National Standards Commission

C/- CSIRO NATIONAL STANDARDS LABORATORY UNIVERSITY GROUNDS,
CITY ROAD, CHIPPENDALE, N.S.W. 2008
Telephone: 660-0566 – Telegrams & Cables: Natstancom Sydney – Teleprint: AA 20248.

CERTIFICATE OF APPROVAL No 6/9C/11

VARIATION No 1

This is to certify that the following modifications of the patterns of the

Weighmaster Weighing Instrument

approved in Certificate No 6/9C/11 dated 12 December 1969

submitted by International Weighing Co.,
398 Church Street,
Parramatta, New South Wales, 2150,

have been approved under the Weights and Measures (Patterns of Instruments) Regulations as being suitable for use for trade.

Date of Approval: 6 December 1974

The approved modifications, described in Technical Schedule No 6/9C/11 — Variation No 1, and in drawings and specifications lodged with the Commission, provide for:

1. a modified poise; and

2. converting all weighing instruments to indicate in metric units in accordance with Appendix 8 of the General Specifications for Measuring Instruments to be Used for Trade.

The approval is subject to review on or after 1 December 1979.

All instruments conforming to this approval shall be marked with the approval number "NSC No 6/9C/11".

Signed

Executive Officer

6/12/74

COMMONWEALTH OF AUSTRALIA

NATIONAL STANDARDS COMMISSION

Weights and Measures
(National Standards)
Act 1960-1964

Weights and Measures
(Patterns of Instruments)
Regulations

Certificate of Approval

CERTIFICATE NUMBER 6/9C/11

In respect of the pattern of

Weighmaster Self-indicating Platform Weighing Machine and Variants 1 to 23.

Submitted by: International Weighing Co. Pty. Ltd.,
425 Macaulay Road,
Kensington,
Victoria. 3031.

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:

1. The pattern and variants 1 to 12 on 18th December, 1967.

2. Variants 13 to 23 on 9th December, 1969.

Approval was granted on condition that all instruments made in conformity with the pattern or its variants:

1. are appropriately marked NSC No 6/9C/11 and, in respect of variant 23, with the State approval number,

Cont'd over

if required by State legislation; and

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

Approval was withdrawn for variant 4 on 9th December, 1969.

This Certificate comprises:

Pages 1 to 7 dated 12th December, 1969.
Figures 6/9C/11 - 1 to 24 dated 12th December, 1969.

Signed

Date of issue 12th December, 1969.

DESCRIPTION

The pattern (see Figure 1) is a self-indicating platform weighing machine of 2 tons 3 quarters capacity. It comprises a baseworks having two second-order main levers and a second-order transfer lever coupled through an intermediate lever and the main headworks lever to a spring resistant (see Figure 2). An oil dashpot and a balancing lever are coupled to the intermediate lever.

The two main levers are offset to enable the transfer lever to be placed at an angle to suit the pullrod, which is positioned at one side of the headworks housing.

The main lever load and fulcrum knife-edges are mounted between two side plates (see Figure 3); the fulcrum knife-edges are supported on self-aligning bearings which are carried in fulcrum stands fixed to the frame of the baseworks.

The platform is supported on suspension brackets, each of which is fitted with two steel balls contained in hardened cups to provide the platform with universal lateral movement; the load bearings are fixed in the brackets (see Figures 4 and 5).

The main headworks lever is fitted with two tare bars, the major one being of 4 cwt capacity, notched at every hundredweight, and the minor one being of 1 cwt capacity, with 7 lb graduations. It is also fitted with a zero adjustment.

The spring-resistant mechanism (see Figure 6) is mounted on a framework and comprises two temperature-stable springs and a rack and pinion. The pinion spindle revolves in ball bearings and carries the indicator and its adjustable balancing sector. The capacity of the dial is 1 ton 15 cwt 3 qr with 7 lb graduations.

SCHEDULE OF VARIANTS

1. The pattern and variants up to 15 000 lb or 6800 kg; provided that the dial has no more than 600 graduations for a minimum angular deflection of 350°.

2. The pattern and variants being portable, with or without wheels, in which case a level indicator and a means for levelling are provided (see Figure 23).

3. Having the pattern with a dial front and rear, in which case no tare bars are fitted.

4. Having an inner dial graduated in the same manner as the outer dial capable of being manually moved so as to permit tare, gross and net weighing.

5. Without tare bars.

6. Having a proportional-weight steelyard (see Figure 7).

7. Having a full-capacity steelyard (see Figure 8).

8. Having a full-capacity steelyard fitted below the level of the platform (see Figure 9).

9. Having a headworks cabinet with up to 3 intermediate levers.

10. Having a pillar of minimum dimensions $2\frac{3}{4}$ inches square x 15 inches high in place of the headworks cabinet.

11. Having the fulcrum stands floor-mounted.

12. Being fitted with an ASE dial headworks described in Certificate No 6/9C/1.

13. Having baseworks similar to the pattern with the main levers in the form shown in Figure 10.

14. Having two-lever baseworks, in which case the transfer lever is omitted and one of the main levers, similar in form to those described in the pattern or variant 13, is extended and coupled to the headworks (see Figure 11). The load and fulcrum knife-edges may be cantilevered from the levers (see Figure 13) provided the capacity of the instrument is limited to 1600 lb.

15. Having the lever system described in the pattern or variants 13 and 14 with the platform supported directly on the main load knife-edges, in which case the fulcrum knife-edge bearings are fitted in links, each of which swings on a single ball fixed into a recess in the baseworks frame (see Figures 12 and 13), thus providing universal lateral movement; provided that instruments so fitted have at least one intermediate headworks lever when coupled to a self-indicating headworks.

16. Being fitted with an optical-projection self-indicating headworks (see Figure 14), described as follows:

A pullrod passing through the base of the headworks couples the baseworks lever system and the main headworks lever. This lever is fitted with an oil dashpot and a zero adjustment and is coupled to the cam and pendulum resistant mechanism through a pullrod and a steel ribbon (see Figure 15). The cam is mounted on the resistant knife-edge shank, together with adjustable major and minor balance weights and a transparent graticule. The graticule has up to 3000 graduations for 30° angular deflection and is adjustable with respect to the optical-projection system (see Figure 16).

A light beam passes through the transparent graticule and the graduations and figures are projected with the aid of mirrors, on to a ground -glass screen at the top of the cabinet. The ground side of the screen is towards the viewer.

A hood painted matt black internally is extended over the screen and is fitted with an inclined glass shield to prevent reflections.

The headworks are fitted with a lever-operated locking device on the side of the cabinet which lifts the nose-end of the main headworks lever and relieves the load from the resistant pullrod; it also opens the circuit to the projection lamp.

The cabinet containing the resistant mechanism is sealed at the nuts of two long bolts passing through the two covers on opposite sides of the cabinet (see Figure 14).

17. Being fitted with an optical-projection self-indicating headworks, similar to that described in variant 16, which incorporates an optical taring mechanism (see Figures 17 and 18).

    The mechanism consists of a movable main projector mounted on an arm which pivots about the same axis as the pendulum resistant. To set a tare weight the projector is moved coaxially with the graticule until zero is indicated. A guided peg automatically orientates the projection system mirrors to compensate for the displacement of the projector.

    Also attached to the mechanism is a transparent tare graticule with its own projection system (see Figure 19) which projects the set tare weight on to the screen beside the main weight indication.

    The taring mechanism is operated by a handwheel coupled to a gear-driven drum (see Figure 20). Affixed to and passing over the drum is a steel ribbon which pulls the arm in one direction, the weight of the arm returning it to its zero position when the handwheel is reversed.

18. Being fitted with an optical-projection self-indicating headworks, similar to that described in variant 16, capable of being wall-mounted (see Figure 21); provided that the transfer lever and pullrod are adequately protected.

    The main headworks lever is cranked and carries an adjustable tare poise which is driven by a rack and pinion (see Figure 22). The tare setting knob extends through the front of the headworks and is covered by a top-hinged lid.

19. Being fitted with a headworks similar to that described in variant 18, but without the taring device.

20. Being fitted with the headworks described in variant 16, to which a tare bar has been added (see Figure 23).

    The tare bar is in the form of a double cantilever which is projected axially from the main headworks lever. The minor end is graduated and carries a sliding poise, the major end is

notched and graduated and its poise is fitted with a pawl.

21. Having the headworks described in variant 16, orientated in any direction with respect to the baseworks, provided that the graduation width is not less than L/600, where L is the distance, perpendicular to the plane of the indicator, to the normal viewing position.

22. Having screens on two sides of the headworks described in variant 16, in which case the instrument must not be fitted with a taring device unless the tare is indicated on both screens.

23. Having the headworks described in variants 16 to 22 fitted to other baseworks previously approved by a State or the Commission.

GENERAL NOTES

1. Notice of approval of the pattern and variants 1 to 12 was given in Memorandum of Approval No 101 dated 21st December, 1967.

2. No previous notice of approval has been given for variants 13 to 23.

3. Notice of approval of the headworks approved in Certificate No 6/9C/1, referred to in variant 12, was given in Memorandum of Approval No 18 dated 28th September, 1966.

4. An aide memoire which indicates the compatibility of each of the headworks with each of the baseworks is annexed (see Figure 24).

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/9C/11

Variation No 1

Pattern: Weighmaster Weighing Instrument

Submittor: International Weighing Co.,
398 Church Street,
Parramatta, New South Wales, 2150.

Date of Approval of Variation: 6 December 1974

The modifications described in this Schedule apply to the patterns described in the following pages and figures of Certificate No 6/9C/11 dated 12 December 1969:

Pages 3 to 7 dated 12 December 1969
Figures 6/9C/11 - 1 to 24 dated 12 December 1969

All instruments conforming to this approval shall be marked "NSC No 6/9C/11".

Description:

The approved modifications provide for:

1. a modified poise (see Figure 25); and

2. conversion of all models to indicate in metric units in accordance with Appendix 8 of the General Specifications for Measuring Instruments to be Used for Trade.

NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/9C/11

CHANGE No 1

The approval of the

Weighmaster Weighing Instrument

given in Certificate No 6/9C/11 dated 12 December 1969, and Certificate No 6/9C/11 - Variation No 1 dated 6 December 1974, is varied to include

Avery Australia Ltd,
3-5 Birmingham Avenue,
Villawood, New South Wales, 2163,

as submittor for instruments approved under Variants No 16 to 22.

