

CERTIFICATE OF APPROVAL No 6/10B/25

This is to certify that the patterns of the

Ultra (Hopper) Weighing Instrument with Busch Model 7001 Headwork

submitted by Ultra Scales Pty Ltd,
33-35 Judge Street,
Sunshine, Victoria, 3020,

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

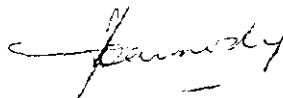
Date of Approval: 30 July 1976

The patterns are described in Technical Schedule No 6/10B/25 and in drawings and specifications lodged with the Commission.

The approval is subject to review on or after 1 August 1981.

All instruments conforming to this approval shall be marked with the approval number "NSC No 6/10B/25".

Signed



Executive Officer



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/10B/25

Pattern: Ultra (Hopper) Weighing Instrument with Busch Model
7001 Headwork

Submittor: Ultra Scales Pty Ltd,
33-35 Judge Street,
Sunshine, Victoria, 3020.

Date of Approval: 30 July 1976

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"NSC No 6/10B/25".

Description:

The pattern (see Figure 1) is a self-indicating (nopper/tank) weighing instrument. It comprises a nopper or tank load receptor, basework mechanism and a headwork with a double-pendulum-resistant mechanism and optically projected weight scale.

The headwork comprises:

1. Headwork cabinet installed in a fixed position.
2. Double-pendulum-resistant mechanism (see Figures 2 and 3). One pendulum carries a transparent graticule marked with up to 3000 graduations which are projected on to a ground-glass reading face (see Figure 4). A pointer on the other pendulum passes over an undenominated scale.
3. Main headwork lever (see Figures 5 and 6). A zero-adjustment device comprising a string threaded through several small balls is connected between the end of the main lever and a take-up spool on the cabinet.
4. Taring device (see Figures 5 and 6). The poise is moved by a threaded shaft which is rotated through a series of universal joints by a handle on the side of the cabinet. The tare reading face has a maximum of 400 graduations and is on the same side of the headwork as the weight reading face.

5. Intermediate lever(s) between the main headwork lever and the basework pullrod (see Figure 7).

The basework, which is for loads up to 13,5 tonnes (see Figures 8, 9 and 10) comprises:

1. Hopper or tank load receptor, suspended from the load knife-edges by rods fitted with self-aligning bearings. The hopper or tank is fitted with test-weight receptors allowing an appropriate test load to be located near each main load bearing.
2. Two main levers constructed from not less than 100-mm square-section steel tube, each with a long arm and two shorter arms which carry the fulcrum and load knife-edges. The fulcrum knife-edges may be suspended by rods from an overhead support (see Figure 11), or supported by fulcrum stands (see Figure 12). Backing plates behind the fulcrum and load knife-edges reduce bending. Vertical links connect the long arms of the main levers to one or more transfer levers. A single vertical link and pullrod connects the transfer lever(s) to the headwork.

The instrument is marked adjacent to the weight reading face, for example:

(III)

Max*	=	12 t
Min*	=	0,25 t
d = e	=	0,005 t
T	=	+ 1,5 t

the approval includes:

1. A hopper or tank basework for loads up to 3200 kg (see Figure 13). The basework is similar to the 13,5-t basework except that backing plates are not provided behind the load and fulcrum knife-edges and the two main levers are constructed from not less than 60-mm square-section steel tube.

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- * 1. Max (maximum capacity) plus T (additive tare capacity) should not exceed the approved basework load.
2. Min = 50e for e 50 g to 10 kg and Min = 1000 kg for e above 10 kg.

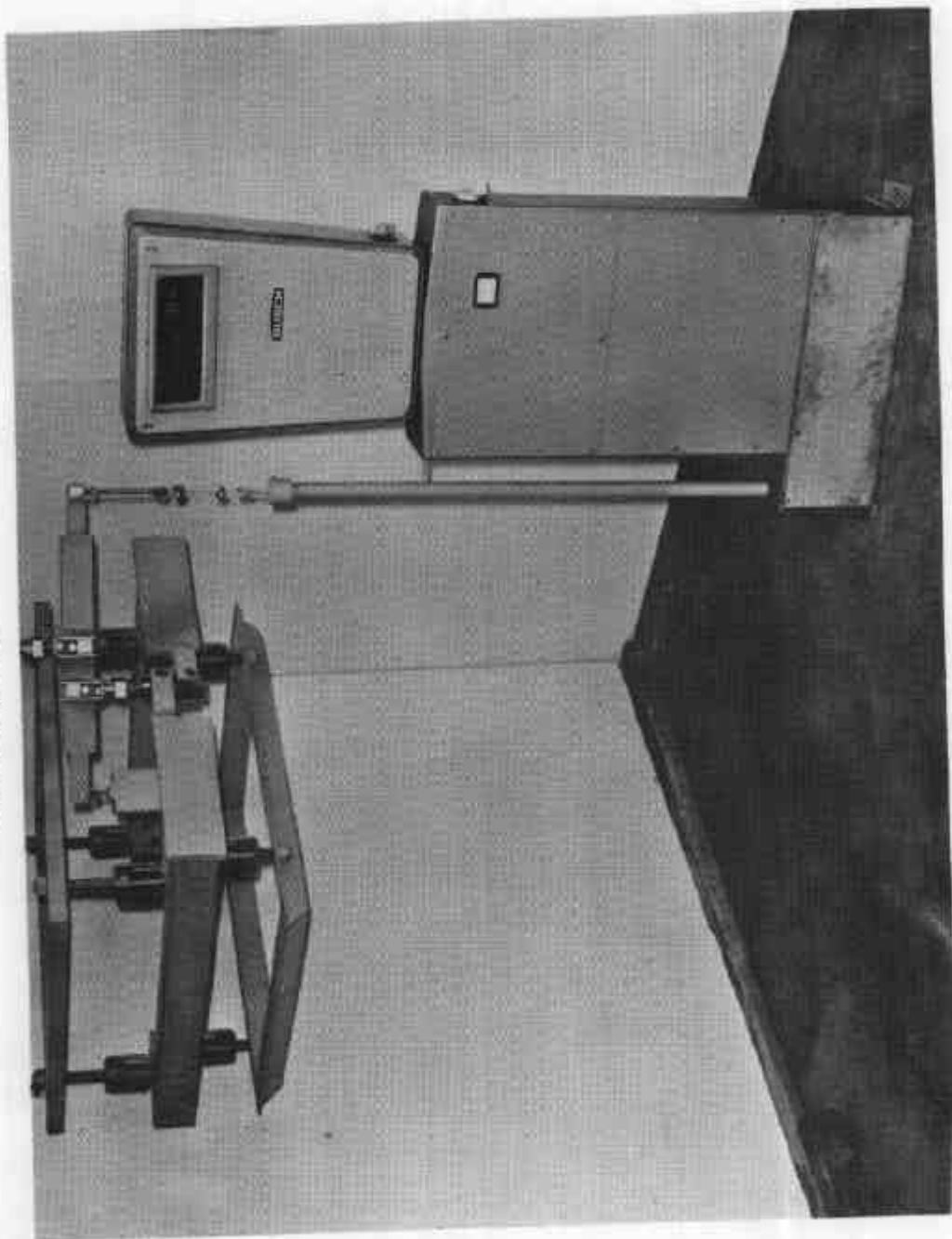
2. The headwork with one or two graduated or ungraduated tare bars; the graduated tare bars have up to 200 graduations (see Figure 14), and are on the same side of the headwork as the weight reading face.
3. The headwork with or without taring devices. When no taring device is fitted the optical-projection weight chart may be on both sides of the headwork; the accuracy class, Max, Min, d, and e, will be marked adjacent to each weight reading face.
4. The pullrod with additional intermediate levers arranged so that the pullrod pulls upward or downward.
5. Baseworks of other Commission-approved patterns replacing the hopper/tank basework described in the pattern(s), provided that:
 - (a) the basework* is of an instrument conventionally known as a platform weighing machine, weighbridge or hopper scale, etc., where the headwork and basework are separate assemblies connected by a mechanical linkage;
 - (b) the maximum capacity of the instrument plus any additive tare capacity is not more than the approved basework load; and
 - (c) the instrument is marked:

"Approval Numbers

Headwork NSC No 6/10B/25
Basework NSC No

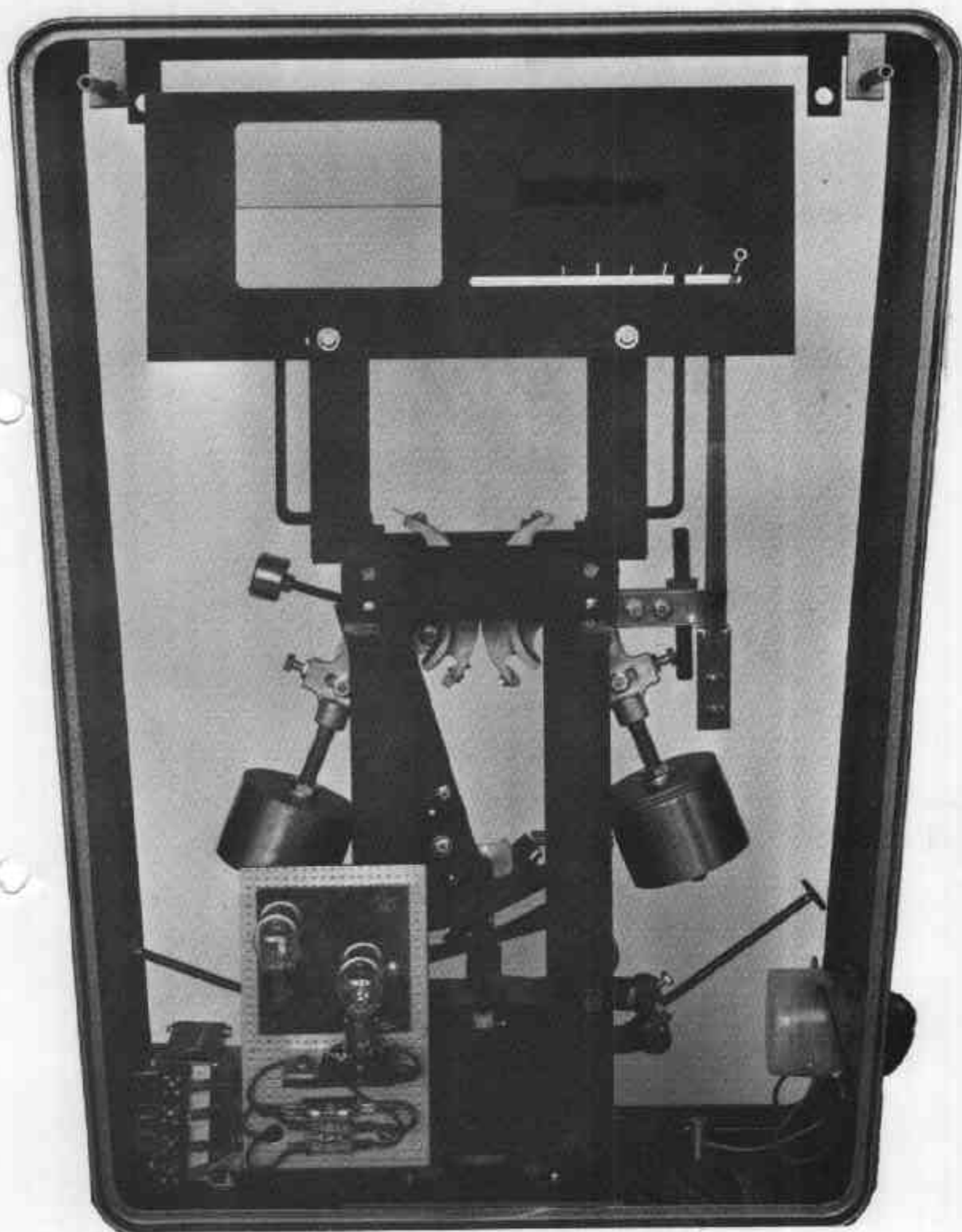
* The basework must fully conform with the Commission approval; no extra force breakdown or transfer levers may be fitted other than those approved.

