

CERTIFICATE OF APPROVAL No 6/10B/21

This is to certify that the patterns of the

Busch 7001 (Combination) Weighing Instrument

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.

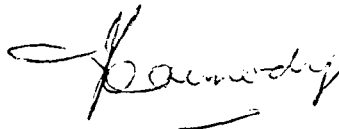
Date of Approval: 24 October 1975

The patterns are described in Technical Schedule No 6/10B/21 and in drawings and specifications lodged with the Commission.

The approval is subject to review on or after 1 November 1980.

All instruments conforming to this approval shall be marked with the approval number "NSC No 6/10B/21".

Signed



Executive Officer



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/10B/21

Pattern: Busch 7001 (Combination) Weighing Instrument

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

Date of Approval: 24 October 1975

All instruments conforming to this approval shall be marked "NSC No 6/10B/21".

Description:

The pattern (see Figures 1 and 2) is a combination weighbridge with a maximum capacity (Max) of up to 30 tonnes; the capacity of each load receptor is the same as the capacity in combination. The additive tare capacity is 10 tonnes.

Headwork:

The headwork comprises:

1. Headwork cabinet (see Figures 1 and 2).
2. Double-pendulum-resistant mechanism (see Figures 2 and 3). One pendulum carries a transparent graticule marked with a maximum of 3000 graduations which are projected on to a ground-glass reading face. A pointer on the other pendulum passes over an undenominated scale. The weight reading face is on the same side of the instrument as the tare reading face. The instrument is marked adjacent to the weight reading face (see Figure 4):

III

Platform	Combination 1 + 2	1	2
Max =	30 t	30 t	30 t
Min =	0,5 t	0,5 t	0,5 t
d =	0,01 t	0,01 t	0,01 t
T =	+ 10 t	+ 10 t	+ 10 t

3. Main headwork lever (see Figures 5 and 6). The sensitivity can be adjusted by raising or lowering a weight attached to

the main lever. When both load receptors are engaged, two compensating weights are supported from the end of the main lever. One weight is lifted off when only one load receptor is engaged.

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 is ungraduated except at its zero effect, where the reading face is marked "0". At other than zero the tare reading face is marked by the letter "T".
5. Combination levers (see Figures 7 and 8). The pullrod from each basework is connected to a transfer/balancing lever which in turn applies the load to a common vertical link suspended from the main headwork lever. Coarse and fine balance weights on each transfer lever are accessible through panels in the headwork cabinet. The lever ratio of one transfer lever is adjustable by moving the load knife-edge.

Selecting either load receptor causes the transfer lever of the other load receptor to be lifted off the common vertical link and the compensating weight to be lifted off the main lever.

Basework:

The load receptor of each basework consists of a platform, four tubular main levers and a transfer lever (see Figures 9 to 12). Ball-bearing support units between the platform and the load knife-edges (see Figure 13) allow universal lateral movement of the platform. The fulcrum knife-edges of each main lever are located on self-aligning bearings on floor-mounted pedestals (see Figure 13).

Each load receptor has a maximum working load of 40 tonnes.

The approval includes:

1. The instrument without the taring device (see Figure 14). When no taring device is fitted the weight reading face may be on both sides of the headwork.
2. Other Commission-approved baseworks replacing the basework described on the pattern, 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 capacity of the instrument is not more than the capacity approved for the basework;
- (c) a levelling device and an indicator are fitted, except for instruments installed in a fixed position, or instruments which satisfy the following accuracy requirements and indication limits:

Accuracy Requirements

- (i) $\pm 0,5e$ for loads between zero and 500e inclusive;
- (ii) $\pm 1e$ for loads between 500e exclusive and 2000e inclusive;
- (iii) $\pm 1,5e$ for loads greater than 2000e.

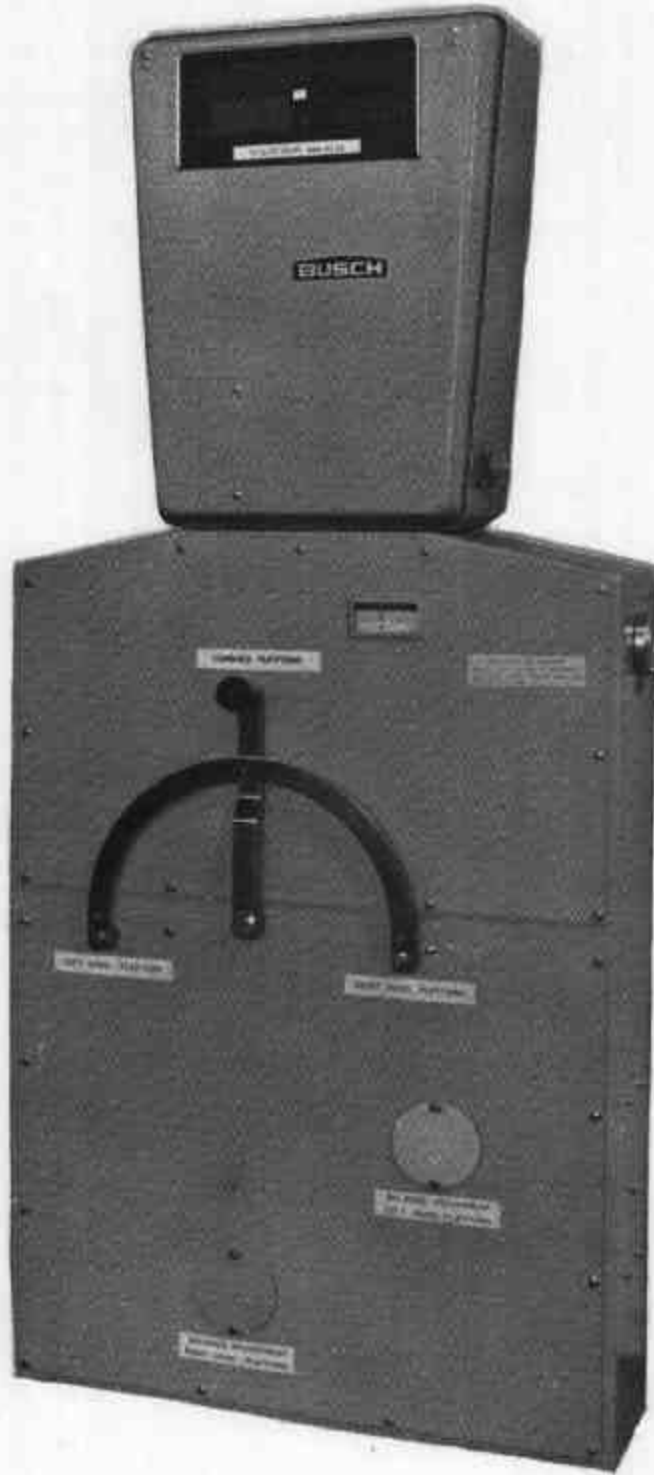
Indication Limits

- (i) Tilting at no-load — the zero indication does not vary more than $2e$ when tilted to a slope of 1 in 20, the zero being first adjusted in the reference (level) position; and
 - (ii) Tilting when loaded — the indication does not vary more than e when tilted to a slope of 1 in 20, the indication at zero being adjusted in the reference position before tilting and in the tilted position before reloading;
- (d) the instrument is marked:

