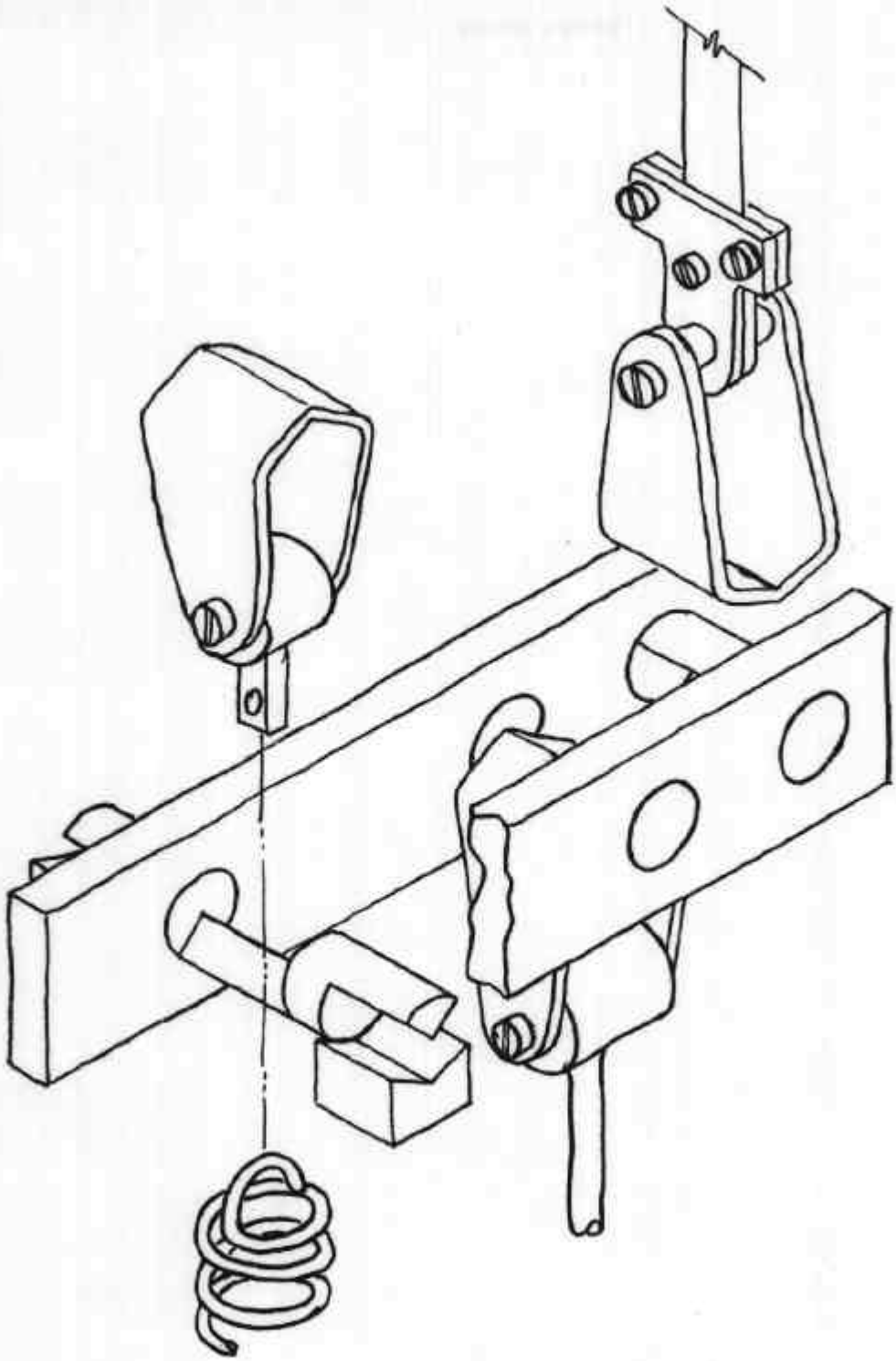
FIGURE 6/9C/13 - 8



Column-mounted Oil Dashpot

28/5/71

