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 6/18/2

In respect of the pattern of

Toledo Overhead Track Scale and Variants.

Submitted and manufactured by: Toledo-Berkel Pty. Ltd.,
525 Graham Street,
Port Melbourne,
Victoria. 3207.

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The pattern and some variants were approved on 27th May, 1968, and a further variant was approved and other variants withdrawn on 5th January, 1971 (see Figure 1).

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

1. are appropriately marked NSC No 6/18/2; and

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

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Cont'd over

This Certificate comprises:

Pages 1 to 6 dated 12th January, 1971.
Figures 6/18/2 - 1 to 13 dated 12th January, 1971.

Date of issue 12th January, 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 overhead-track scale (see Figure 2) of 900 lb capacity. The dial face is graduated every 1 lb to 600 lb. A major tare bar of 200 lb capacity has 100 lb graduations and a minor tare bar of 100 lb has 1 lb graduations. The instrument is known as the Toledo Overhead Track Scale and comprises the components tabulated in Column 5 of Figure 1.

DESCRIPTION OF VARIANTS

The components tabulated in Columns 6 to 12 of Figure 1 make up variants 1 to 7, known as Toledo Overhead Track Scales; the variants are of capacities up to:

Variant	Column	Capacity
1	6	2600 lb or 1200 kg
2	7	2600 lb or 1200 kg
3	8	6500 lb or 3000 kg
4	9	1000 lb or 500 kg
5	10	1000 lb or 500 kg
*6	11	6500 lb or 3000 kg
*7	12	2600 lb or 1200 kg

DESCRIPTION OF COMPONENTS

1. Lever system - (Figure 3), the overhead lever system has two second-order main levers with the fulcrum knife-edges mounted on self-aligning bearings in links suspended from an overhead support. From the load knife-edges of each of the main levers is suspended a yoke which is attached to a live rail up to 4 feet long (see Figure 4). The nose-end knife-edge of the main levers are linked and connected by a transfer lever to an adjustable pullrod which is protected to a minimum height of 6 feet from the floor by a fixed jacket (see Figure 2). The live rail is aligned with the dead rail by two links at each end (see Figure 4). The lever system has a

* Approval withdrawn 5th January, 1971.

capacity of 2600 lb or 1200 kg.

2. Lever system — (Figure 5), the overhead lever system has a pair of shallow 8 inch levers in which the yokes attached to a live rail up to 4 feet long are supported on the main lever load knife-edges so that the live rail is beside the levers instead of below them. The live rail is aligned with the dead rail and the main levers are connected to the headwork in the same manner as Component No 1. The lever system has a capacity of 2600 lb or 1200 kg.

3. Lever system — (Figure 6), the overhead lever system has the two main levers suspended on their fulcrum knife-edges from links hung from a pedestal mounted at each end of the dead rail. The live rail, which consists of a rolled steel joist up to 4 feet long, is suspended from the load knife-edges of the main lever by similar links. The live rail is aligned with the dead rail by two plates at each end. The main levers are connected to the headwork in the same manner as Component No 1. The lever system has a capacity of 6500 lb or 3000 kg.

4. Lever system — (Figure 7), the overhead lever system has a single main lever suspended at the fulcrum knife-edges from links hung from an overhead support. Two yokes, to which is attached a live rail up to 4 feet long, are suspended from the load knife-edges of the lever. The live rail is aligned with the dead rail and the main lever is connected to the headwork in the same manner as Component No 1. The lever system has a capacity of 1000 lb or 500 kg.

*5. Basework — the platform basework of 6500 lb or 3000 kg capacity as described in Certificate No 6/9C/2. The basework is fixed in place and the capacity should not exceed the capacity of the connected overhead lever system.

*6. Basework — (Figure 8), the platform basework of 2600 lb or 1200 kg capacity as described in Certificate No 6/9C/2. The basework is fixed in place and the capacity should not exceed the capacity of the connected overhead lever system.

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* Approval withdrawn 5th January, 1971.

The method of connecting the overhead lever system and the basework to the resistant mechanism is shown in Figure 8.

7. Transfer levers - the headwork may be located in any reasonable position in relation to the overhead lever system, in which case one or more transfer levers, either with or without counterbalance weights, may be used.

8. Headwork - the overhead lever system transfer lever is coupled through a second transfer lever to the main headwork lever, which incorporates the zero adjustment and has an oil-filled dashpot (see Figure 9).

9. Tare bars - two tare bars as described in Certificate No 6/9C/2 (see Figure 9).

10. Pendulum-resistant mechanism - the main headwork lever is connected to the pendulum-resistant mechanism through a small intermediate lever and a pullrod. The pendulum-resistant mechanism is as described in Certificate No 6/9C/2.

11. Headwork and spring-resistant mechanism - the headwork is mounted on a column secured to the floor. The pullrod from the overhead lever system passes through a dust cover on the top of the cabinet to the centre of a beam, to which is attached an oil-filled dashpot. A rod at each end of the beam connects it to a cross-arm to which is attached a spring-loaded rack which engages the indicator pinion. Two temperature-stable springs connect the cross-arm to a second beam which is retained by a centrally located zero adjustment screw which passes through the bottom of the cabinet (see Figures 10 and 11).

12. Suspended headwork - the suspended headwork cabinet has a lever which passes across the top and has its fulcrum at one side of the cabinet; it is actuated by the headwork pullrod at the centre. The nose-end of the lever is connected to the main headwork lever at the bottom of the cabinet by a pullrod incorporating an oil-filled dashpot. The main headwork lever is connected directly through an oil-filled dust seal to the pendulum-resistant mechanism described in Certificate No 6/9C/2 (see Figure 12).

13. The circular dial and indicator, as described in Certificate No 6/9C/2.

14. A circular dial with not more than 1.7 graduations per degree (see Figure 13).

15. Other forms of indicator, as described in Certificate No 6/9C/2.

16. The photo-electric switch, as described in Certificate No 6/9C/2.

17. The automatic unit-weight selector (Autorange), as described in Certificate No 6/9C/2.

18. The manual unit-weight selector, as described in Certificate No 6/9C/2.

19. The Series 400 ticket printer, as described in Certificate No 6/9C/2.

GENERAL NOTES

Notice of approval of the pattern and variants 1, 2, 3, 4, 6 and 7, described in this Certificate, was given in Memorandum of Approval No 124 dated 7th June, 1968.

No previous notice of approval has been given for variant 5 or the withdrawal of approval of variants 6 and 7.

Variants 6 and 7 have been withdrawn following a decision at the Eighth Formal Conference of Weights and Measures Authorities to prohibit the use of two baseworks permanently coupled to one headwork where it is possible for the two baseworks to be remote from each other and to be used together.

