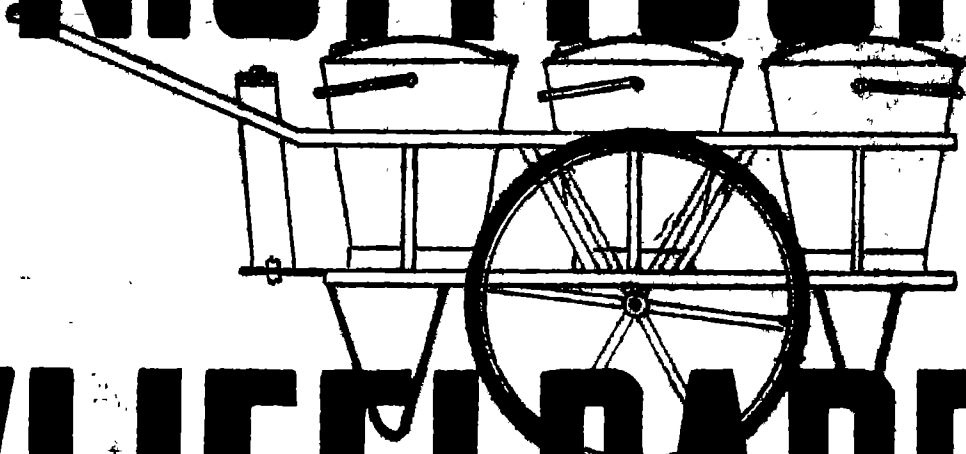


331.2
75W1

7109

LIBRARY
International Resource Centre
for Community Development

NIGHTSOIL



WHEELBARROW

NATIONAL ENVIRONMENTAL ENGINEERING RESEARCH INSTITUTE
NEHRU MARG, NAGPUR-20

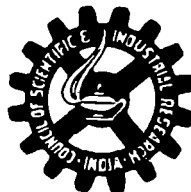
331.2-15854

4

NIGHTSOIL WHEEL BARROW

9109
2nd copy
331.2
75NI

LIBRARY
International Reference Centre
for Community Water Sup.



LIBRARY IRC
PO Box 93190, 2509 AD THE HAGUE
Tel.: +31 70 30 689 80
Fax: +31 70 35 899 64

BARCODE: 15854
LO: 331.2 75NI

NATIONAL ENVIRONMENTAL ENGINEERING RESEARCH INSTITUTE
NEHRU MARG, NAGPUR-20

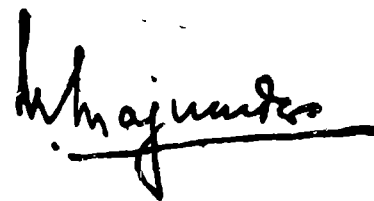
1975

FOREWORD

Head load of human excreta has been in vogue for quite some time in various parts of the country. This practice, being very unhygienic, was required to be substituted by some suitable device. NEERI has been successful in designing wheel barrows for transporting night soil, where manual handling of nightsoil is scrupulously avoided thus eliminating the health hazards.

Nightsoil wheel barrows are adopted by quite a few civic authorities as sanitary practice for night soil collection and transportation.

This booklet gives details of the design. The merits of nightsoil wheel barrows have been indicated. It is intended to achieve awareness and motivation for their widespread use.

A handwritten signature in black ink, appearing to read 'N. Majumder', written over a horizontal line.

(N. MAJUMDER)

DIRECTOR



NIGHTSOIL WHEEL BARROW

In spite of the ills of dry latrines which require manual collection of nightsoil, these continue to be used by a large population in urban and semi-urban areas. In absence of adequate resources for improving the latrines, the tools and implements for collection and transportation of night soil and method of its disposal need to be rationalized. This brochure describes specifications of nightsoil wheel barrows for use of municipal bodies with a view to eliminate the practice of carrying nightsoil as head-load. The information has been compiled on the basis of trials of various types of wheel barrows keeping in view simplicity of construction and **sturdiness**. Further, collection and transportation of night soil should be **convenient**, considering the narrow approach roads usually encountered and it should have minimum of health hazard for the persons employed for the job.