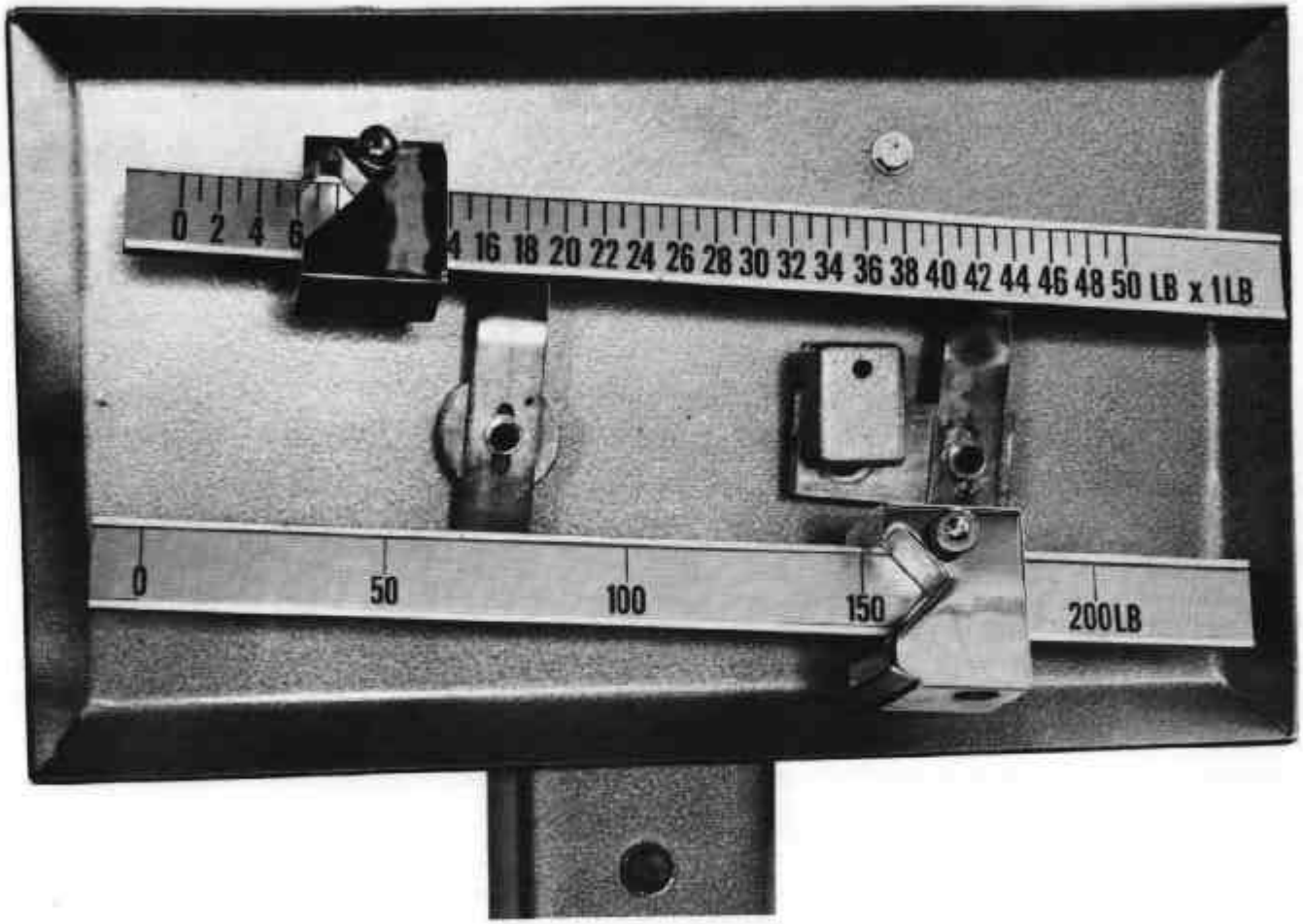
FIGURE 6/9C/13 - 9



Main Headwork Lever