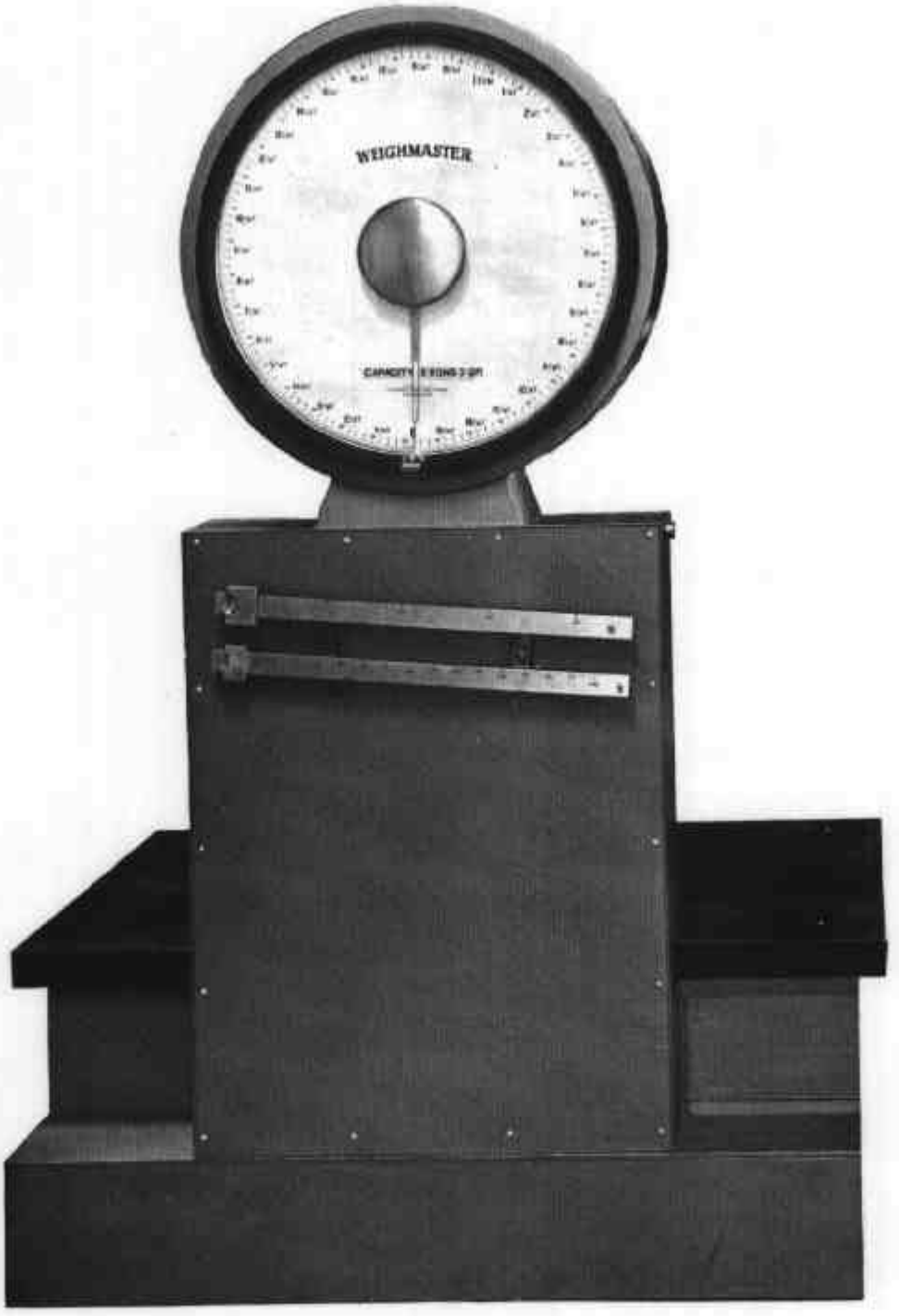
The approval is subject to review on or after 1 December 1979.

