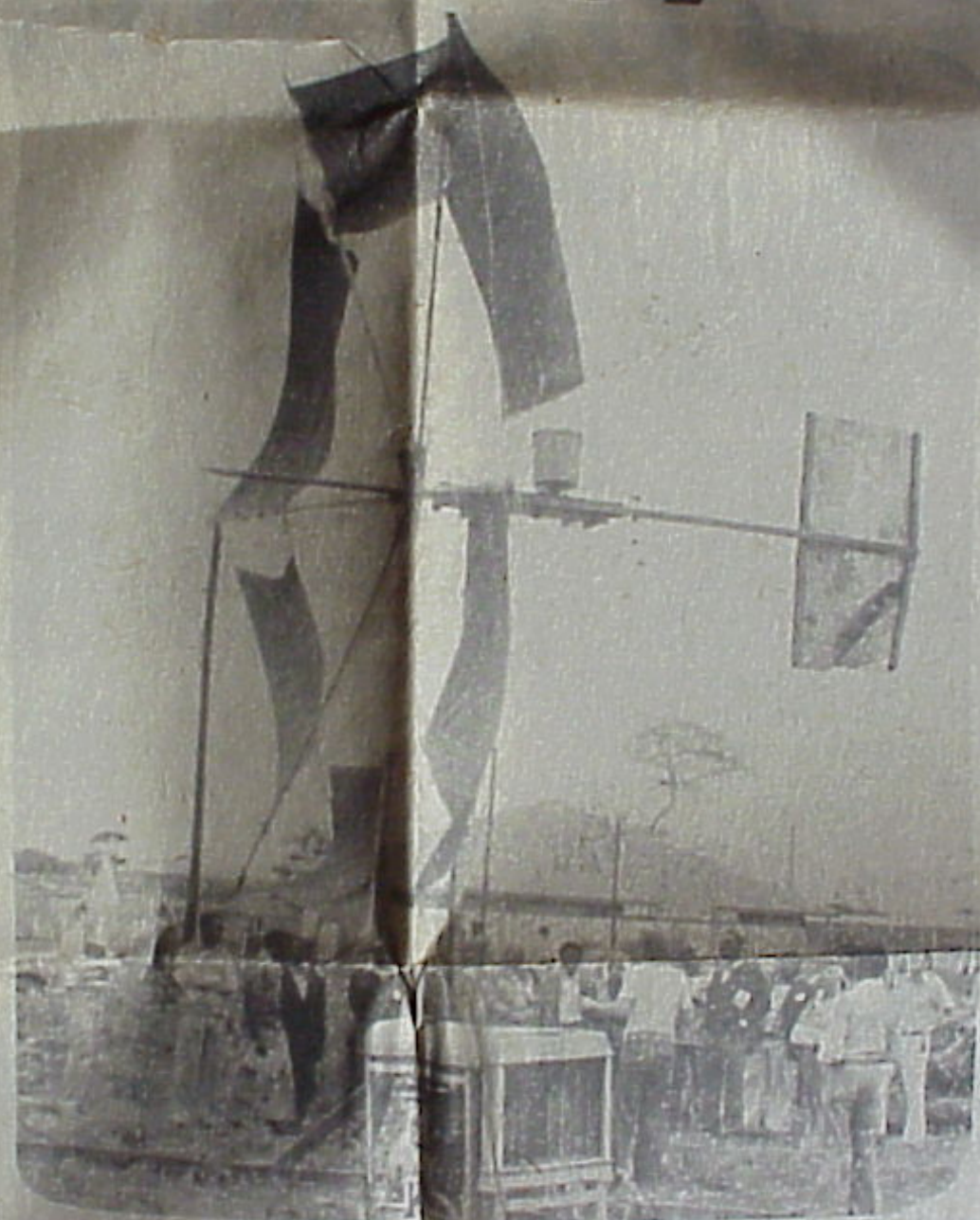


The President and also the Chancellor of the University of Dan...

OF TECHNOLOGY



technology: — The swirling winds which the rural woman has had to put up with can be harnessed to simplify her daily chores. This we know. The question is: what are the practical answers to it that bring the Third World face to face with the

national prevents the local technological expertise.

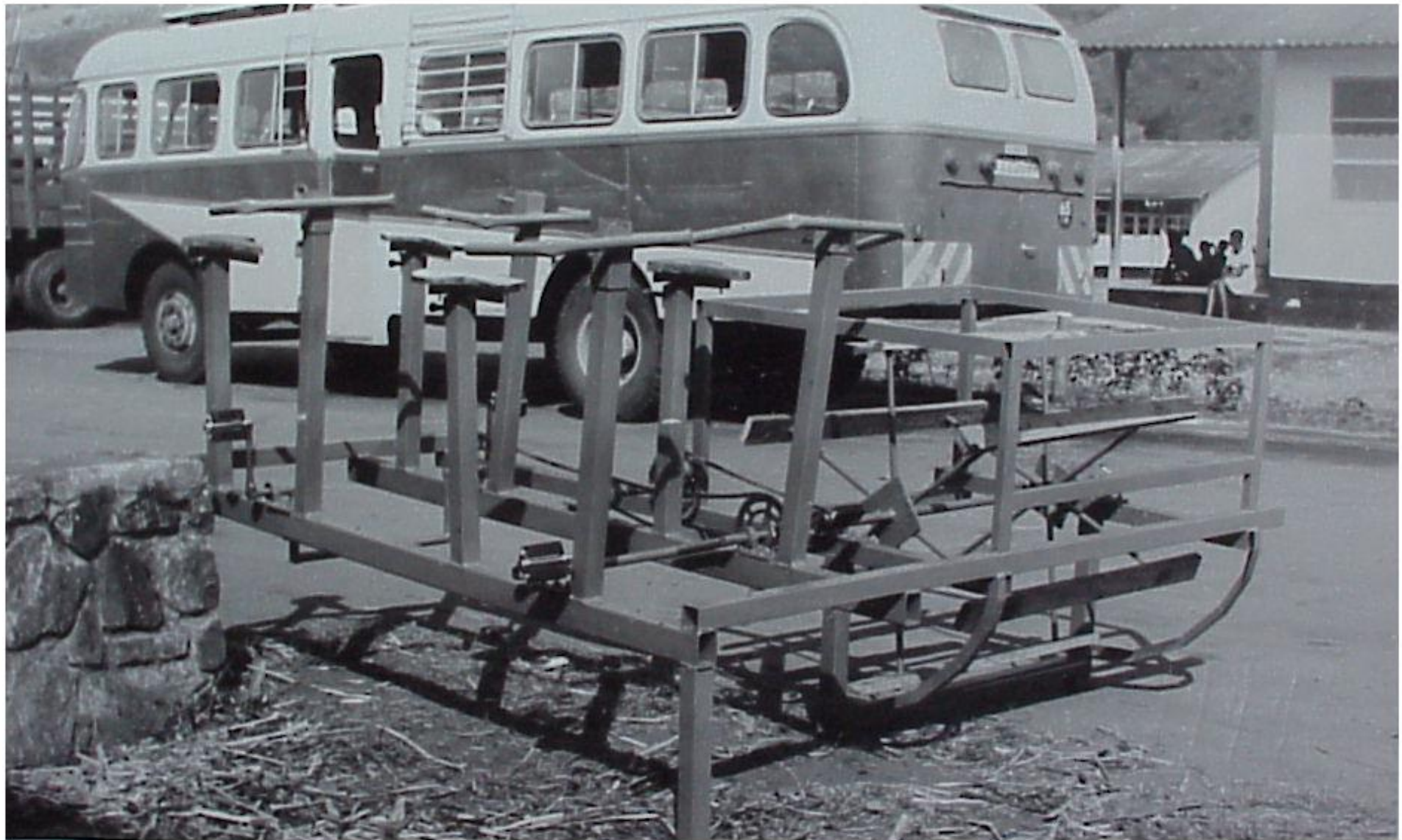
These malpractices cannot be acceptable at all, and the UNCTAD division charged with the task of seeing the emergence of an order technological flow believes that technology is unlike other "commodity".