FIGURE 6/18/2 - 1

1	2	3	4	5	6	7	8	9	10	11	12
	COMPONENT	DATE APPROVED	FOOT-NOTES	PATTERN	VARIANTS						
					1	2	3	4	5	6	7
1	Overhead lever system (2600 lb) Fig 3	27 MAY 1968		*	*					A	A
2	Overhead lever system (2600 lb) Fig 5 (8 inch levers)	27 MAY 1968				*				A	A
3	Overhead lever system (6500 lb) Fig 6 (RSJ rail)	27 MAY 1968					*			A	A
4	Overhead lever system (1000 lb) Fig 7 (single lever)	27 MAY 1968						*	*	A	A
5	Basework (6500 lb)	27 MAY 1968	1							*	
6	Basework (2600 lb) Fig 8	27 MAY 1968	1								*
7	Additional transfer levers	27 MAY 1968			‡	‡	‡	‡	‡	‡	‡
8	Headwork lever system, Fig 9	27 MAY 1968		*	B	B	B	B		*	*
9	Tare bars - 2 (1, 2 or none optional on variants)	27 MAY 1968		*	‡	‡	‡	‡		‡	‡
10	Headwork - pendulum-resistant mechanism	27 MAY 1968		*	*	*	*	*		*	*
11	Headwork - spring-resistant mechanism, Figs 10, 11	5 JAN 1971							*		
12	Suspended headwork, Fig 12	27 MAY 1968			B	B	B	B			
13	21 inch circular chart and indicator	27 MAY 1968		*	C	C	C	C		C	C
14	15 inch circular chart and indicator, Fig 13	5 JAN 1971							*		
15	Other forms of indication	27 MAY 1968			C	C	C	C		C	C
16	Photo-electric switch	27 MAY 1968			‡	‡	‡	‡		‡	‡
17	Automatic unit-weight selector	27 MAY 1968			‡	‡	‡			‡	‡
18	Manual unit-weight selector	27 MAY 1968			‡	‡	‡			‡	‡
19	Series 400 ticket printer	27 MAY 1968			‡	‡	‡	‡		‡	‡

* - indicates required components

‡ - indicates optional components

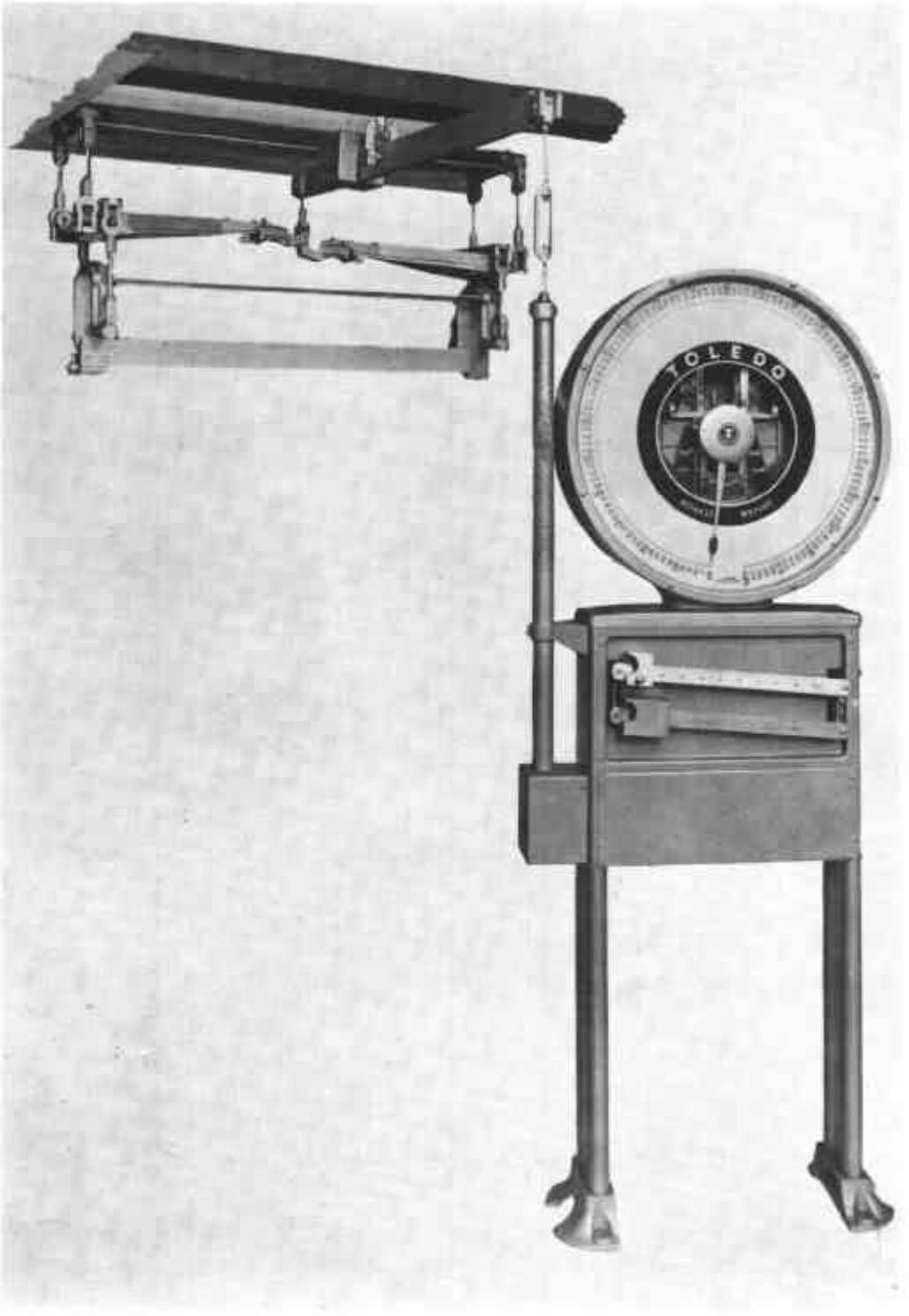
A, B, C - indicates alternate components, one of which is required