This work was taken up by National Environmental Engineering Research Institute (NEERI) in pursuance of the recommendation of Malkani Committee, Ministry of Home Affairs, vide letter No. 12-9-1961/ Sect III dated 11.4.1961. Four type designs are described here. Selection may be made on the basis of local requirements and conditions.

DESCRIPTION

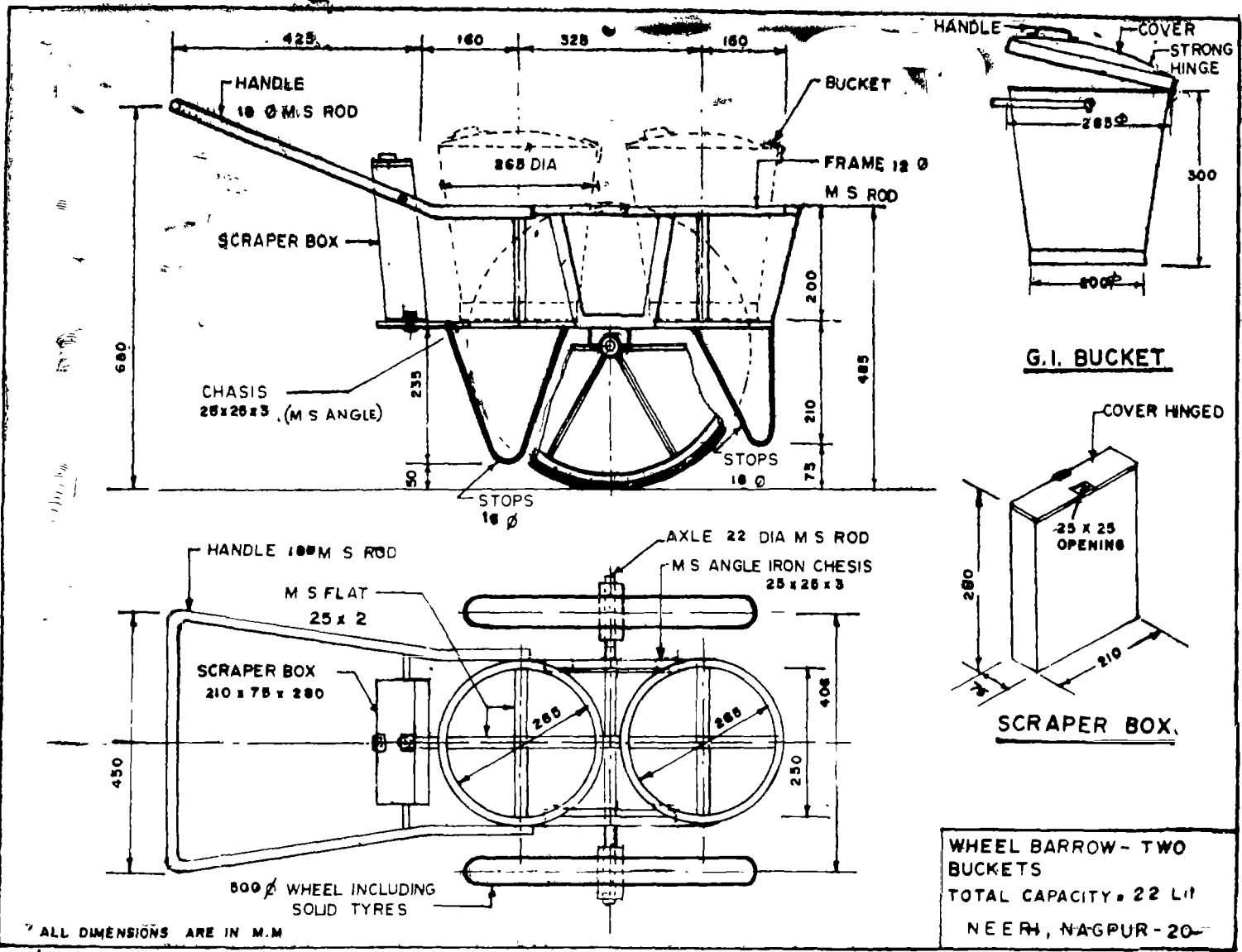
	Type	Capacity litres	Weight Kg		Height above ground when at rest	Width at axle point
			Unladen	Laden		
1.	Wheel barrow, 2 buckets	22	32	57	680 mm	560 mm
2.	—do— 3 buckets	33	35	70	680 mm	560 mm
3.	—do— box type	66	55	122	680 mm	680 mm
4.	Rikshaw barrow	180	90	270	950 mm	1200 mm