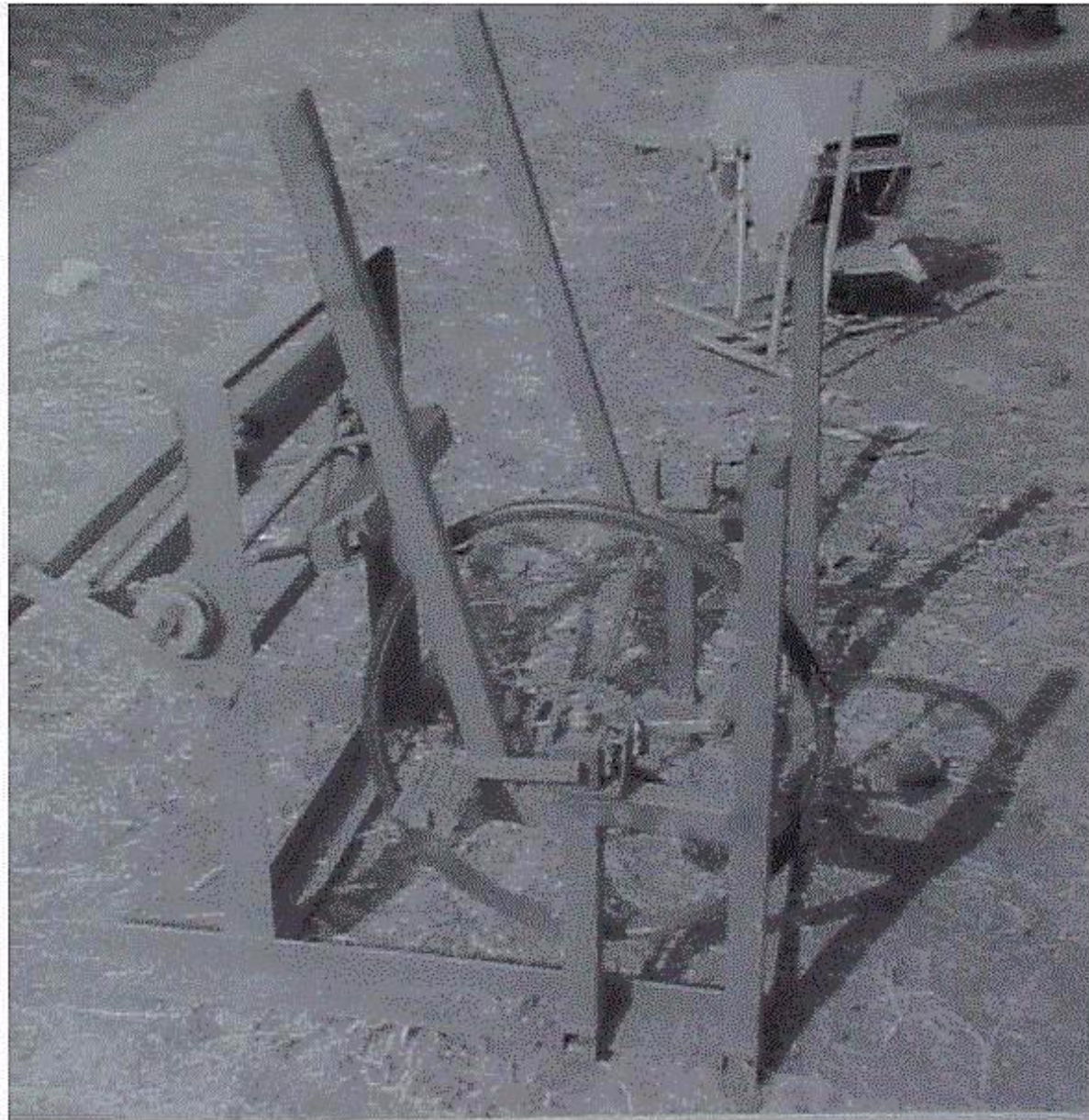
It is, they believe, cumulative; and that many nations have contributed to building up the accumulated treasure-house of technology with no single nation retaining the central role for long.

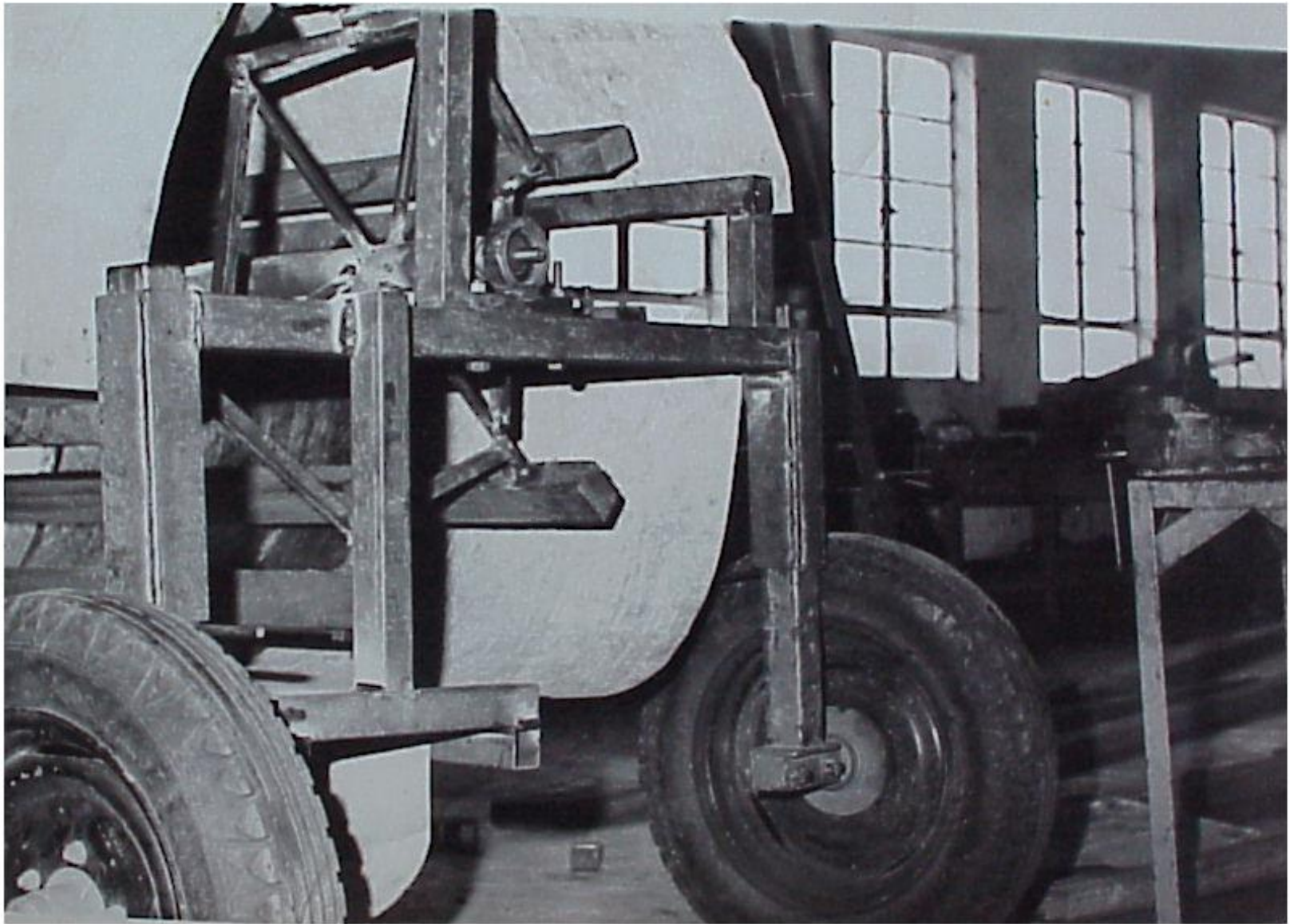
Technology, the experts further argue, can be transmitted across national frontiers with relative ease; and that its transfer does not, as in other commodities, reduce its availability to the original holder — that is the cost of transfer—the supplying enterprise is ZERO.