FOOTNOTES

1 - approval withdrawn 5th January, 1971

Compatibility Table for Components Described in this Certificate

FIGURE 6/18/2 - 2



Toledo Overhead Track Scale

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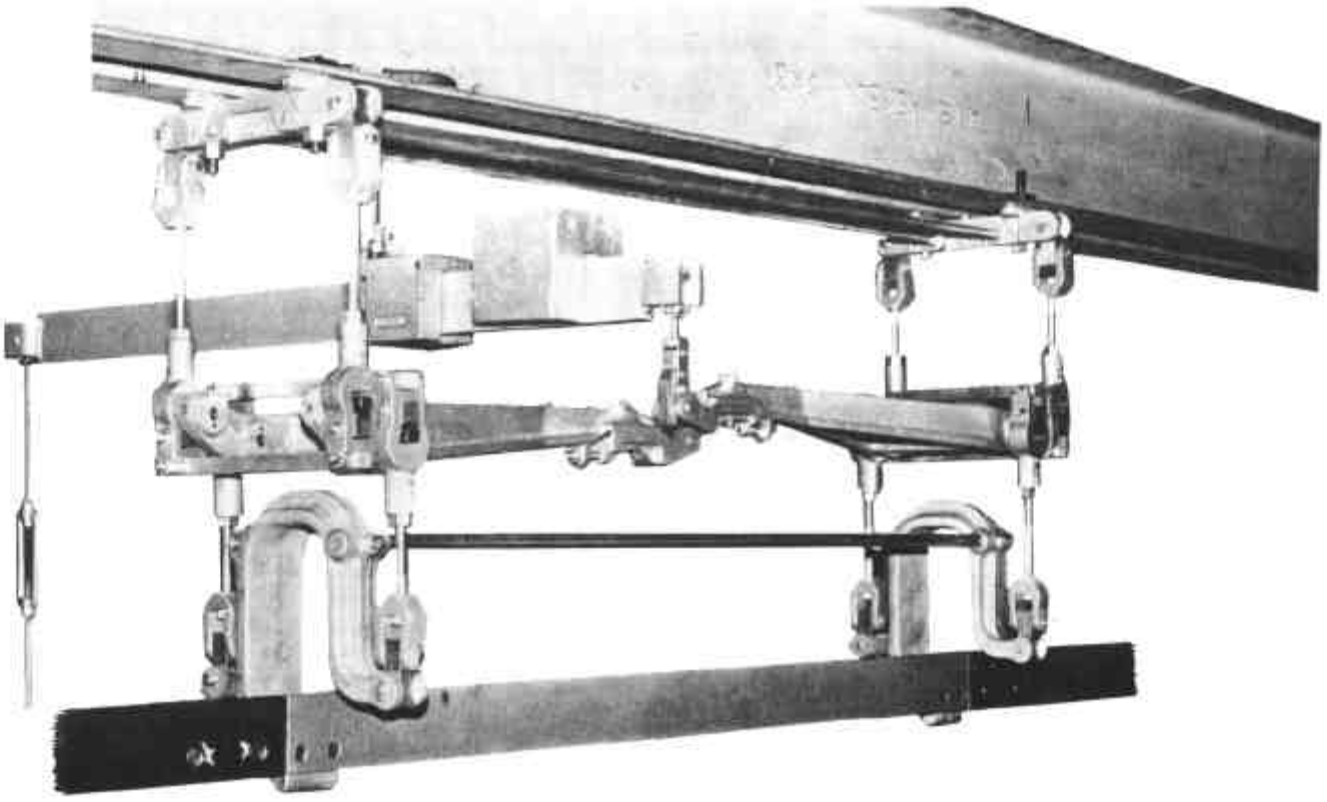
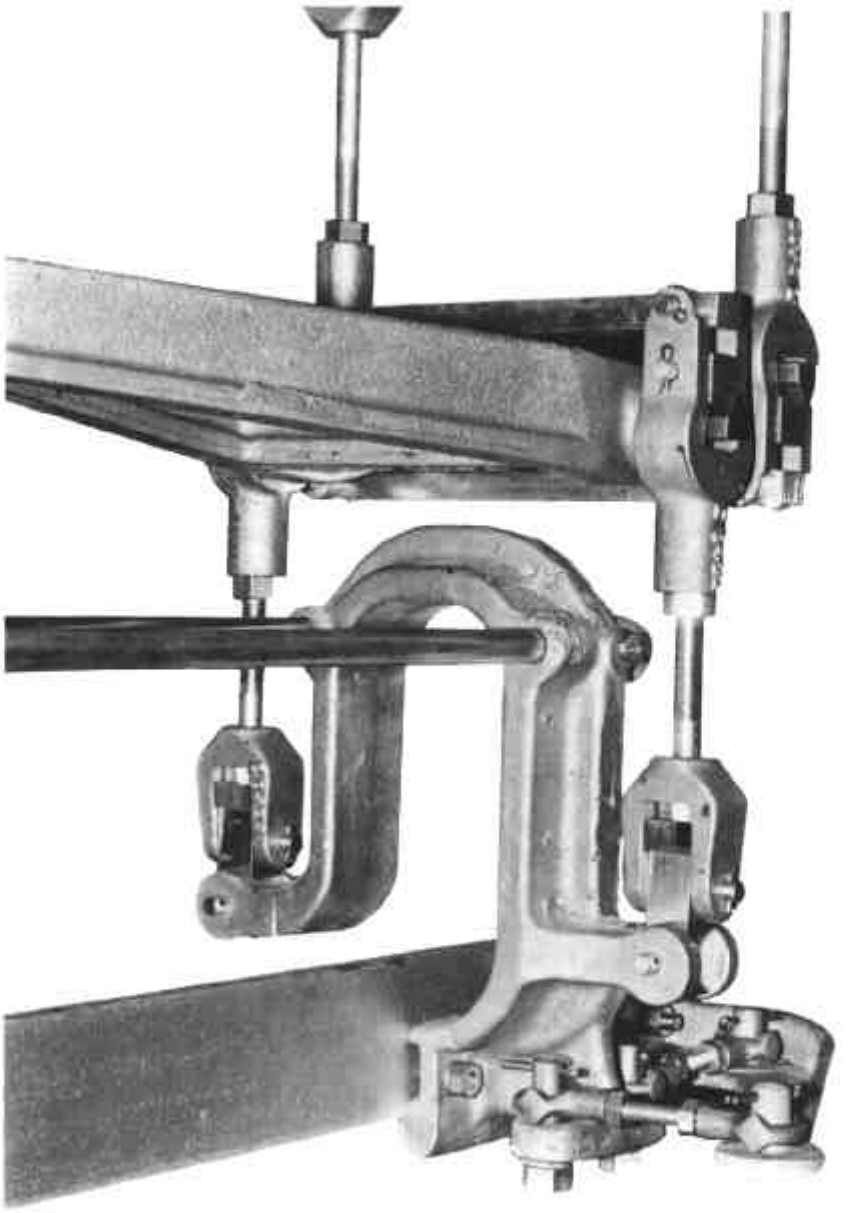
FIGURE 6/18/2 - 3