Signed

Acting Executive Officer

8/9/75

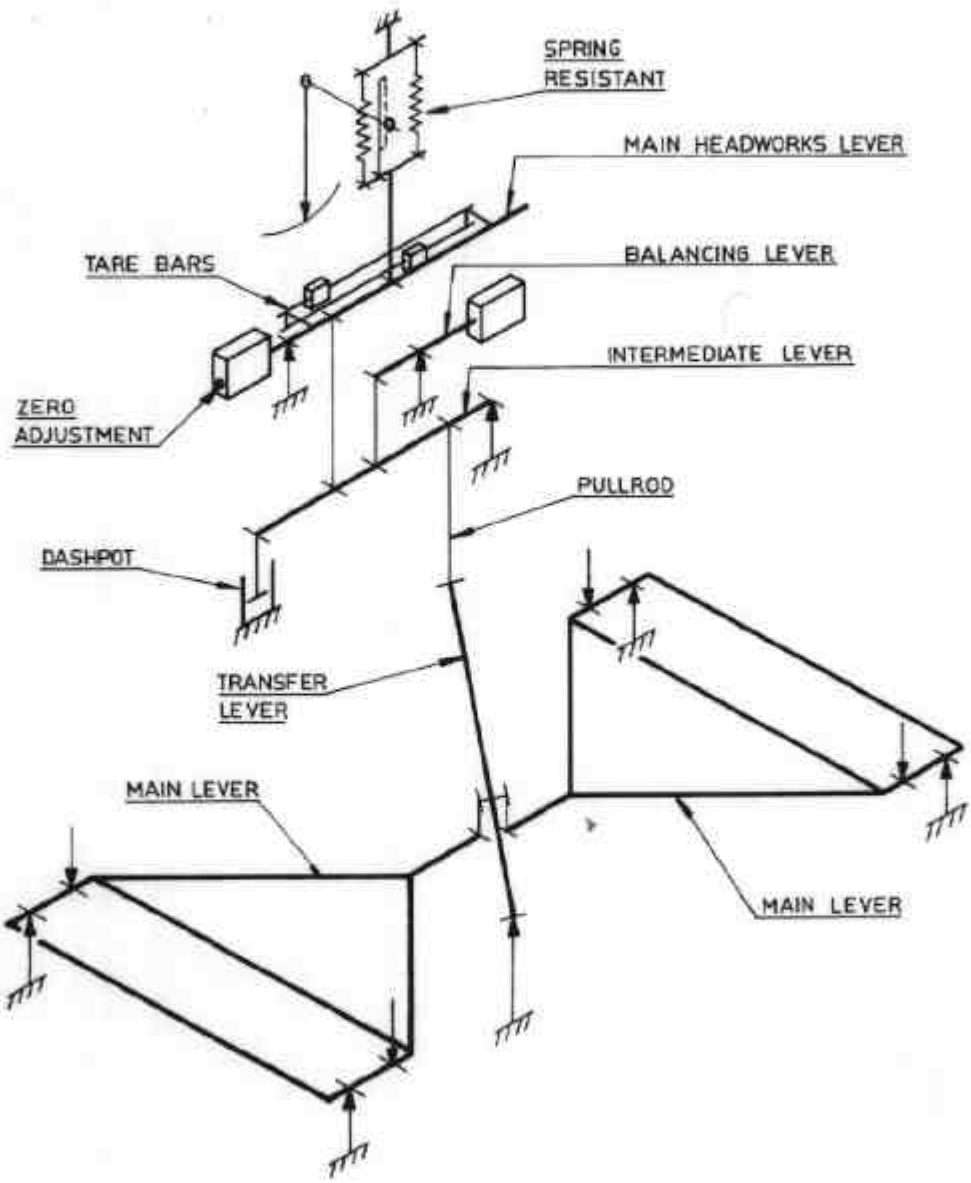
FIGURE 6/9C/11 - 1



Weighmaster Self-indicating Platform Weighing Machine

12/12/69

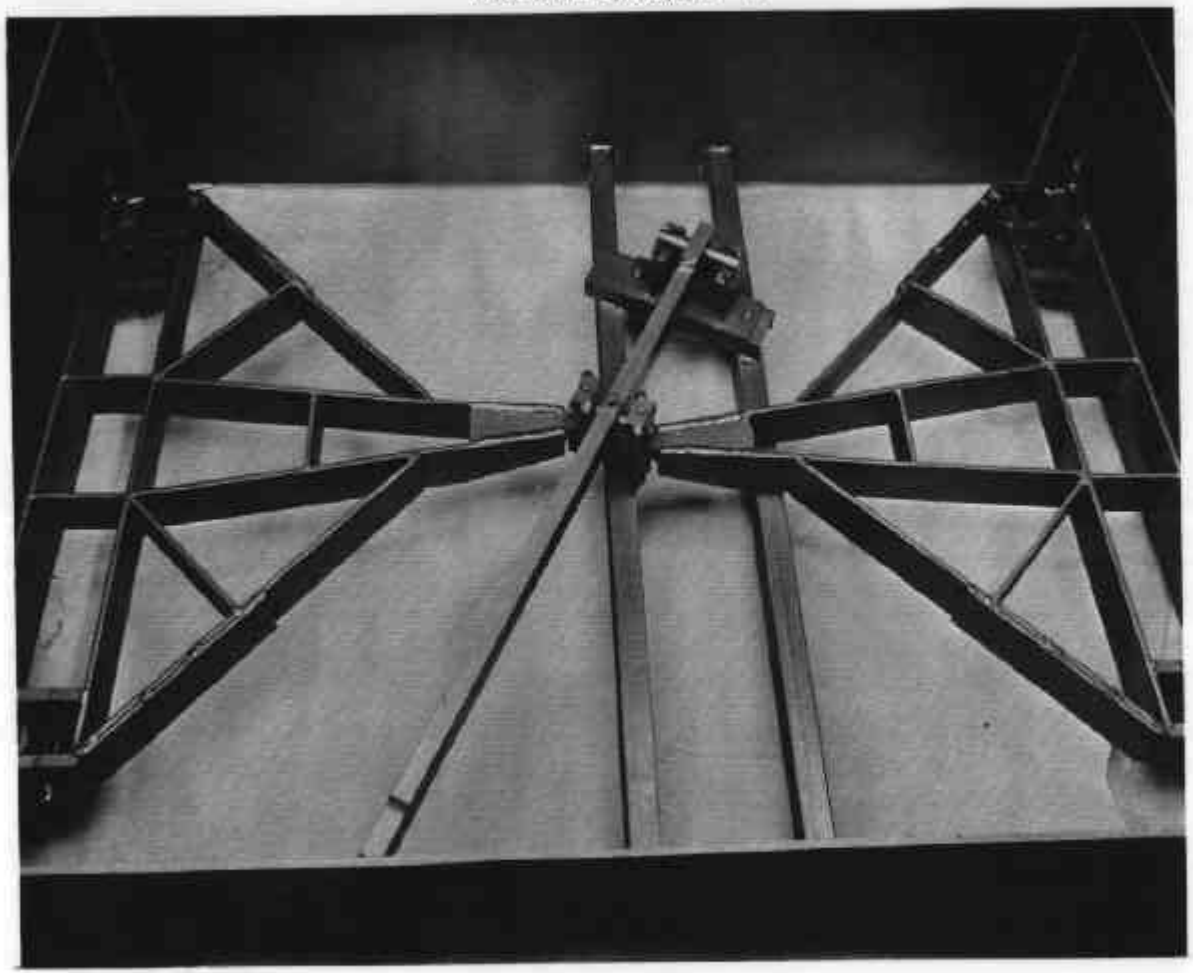
FIGURE 6/9C/11 - 2



Baseworks and Headworks Lever and Resistant Mechanism

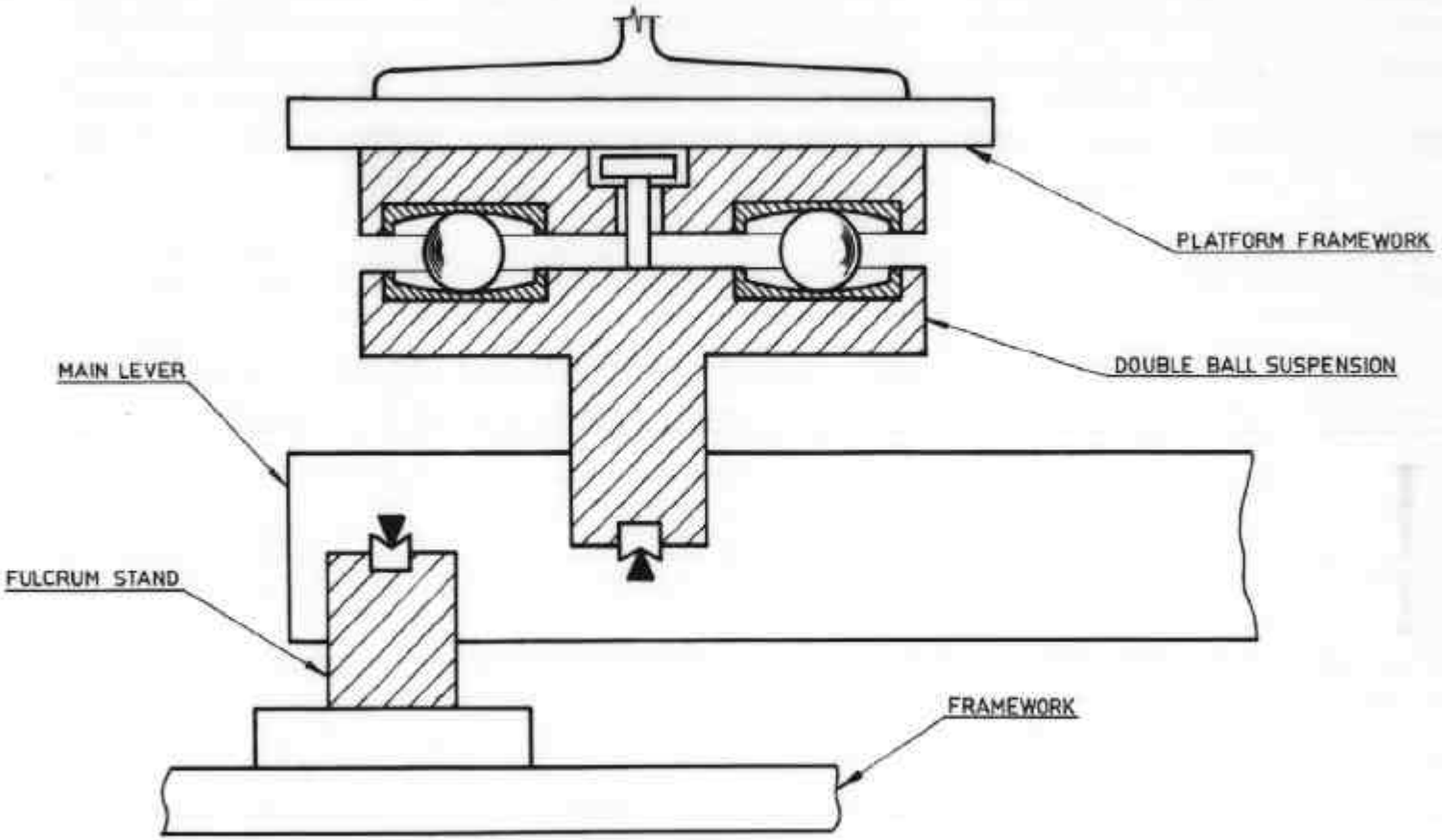
12/12/69

FIGURE 6/9C/11 - 3



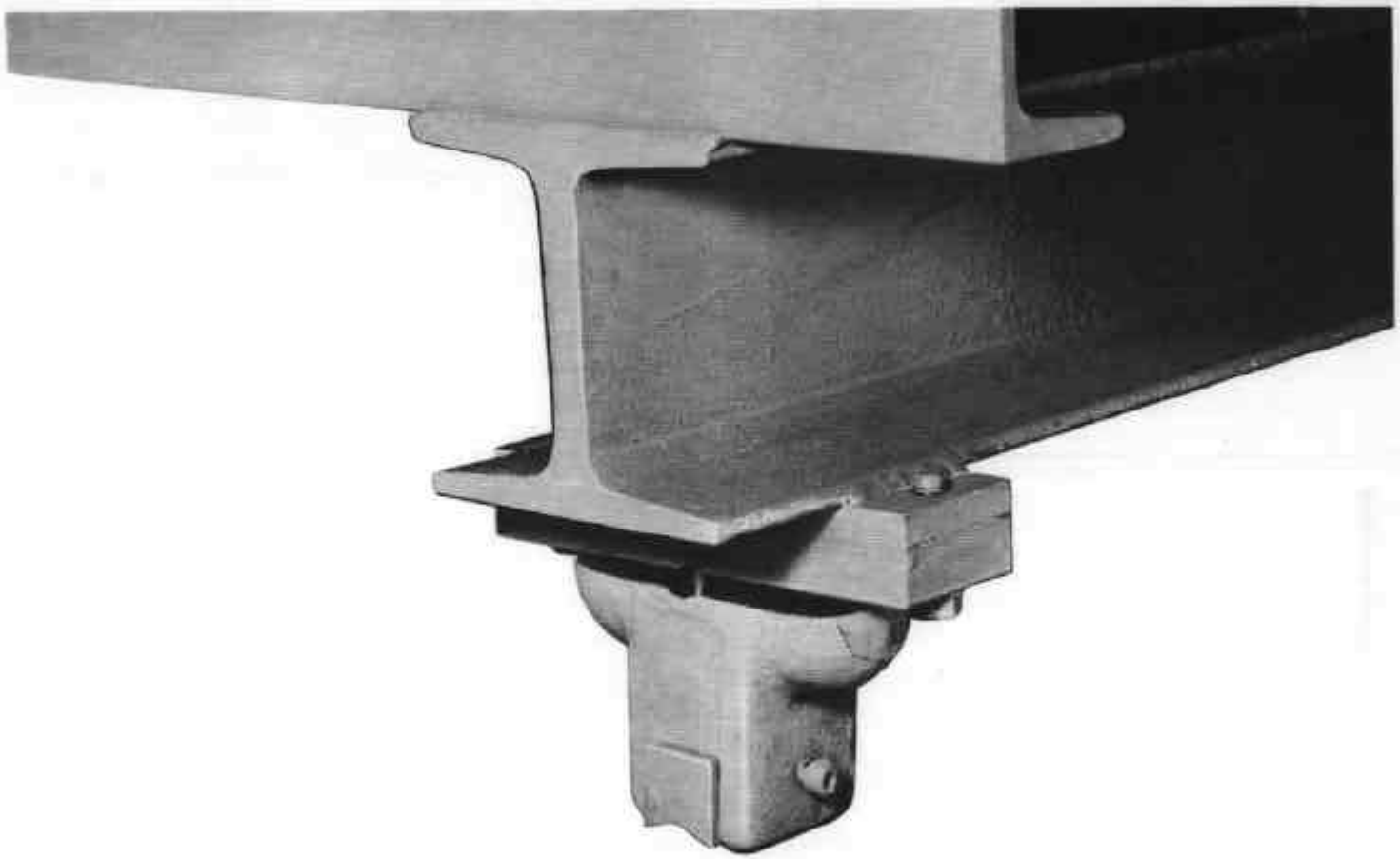
Baseworks Lever System

FIGURE 6/9C/11 - 4



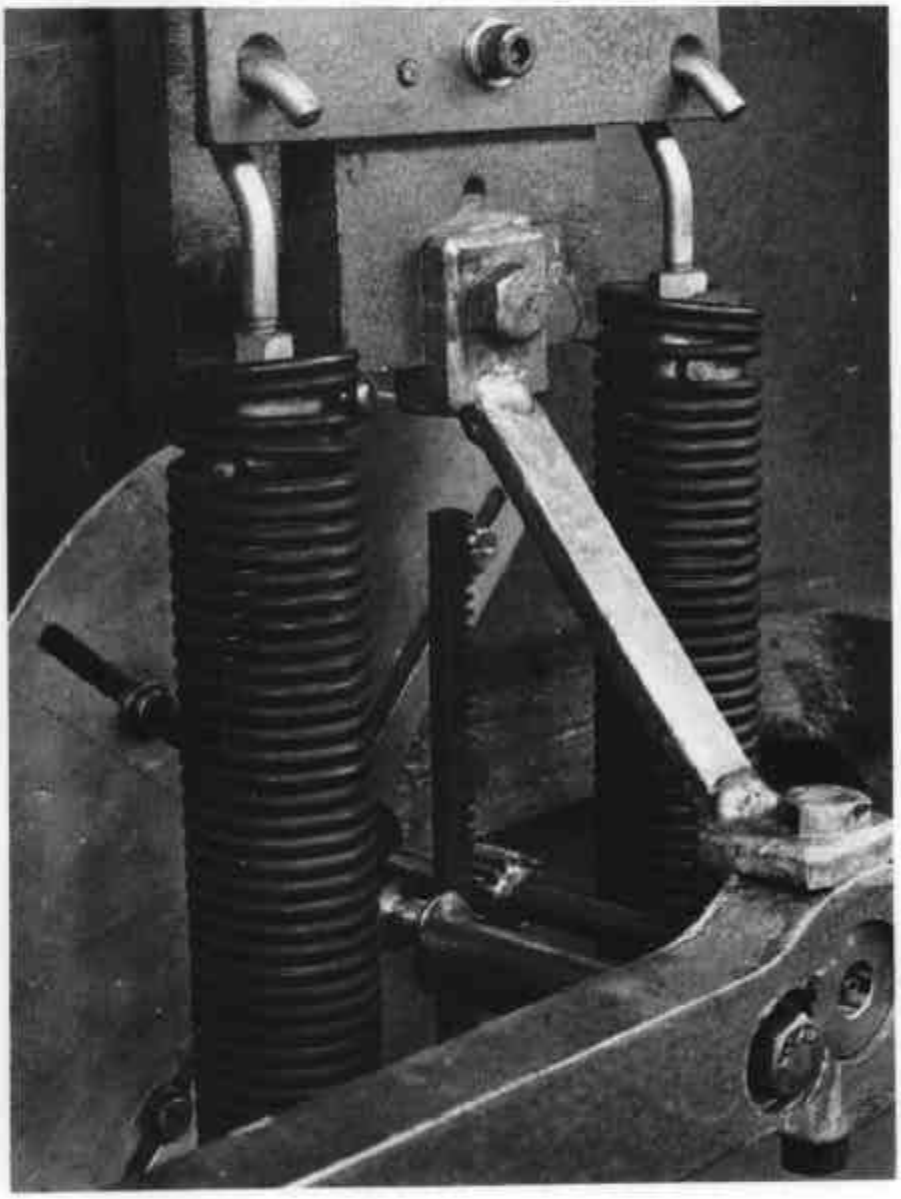
