



Weights and Measures
(National Standards)
Act 1960-1966
Weights and Measures
(Patterns of Instruments)
Regulations

COMMONWEALTH OF AUSTRALIA

NATIONAL STANDARDS COMMISSION

Certificate of Approval

CERTIFICATE NUMBER 6/9A/3

In respect of the pattern of

Avery Hopper Weigher and Variants.

Submitted and
manufactured by:

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

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.

The pattern and variants were approved on 23 May 1973.

The pattern and variants are marked "NSC No 6/9A/3" and comply with the General Specifications for Measuring Instruments to be Used for Trade.

Instruments purporting to conform to the Certificate shall be tested in accordance with the procedure outlined in the General Notes.

29/5/73

Cont'd over

This Certificate comprises:

Pages 1 to 4 dated 29 May 1973.

Figures 6/9A/3 - 1 to 9 dated 29 May 1973.

Date of issue 29 May 1973.

Signed

A handwritten signature in black ink, appearing to read "Philip J. Mansford". The signature is written in a cursive style with a horizontal line at the end.

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

DESCRIPTION OF PATTERN

The pattern (see Figures 1 and 2) is of a hopper weigher of capacity 20 000 lb in 2000-lb increments.

It comprises a hopper which is suspended on the load knife-edges of four second-order main levers, the fulcrums of which are supported through knife-edges and bearings on swinging links (see Figure 3). The nose-ends of the main levers are connected through links (see Figure 4) to knife-edges on the end of a double-sided equal-arm beam (see Figure 5). The beam comprises two members of similar form separated by connecting members to form a two-fulcrum beam with four terminal knife-edges (see Figure 6). Oil-filled dashpots are connected to the load ends of the beam through knife-edges and bearings. Air dashpots engage with the counterpoise end of the beam when the hopper is emptied.

The beam is fitted with a balance indicator (see Figure 7) which moves not less than 5 mm for a change in load of $\frac{1}{2}$ graduation.*

The hopper is counterbalanced by ten equal counterpoise weights on a weights receptor (see Figure 8), which is suspended from two knife-edges on the end of the beam (see Figure 6). A mechanical drive through a lifting assembly (see Figure 9) can lift the counterpoise weights, allowing support pins to be inserted which prevent one or more of the counterpoise weights being replaced on the weights receptor when the lifting mechanism is lowered to the operating position. In the operating position, the lifting frames are clear of the counterpoise weights and weight receptor.

Four test-weight platforms are attached to the hopper, each of which is located adjacent to a main load bearing.

DESCRIPTION OF VARIANTS

1. In other capacities up to 10 000 kg.*
2. With counterpoise weights of other values.

* For test purposes, this instrument is considered to have 5000 graduations.

3. Without air dashpots or without oil dashpots.
4. Without the four main levers, in which case the hopper is suspended directly from two of the knife-edges on the beam.
5. With other provisions for placing test weights on the hopper.

GENERAL NOTES

1. General

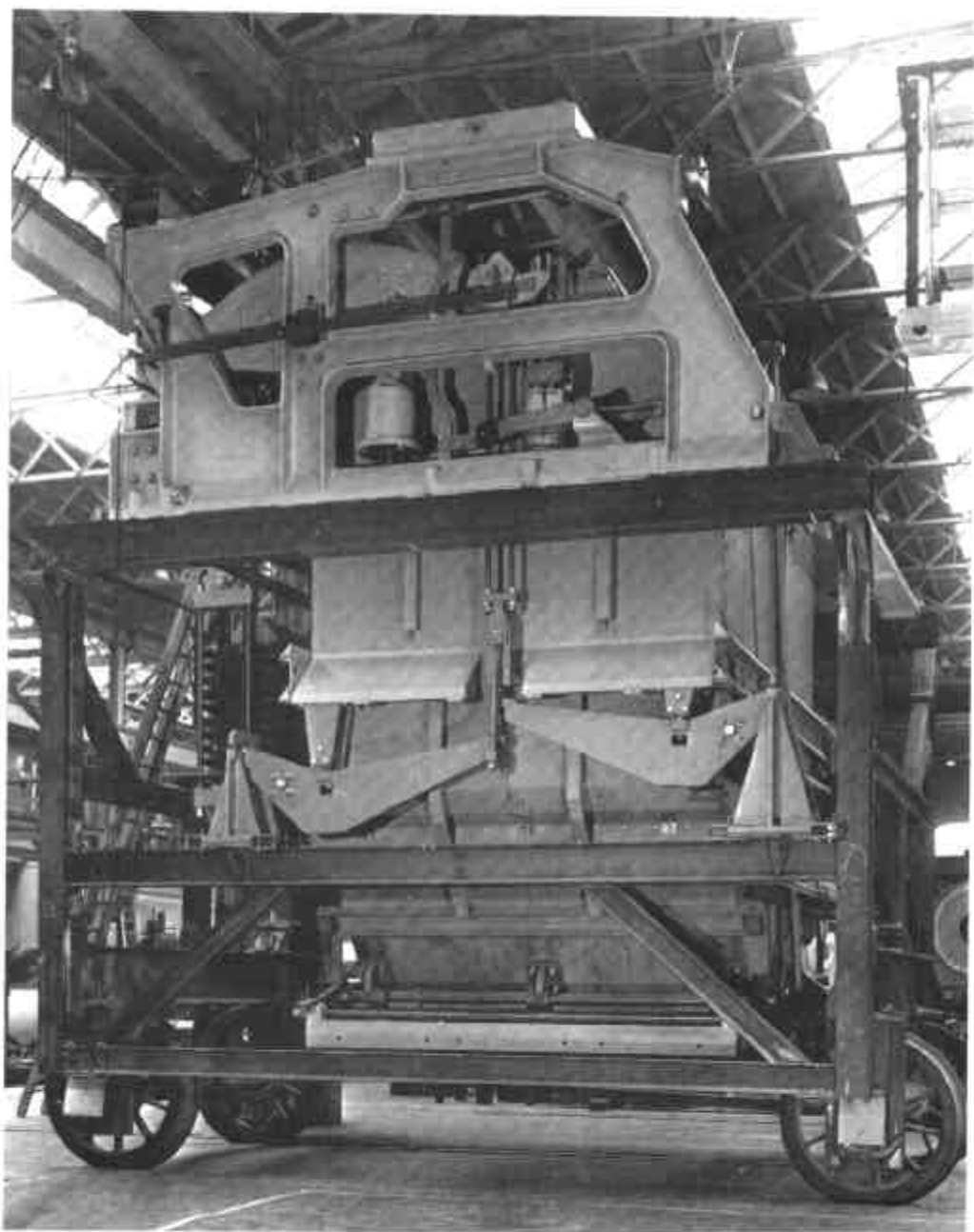
The instrument may be fitted with the following attachments, which do not affect its operation as a hopper weigher:

- (a) a system of links and tripping devices which control the filling and emptying of the hopper;
- (b) a counter for counting the number of hoppers weighed; and
- (c) a kinetic compensating device which is put out of action when the instrument is used as a hopper weigher.

2. Test Procedure

The kinetic compensator and automatic tripping devices should be put out of action before testing.

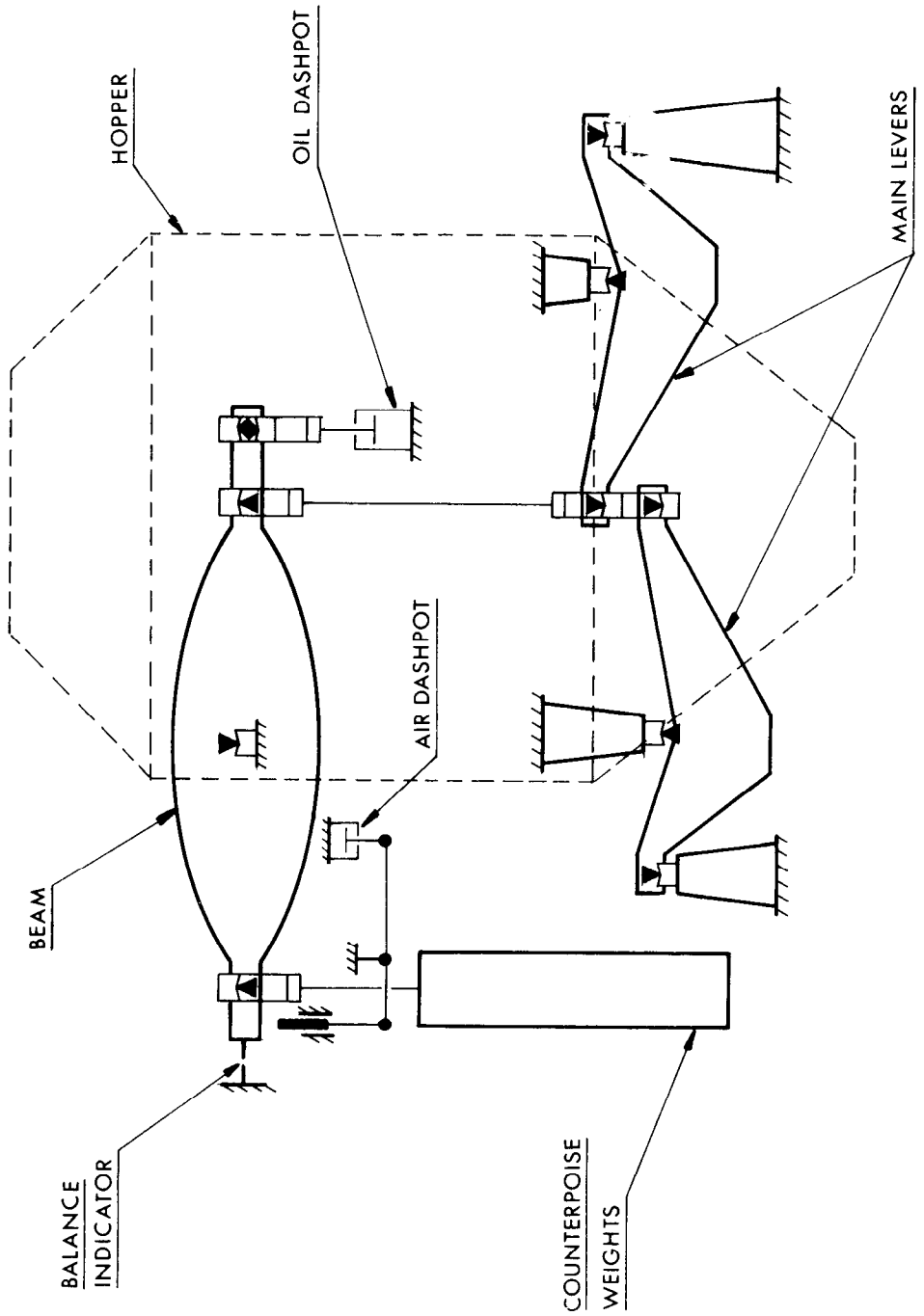
FIGURE 6/9A/3 - 1



Avery Hopper Weigher

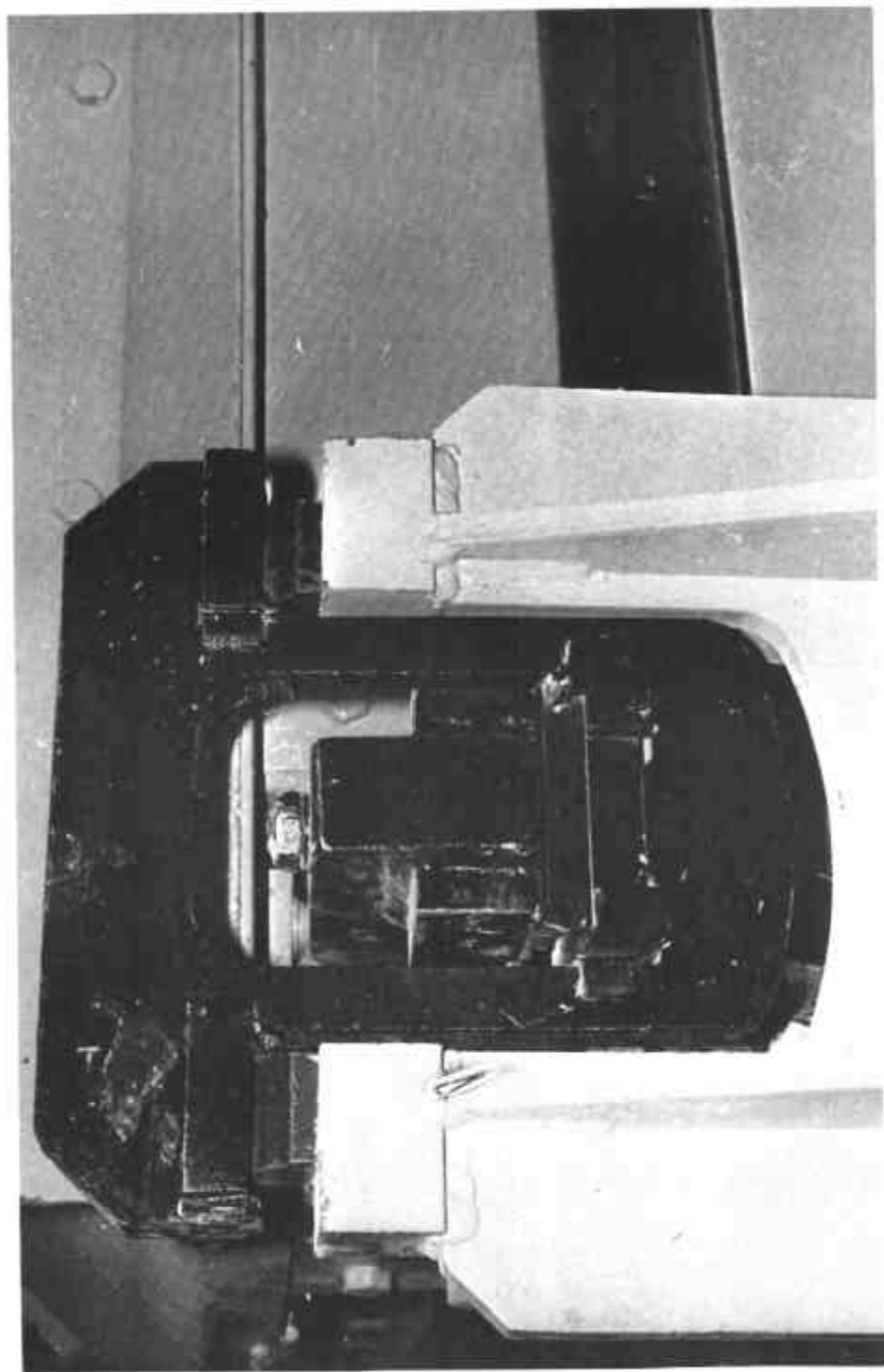
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FIGURE 6/9A/3 - 2