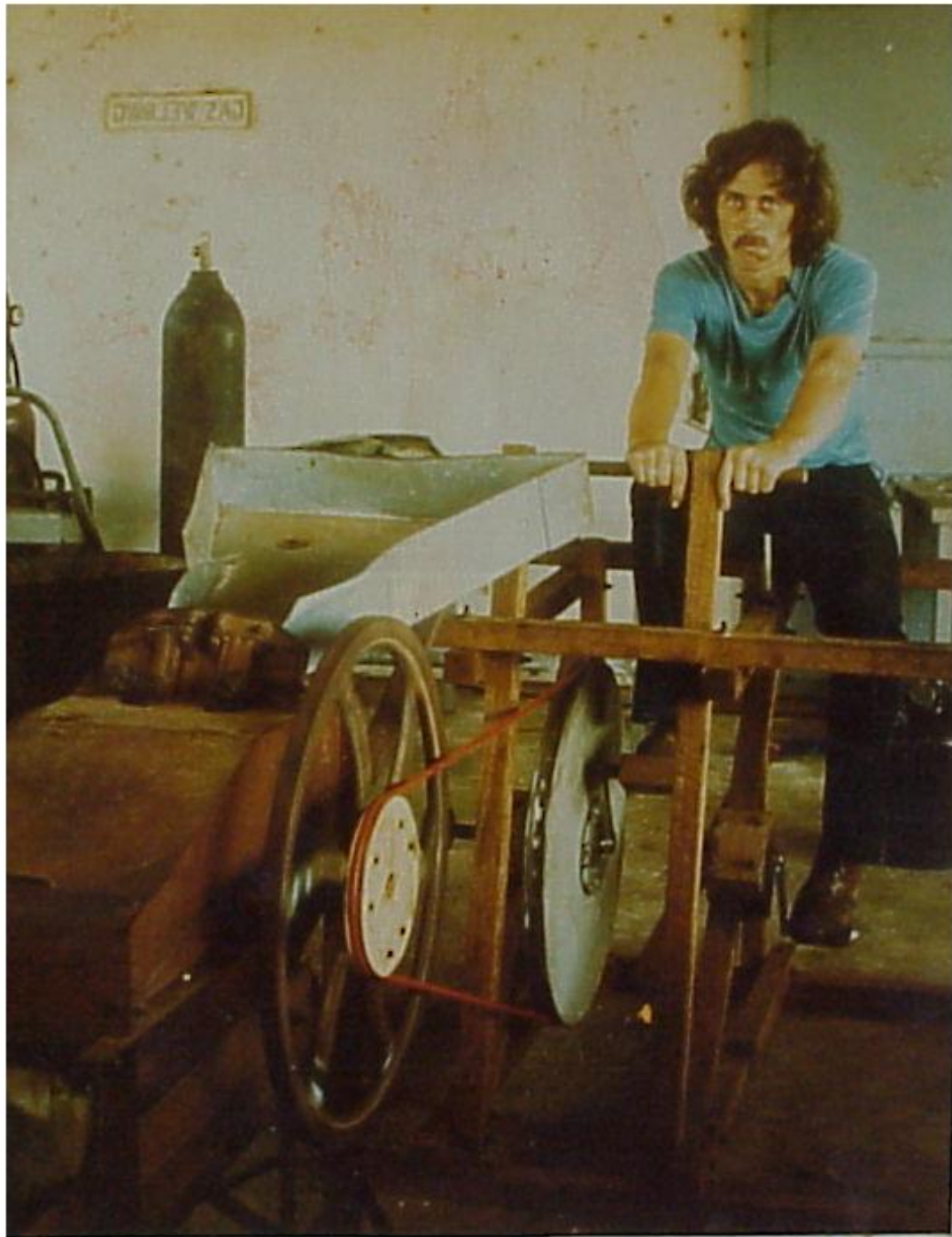
And yet, unlike scientific achievements, which are universal, free and available to anybody, the possession of technology is jealously guarded as a secret by its owners. Various legal agreements (patents and trade marks) and other practices have been established to strengthen the so-called rights of technology owners.

The technology recipient, on the other hand, whether from developed or developing countries, are left unprotected. In consequence while all the technological need to overcome age-old afflictions are already known, the developing countries have