FIGURE 6/LOB/25 - 1



13,5-t Hopper Weighing Instrument

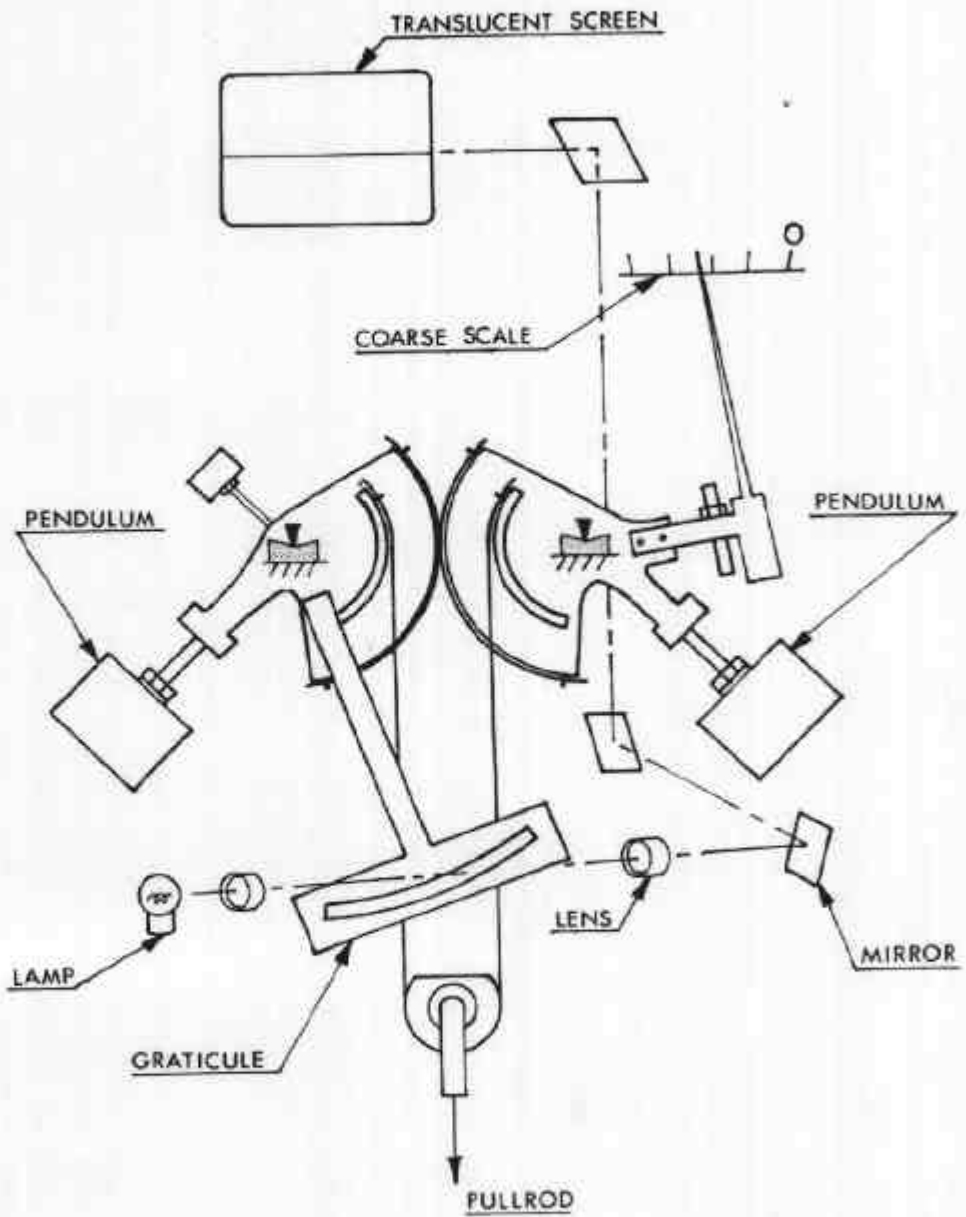
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Resistant Mechanism and Optical-projection System

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FIGURE 6/10B/25 - 3



Resistant Mechanism and Optical-projection System —
Schematic Diagram

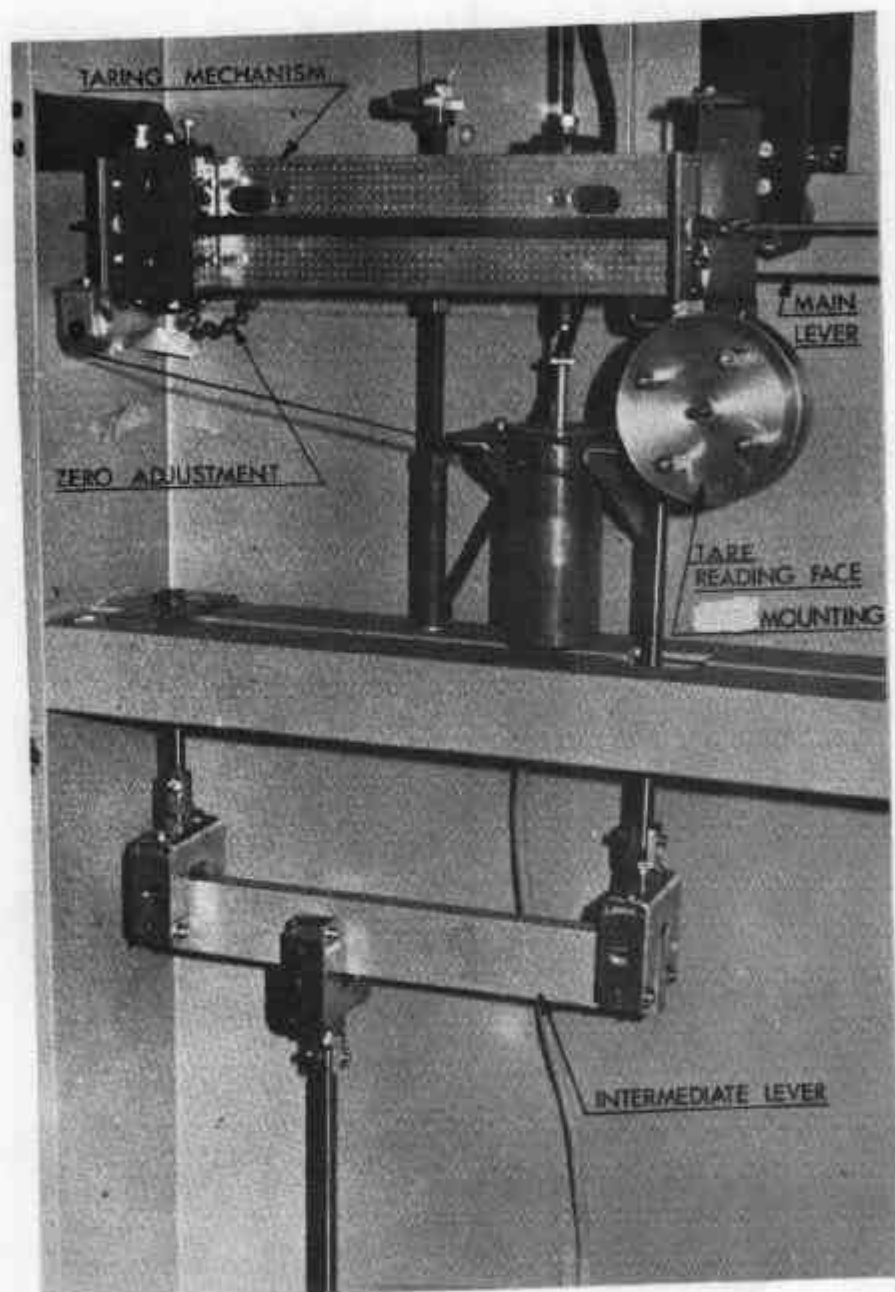
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FIGURE 6/10B/25 - 4