Avery Hopper Weigher — Lever System — Schematic Diagram

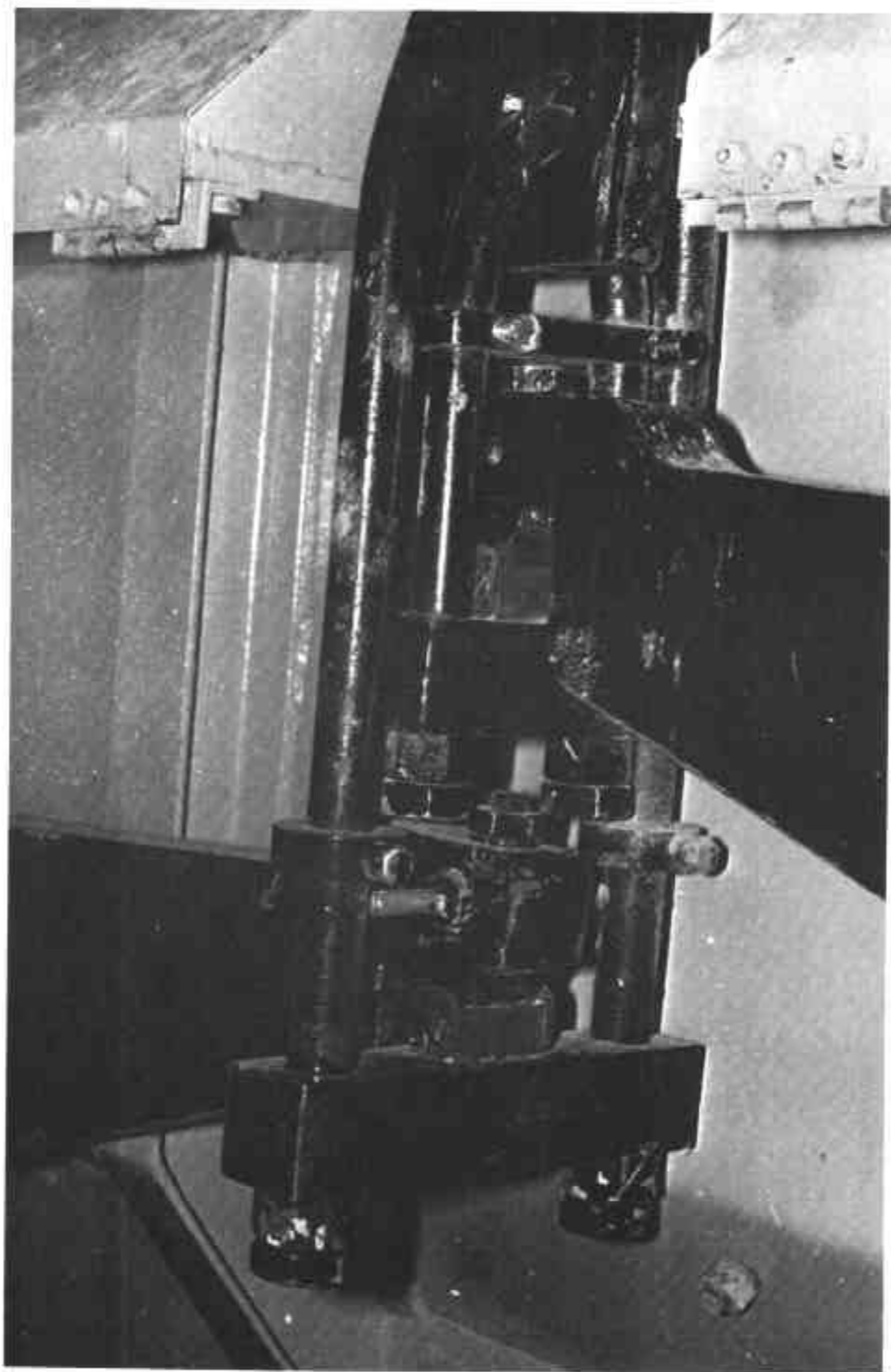
FIGURE 6/9A/3 - 3