Overhead Lever System

FIGURE 6/18/2 - 4



Live Rail Support Yoke and Alignment Links

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FIGURE 6/18/2 - 5

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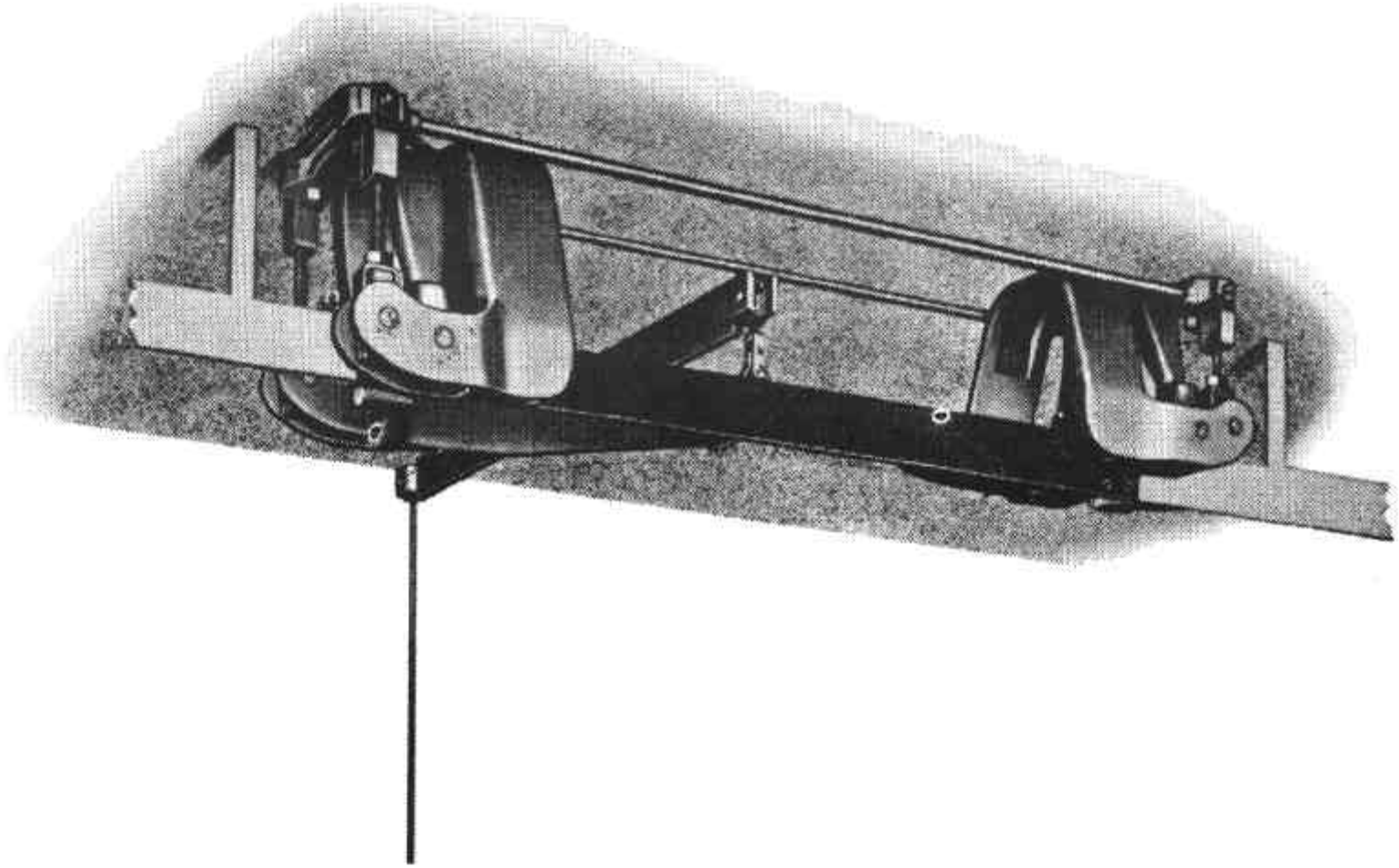
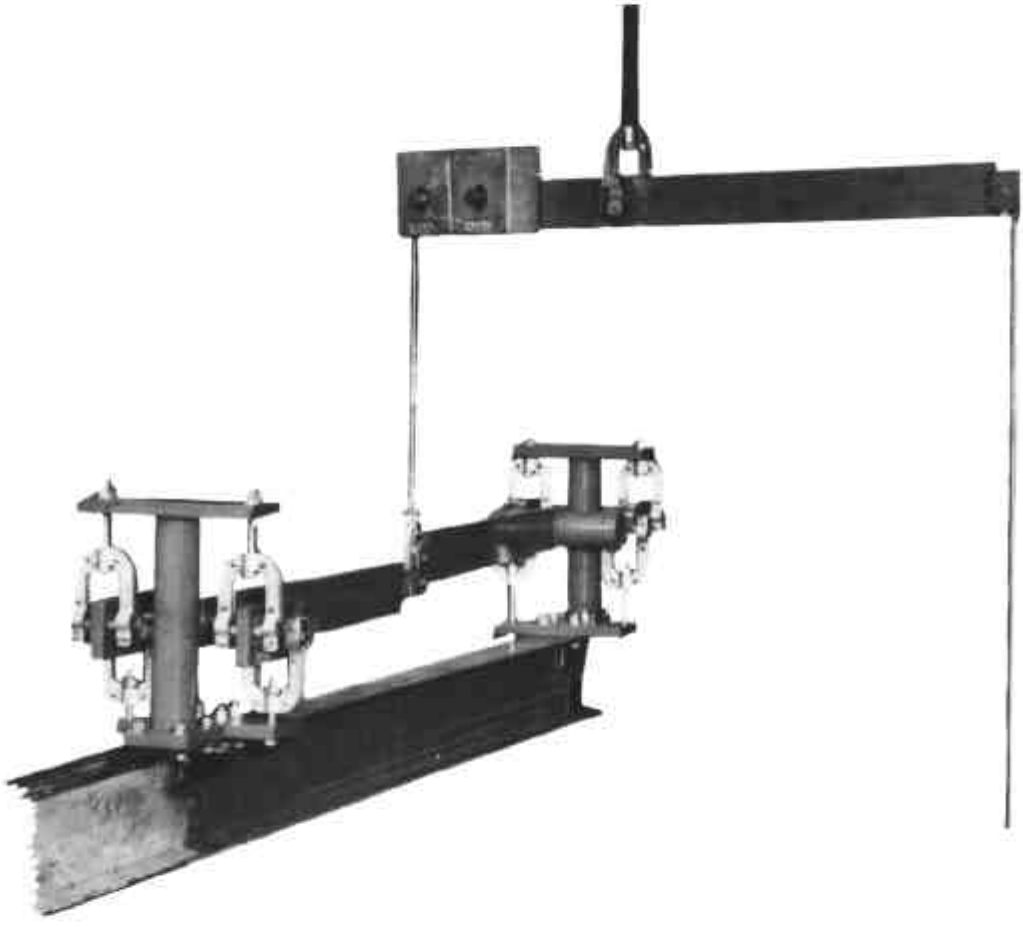