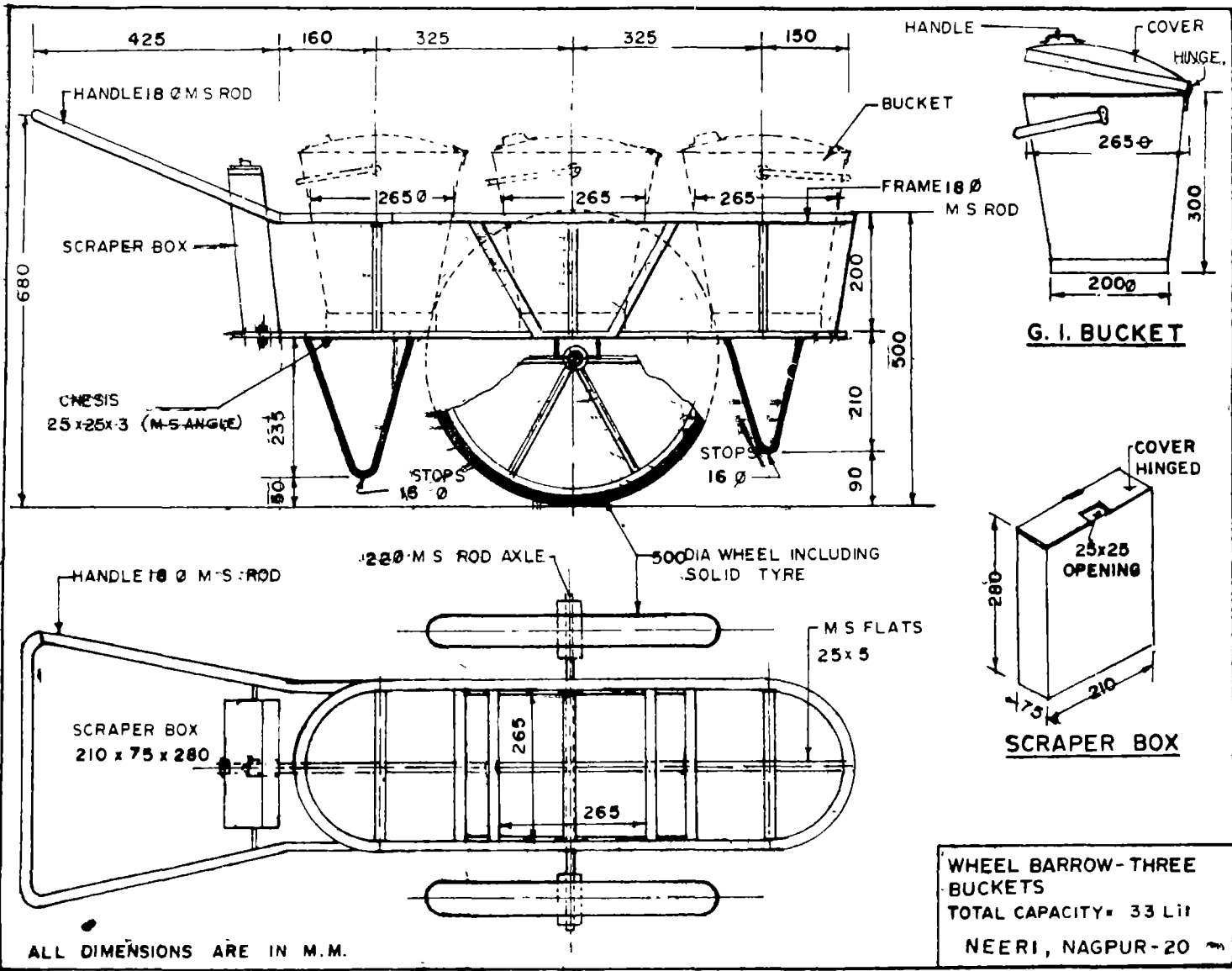
SPECIFICATIONS

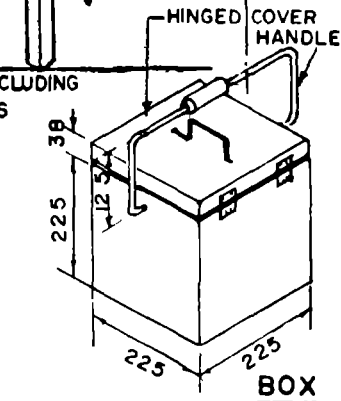
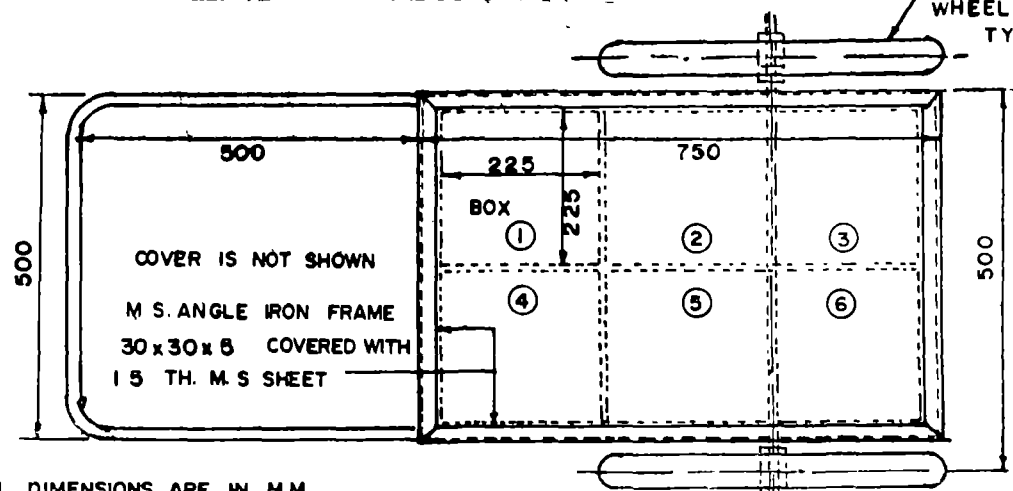
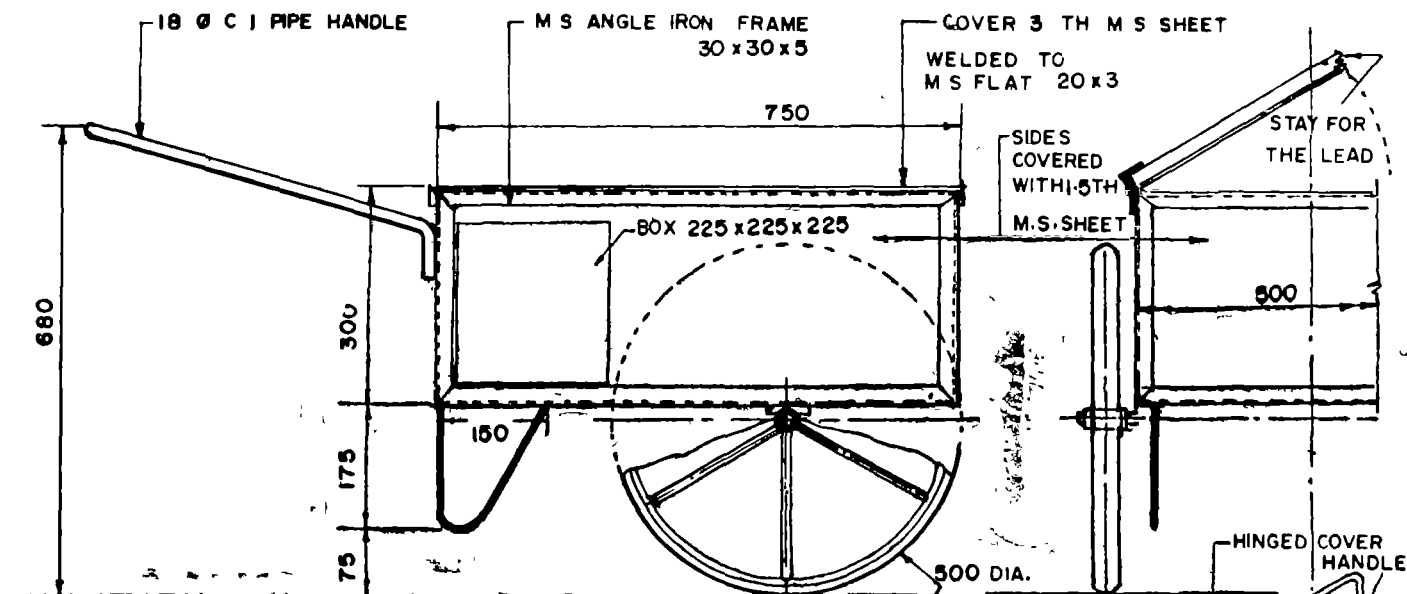
	W.B. 2 bucket	W.B. 3 bucket	W.B. box type	Rikshaw barrow
1. Frame	M.S. rod 12 mm dia.	M.S. rod 18 mm dia.	M.S. angle 30x30x5mm.	Same as of cycle rikshaw.
2. Chasis	M.S. angle 25x25x3mm, M.S. flat 25x2 mm.	M.S. angle 25x25x3mm, M.S. flat 25x5 mm.	M.S. flat 20x3 mm, M.S. sheet 22 gauge.	Carriage for container M.S. angle 35x35x3 mm, M.S. flat 30x3 mm.
3. Axle	M.S. rod 22 mm dia.	M.S. rod 22 mm dia.	M.S. rod 22 mm dia.	tempered M.S. rod 25 mm dia.