Fulcrum of Main Levers — Swinging Link

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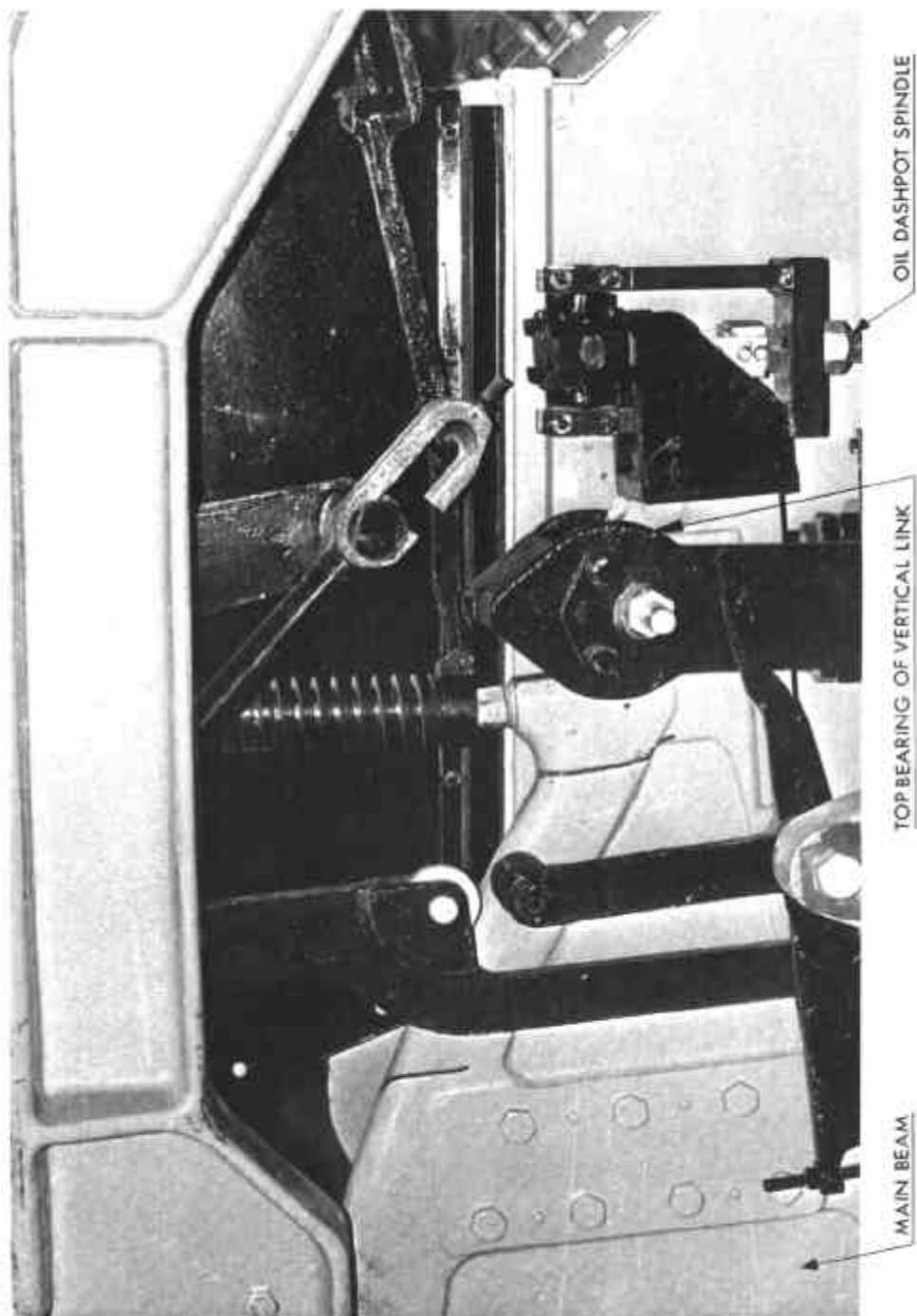
FIGURE 6/9A/3 - 4