Weight Reading Face

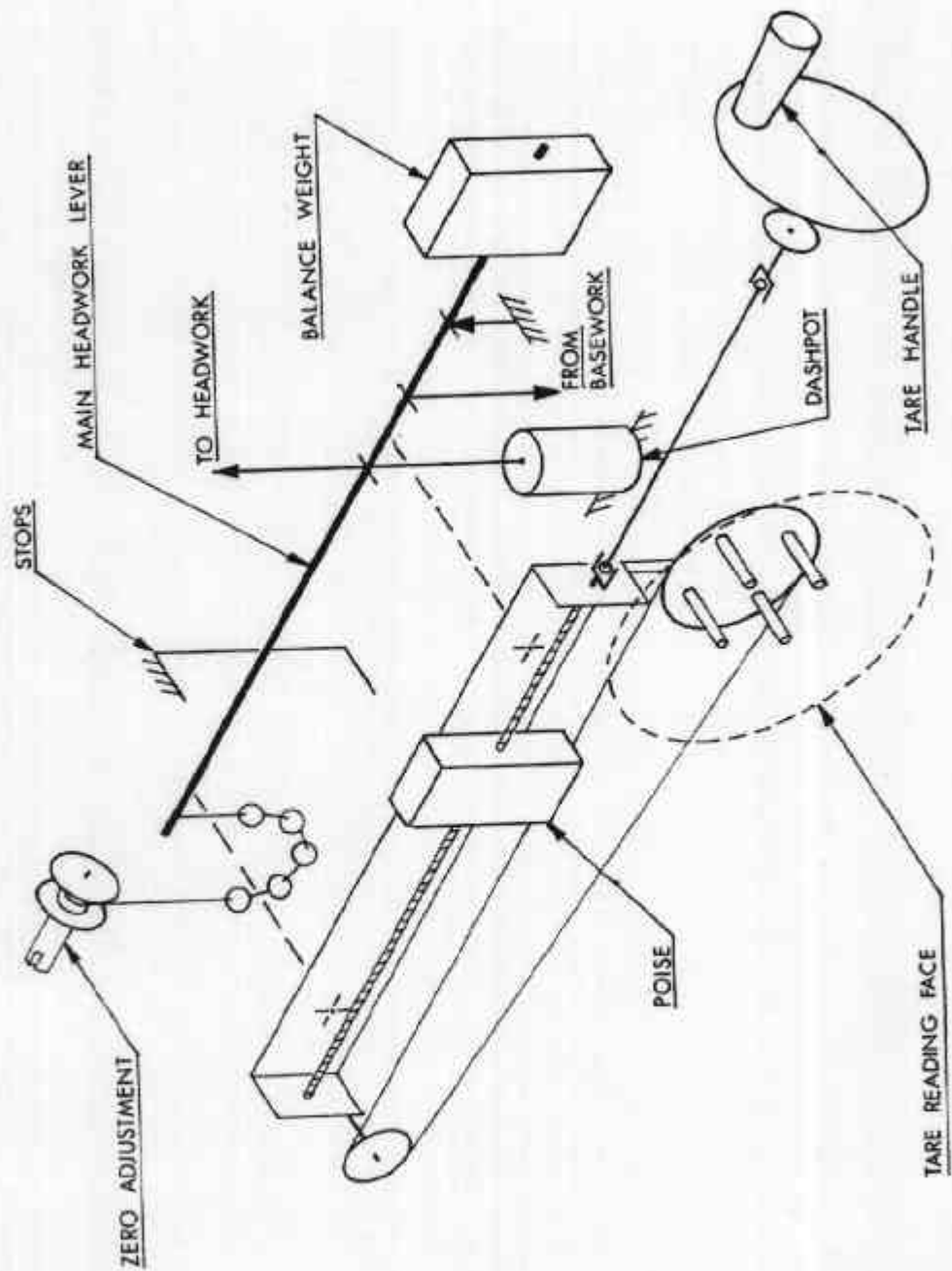
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Taring Mechanism, Main Headwork Lever and Intermediate Lever