"Approval Numbers

Headwork NSC No 6/10B/21
Basework NSC No

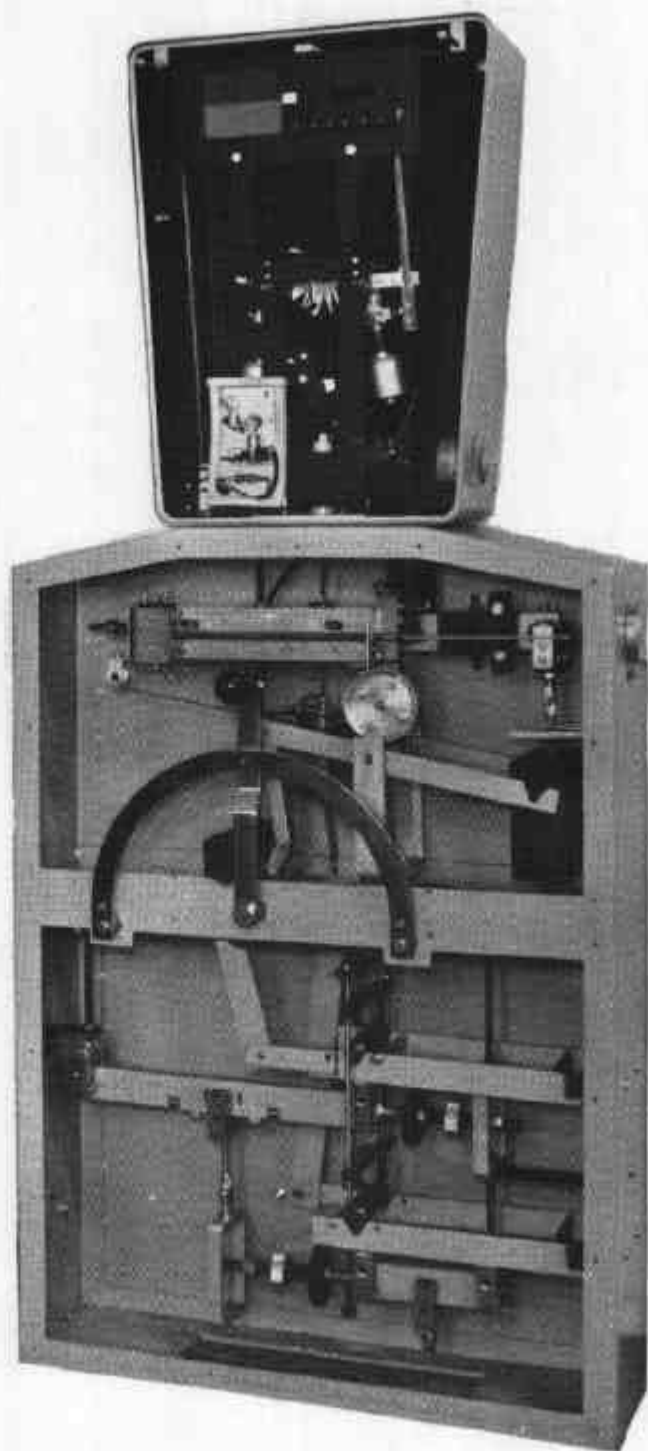
FIGURE 6/10B/21 - 1



Busch 7001 Combination Headwork

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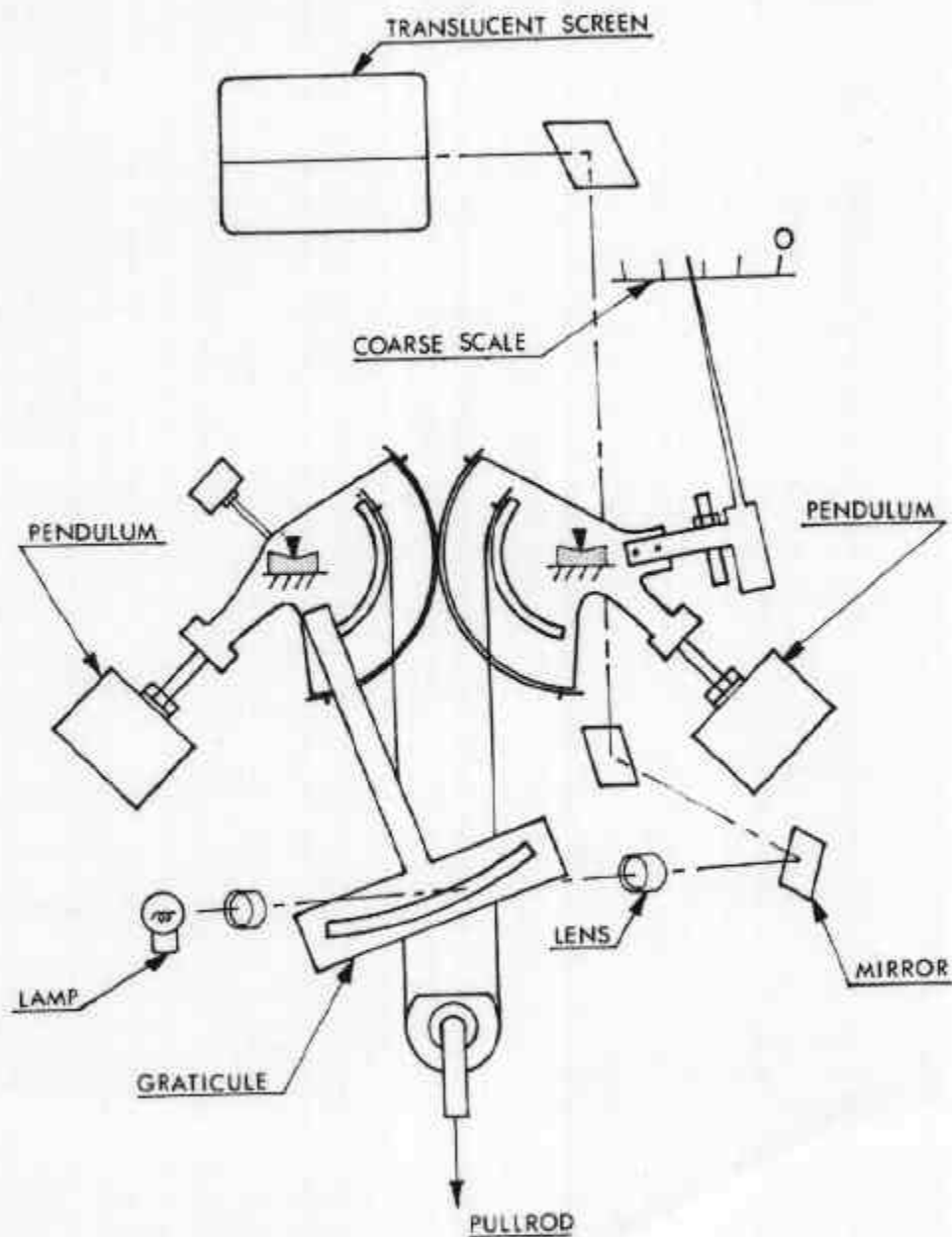
FIGURE 6/10B/21 - 2