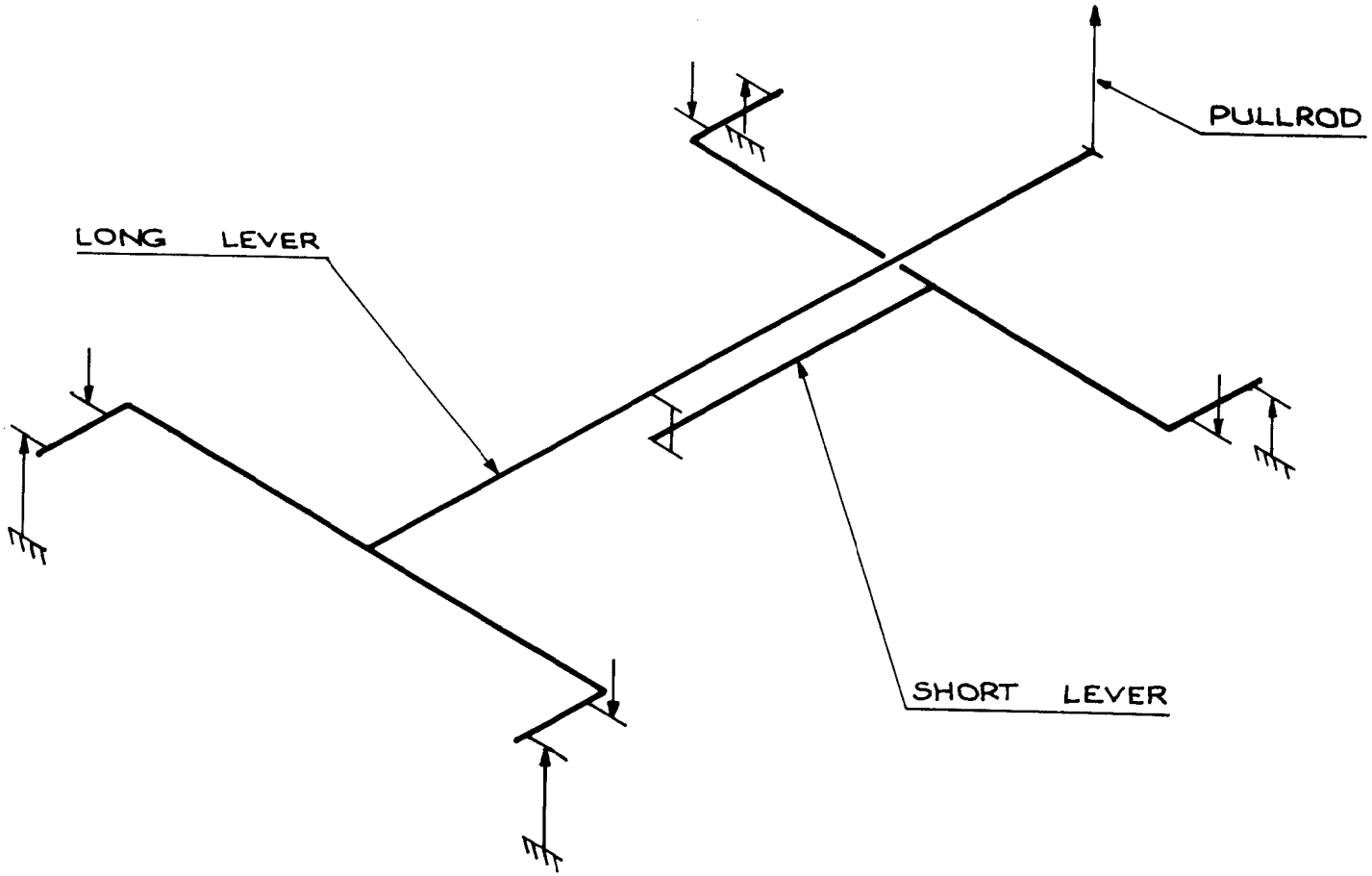
28/5/71

FIGURE 6/9C/13 - 10



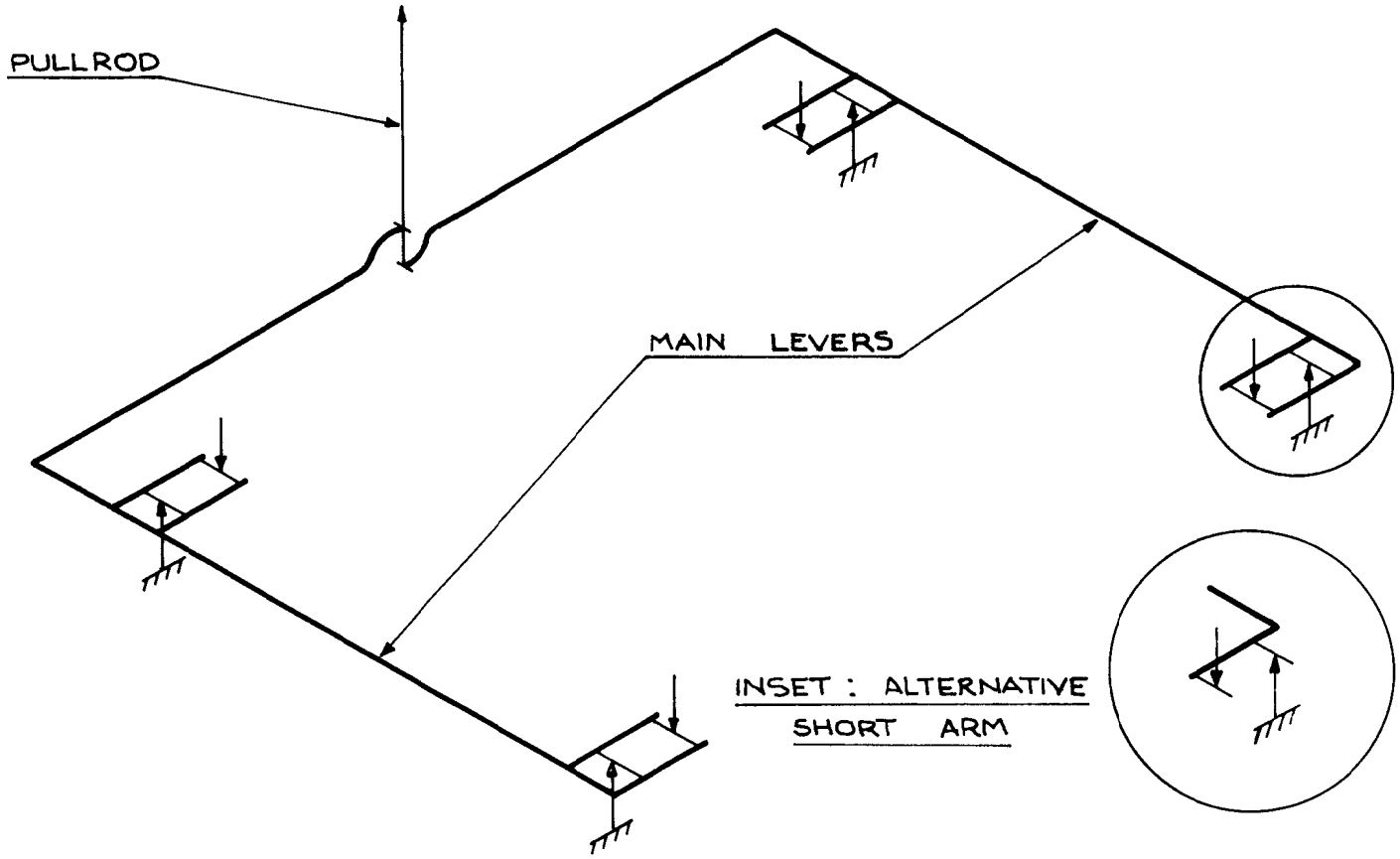