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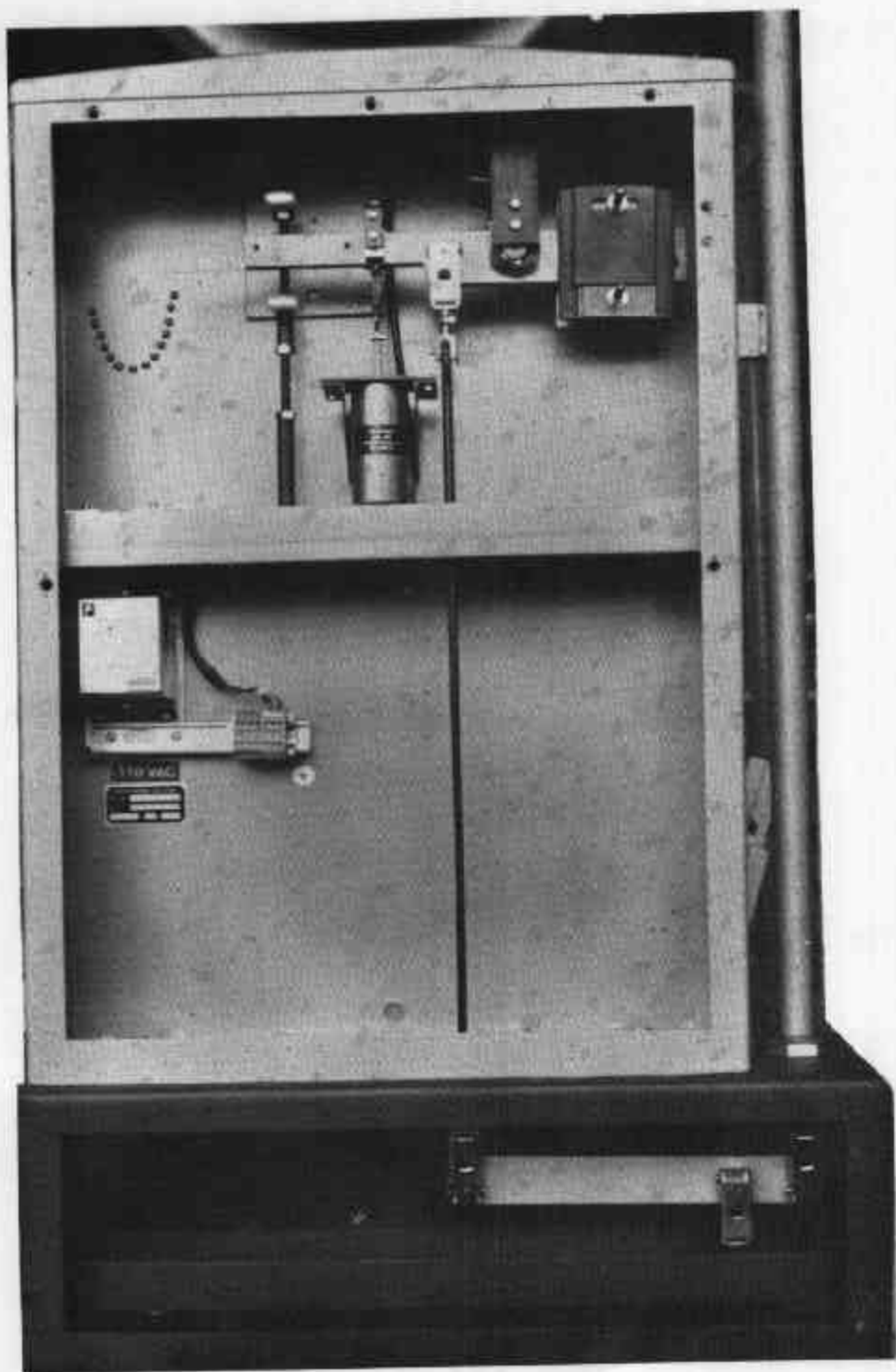
FIGURE 6/10B/25 - 6



Taring Mechanism and Main Headwork Lever — Schematic Diagram

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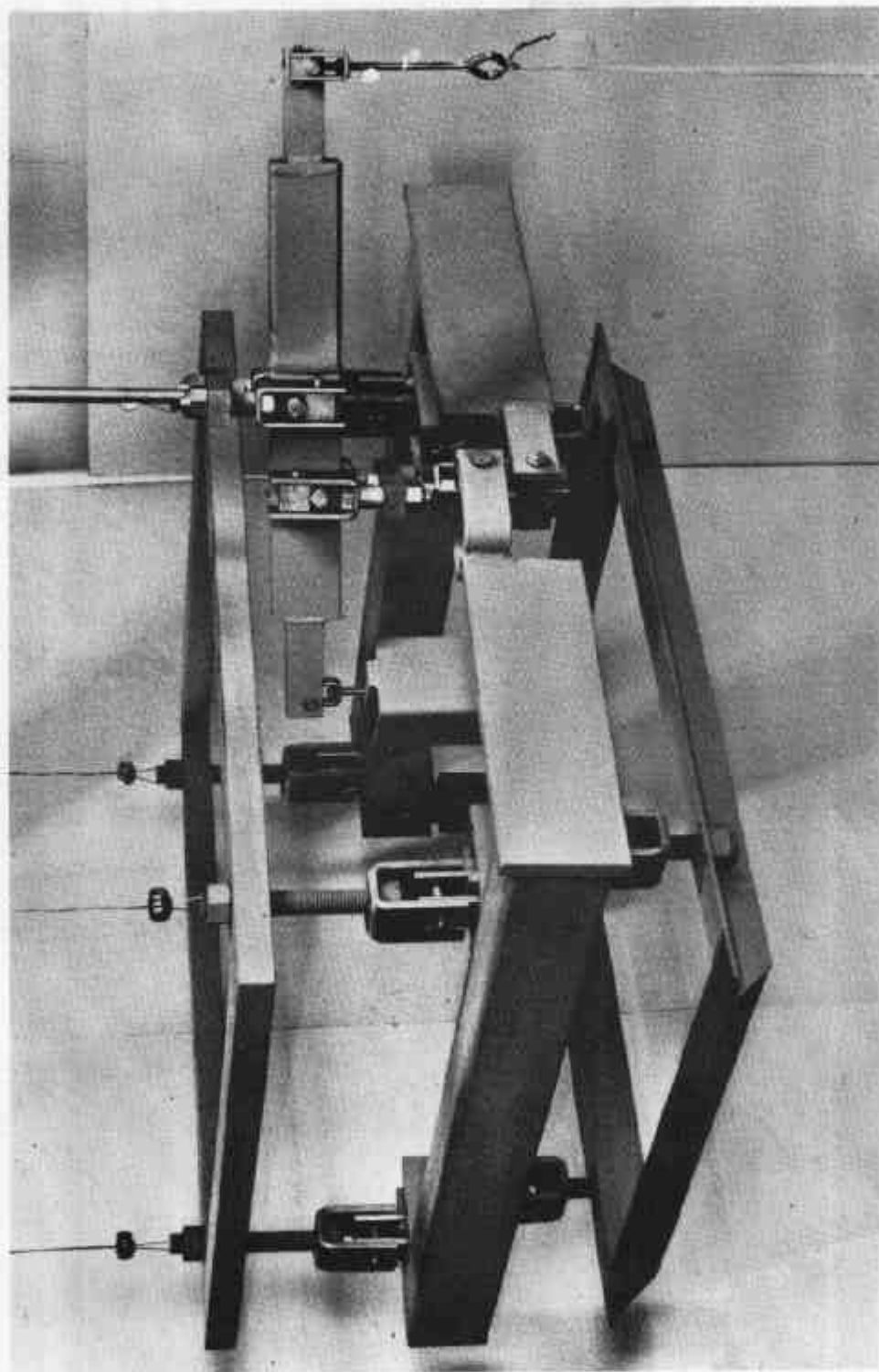
FIGURE 6/10B/25 - 7