Busch 7001 Combination Headwork

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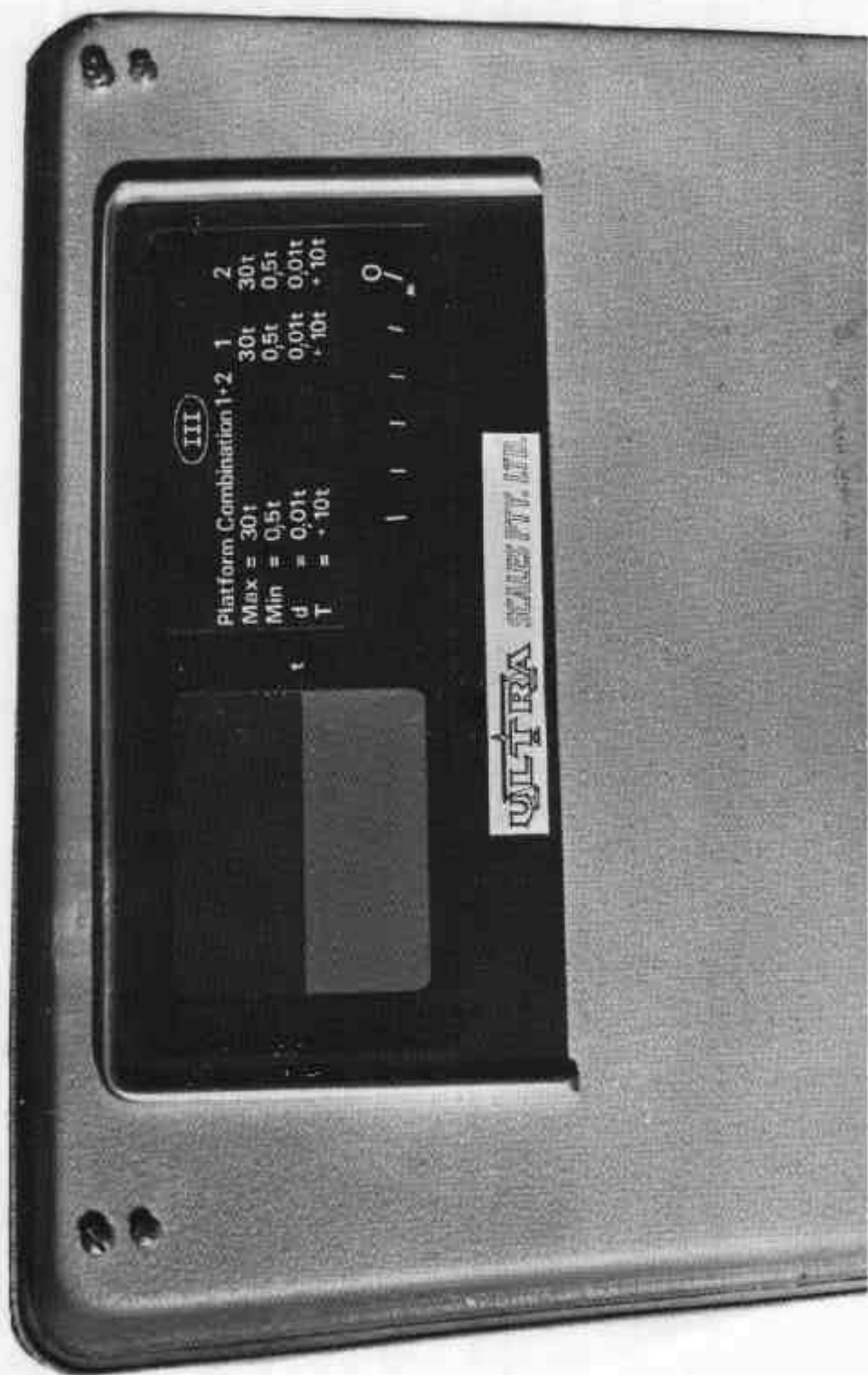
FIGURE 6/10B/21 - 3



Resistant-mechanism and Optical-projection System —
Schematic Diagram

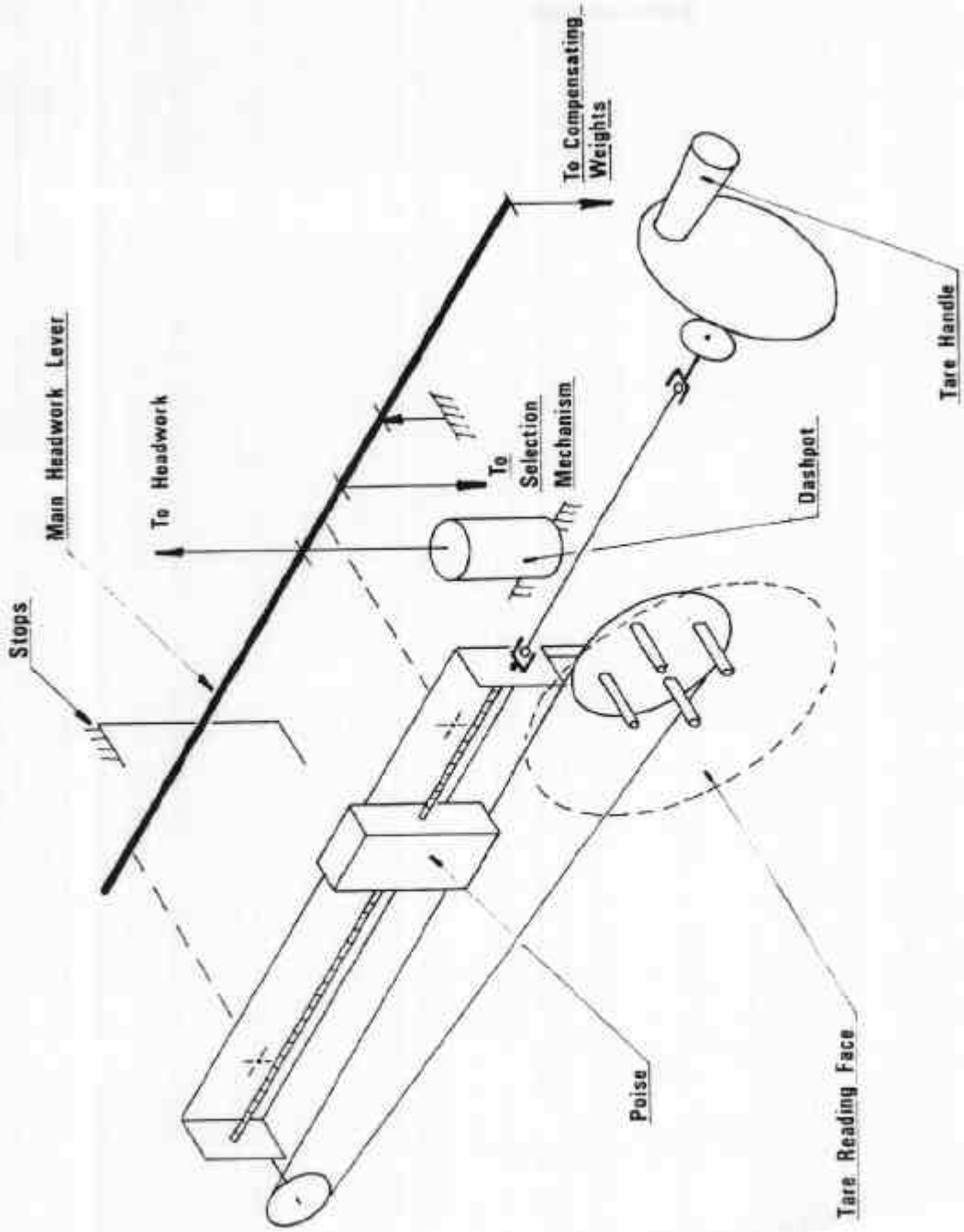
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FIGURE 6/10B/21 - 4