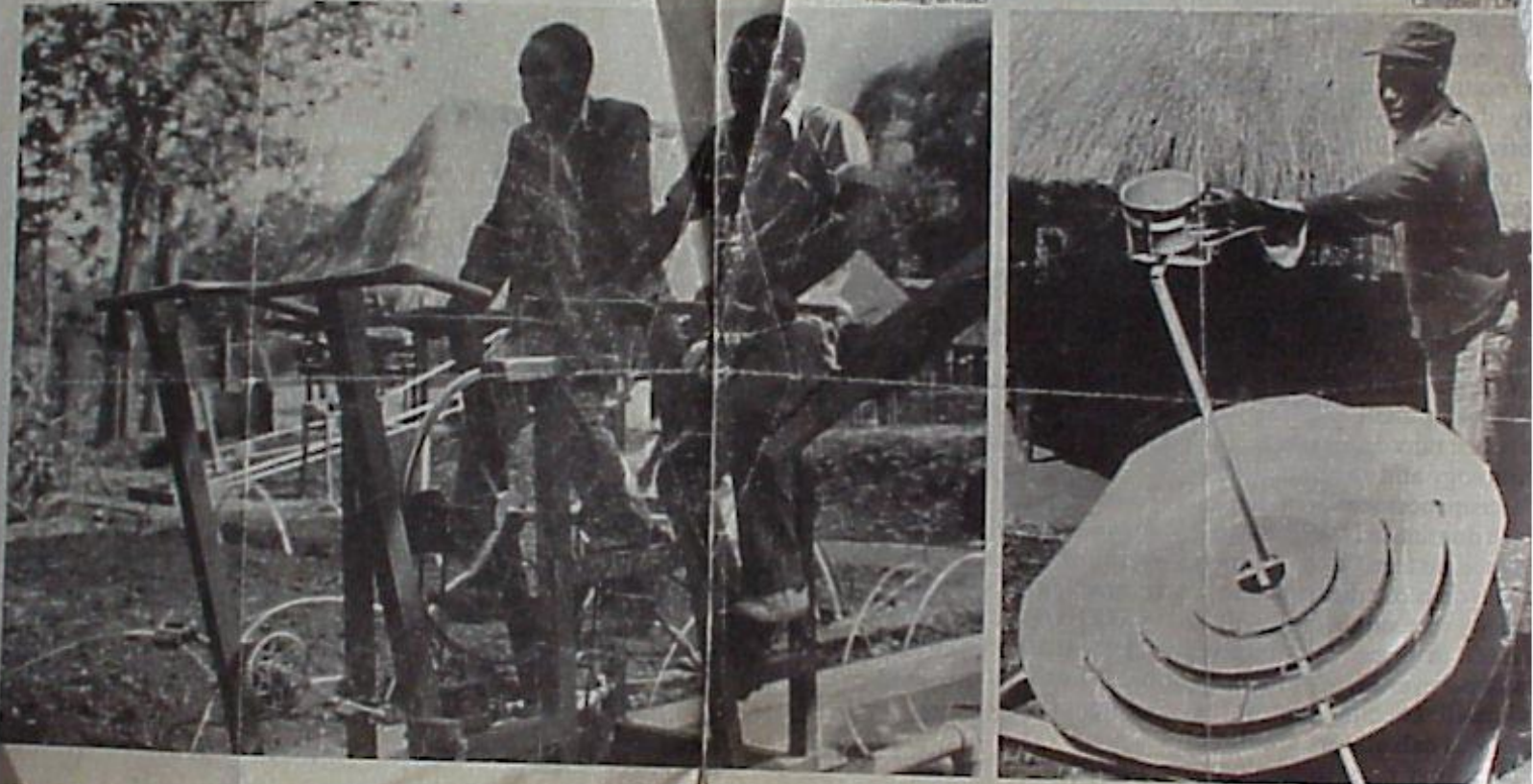




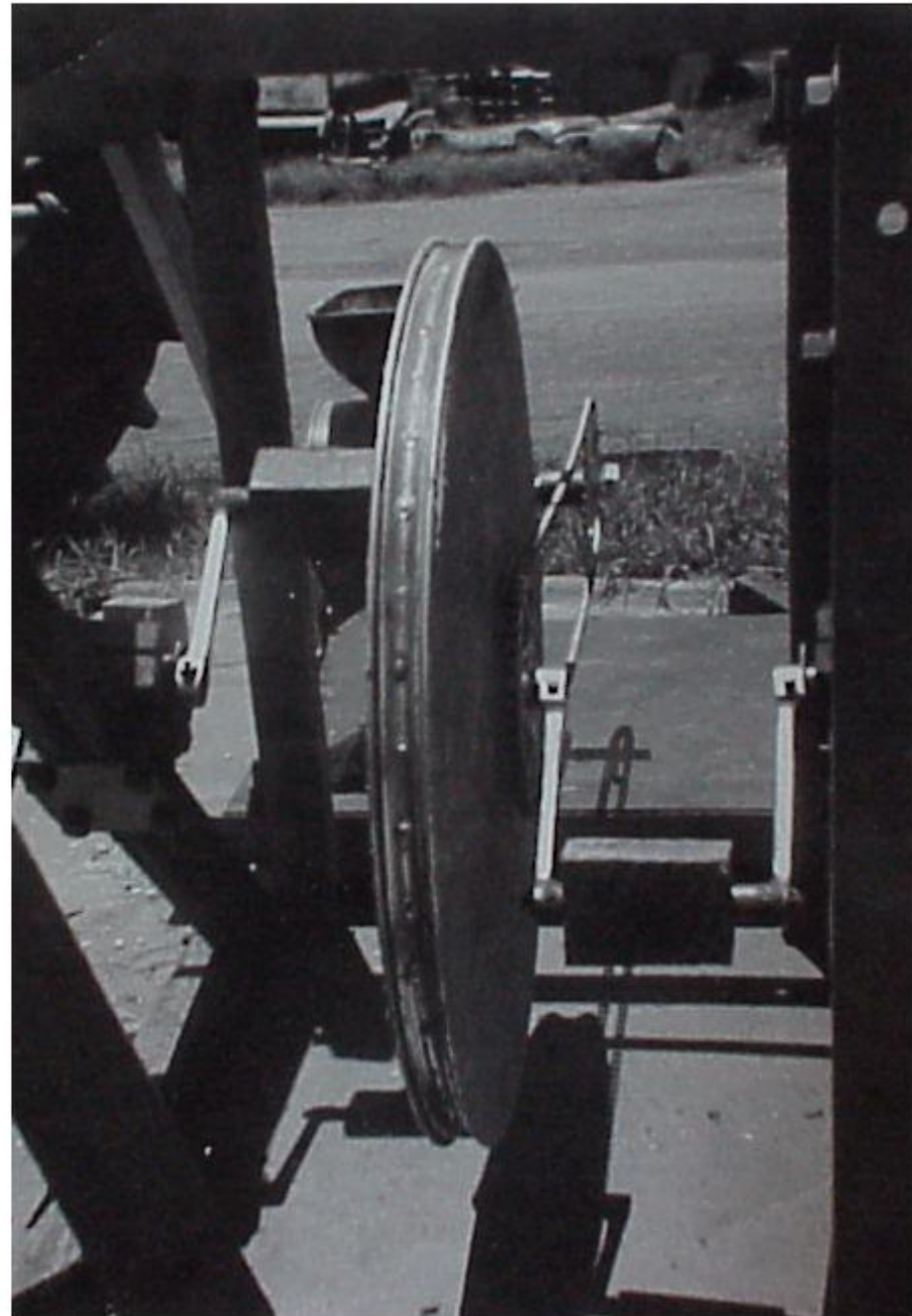
Old but new technology: A simple solar reflector makes an efficient cooking stove, and a bicycle built for two pumps irrigation water at a rate of three buckets per minute in demonstration projects at UNICEF's Village Technology Unit near Nairobi