Tare Bars

FIGURE 6/9C/13 - 11



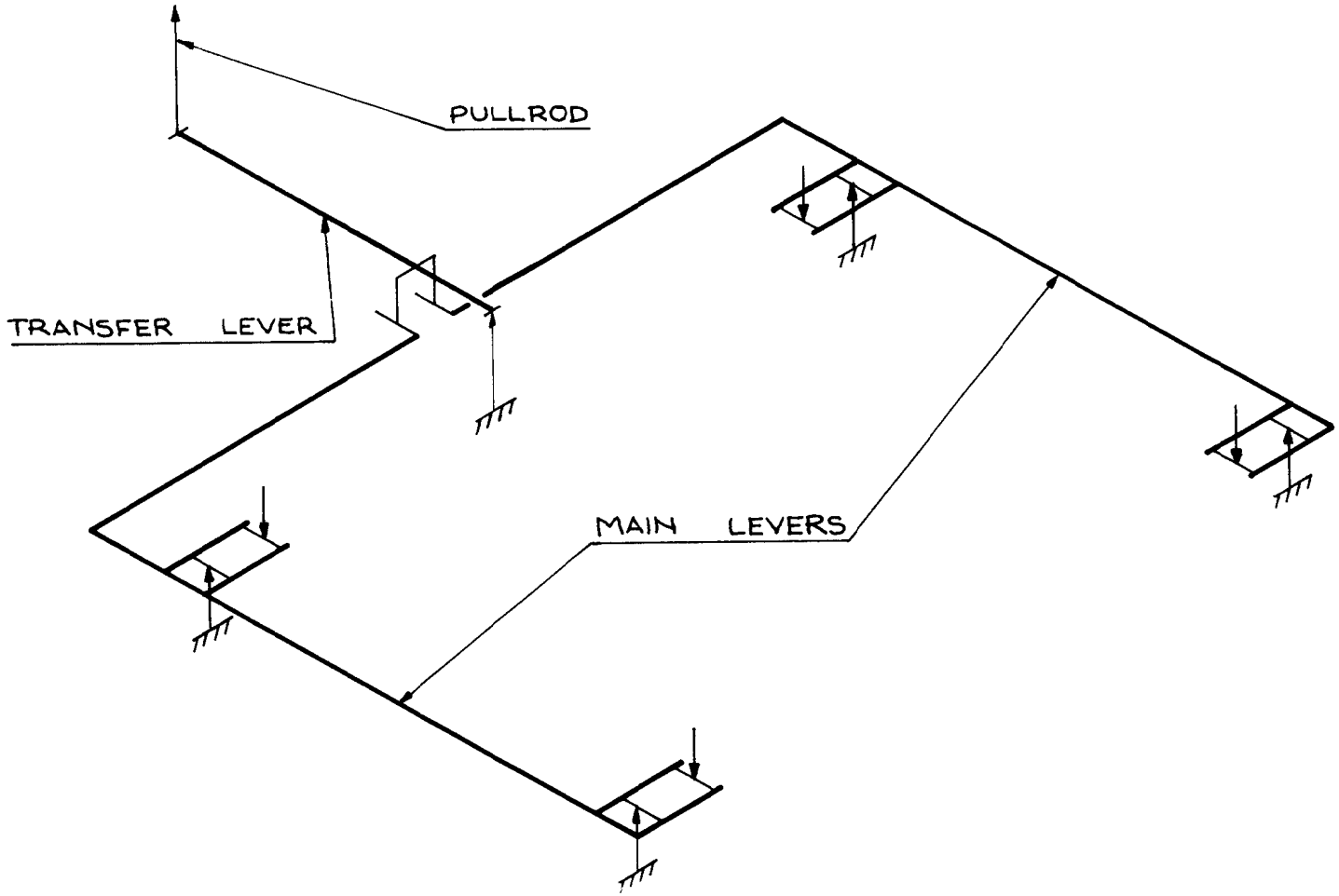
Basework Lever Diagram