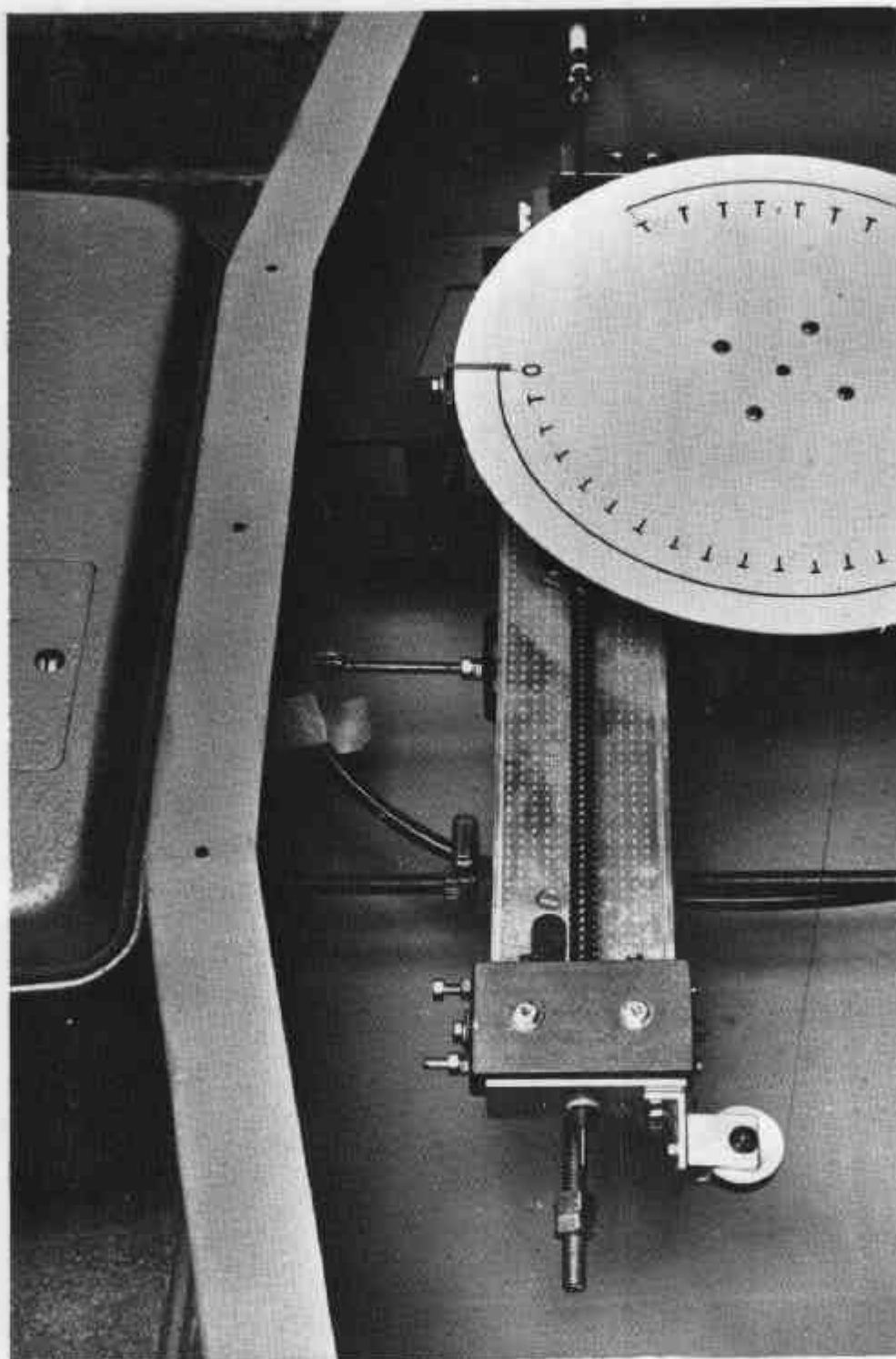
Marking of Weight Reading Face

FIGURE 6/10B/21 - 5



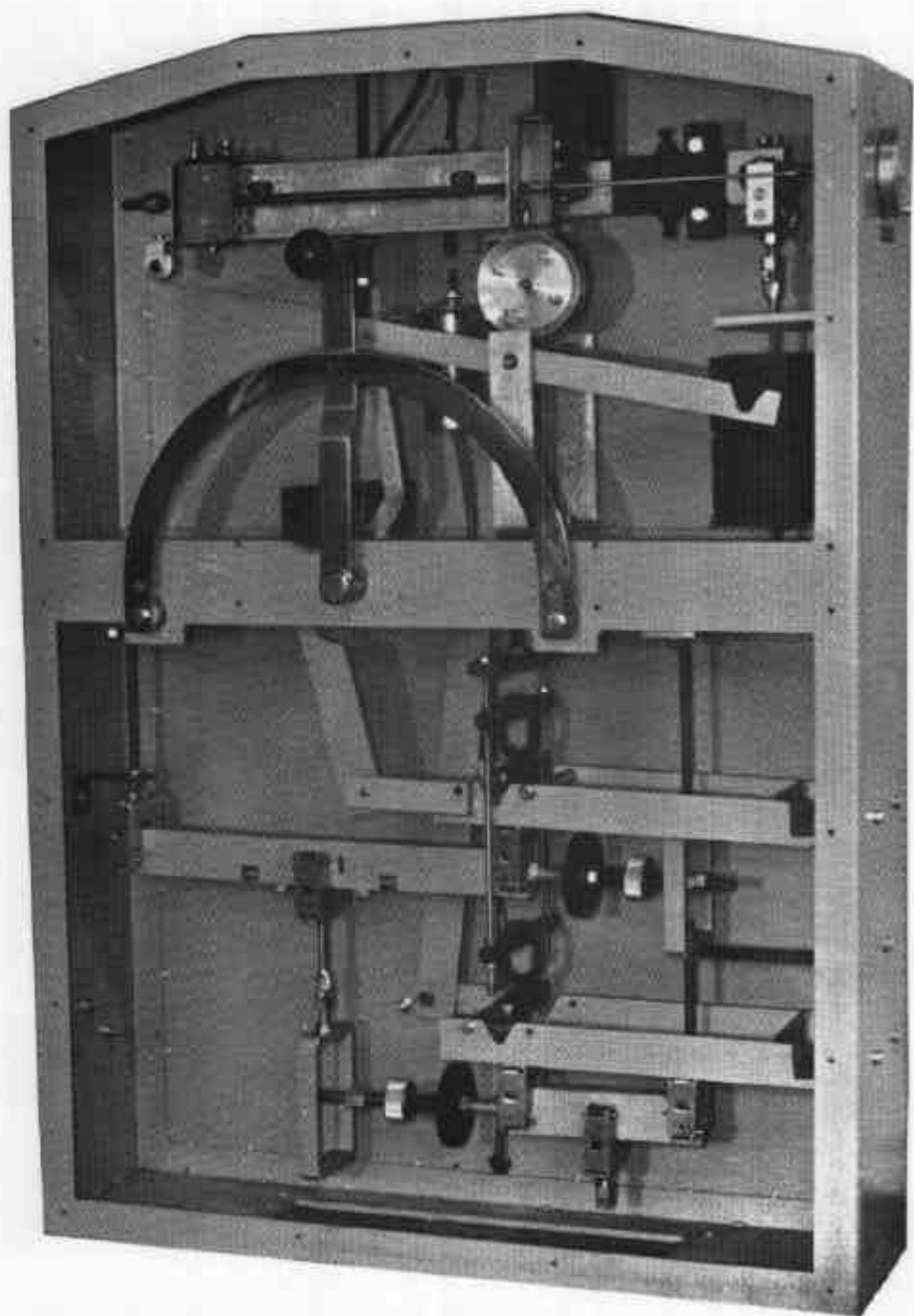
Taring Mechanism and Main Headwork Lever — Schematic Diagram