	W.B. 2 bucket	W.B. 3 bucket	W.B. box type	Rikshaw Barrow	
4	Wheels	500 mm dia including solid tyres with hub, rim of std. channel section, spokes 10 mm dia welded to hub flange and the rim. OR 18x6 mm flats to be welded to hub flange and the rim. Weight of such wheel should be between 6 and 7 Kg. Cap of the wheel hub should be spot welded.	500 mm dia wheel including solid tyres with hub, rim of std. channel section, spokes 10 mm dia M.S. rods welded to flange and rim OR 18x6 mm flats to be welded to hub flange and the rim. Weight of such wheel should be between 6 and 7 Kg. Cap of the wheel hub should be spot welded.	500 mm dia including solid tonga rubber tyres with bush bearing, rim of std. channel section, spokes 10 mm dia M.S. rods welded to flange and rim OR 18x6 mm flats to be welded to hub flange and the rim. Weight of such wheel should be between 6 and 7 Kg. Cap of the wheel hub should be spot welded.	Standard rikshaw wheels with hub, rim rikshaw spokes and rikshaw tyre and tube.
5.	Container	Two G.I. buckets of std. 13 lit. capacity, lid attached with 65 mm hinge and provided with 85 mm full type handle.	Three G.I. buckets of std. 13 lit. capacity, lid attached with 65 mm hinge and provided with 85 mm full type handle.	Six M.S. sheet boxes of 11 lit each capacity, hinged cover with lifting handle is provided.	Std. 180 lit oil drum or a drum made of 18 gauge M.S. sheet. A pouring hole of 300 mm dia with hinged cover and a lifting handle. A 100 mm dia drain valve with a drain level.
6.	Scraper box	M.S. 20 gauge sheet 280x210x75 mm either riveted or welded to frame.	M.S. 20 gauge sheet 280x210x75 either riveted or welded to frame.	—	210x90x40mm 20 gauge M.S. sheet welded to frame.
7.	Paint	Anti corrosive paint with atleast two coats of primers.	Anti corrosive paint with atleast two coats of primers.	Anti corrosive paint with atleast two coats of primers.	Two coats of anti corrosive paints.