Double Ball Platform Suspension

FIGURE 6/9C/11 - 5



Double Ball Platform Suspension

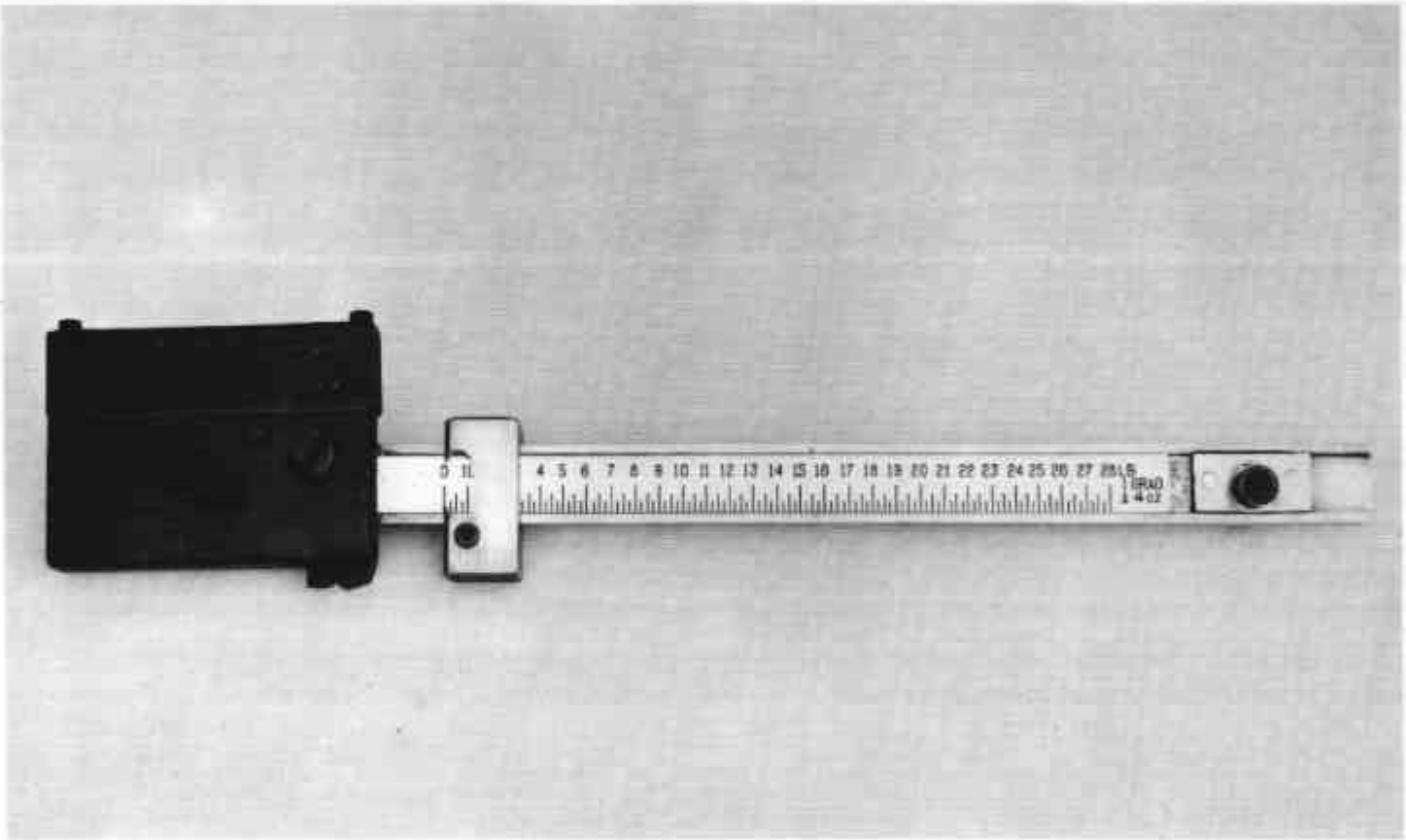
FIGURE 6/9C/11 - 6



Spring-resistant Mechanism

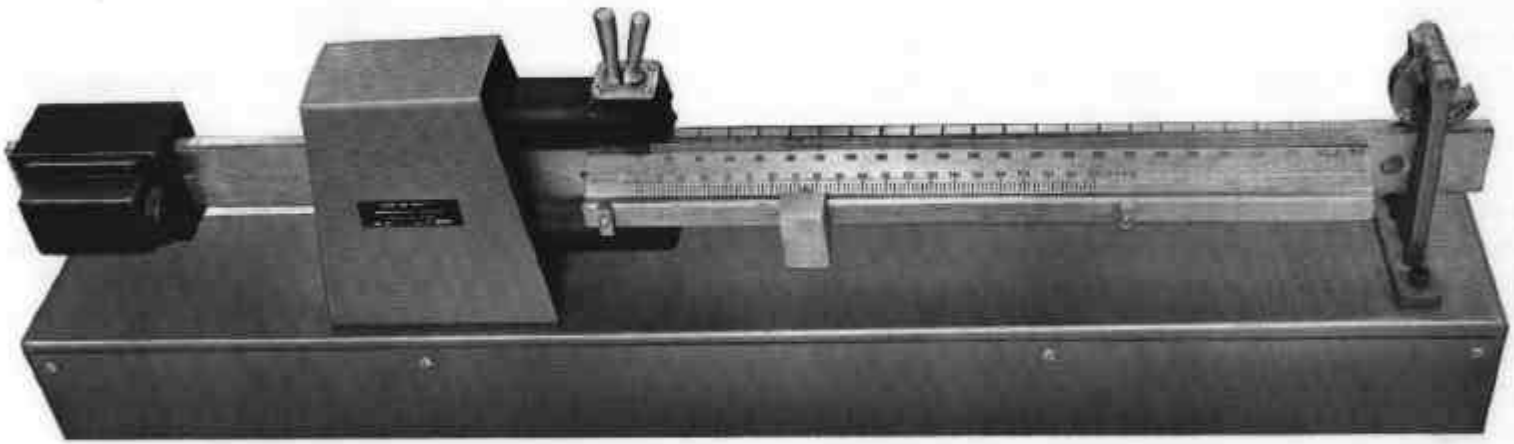
12/12/69

FIGURE 6/9C/11 - 7



Proportional-weight Steelyard

FIGURE 6/9C/11 - 8

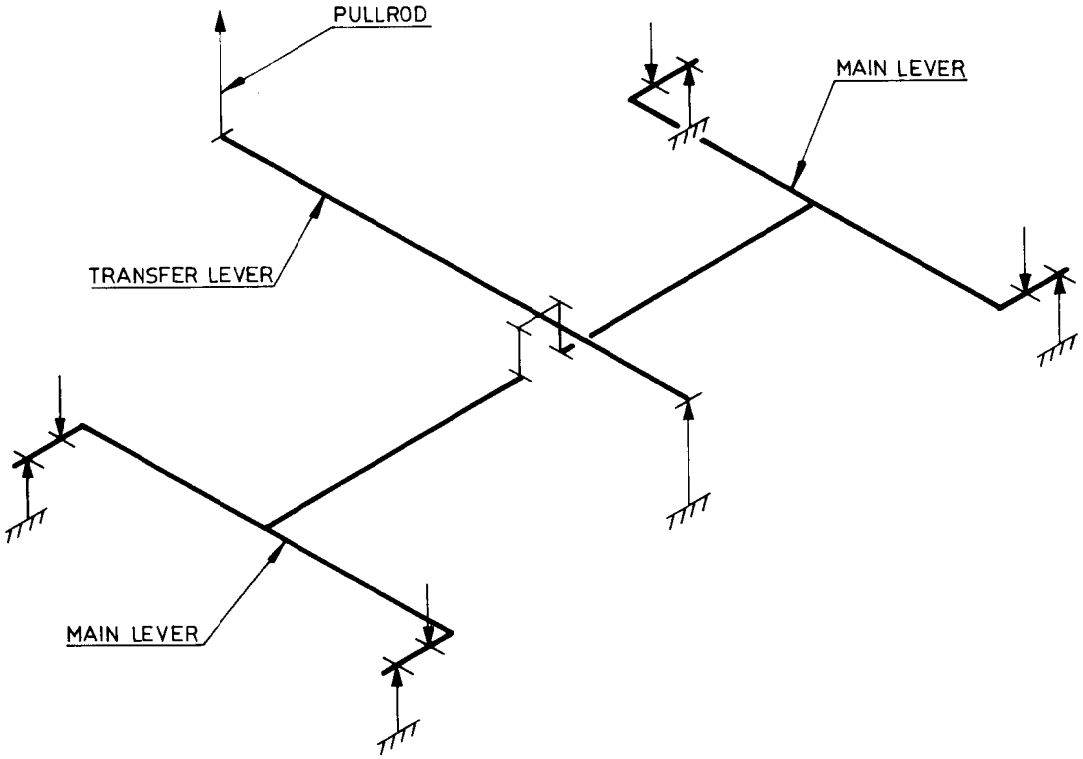


Full-capacity Steelyard

FIGURE 6/9C/11 - 9

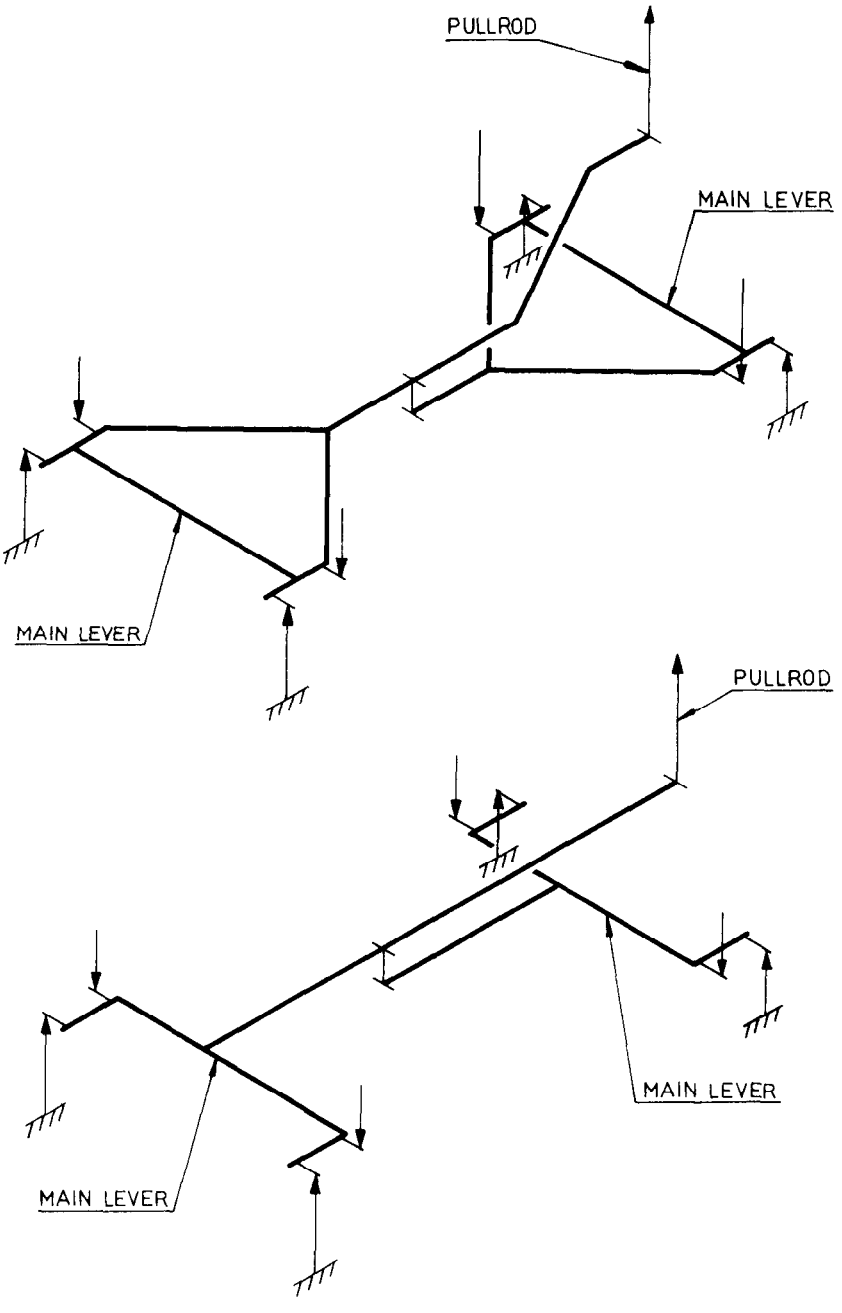
Non-self-indicating Platform Weighing Machine