FIGURE 6/10B/21 - 6



Taring Mechanism

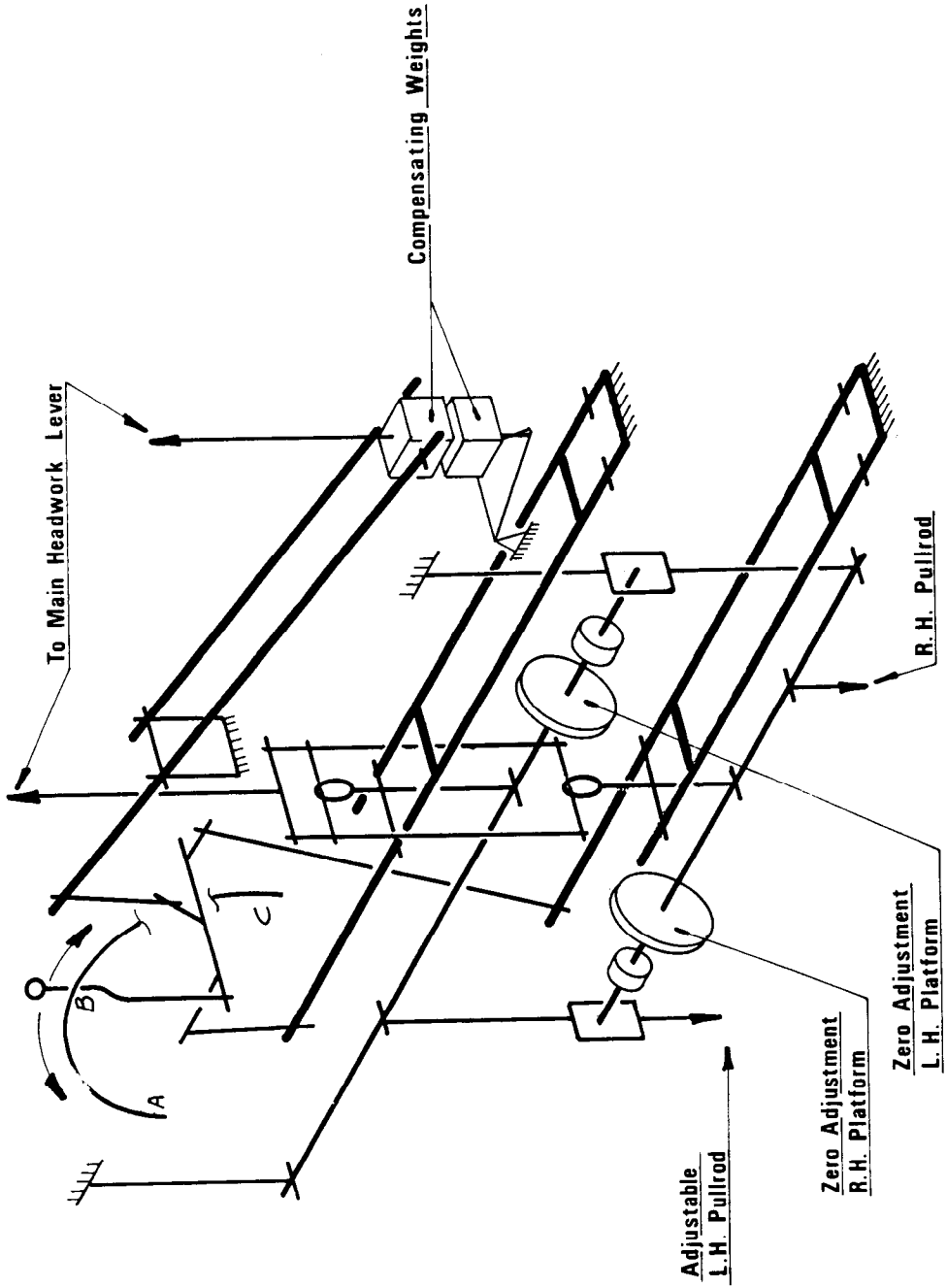
FIGURE 6/10B/21 - 7



Combination Lavers.