Lower Headwork with Intermediate Lever

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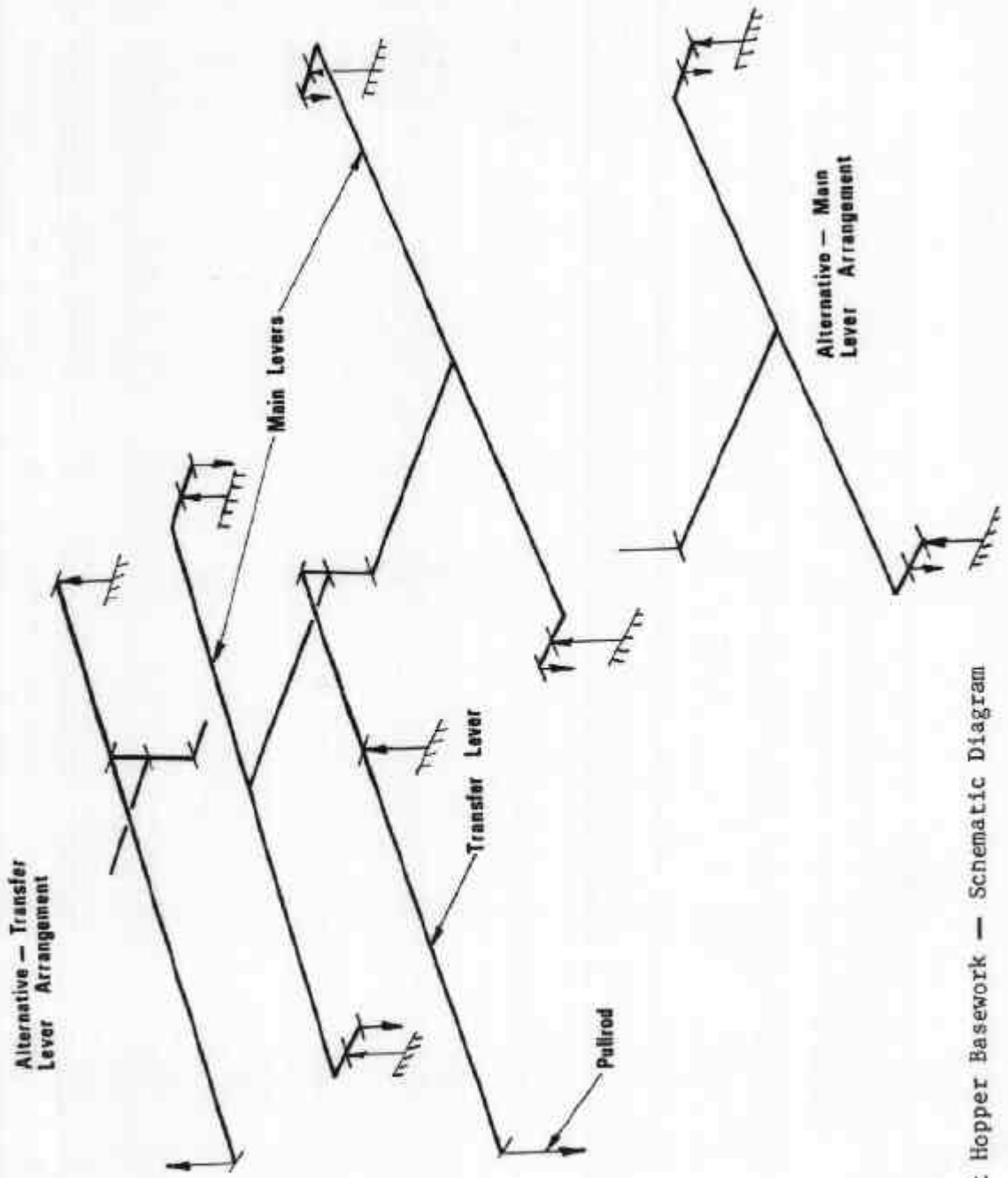
FIGURE 6/10B/25 - 8



13, 5-t Hopper Basework

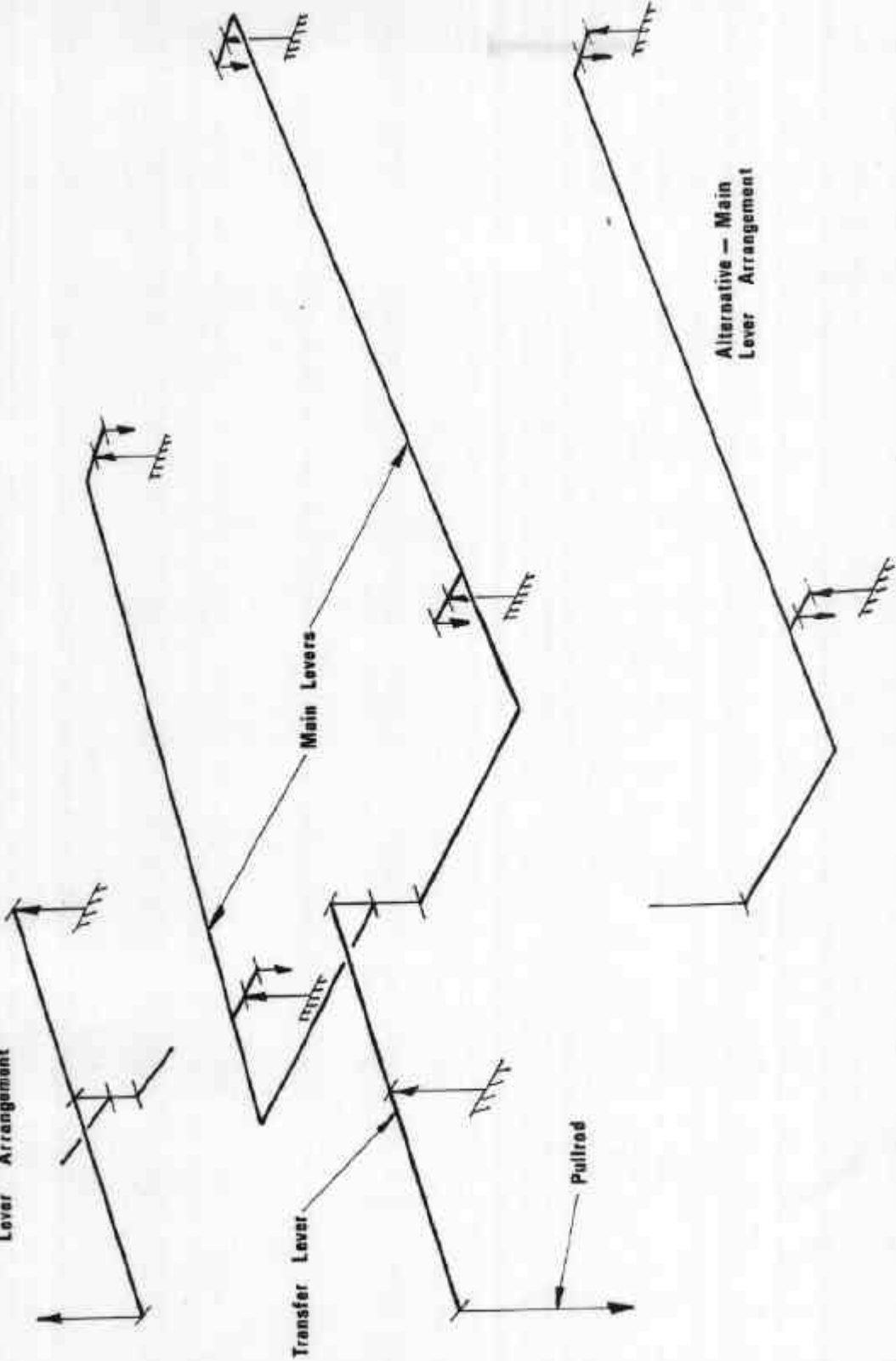
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FIGURE 6/10B/25 - 9