FIGURE 6/9C/11 - 10



Three-lever Baseworks

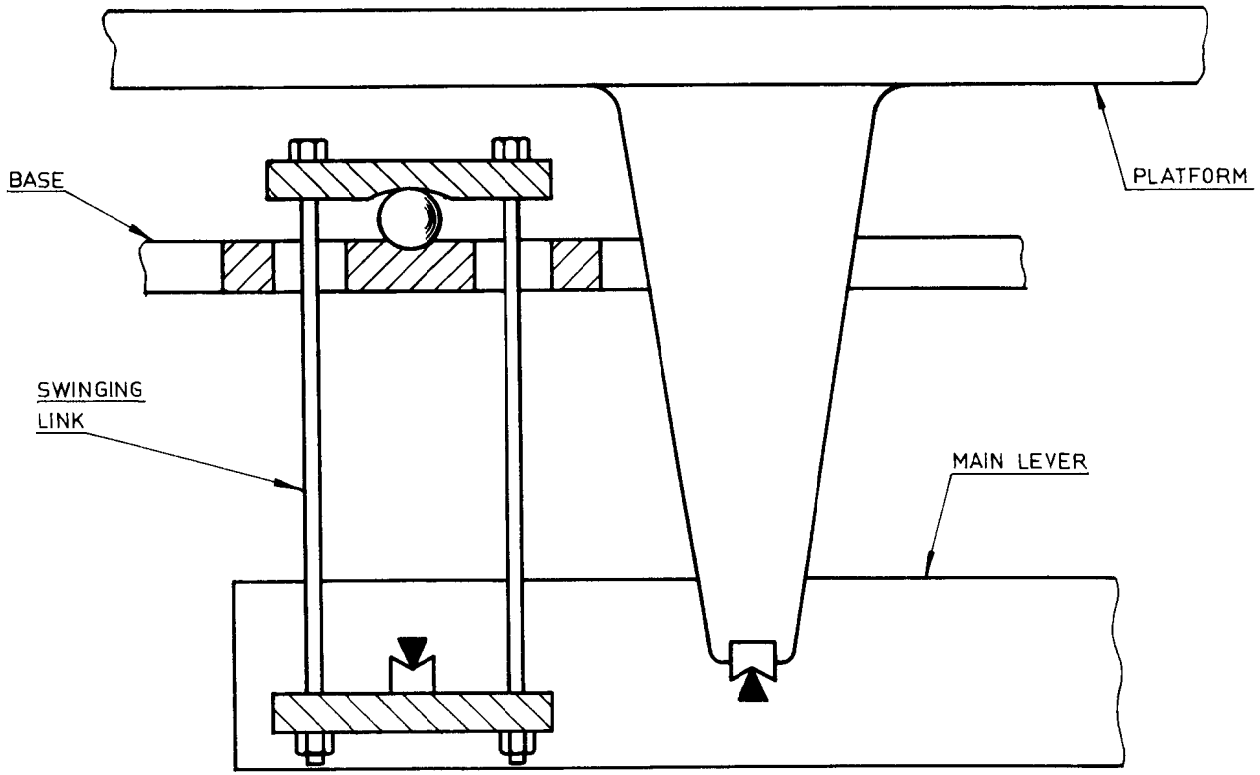
FIGURE 6/9C/11 - 11



Two-lever Baseworks

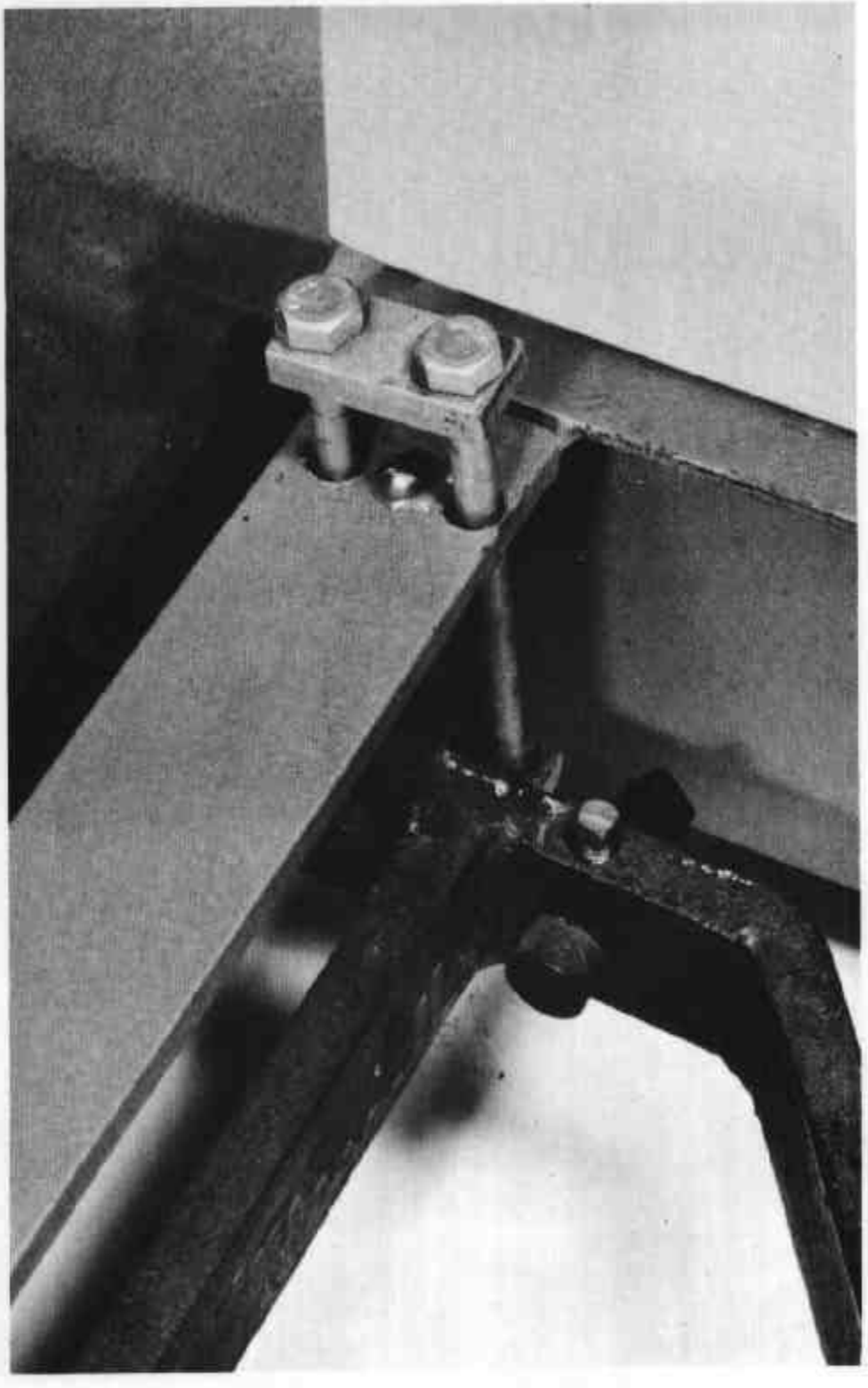
12/12/69

FIGURE 6/9C/11 - 12



Single Ball Platform and Lever Suspension

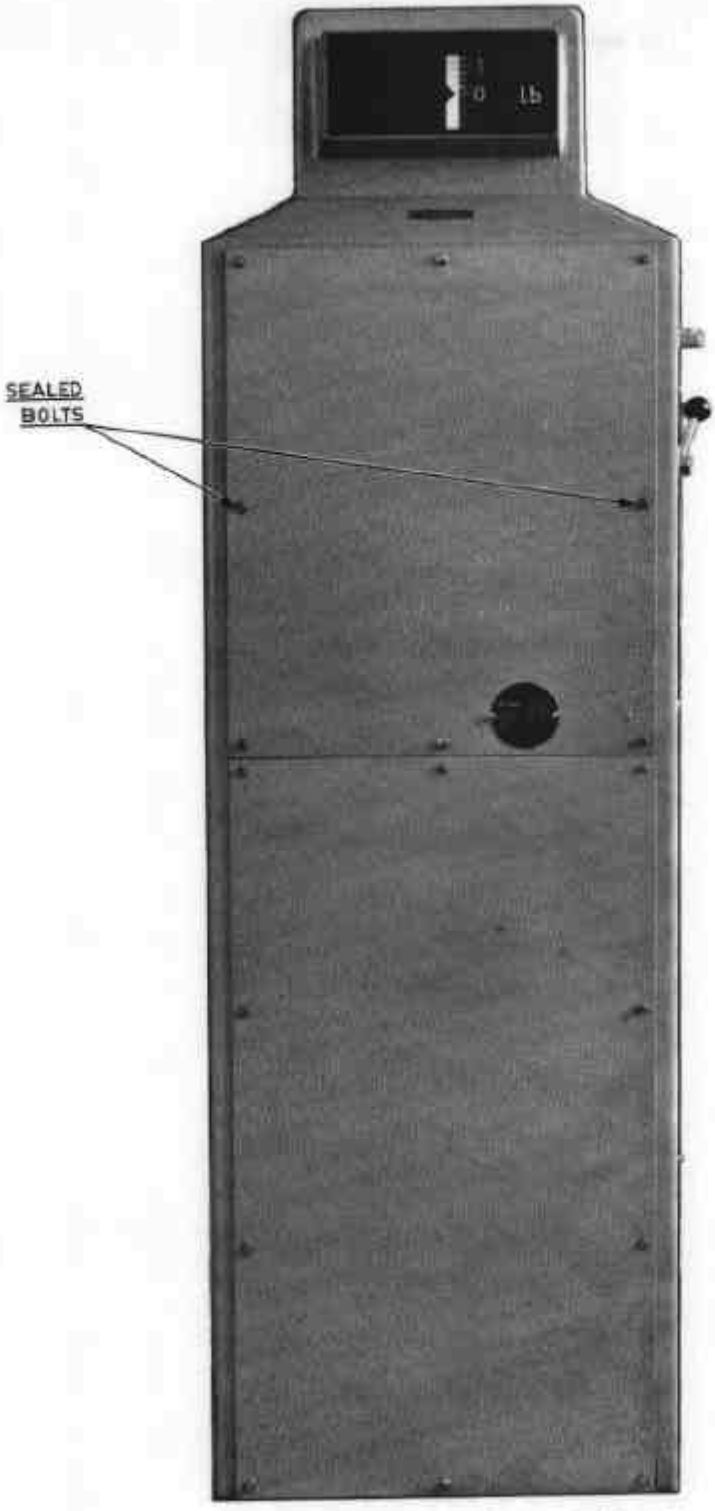
FIGURE 6/9C/11 - 13



Single Ball Platform and Lever Suspension

12/12/69

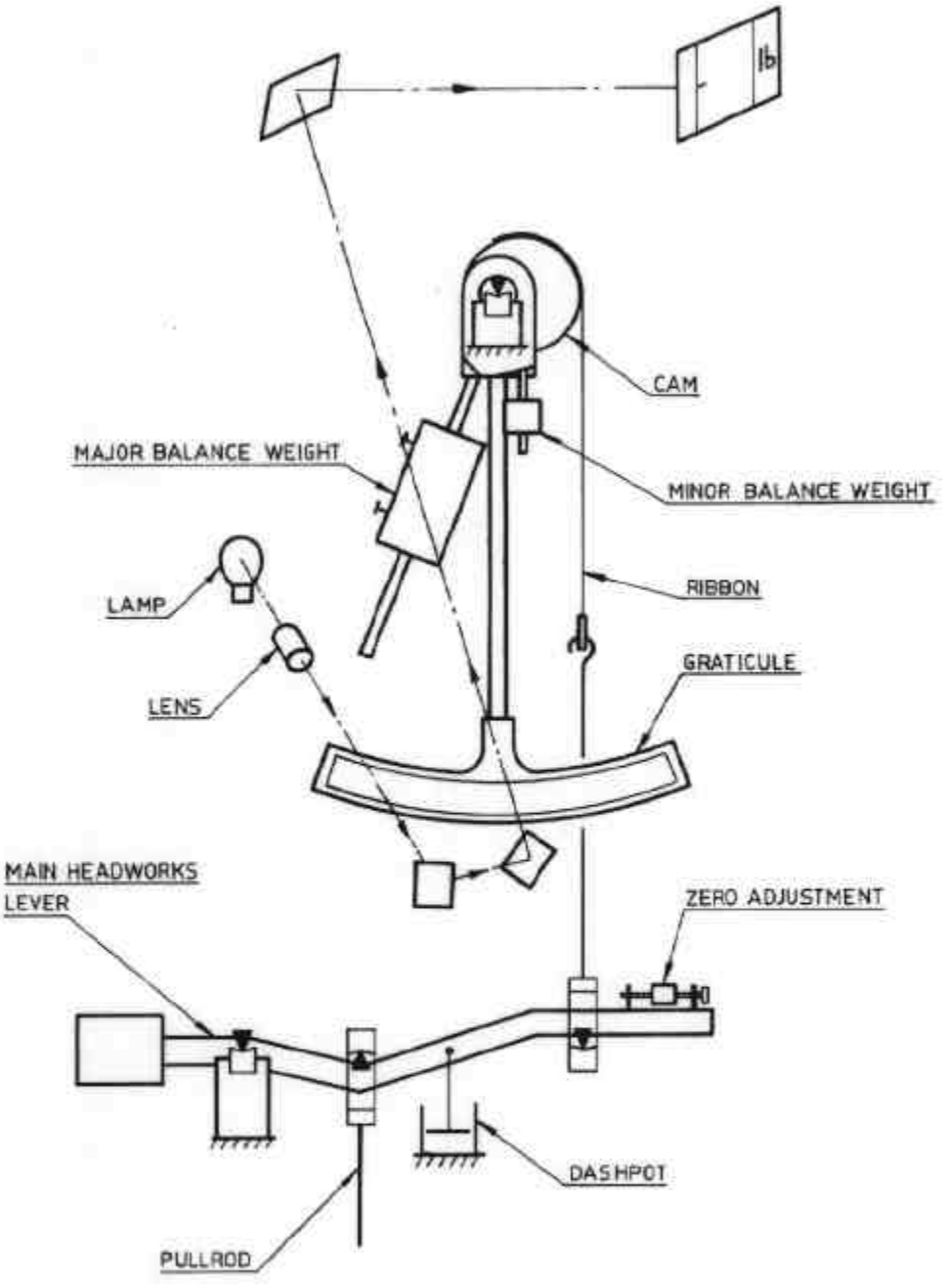
FIGURE 6/9C/11 - 14