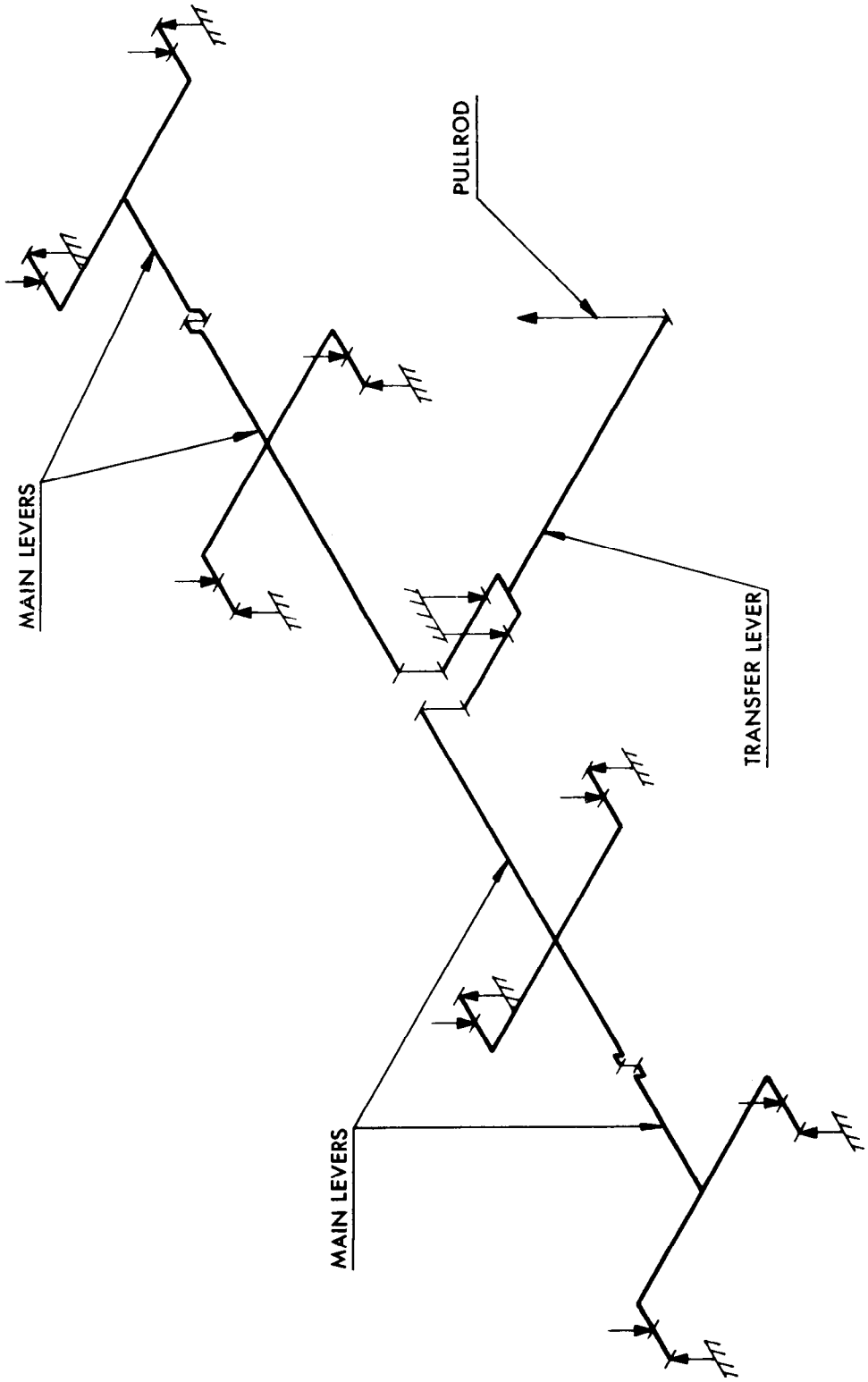
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FIGURE 6/10B/21 - 8



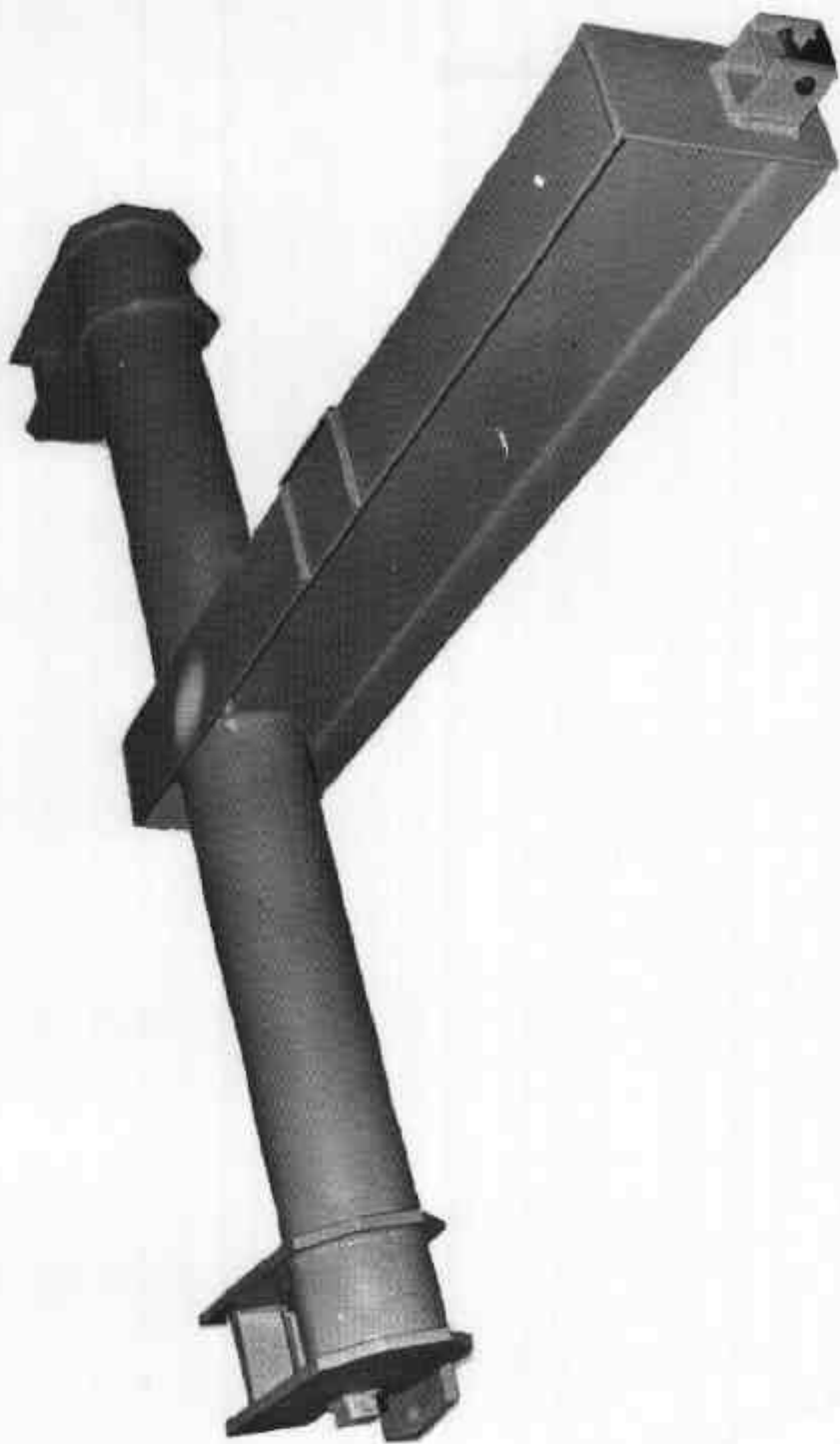
Combination Levers --- Schematic Diagram