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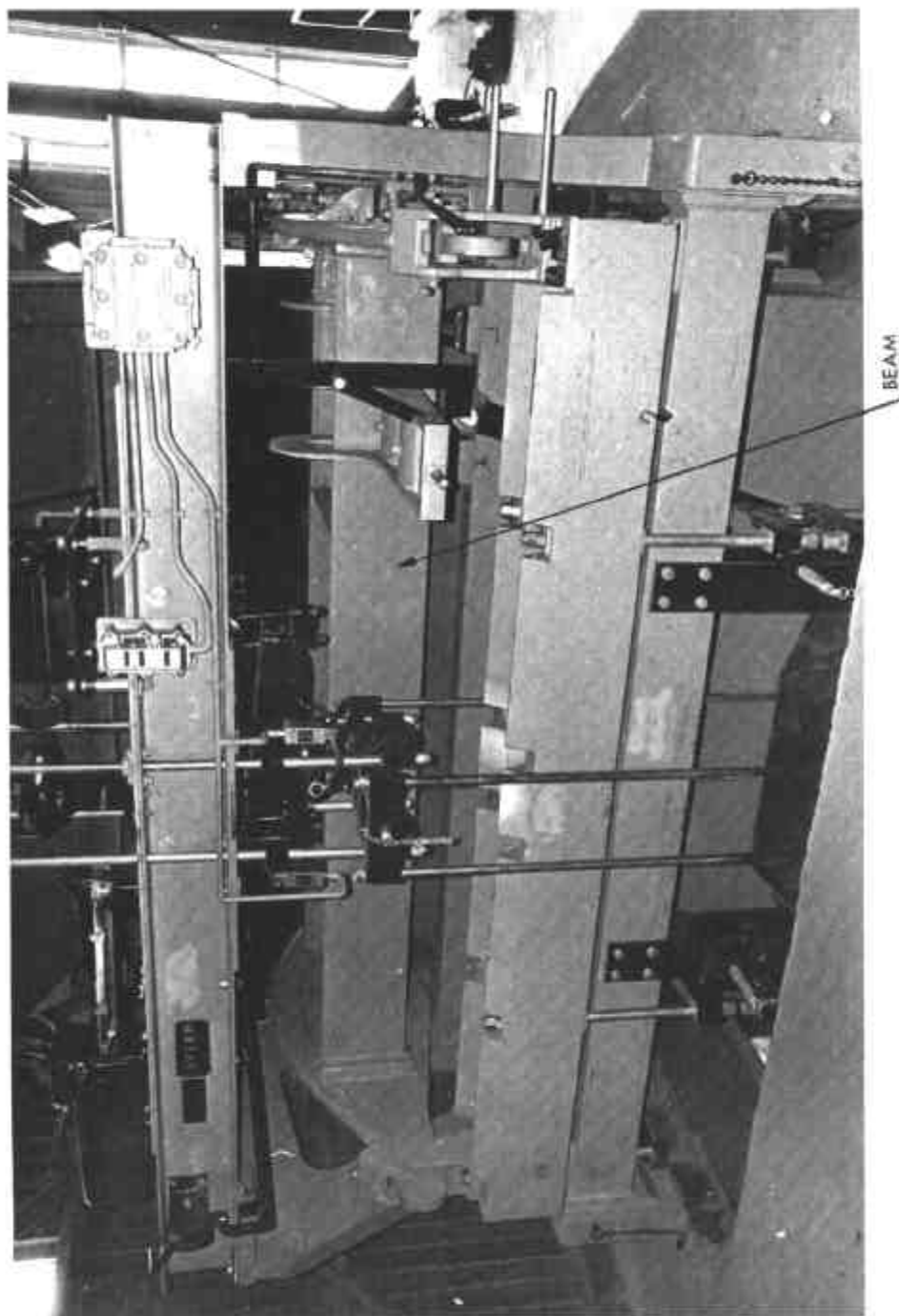
Coupling of Main Levers

FIGURE 6/9A/3 - 5



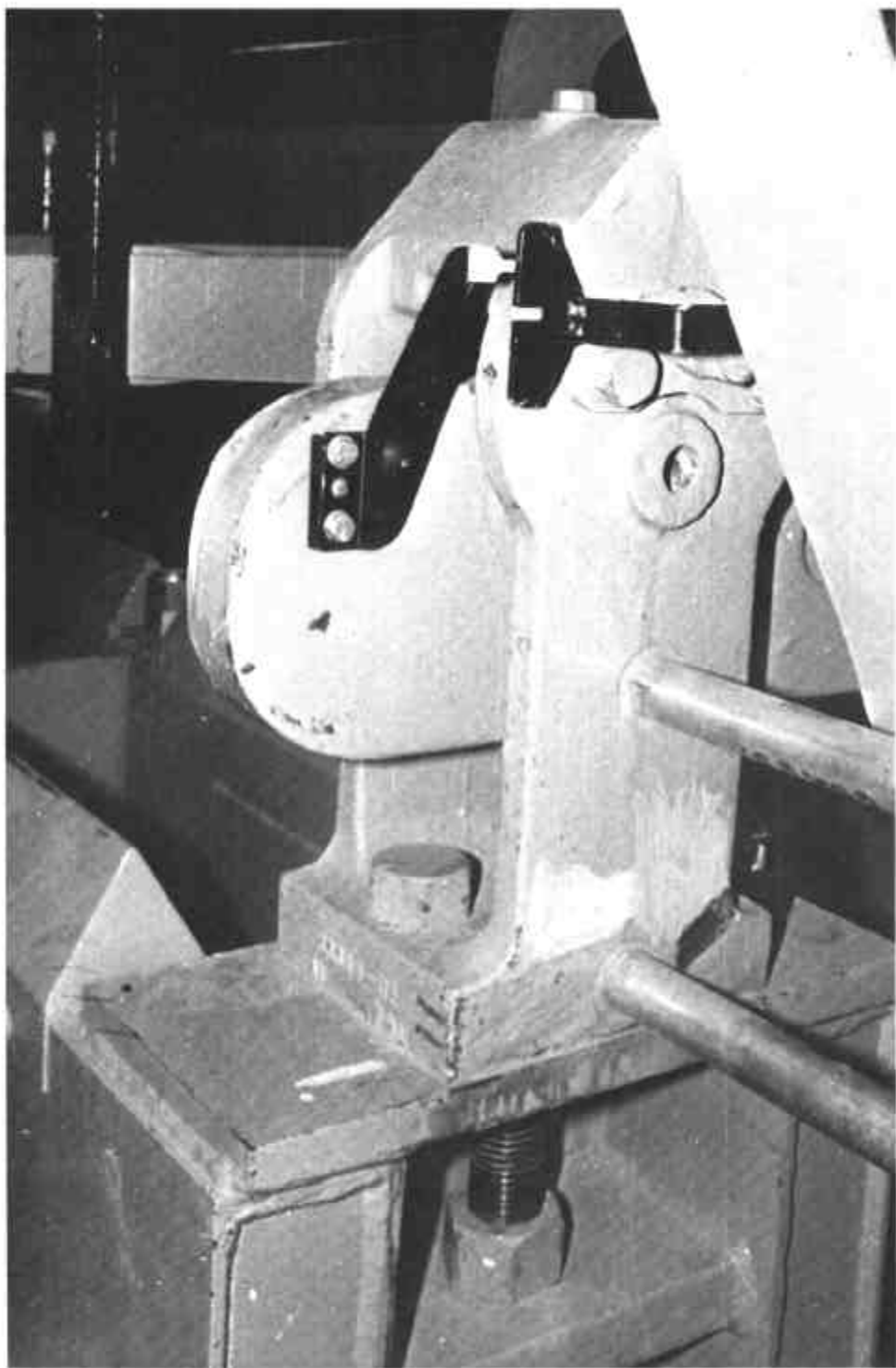
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FIGURE 6/9A/3 - 6