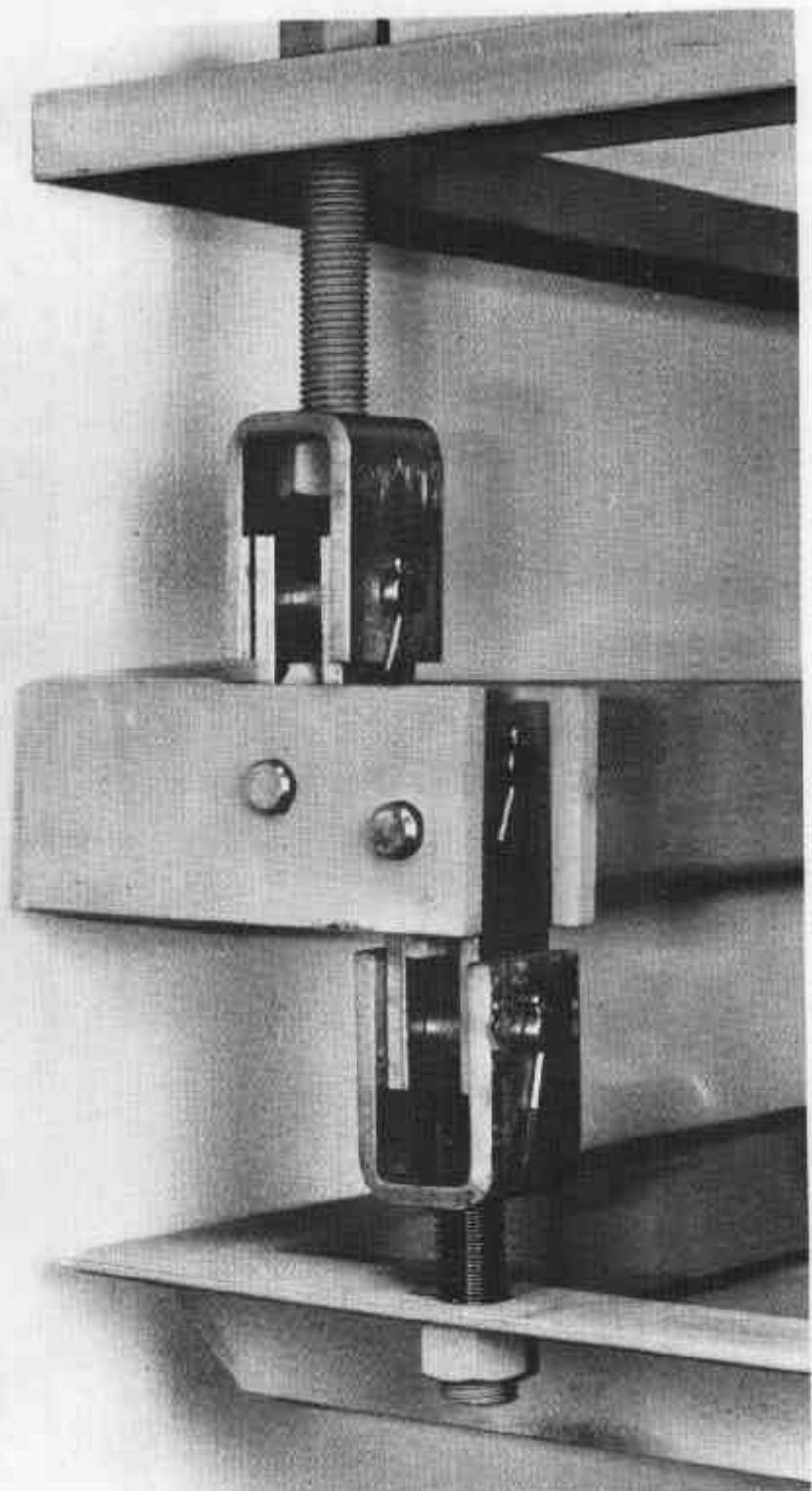
13,5-t Hopper Basework - Schematic Diagram