Optograph Self-indicating Headworks

12/12/69

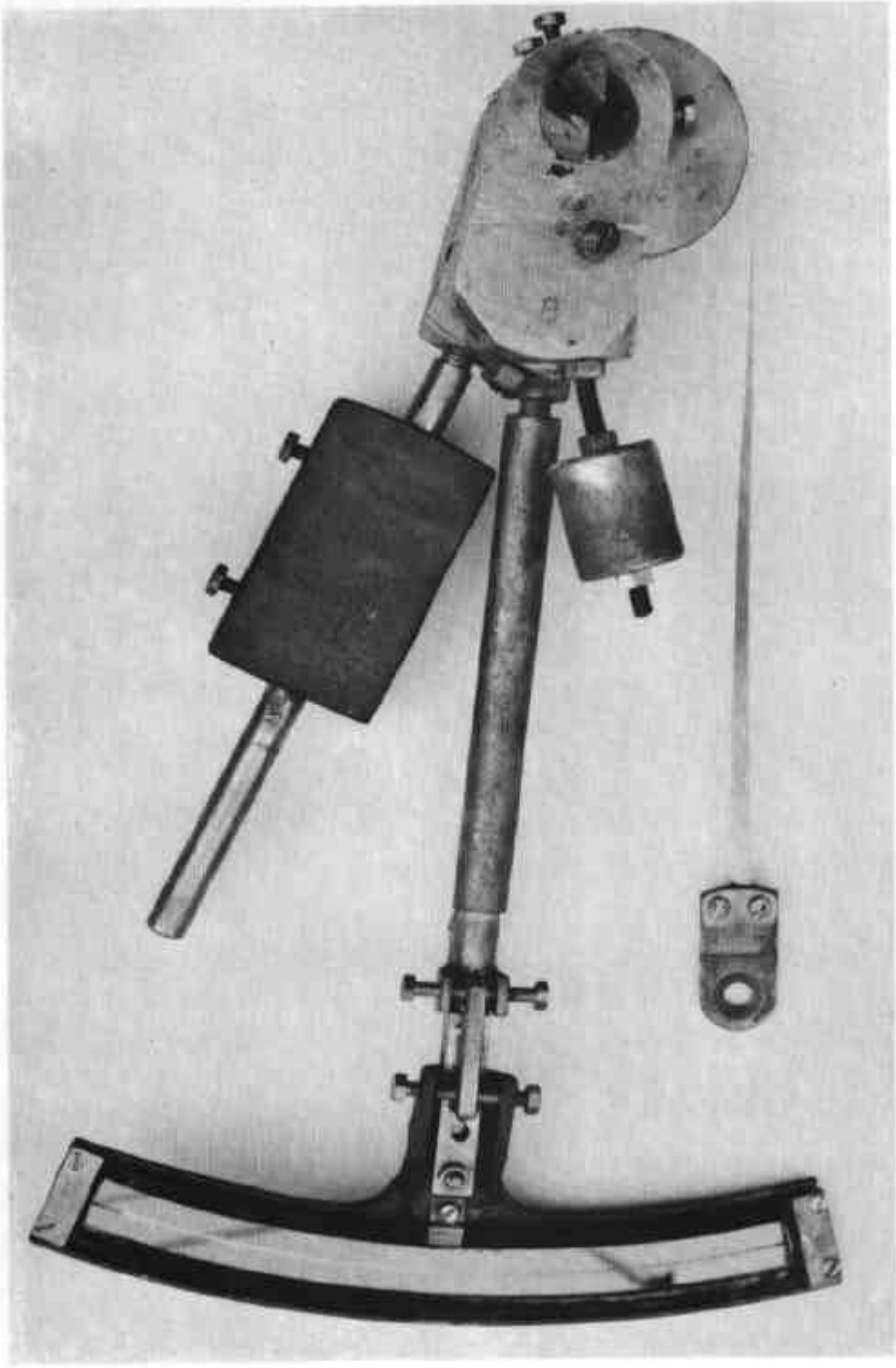
FIGURE 6/9C/11 - 15



Optograph Headworks - Lever,
Resistant Mechanism and Optical Projection System

12/12/69

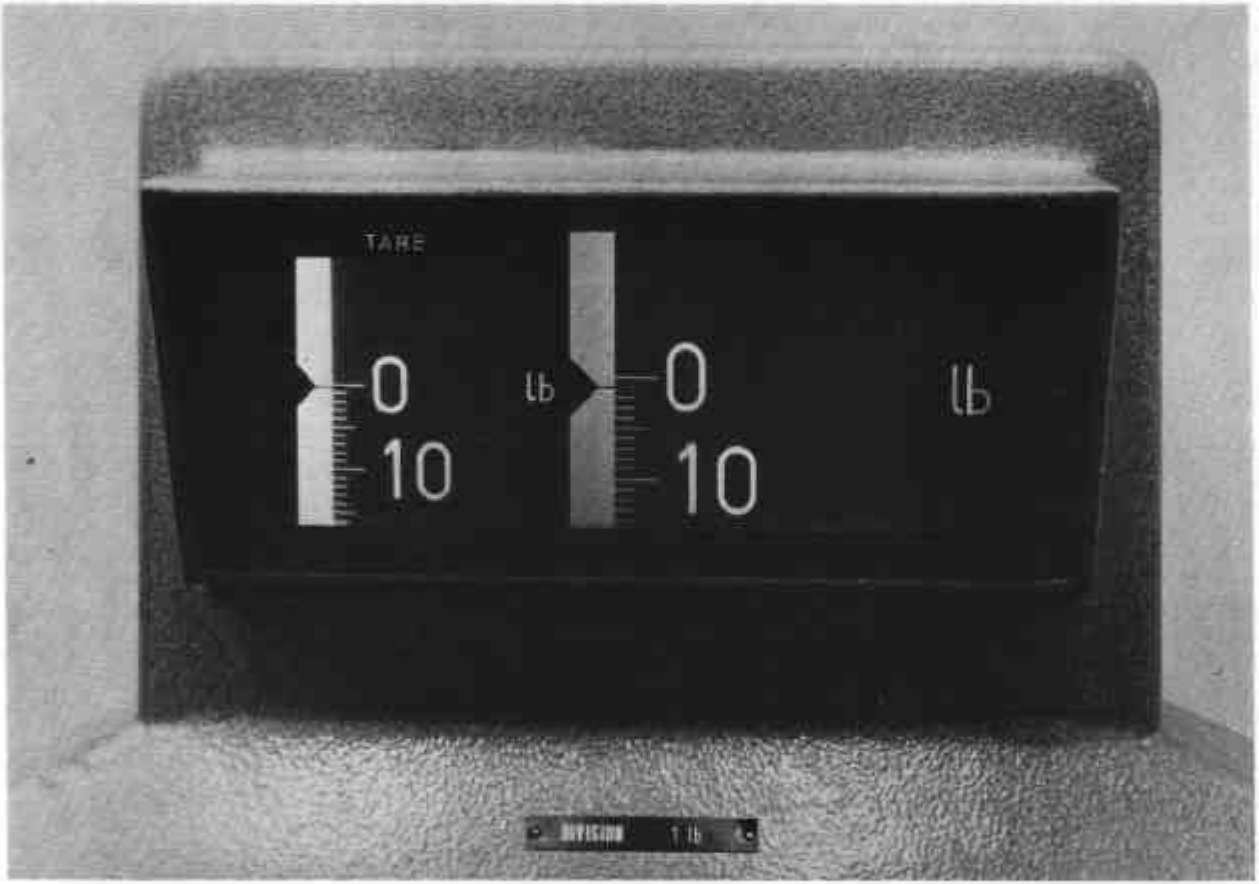
FIGURE 6/9C/11 - 16



Pendulum and Cam Resistant and Graticule

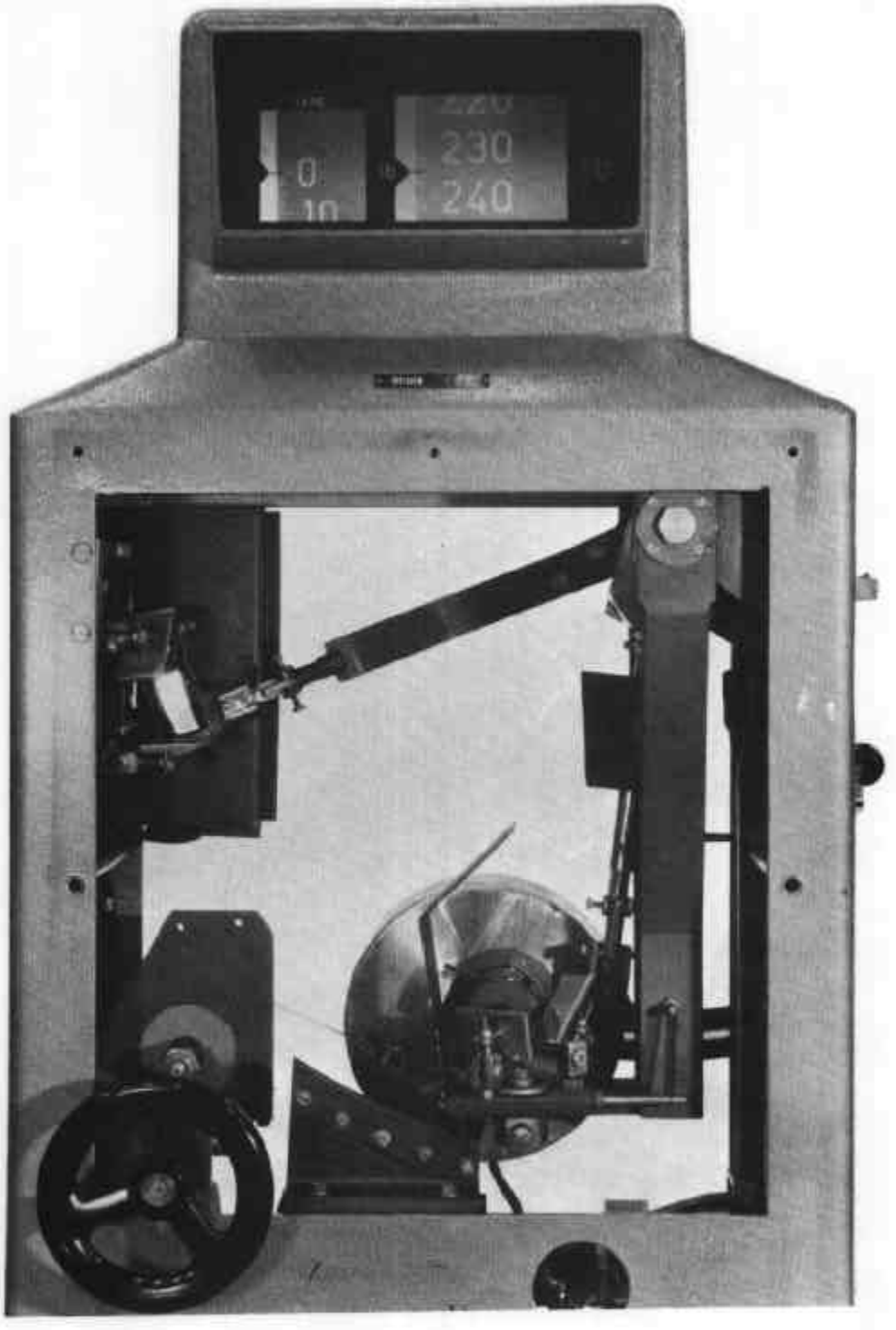
12/12/69

FIGURE 6/9C/11 - 17



Tare and Net Weight Optical Indication