Counterpoise-weight End of Beam

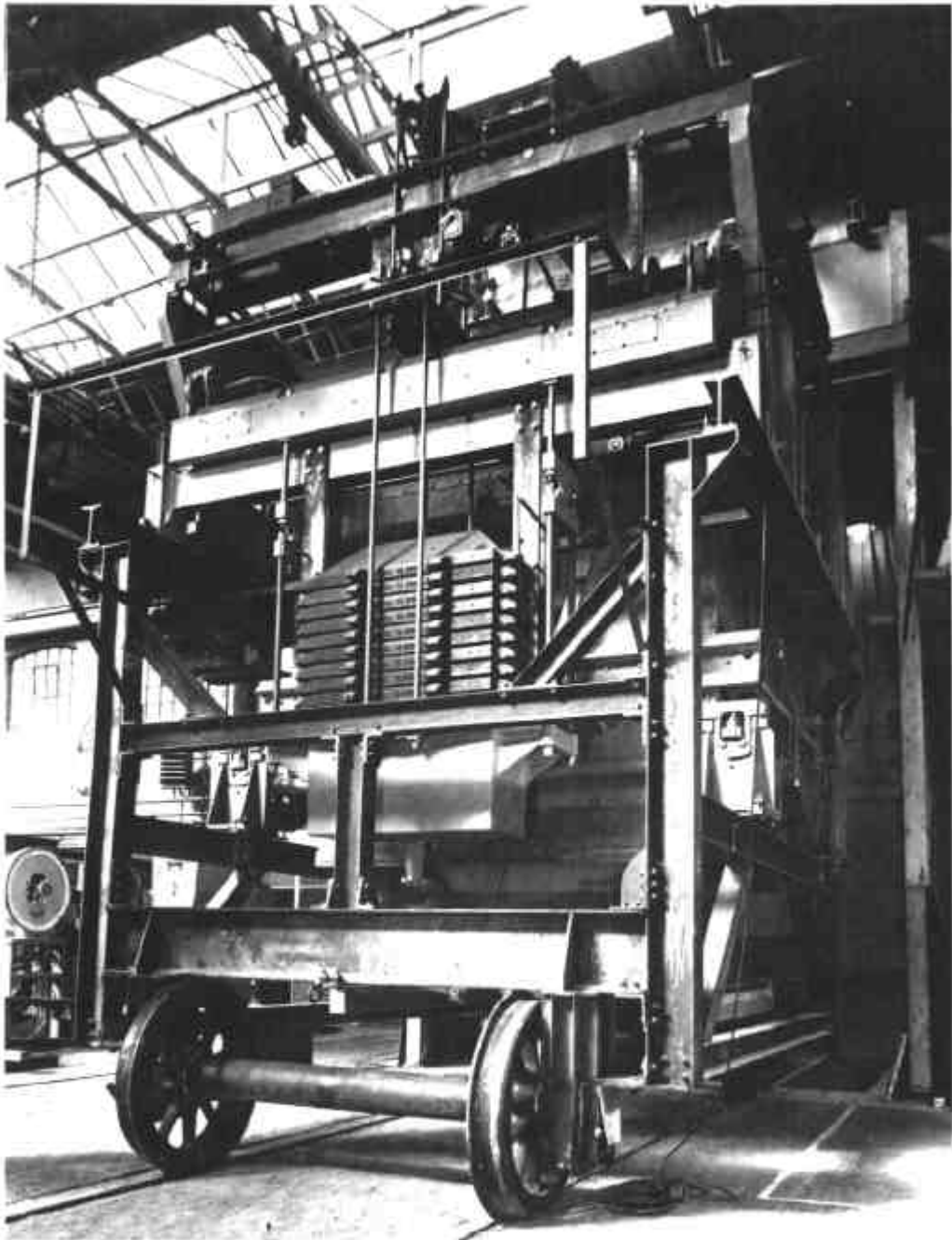
FIGURE 6/9A/3 - 7



Balance Indicator

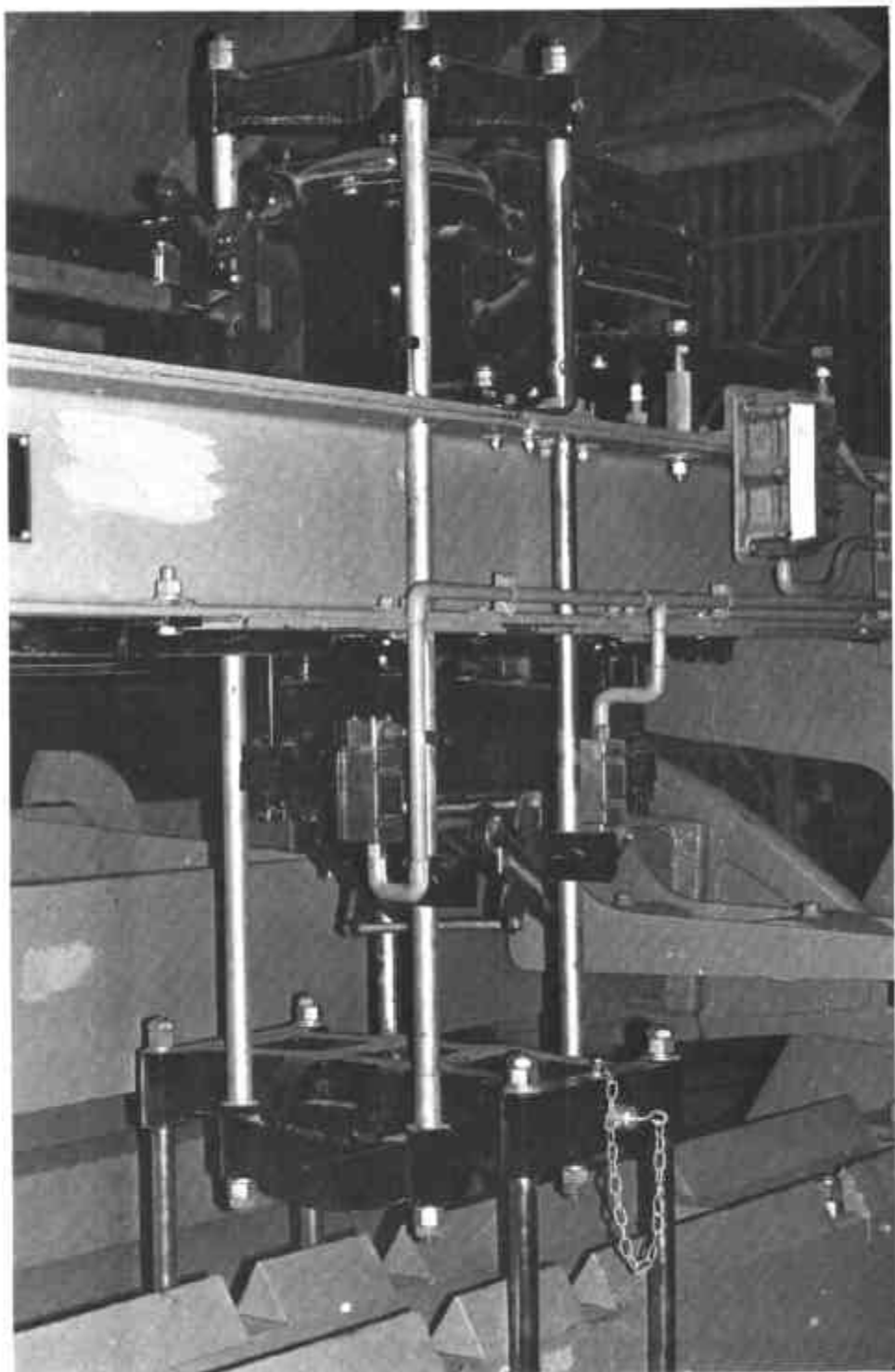
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FIGURE 6/9A/3 - 8



Avery Hopper Weigher showing Counterpoise Weights
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FIGURE 6/9A/3 - 9



Counterpoise-weight Lifting Assembly

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