Overhead Track Scale with 8 Inch Lever System

FIGURE 6/18/2 - 6



Overhead Track Scale with RSJ Live Rail

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FIGURE 6/18/2 - 7

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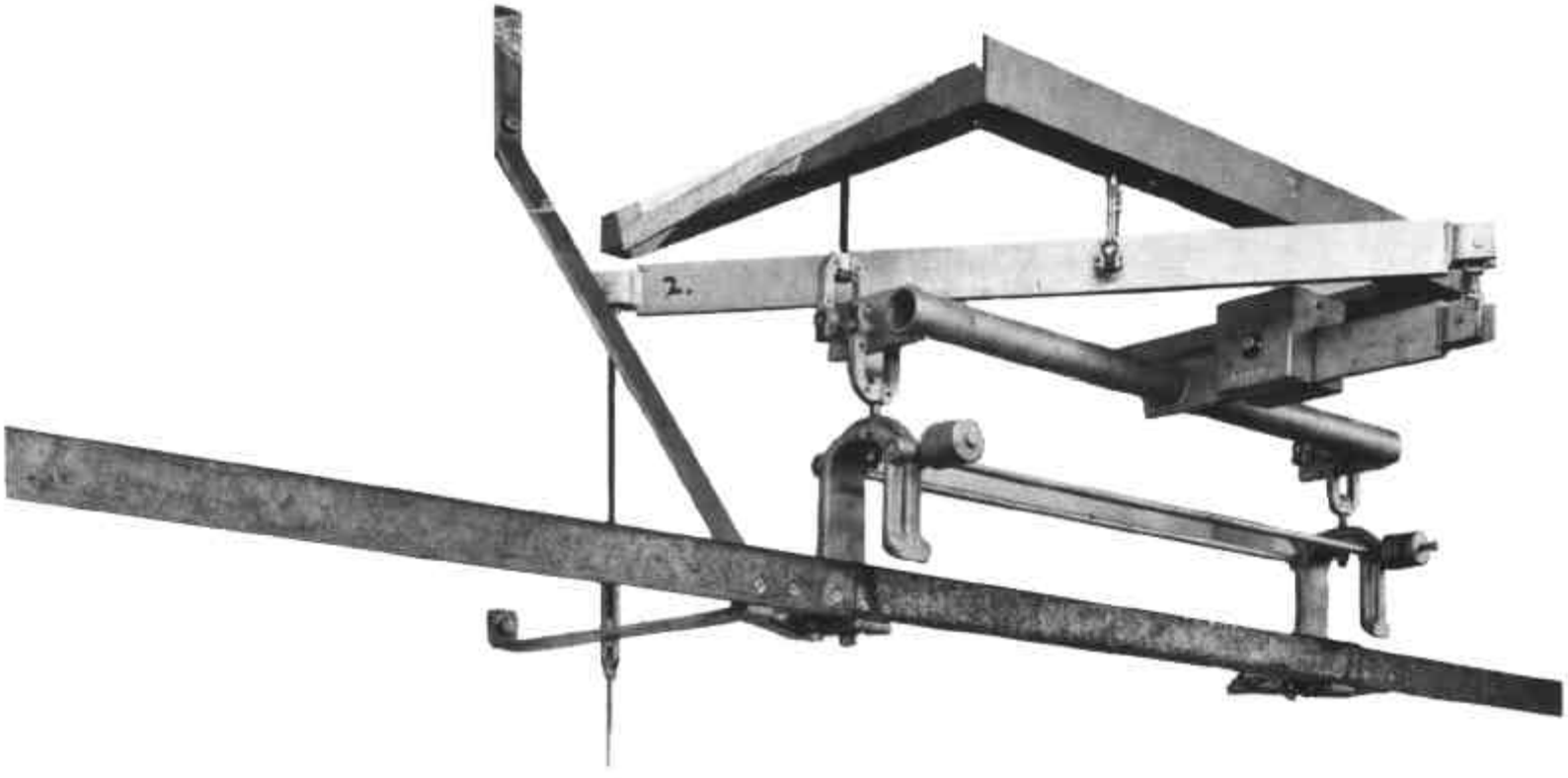
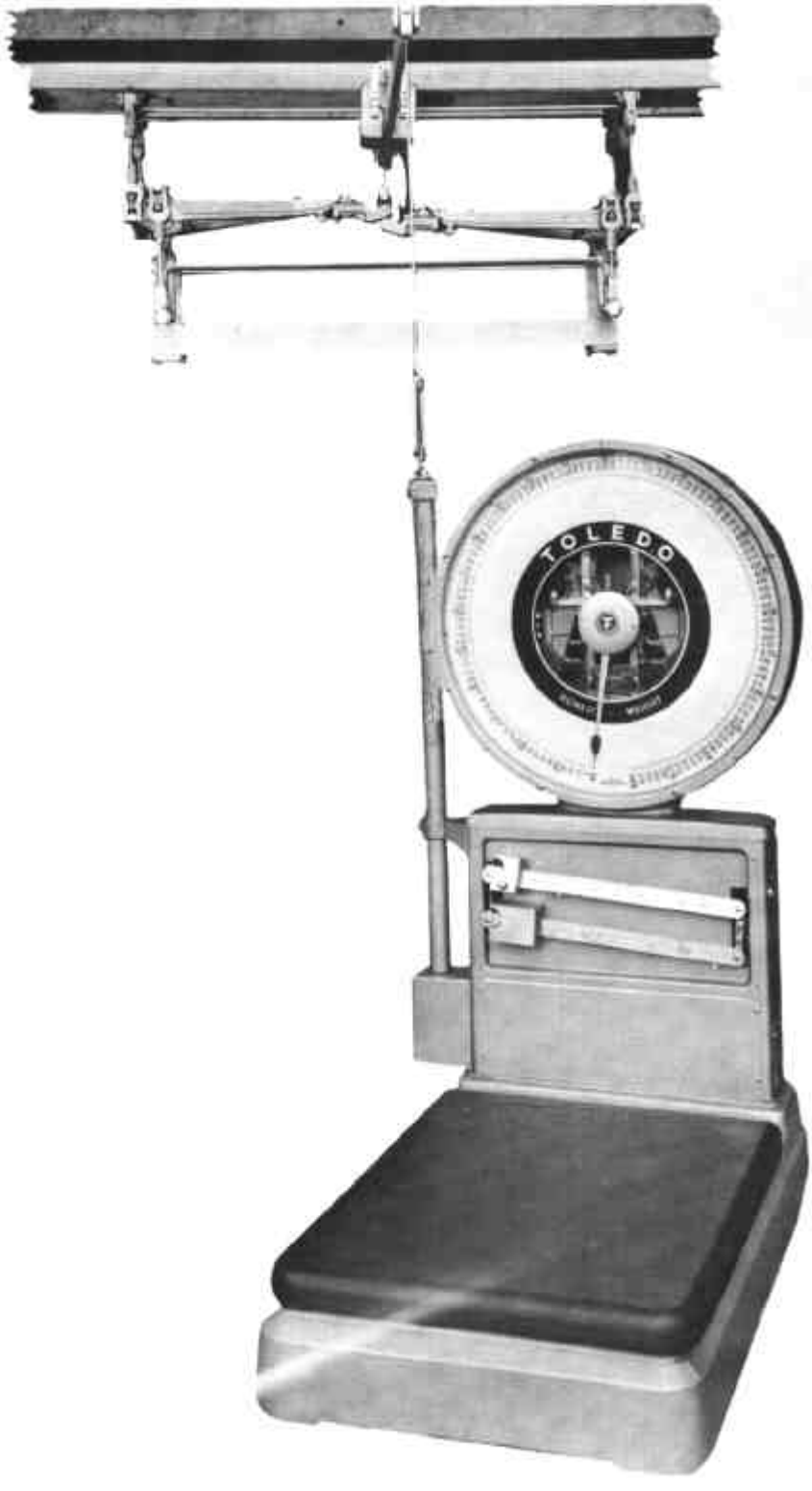