Thorning/UNICEF

Campbell/LPN





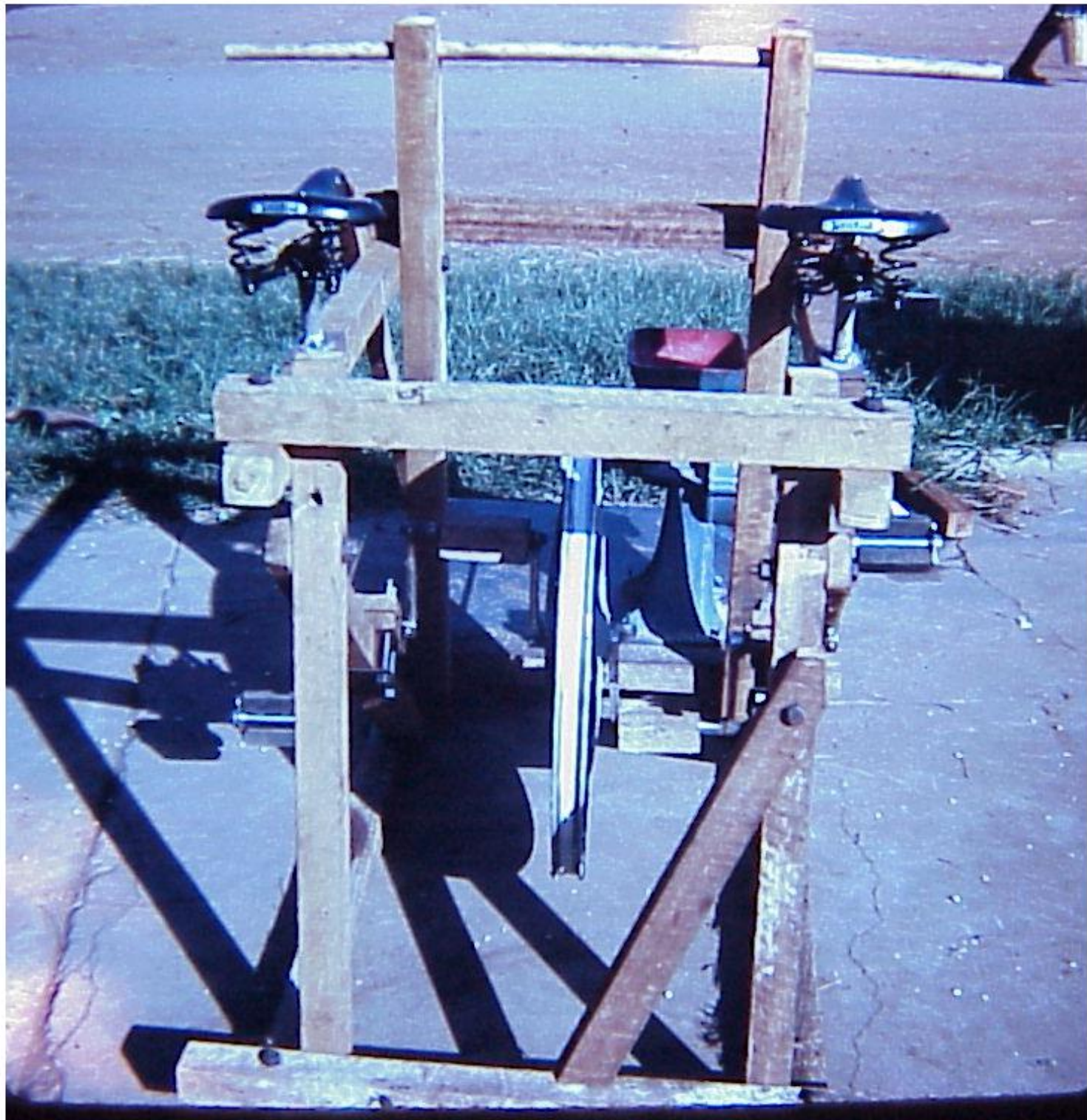


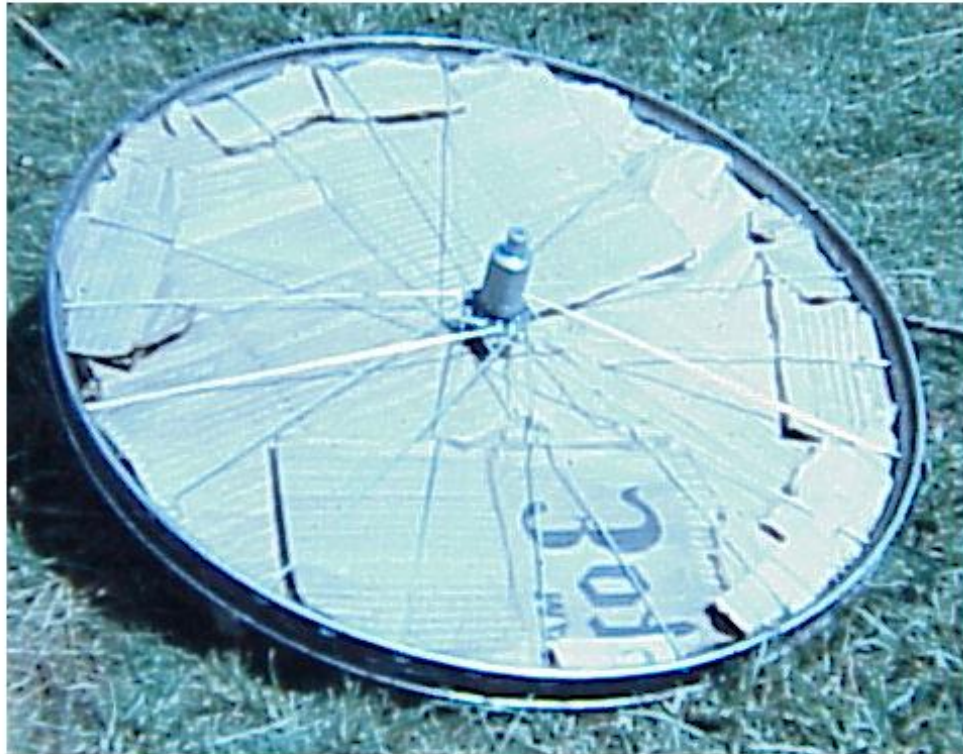








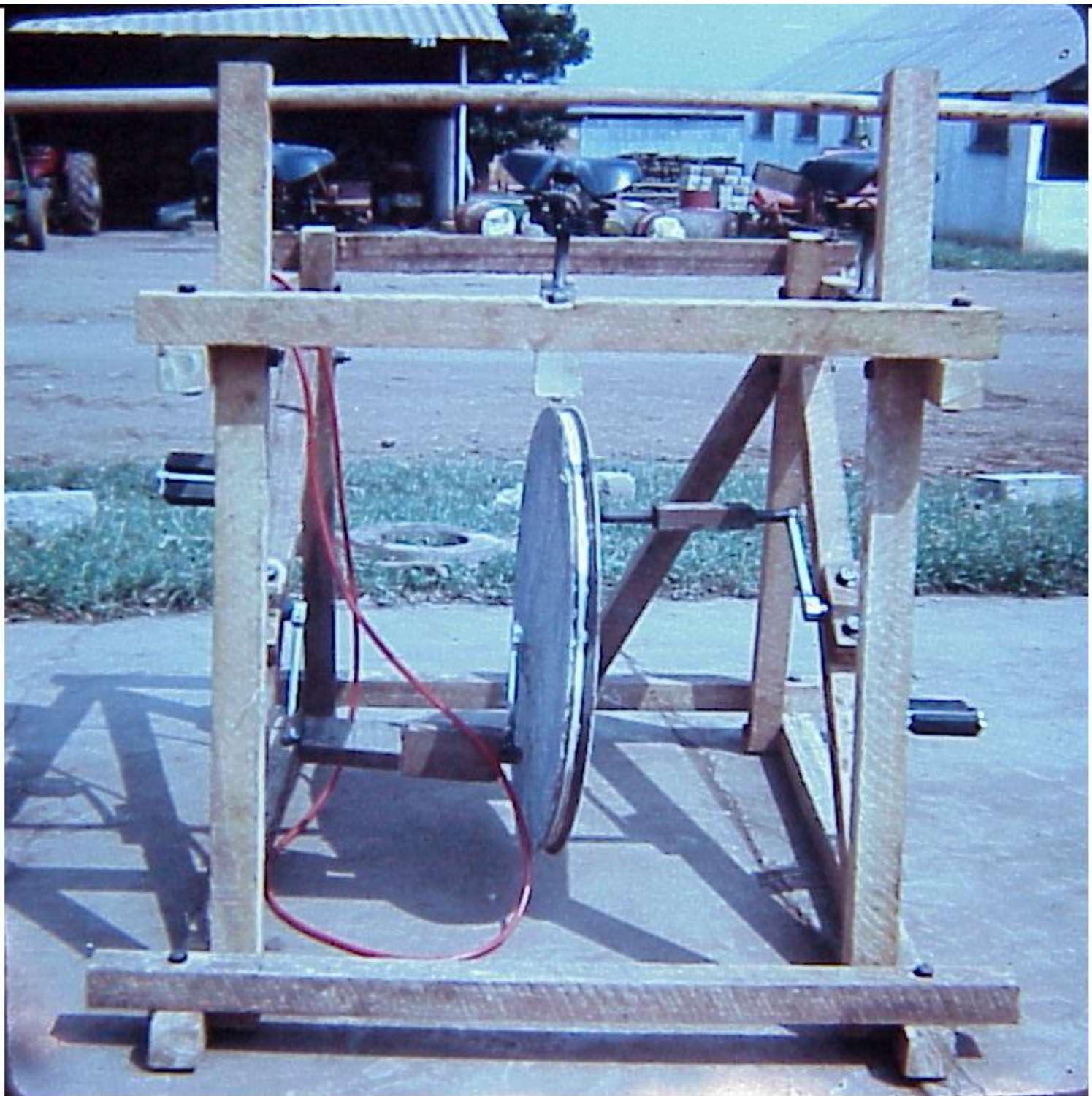




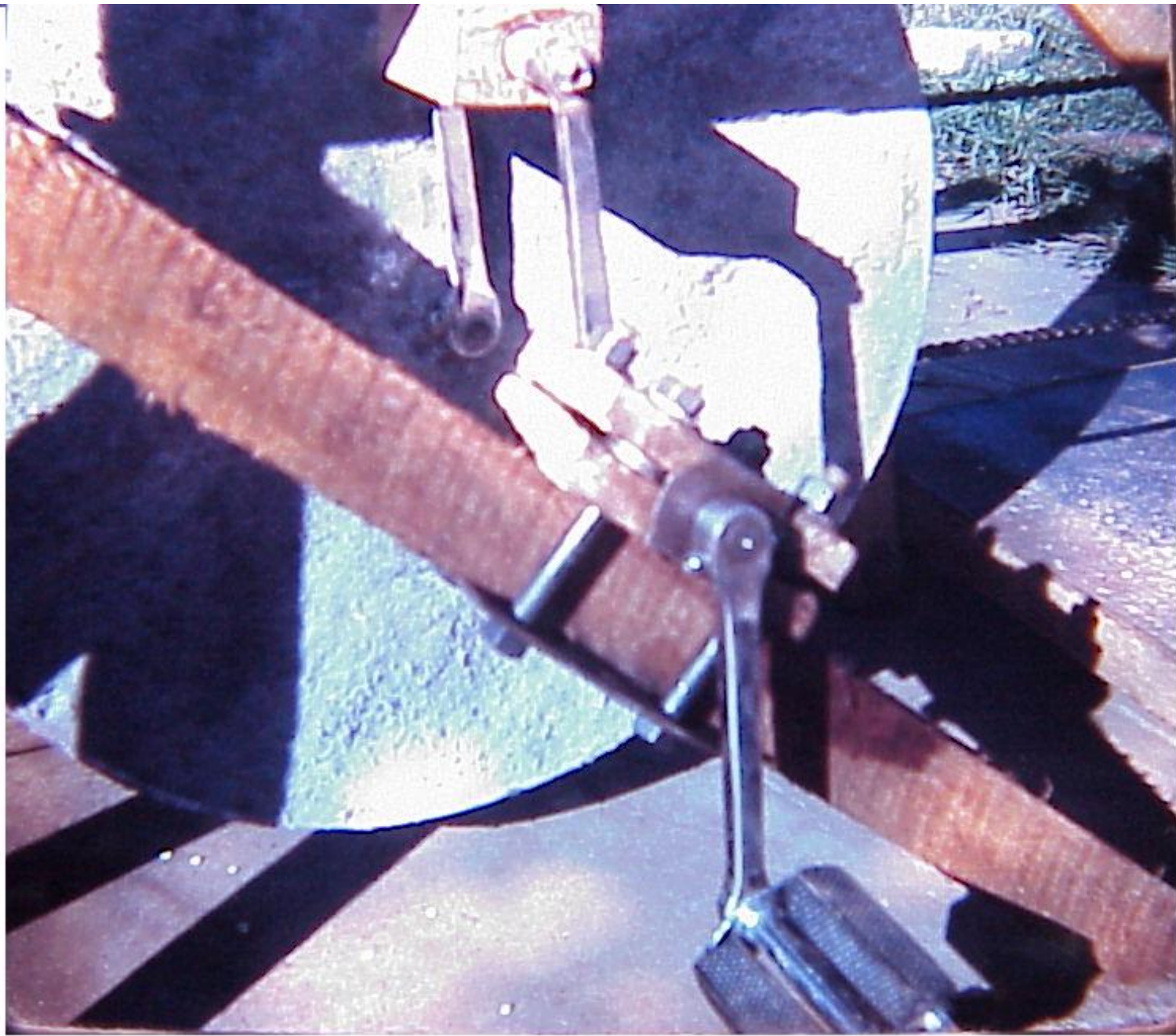










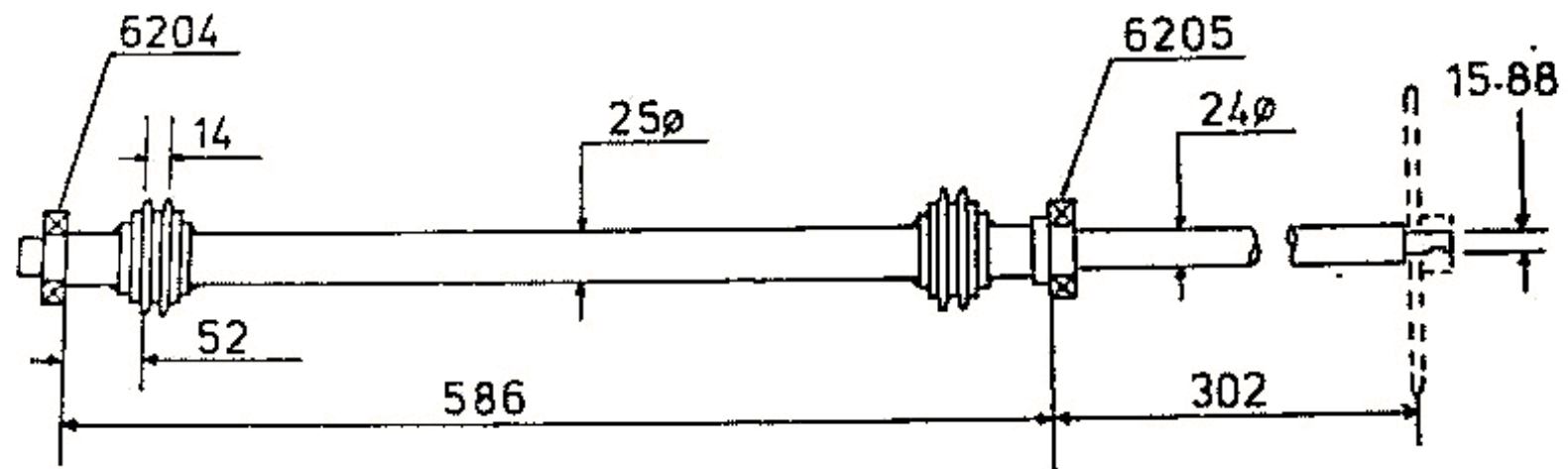






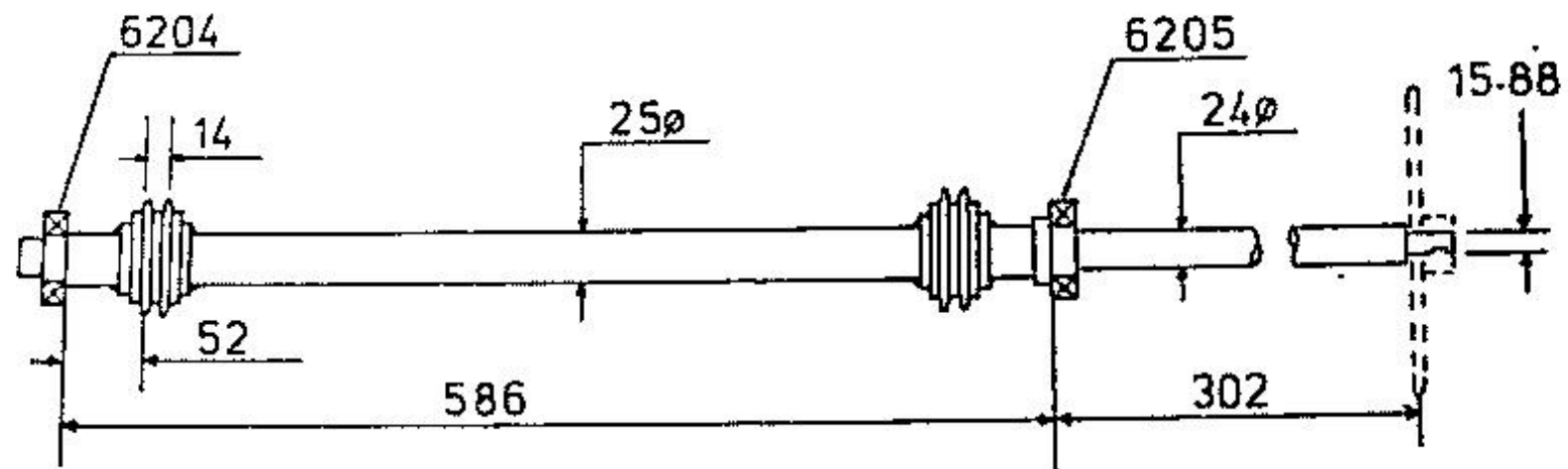






Layshaft - 4 Operator Pistol Thresher - Mild steel,
 Complete with driven sprockets, Driving Chainwheel,
 Ball Bearing 6204, and Ball Bearing 6205 -