FIGURE 6/9C/13 - 12



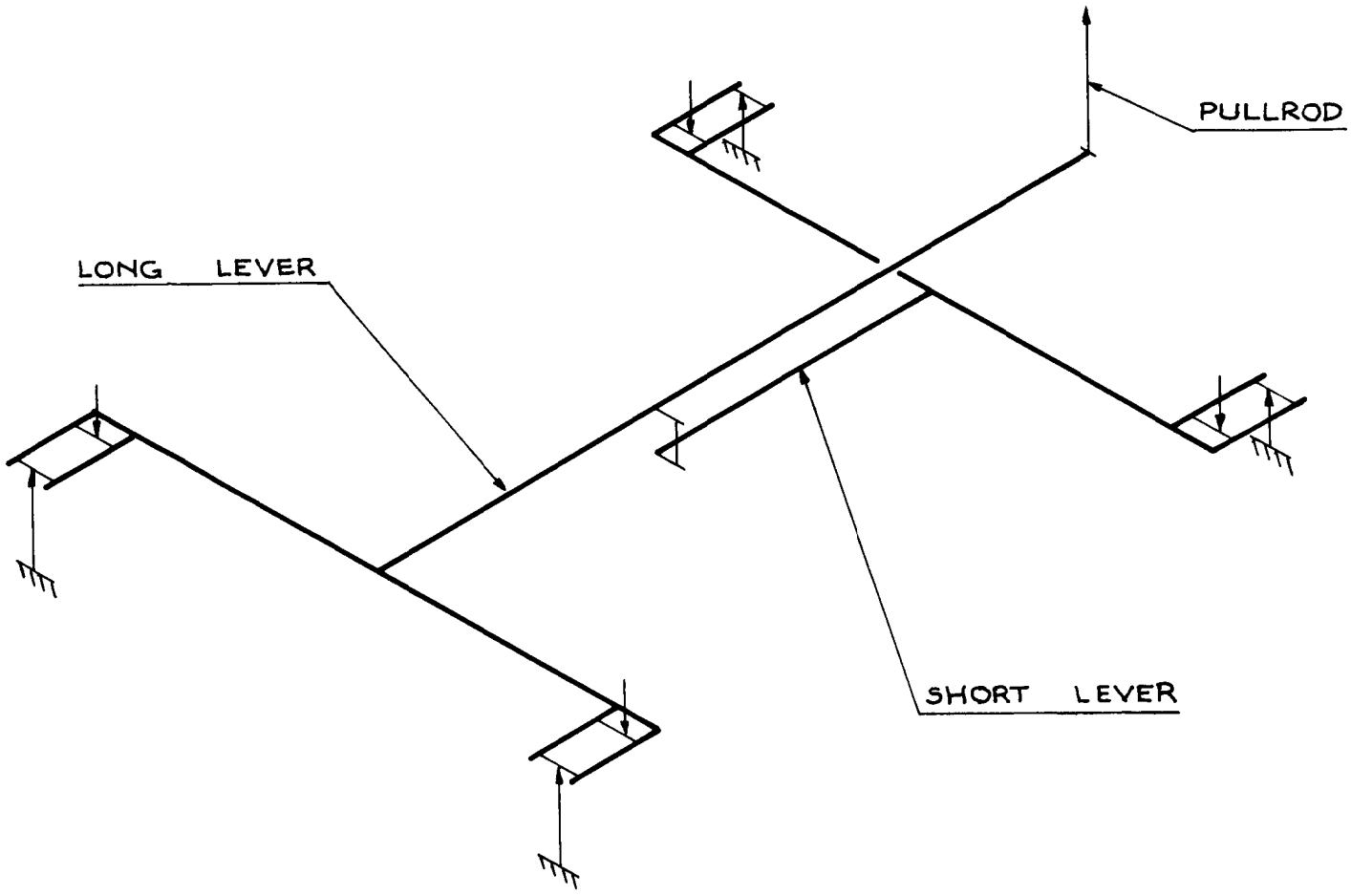
Basework Lever Diagram

FIGURE 6/9C/13 - 13