Overhead Track Scale with Single Main Lever

FIGURE 6/18/2 - 8



Combined Overhead Track Scale and Platform Weighing Machine
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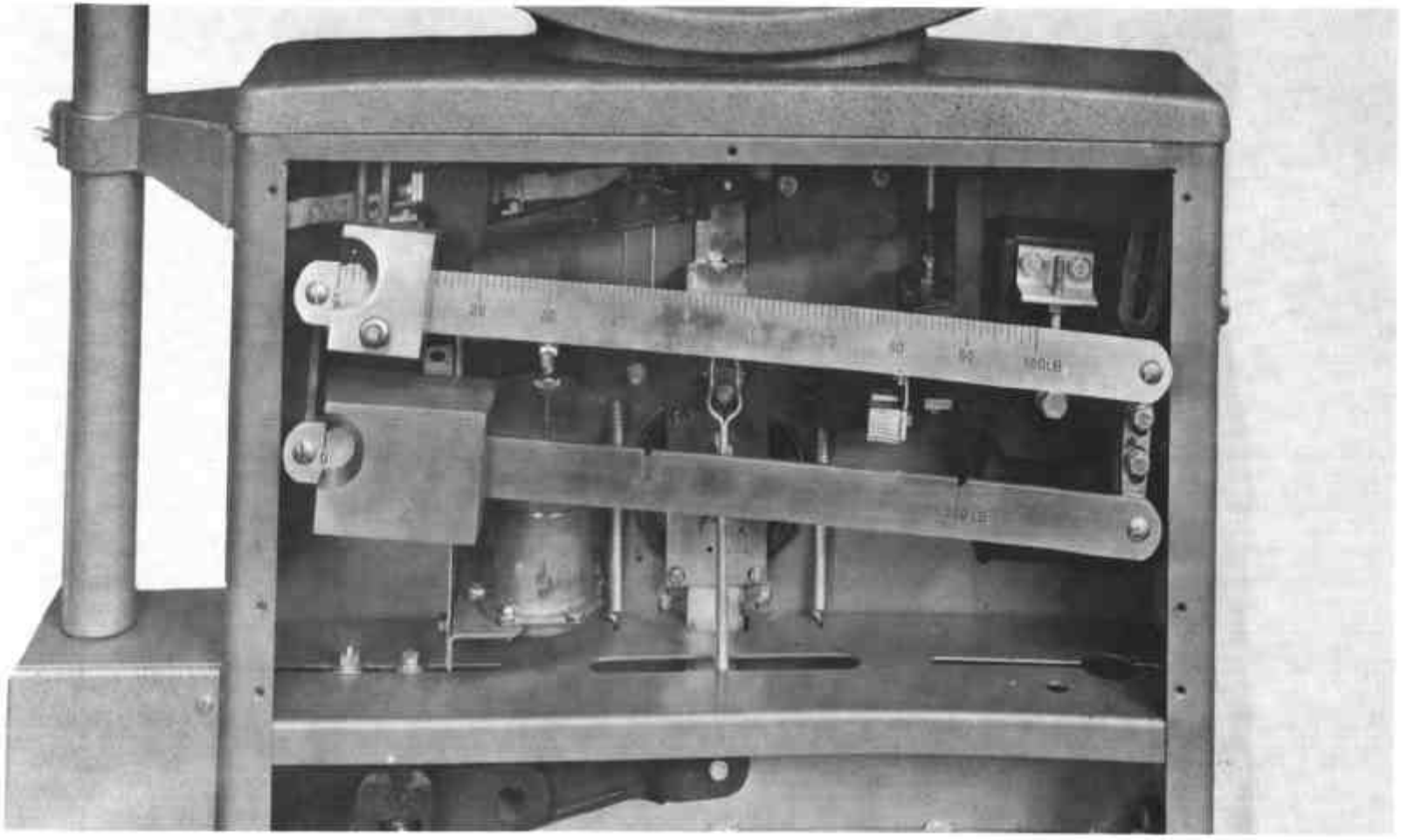
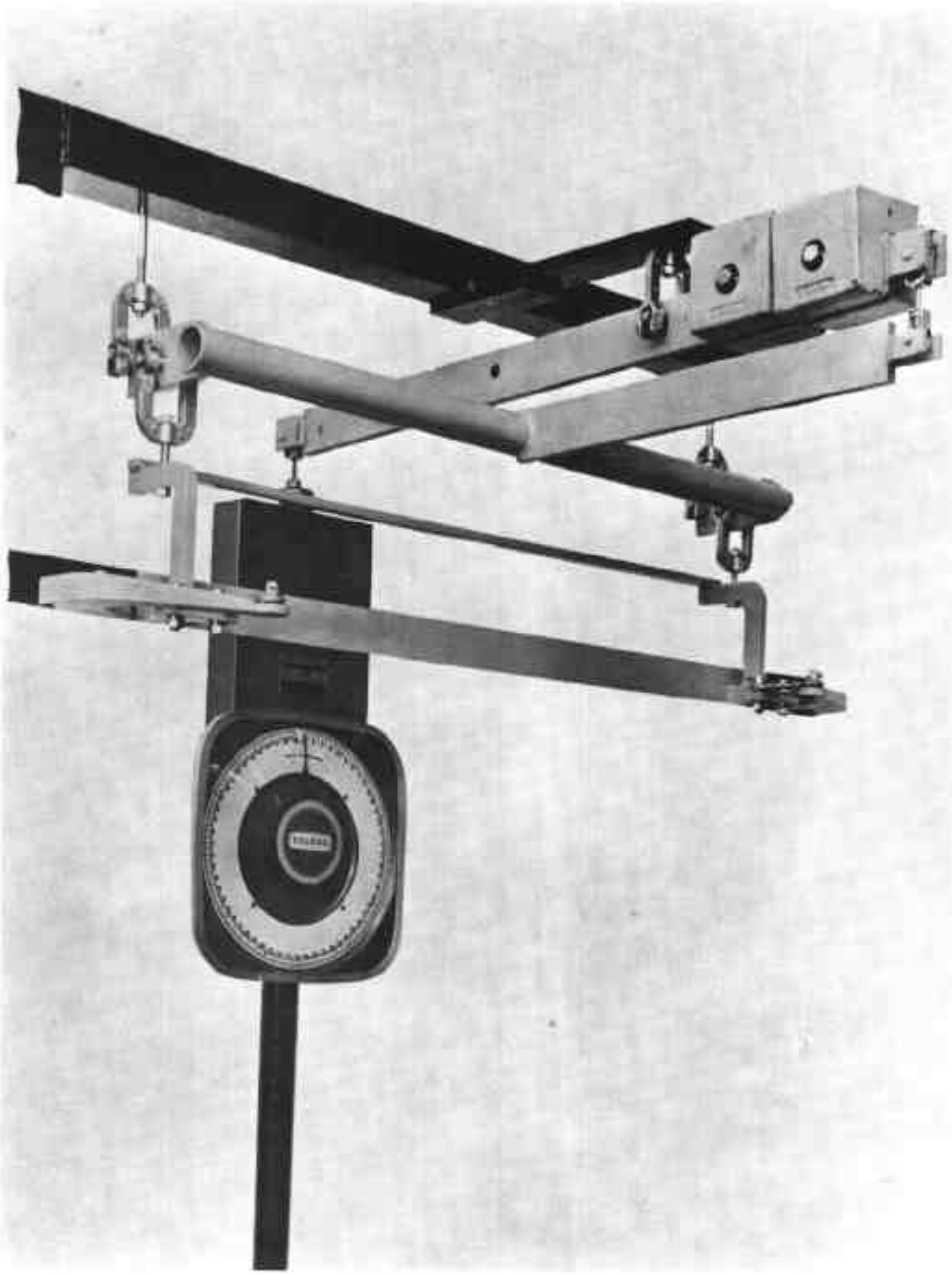
FIGURE 6/18/2 - 9