 25 mm. bore x 58 mm. o.d x 15 mm. width.

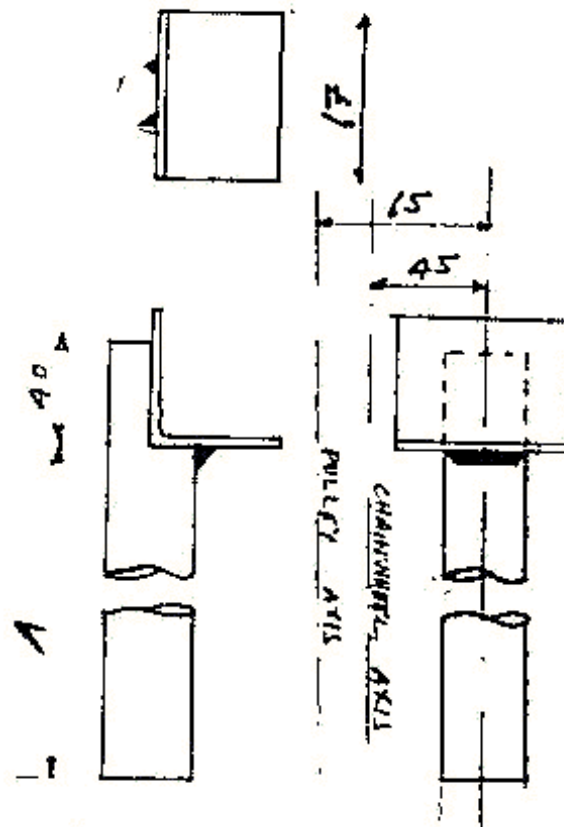
Scale 1 : 4



Shaft - 4 Operator Pistol Thresher - Mild Steel,
 Complete with driven sprockets, Driving Chainwheel,
 Ball Bearing 6204, and Ball Bearing 6205 -
 25 mm. bore x 58 mm. o.d x 15 mm. width.

Scale 1 : 4

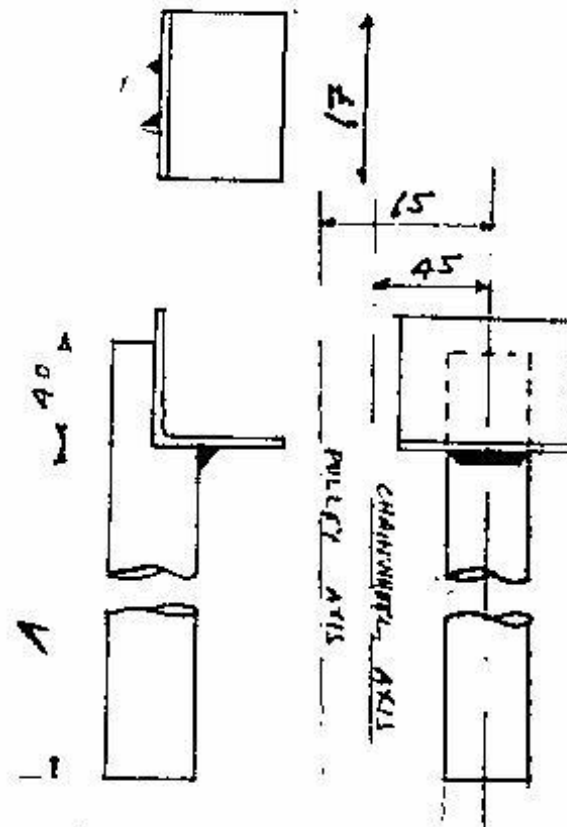
PEDAL DRIVE UNIT SUPPORT



PEDAL DRIVE UNIT SUPPORT - 1 OFF,
 3/4" BORE, MILD STEEL PIPE AND
 MILD STEEL ANGLE, 50X50X6 mm.