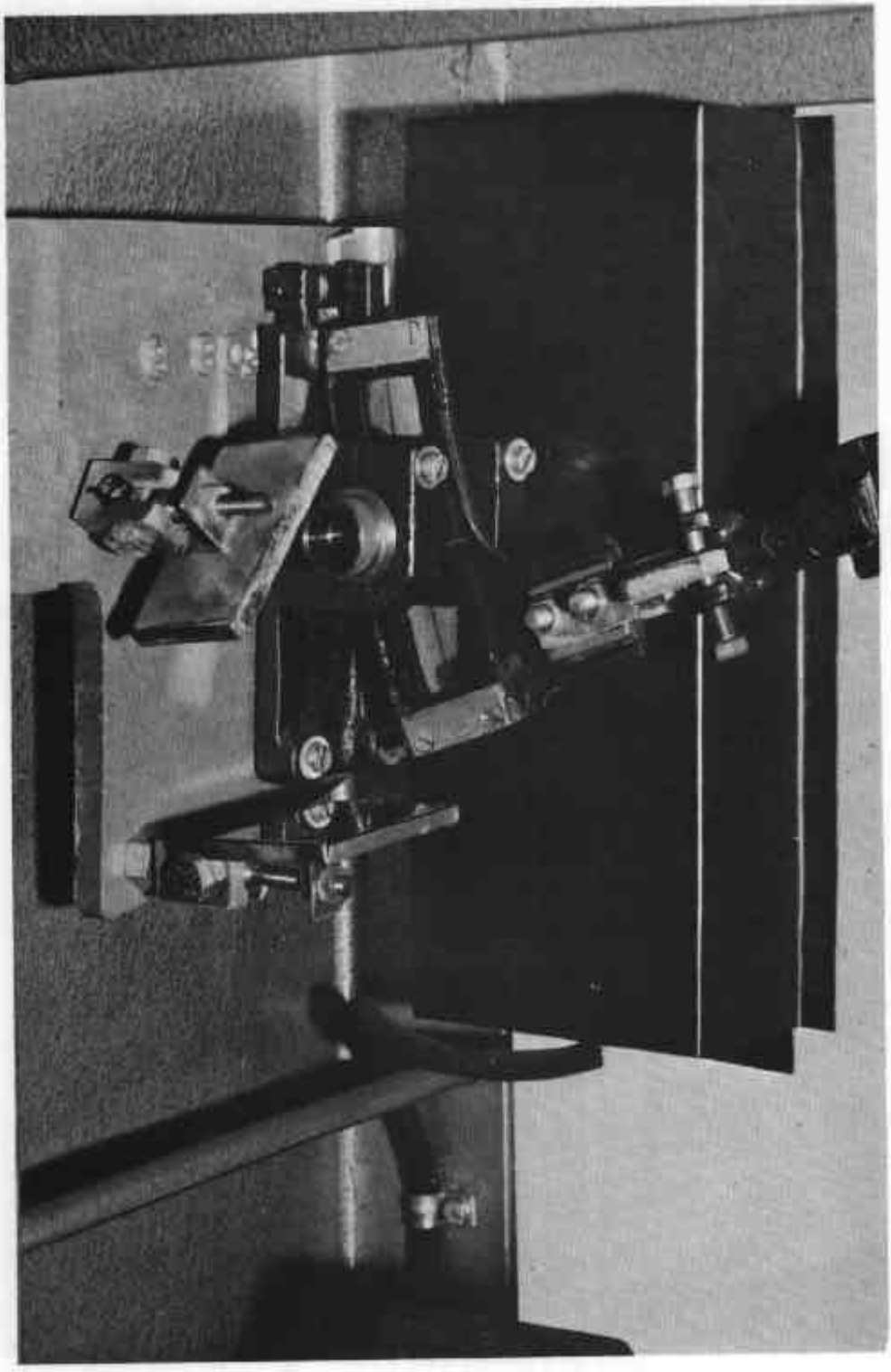
FIGURE 6/9C/11 - 18



Optograph Optical Taring Mechanism
with Optical Indication

12/12/69

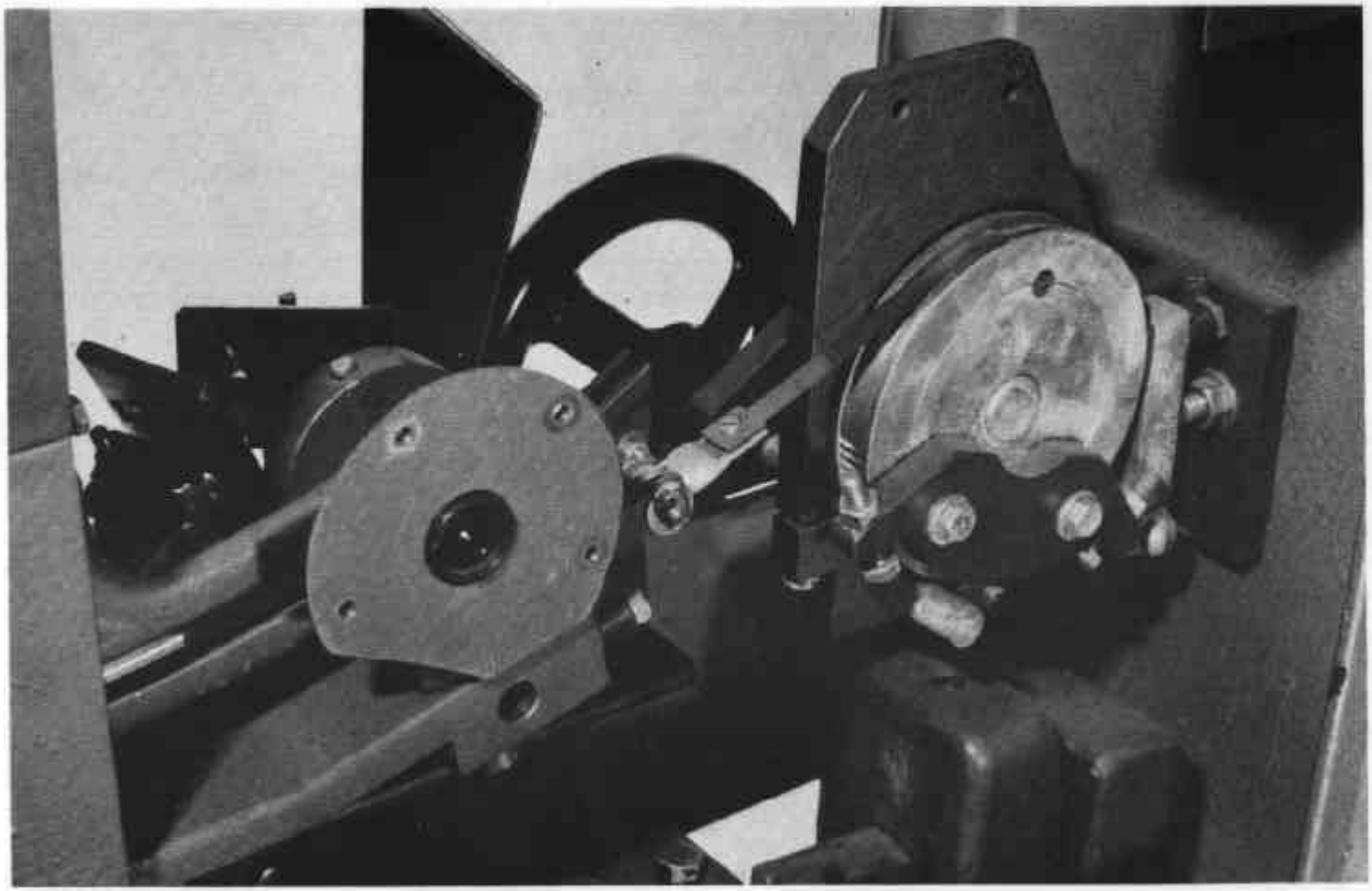
FIGURE 6/9C/11 - 19



Tare Graticule and Optical Projection System

12/12/69

FIGURE 6/9C/11 - 20



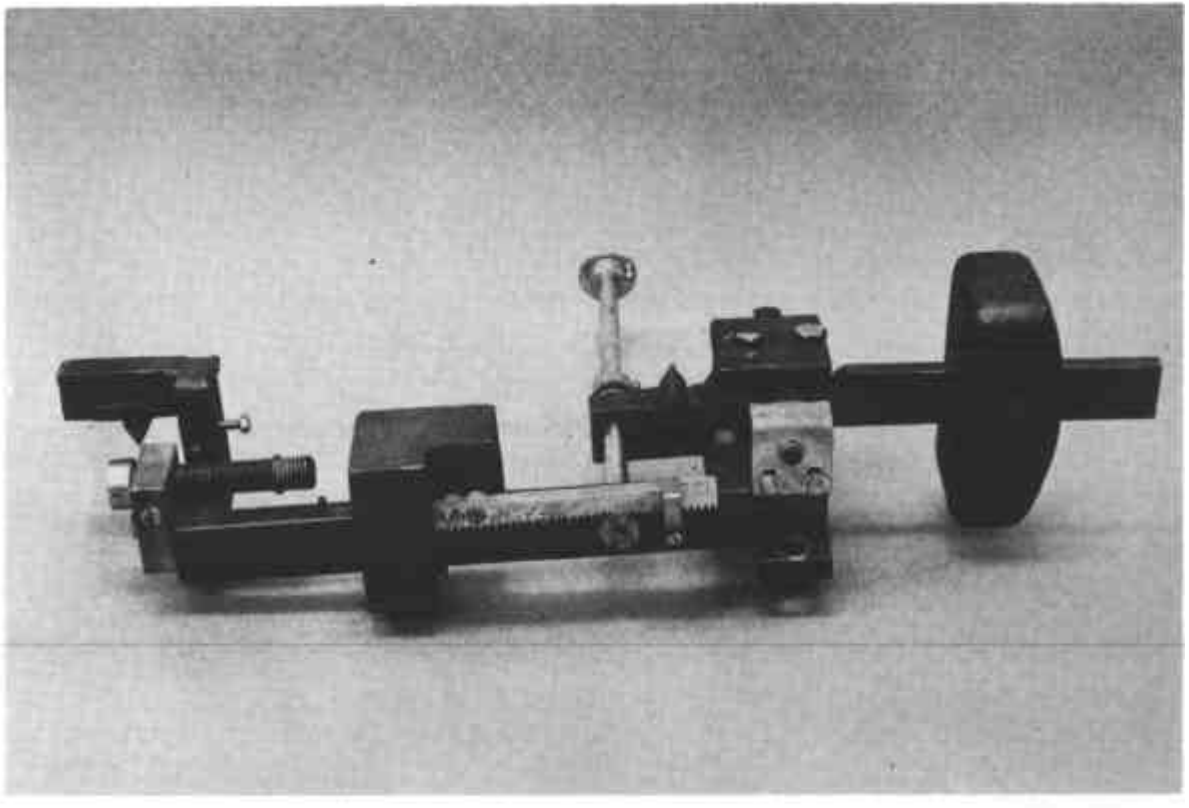
Optical Tare Control Mechanism

FIGURE 6/9C/11 - 21

Optograph Wall-mounted Headworks