FIGURE 6/10B/21 - 9



Five-lever Weighbridge

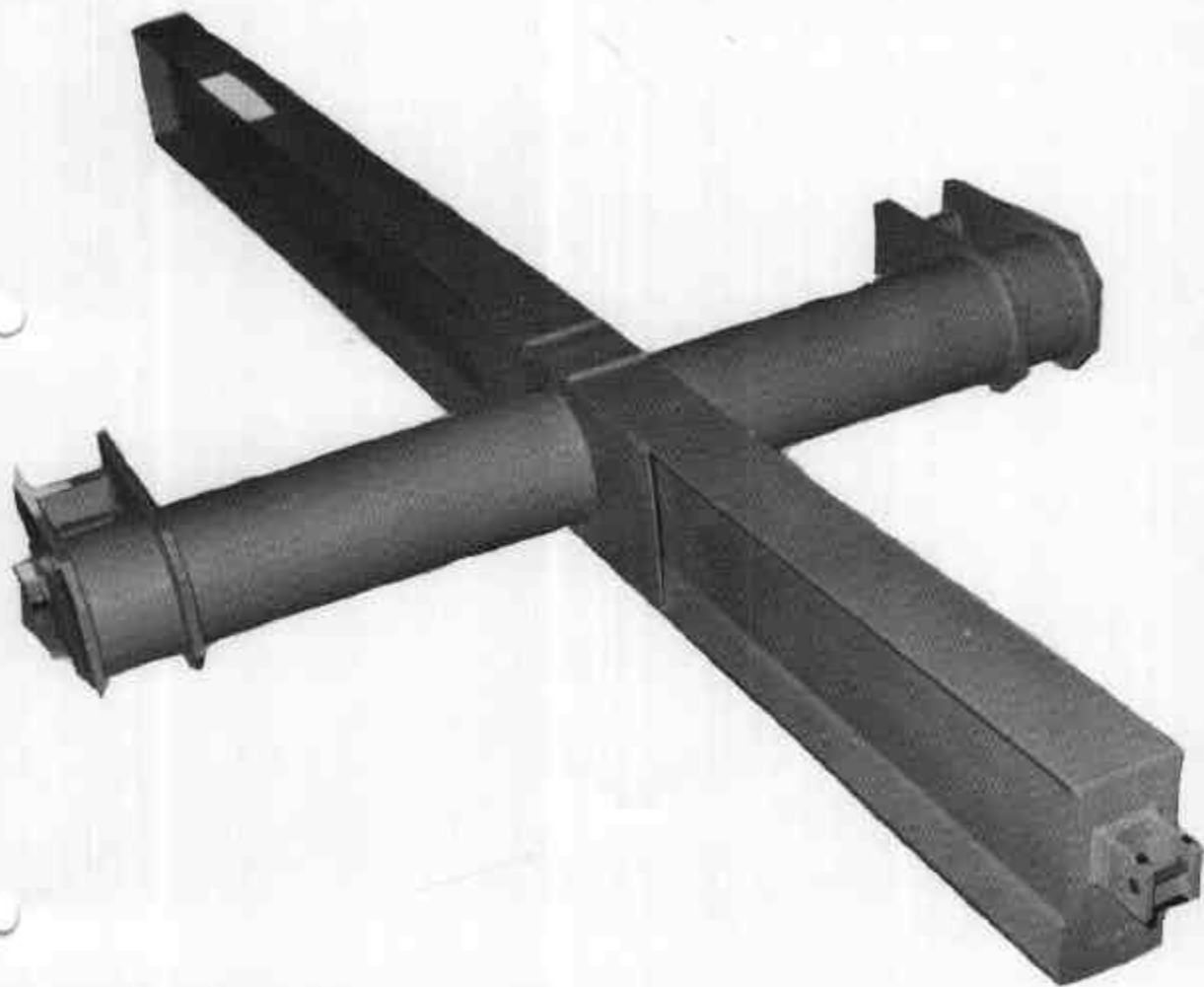
FIGURE 6/10B/21 - 10



Tubular Main Lever

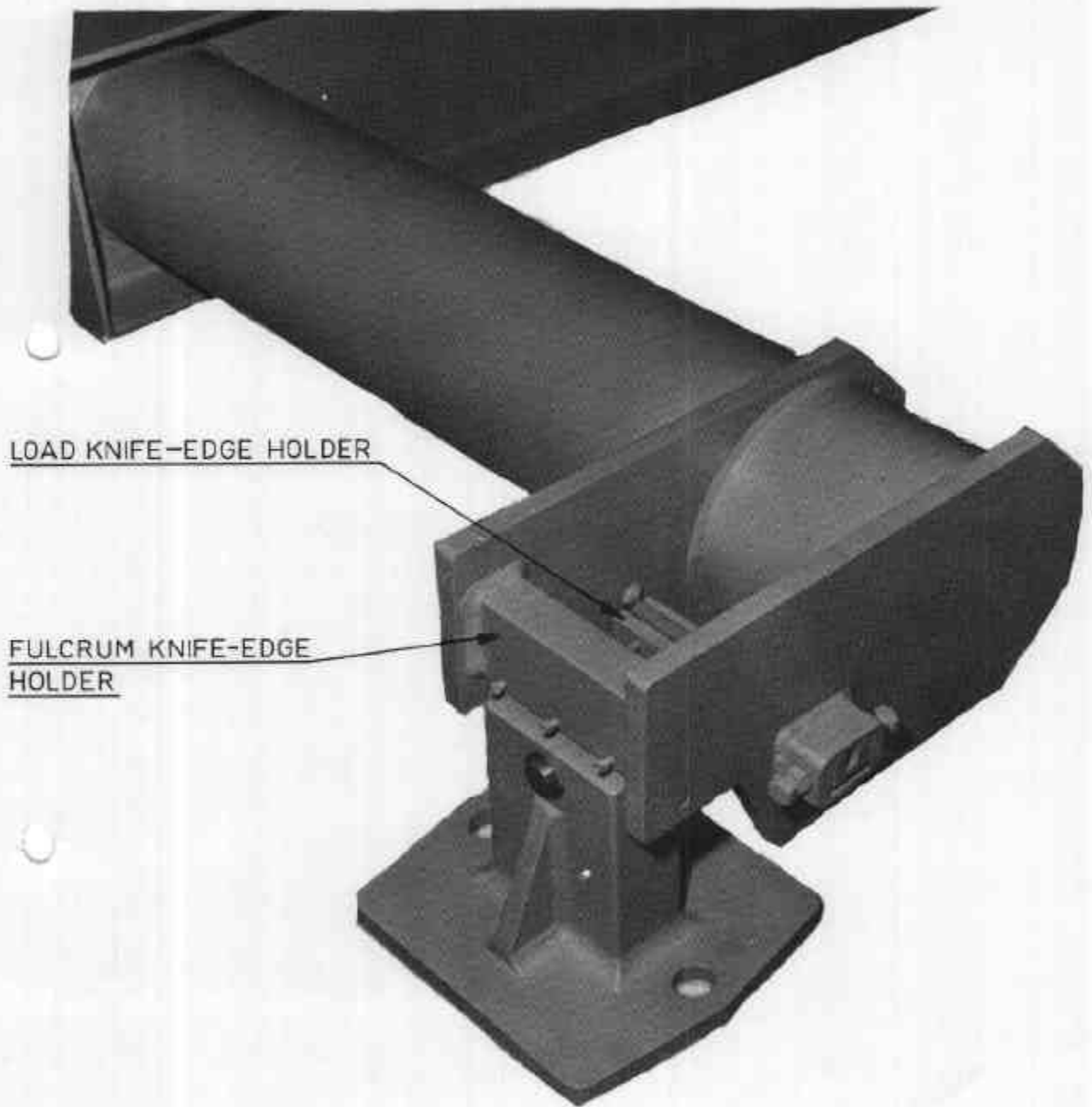
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FIGURE 6/10B/21 - 11