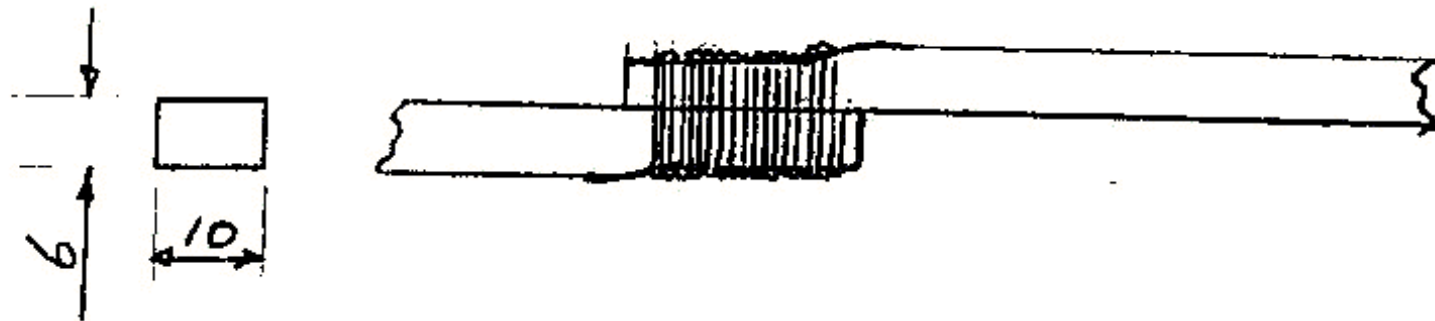
	A
FILLEY-DRIVEN MACHINE	320
CHAIN-DRIVEN MACHINE	260

PEDAL DRIVE UNIT SUPPORT

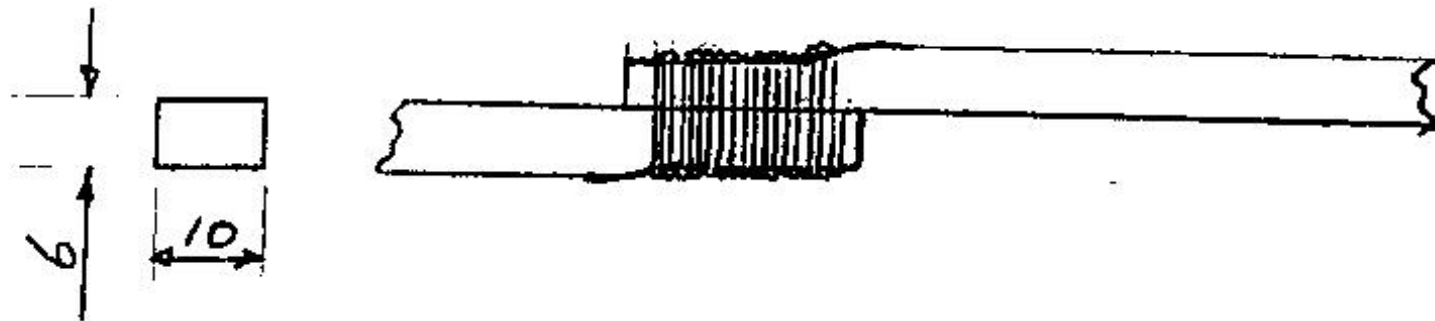


PEDAL DRIVE UNIT SUPPORT - 1 OFF,
 3/4" BORE, MILD STEEL PIPE AND
 MILD STEEL ANGLE, 50X50X6 mm.

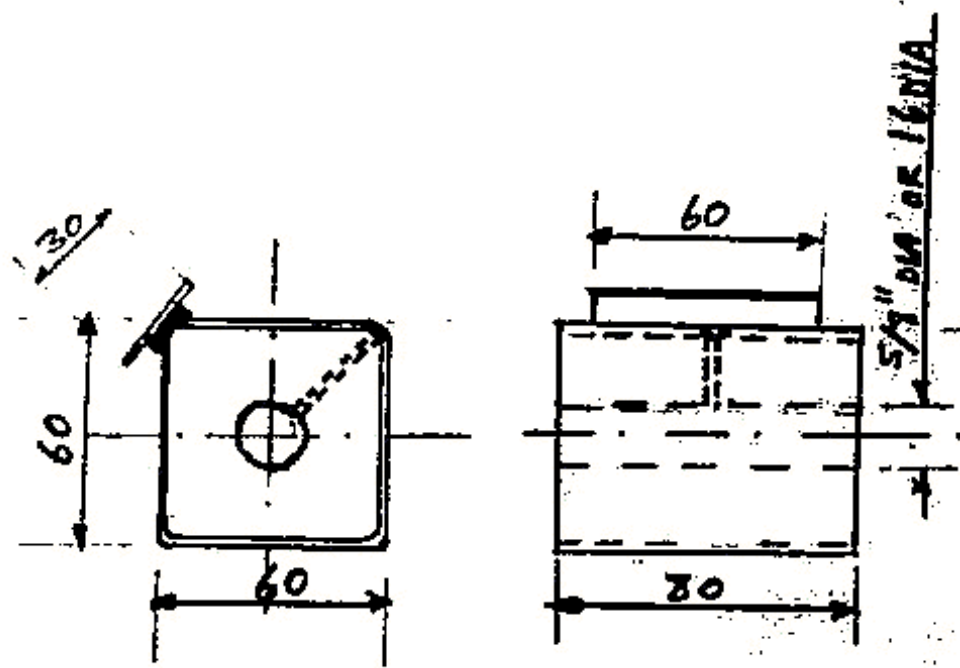
	A
FILLEY-DRIVEN MACHINE	320
CHAIN-DRIVEN MACHINE	260



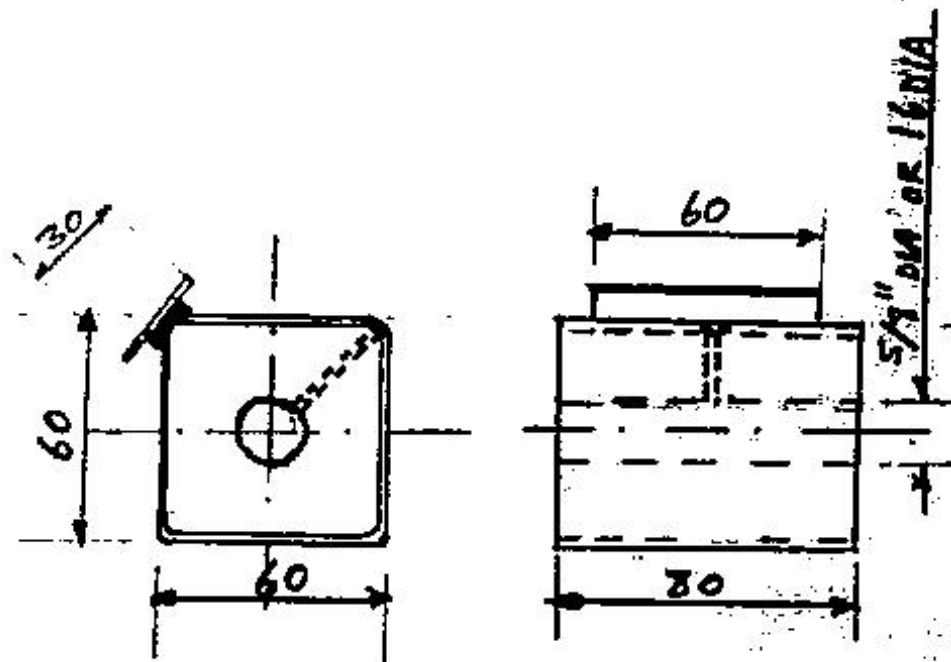
CAR TYRE BELTING CUT FROM
CIRCUMFERENCE OF TYRE, AND
FASTENED BY BINDING WITH 1 mm-DIA
ALUMINIUM OR COPPER WIRE.