Alternative - Transfer
Lever Arrangement



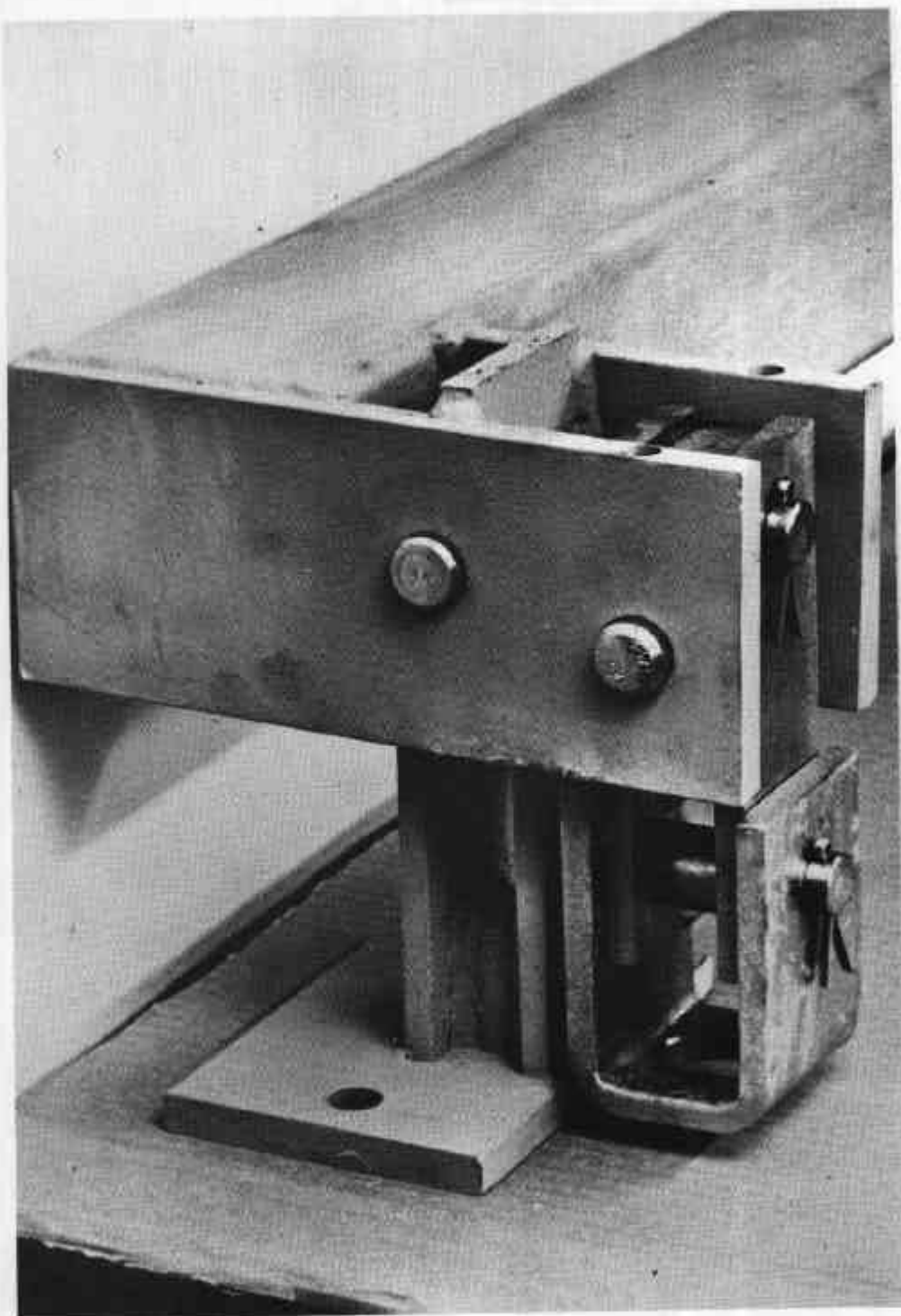
13,5-t Hopper Basework - Alternative Arrangement of Levers -
Schematic Diagram

FIGURE 6/10B/25 - 11



Fulcrum Supported by Rods

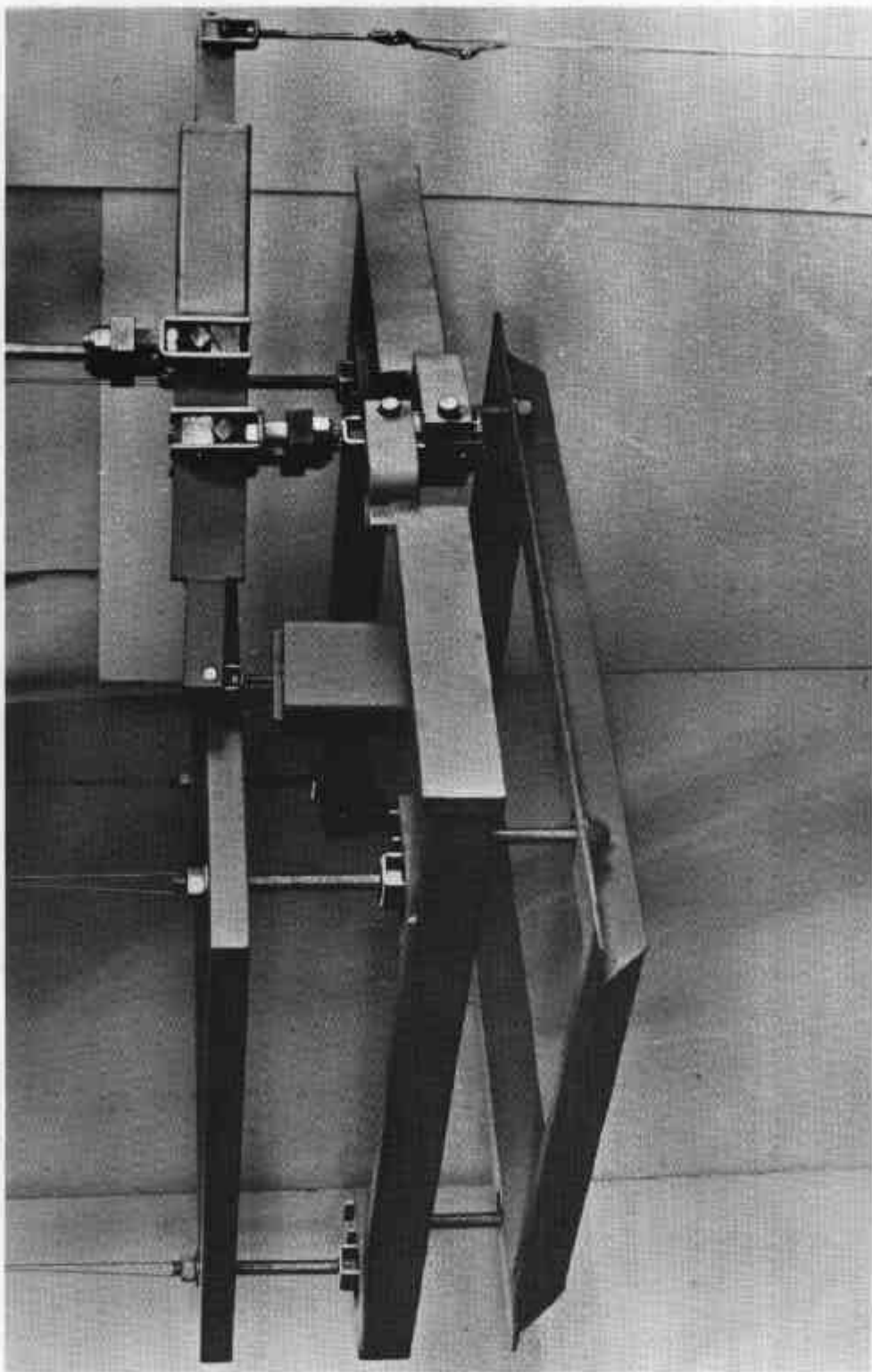
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Fulcrum Supported on Fulcrum Stands

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FIGURE 6/10B/25 - 13



3200-kg Hopper Basework

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FIGURE 6/10B/25 - 14



Headwork with External Tare Bars

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