List of approved manufacturers of Wheel barrows can be had from Director, NEERI, Nagpur.

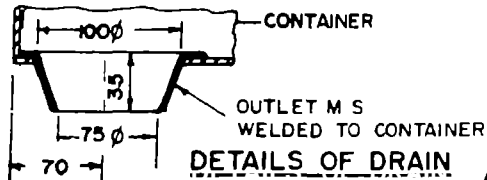
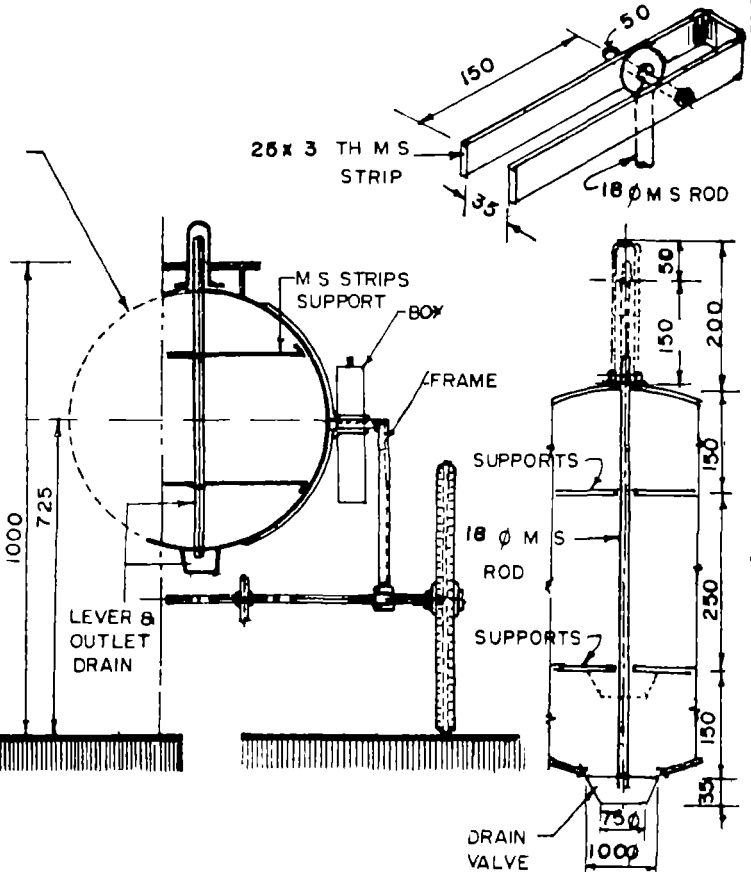
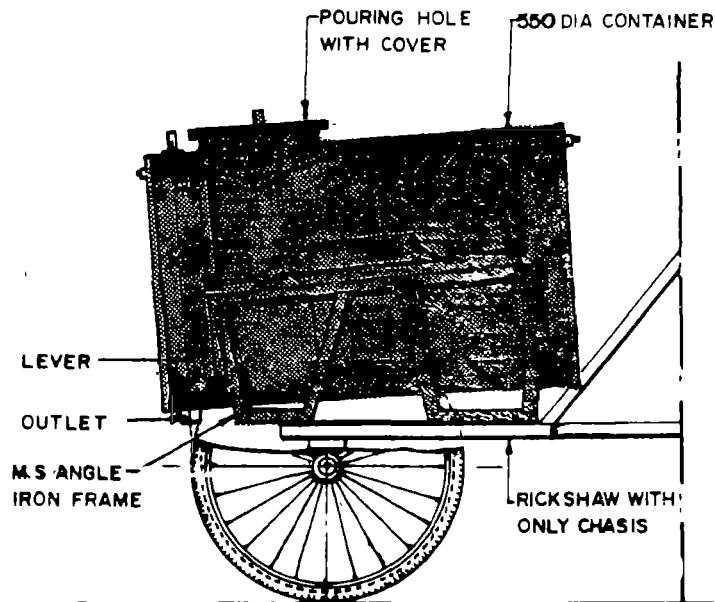