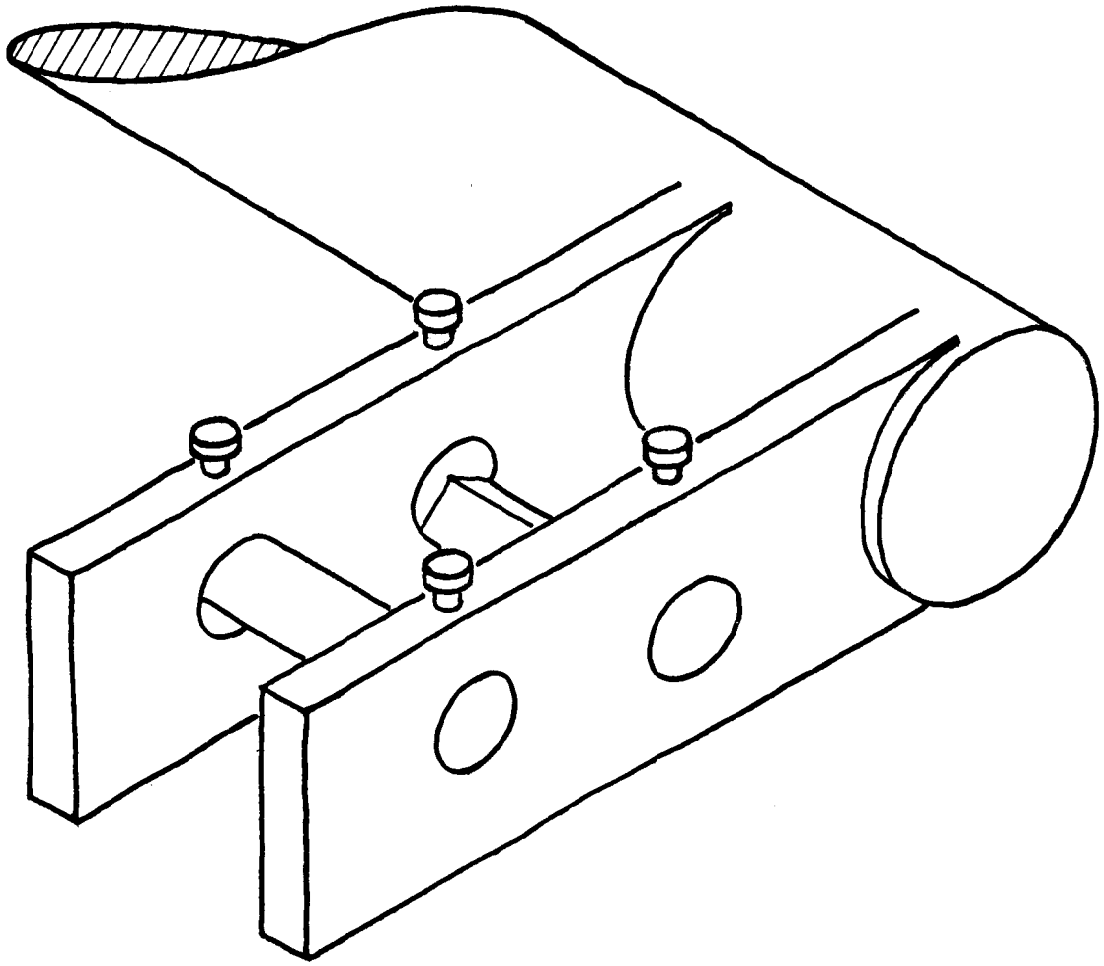
Basework Lever Diagram

FIGURE 6/9C/13 - 14