Headwork Cabinet

FIGURE 6/18/2 - 10



Overhead Track Scale with Single Lever System
and Spring-Resistant Headwork

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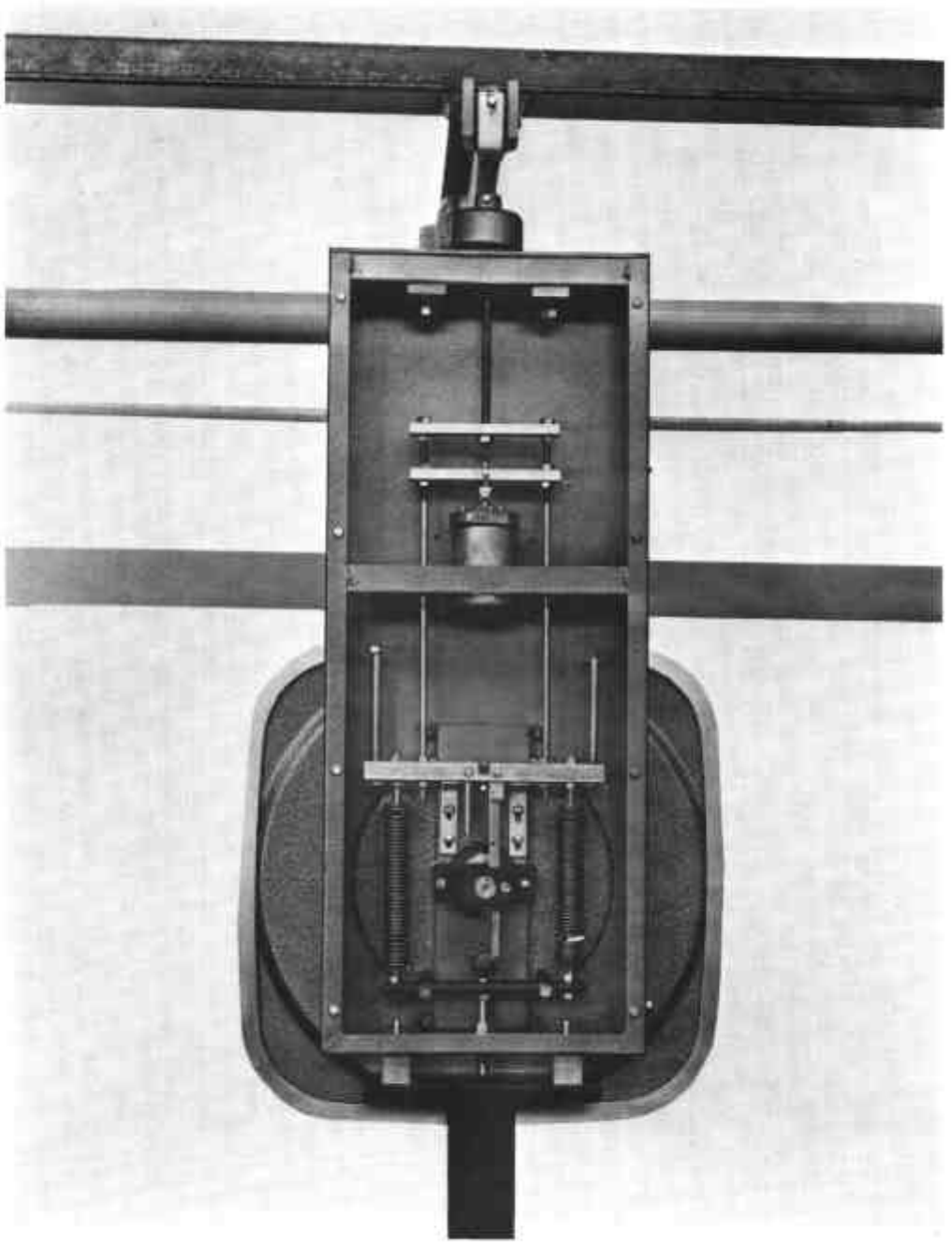
FIGURE 6/18/2 - 11