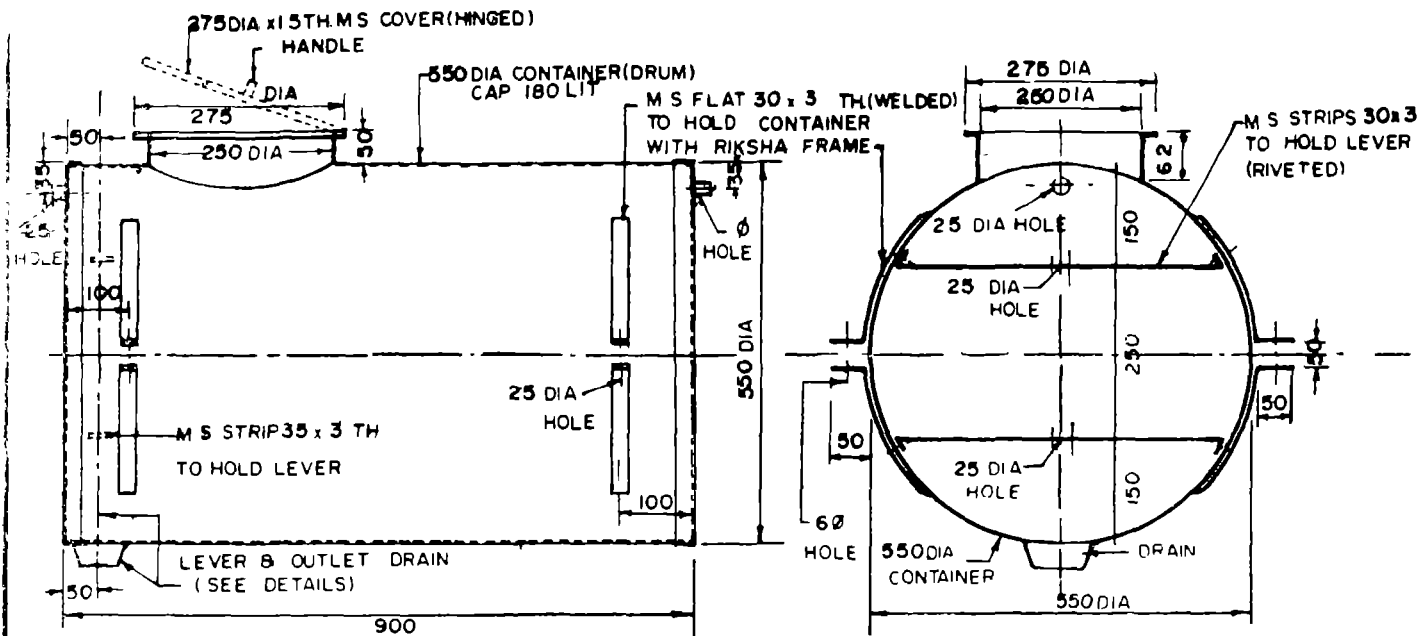
WHEEL BARROW-BOX TYPE
TOTAL CAPACITY = 66 Lit.
NEERI, NAGPUR-20

ALL DIMENSIONS ARE IN M.M.



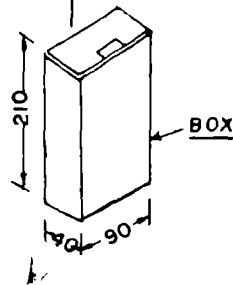
ALL DIMENSIONS ARE IN M.M

RIKSHAW BARROW
 TOTAL CAPACITY- 180 Lit
 NEERI, NAGPUR-20



ELEVATION

SECT ELEVATION



ALL DIMENSIONS ARE IN MM