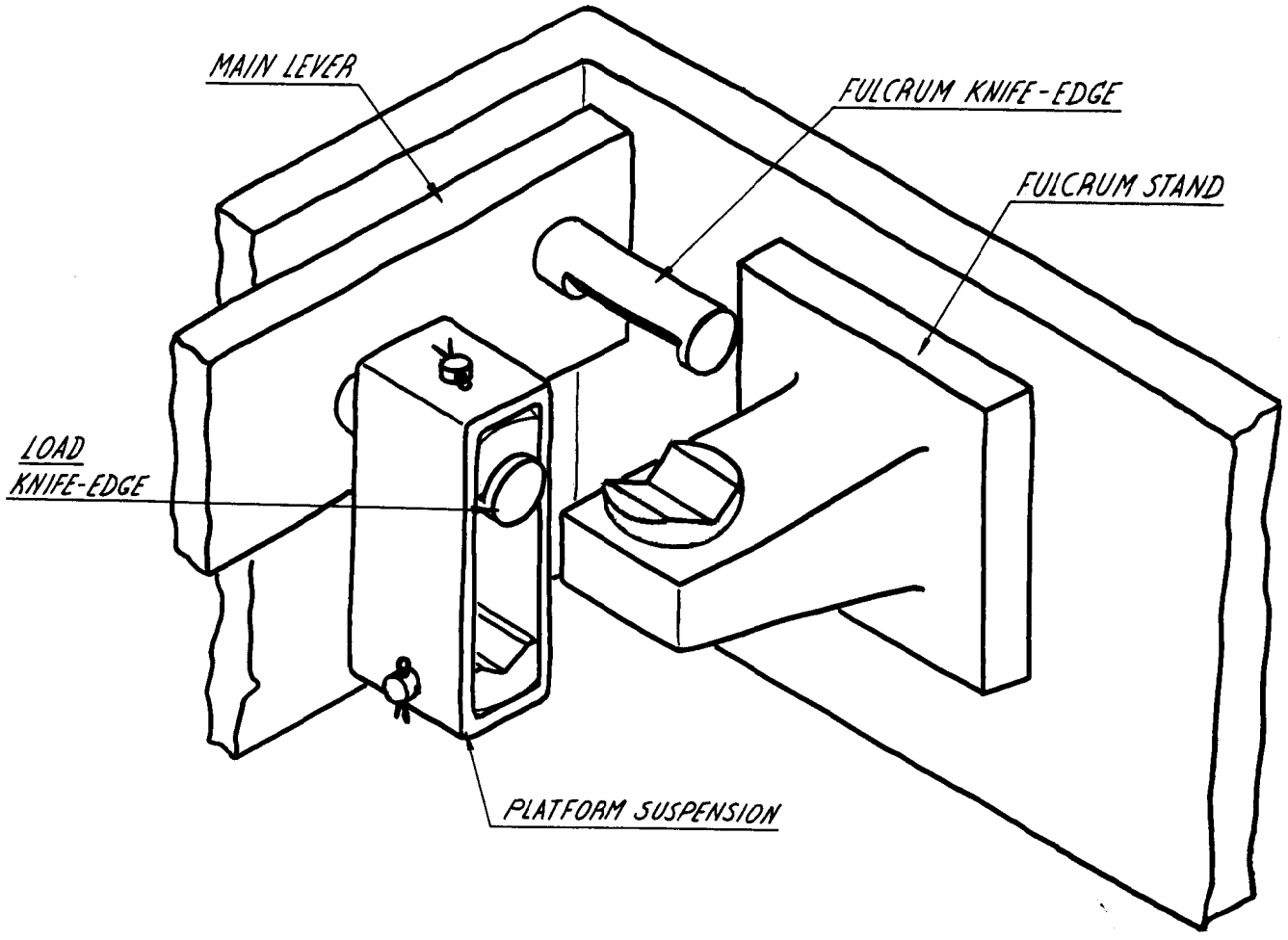
Basework Lever Diagram

FIGURE 6/9C/13 - 15



Main Lever Load and Fulcrum Knife-edges Supported between Side-plates

FIGURE 6/9C/13 - 16



Fixed Lever Suspension