Spring-resistant Mechanism

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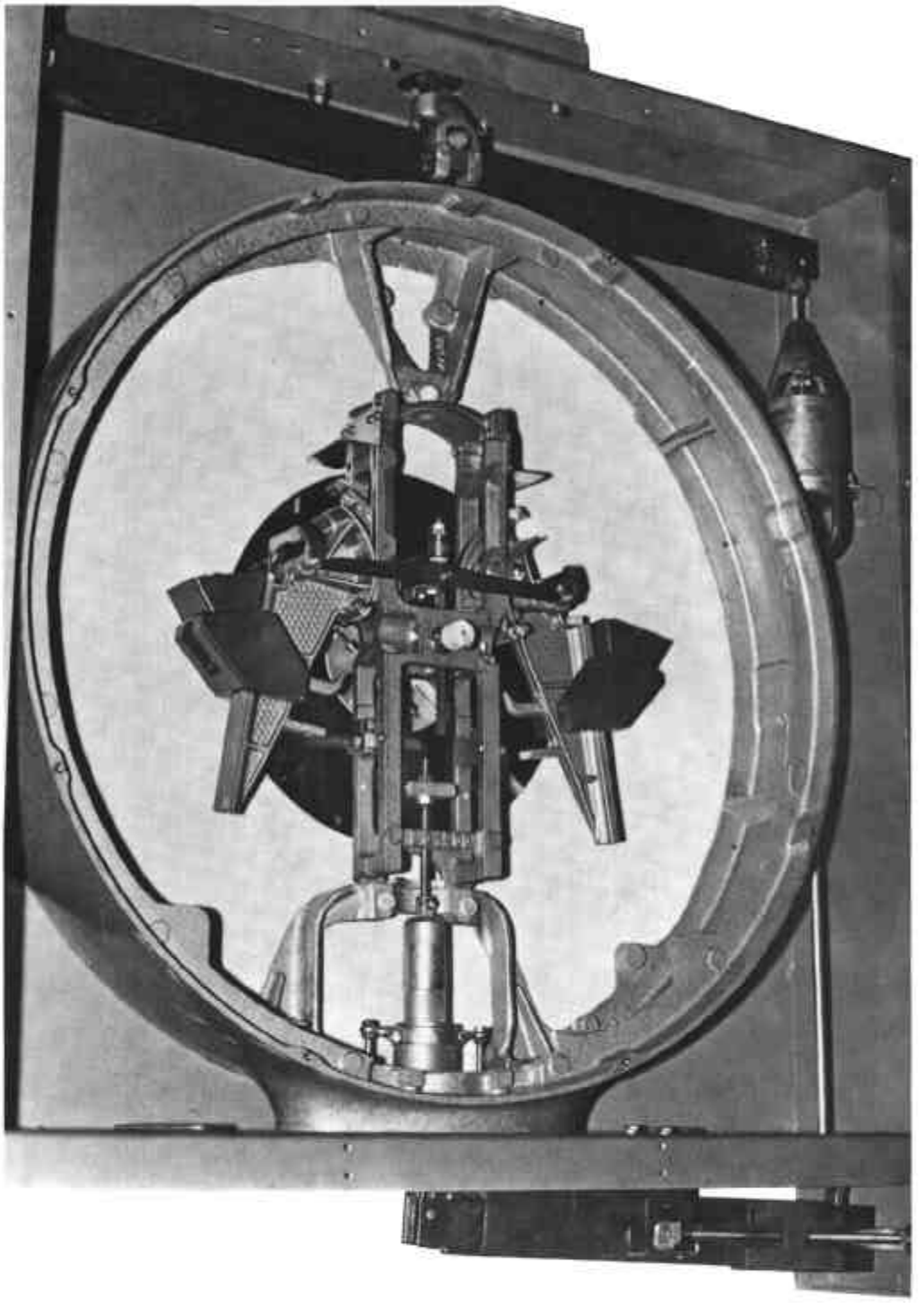
FIGURE 6/18/2 - 12



Suspended Headwork

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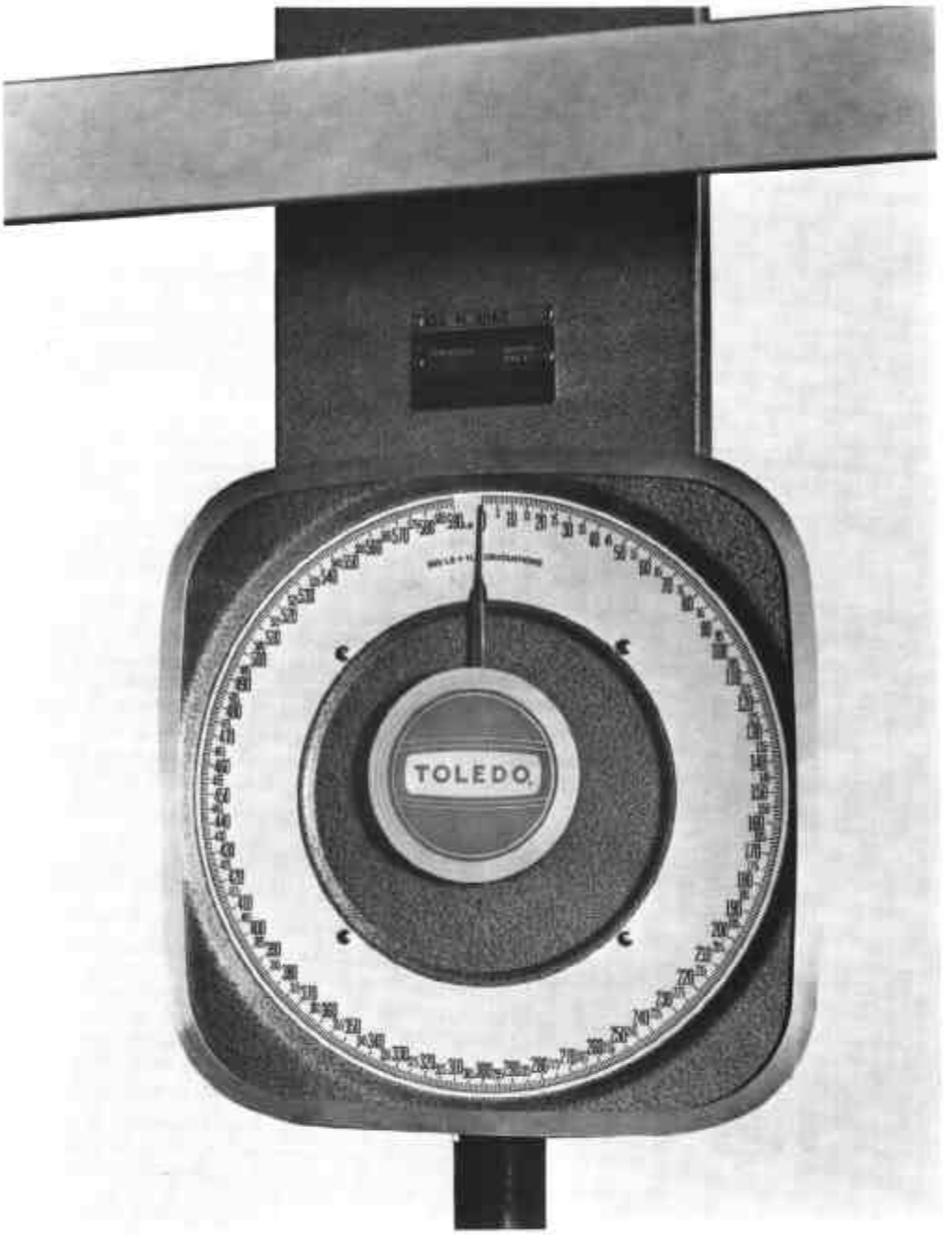
FIGURE 6/18/2 - 13



15 inch Circular Dial

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