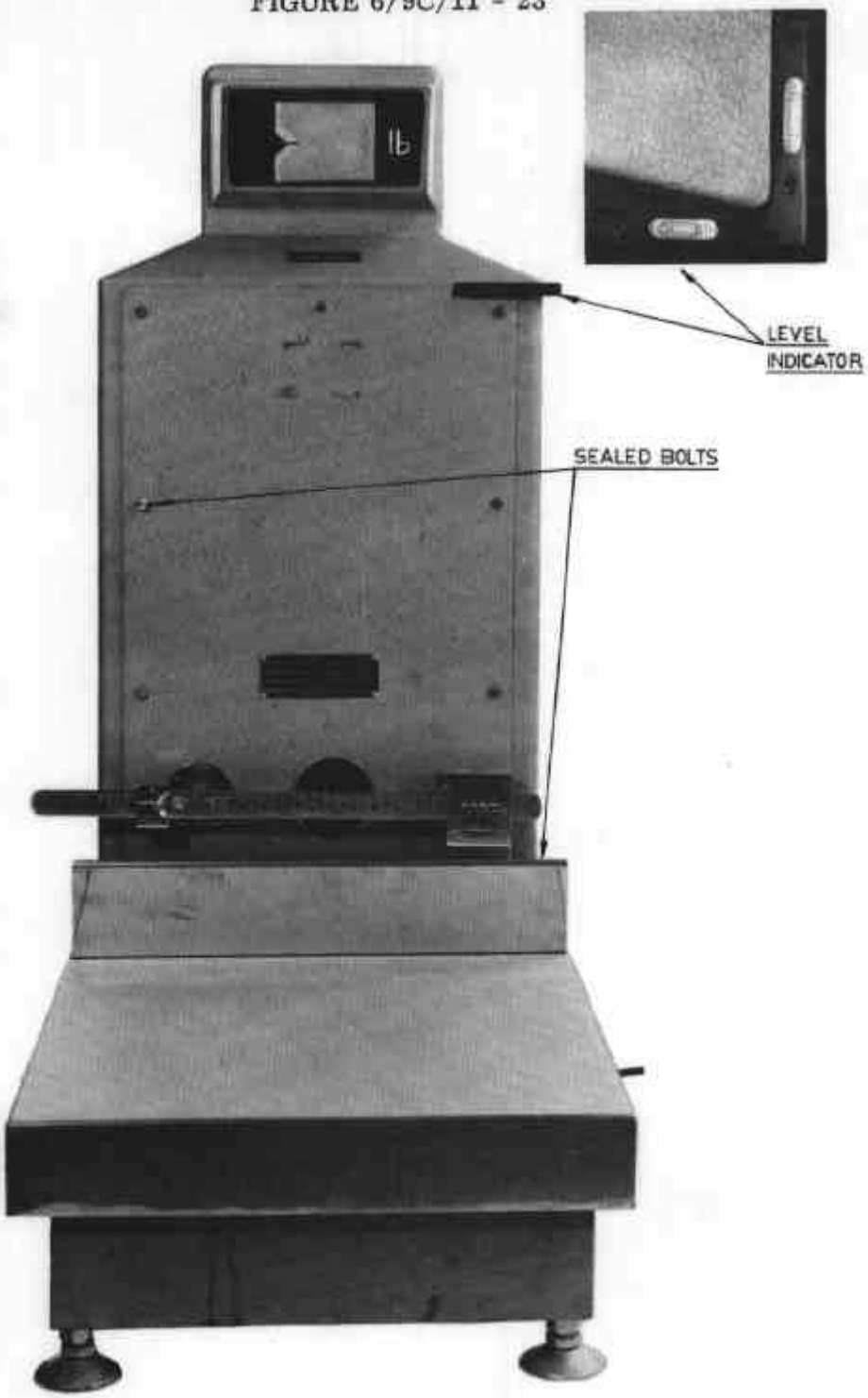
12/12/69

FIGURE 6/9C/11 - 22



Main Headworks Lever and Gear-operated Tare Poise

FIGURE 6/9C/11 - 23

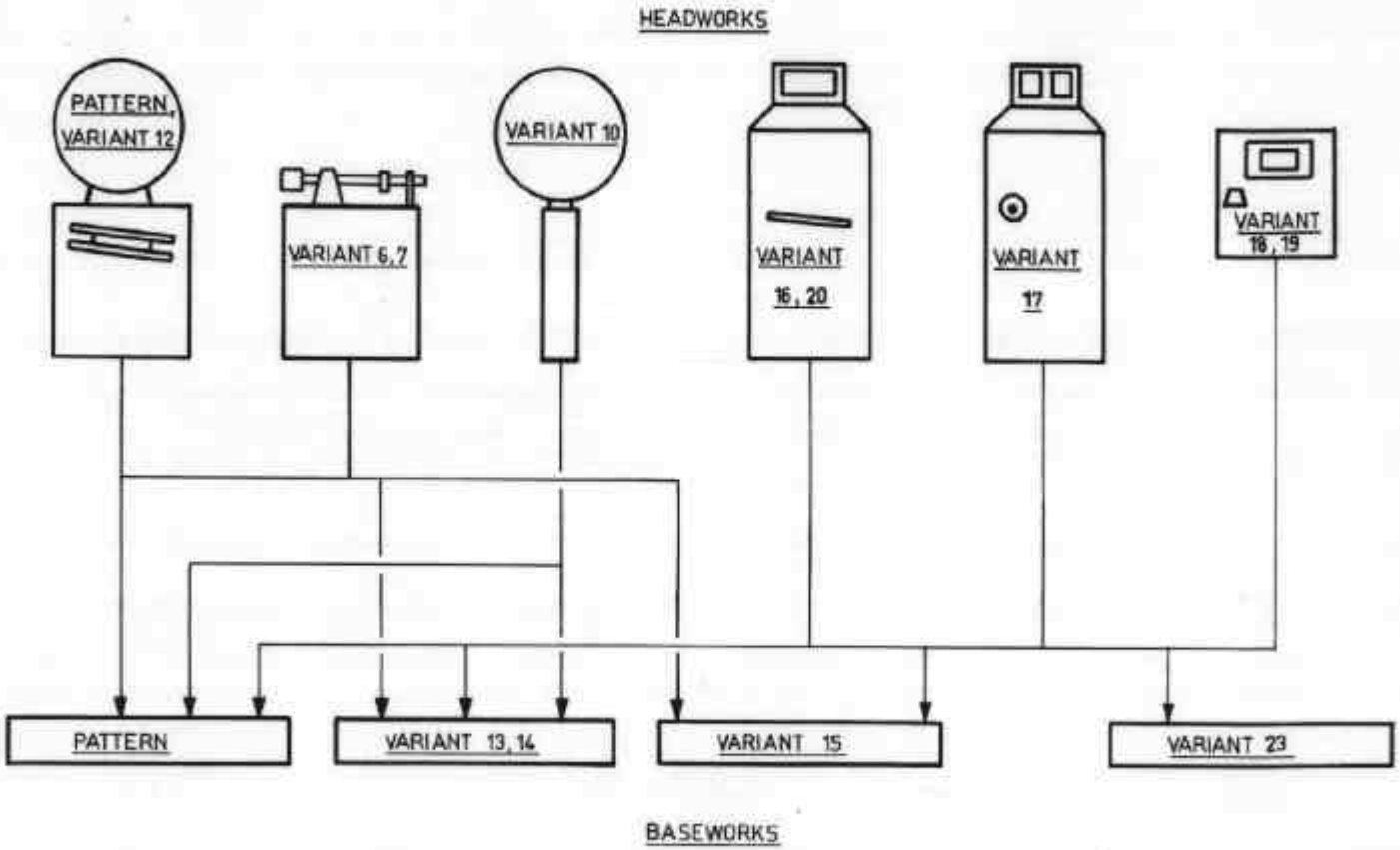


Portable Platform Scale with Optograph Headworks,
Tare Bar and Level Indicator

12/12/69

12/12/69

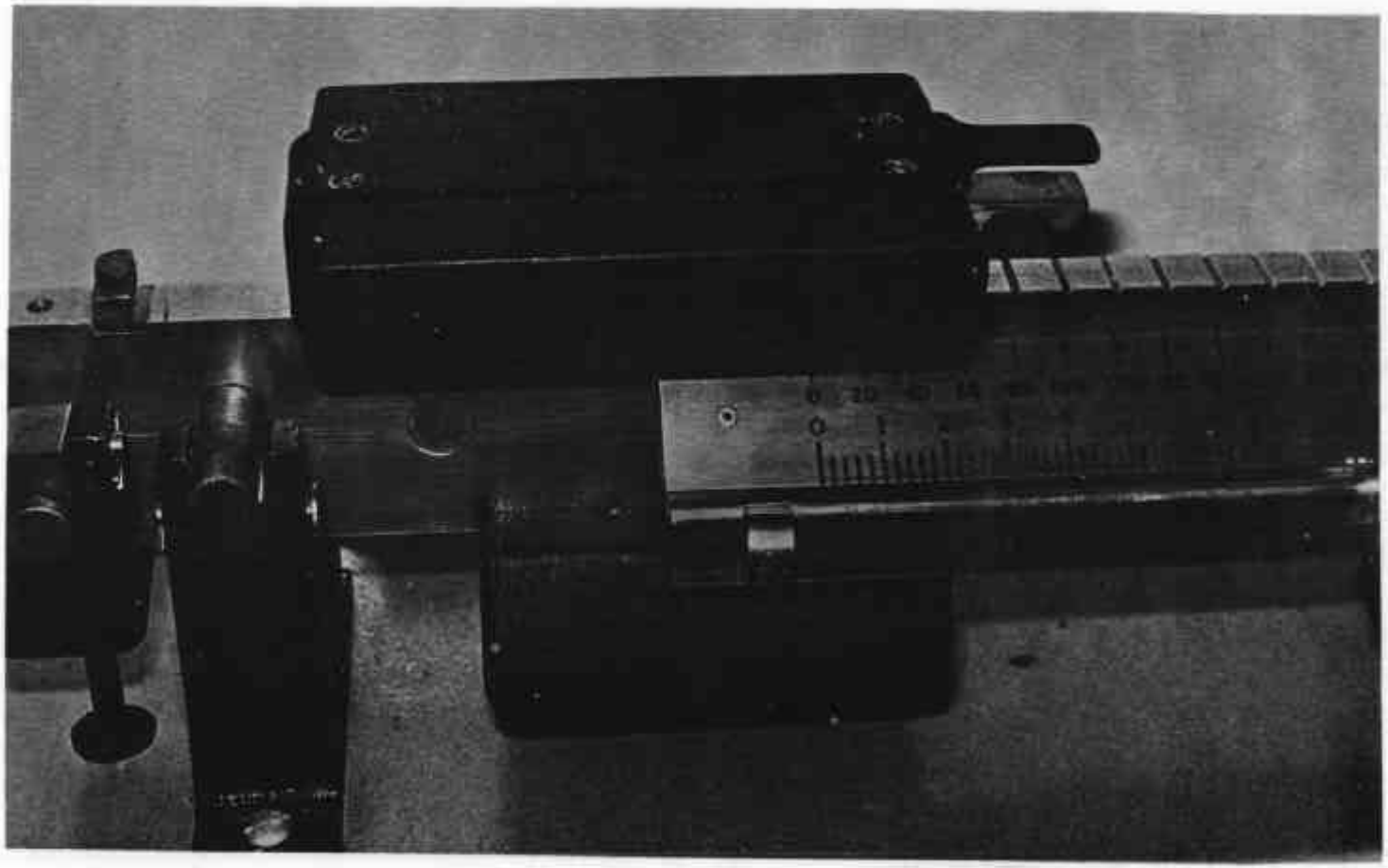
FIGURE 6/9C/11 - 24



Aide Memoire

FIGURE 6/9C/11 - 25

18/3/75



Full-capacity Steelyard — Poise