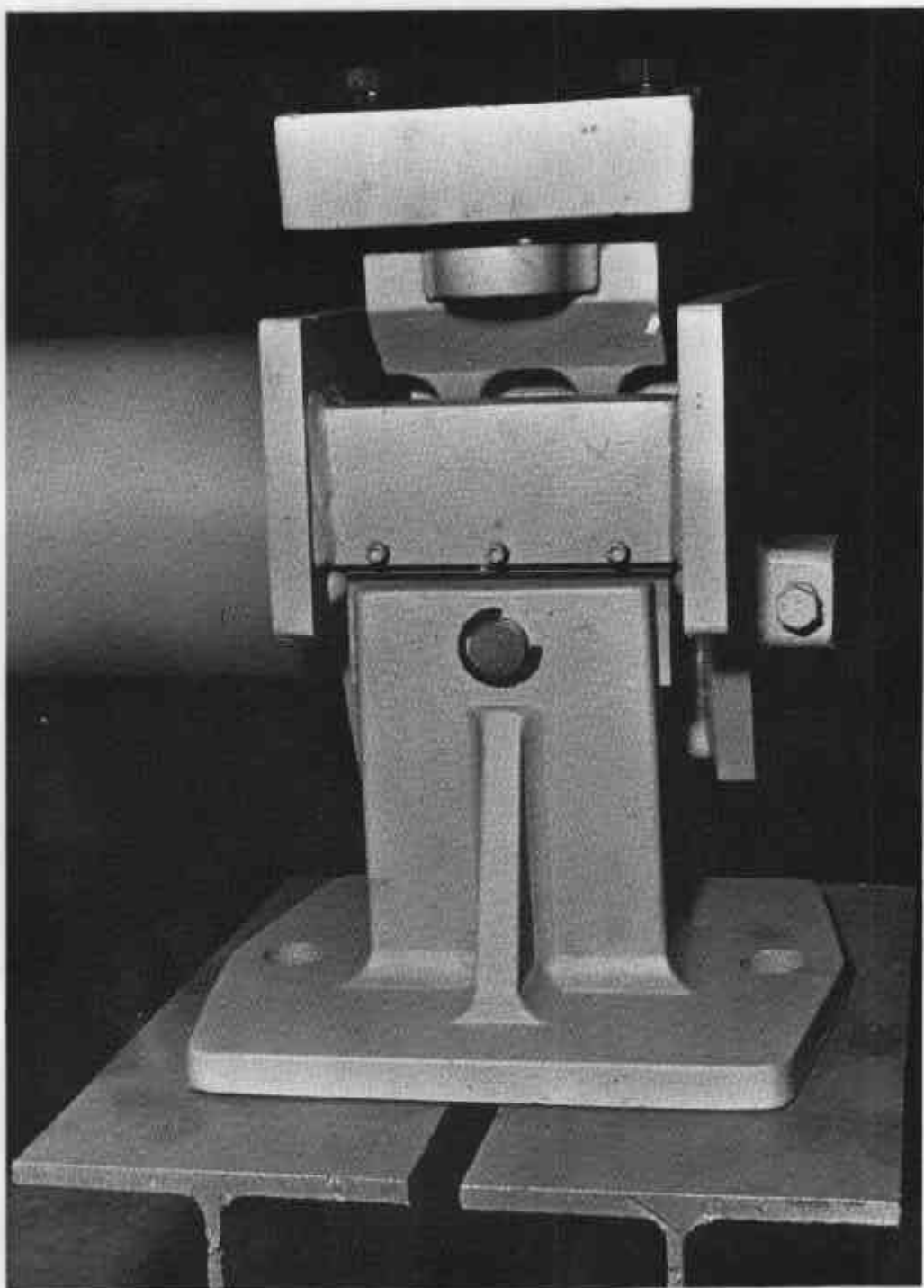
Tubular Main Lever

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Load and Fulcrum Knife-edge Holders

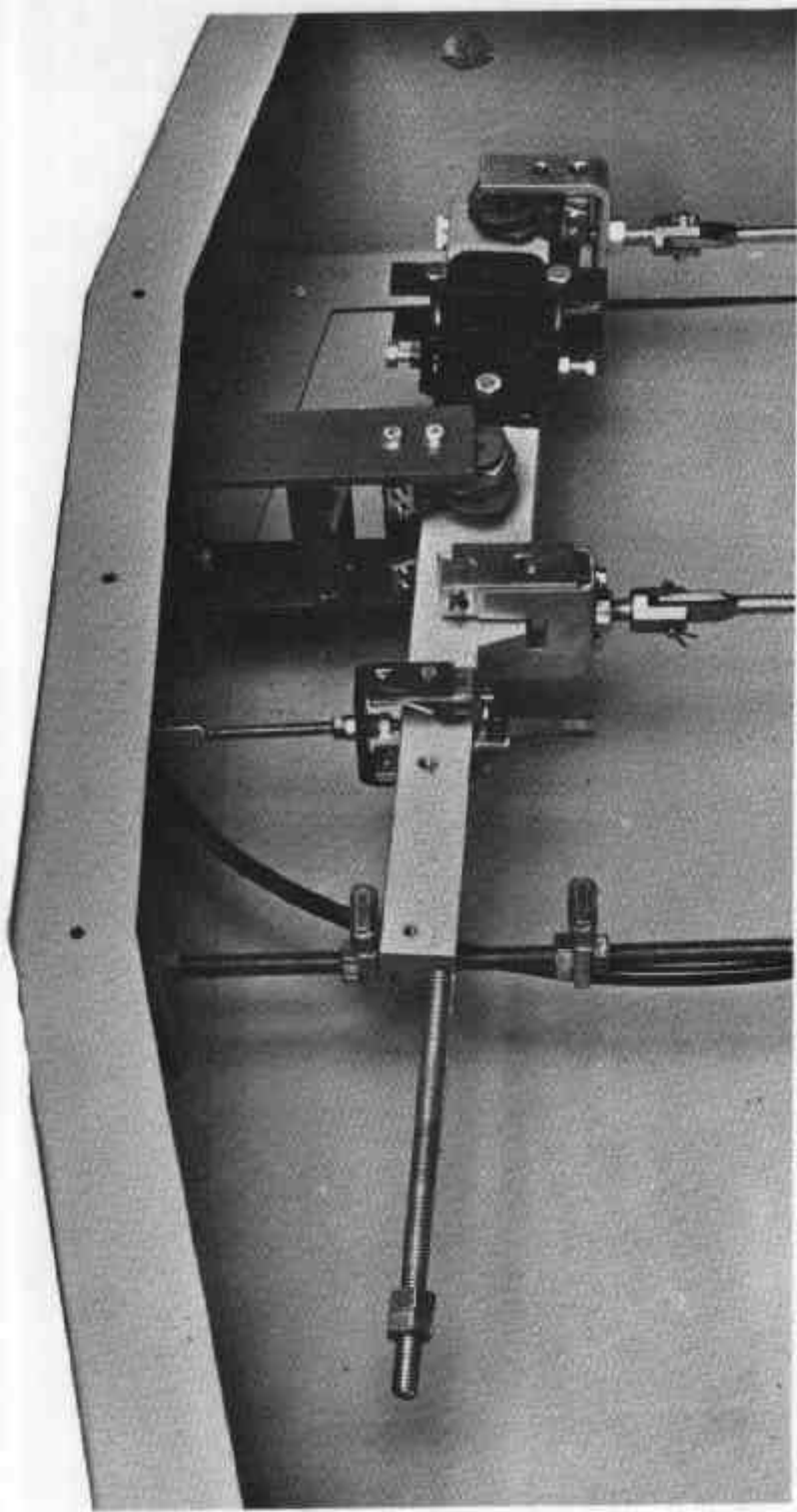
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Ball-bearing Support Unit and Pedestal

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FIGURE 6/10B/21 - 14



Headwork Main Lever without Taring Device