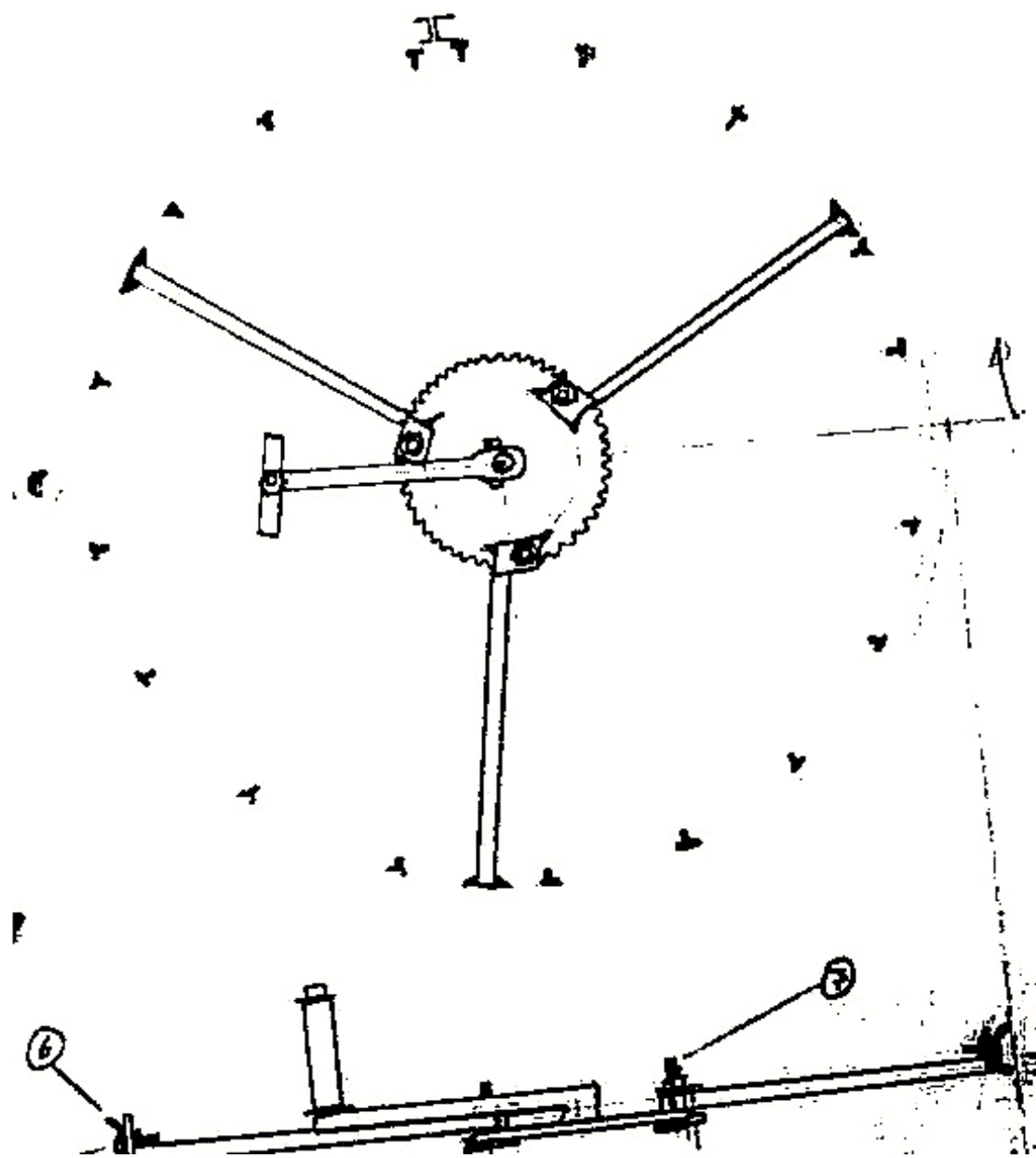
CAR TYRE BELTING CUT FROM
CIRCUMFERENCE OF TYRE, AND
FASTENED BY BINDING WITH 1 mm-DIA
ALUMINIUM OR COPPER WIRE.

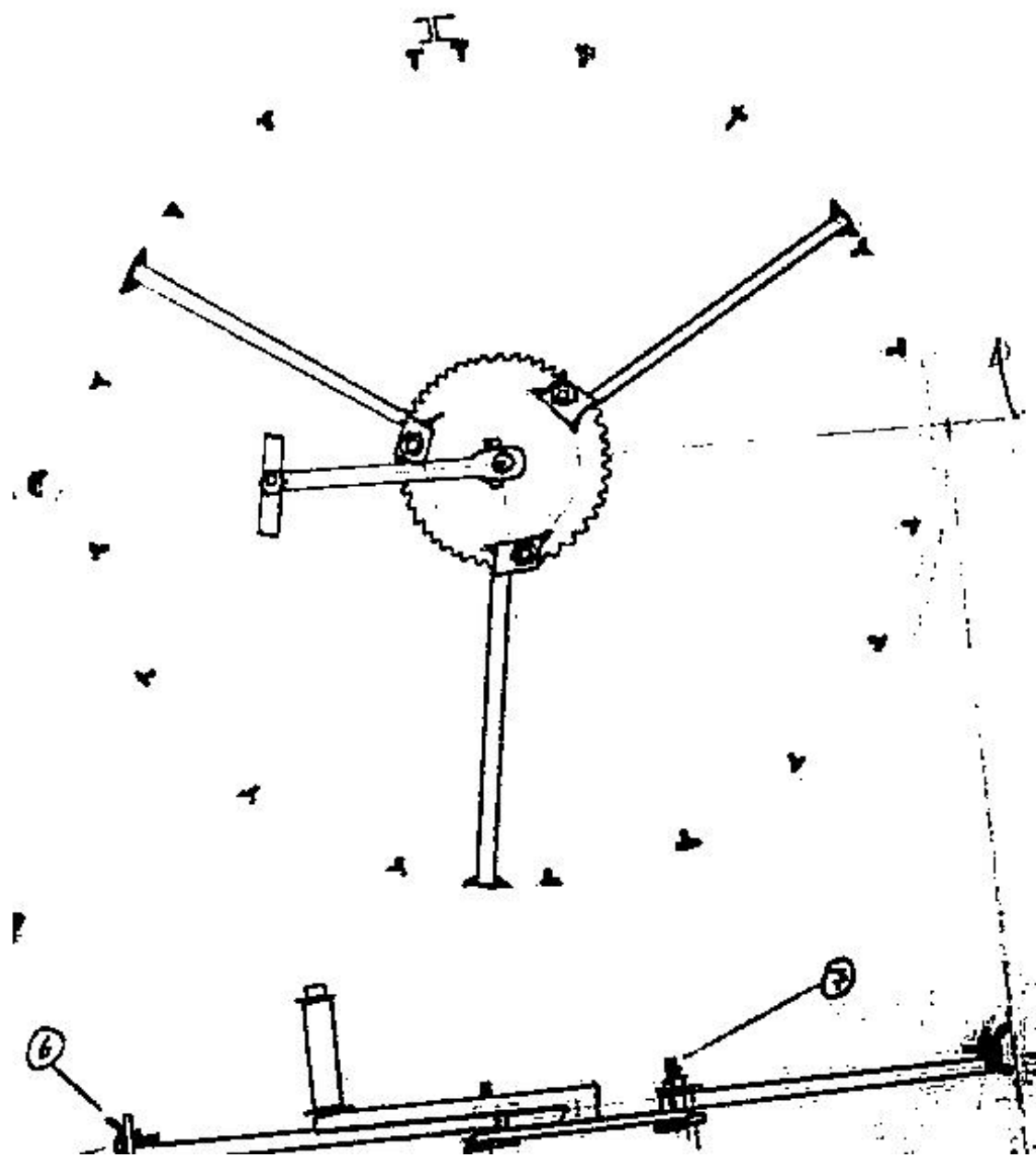


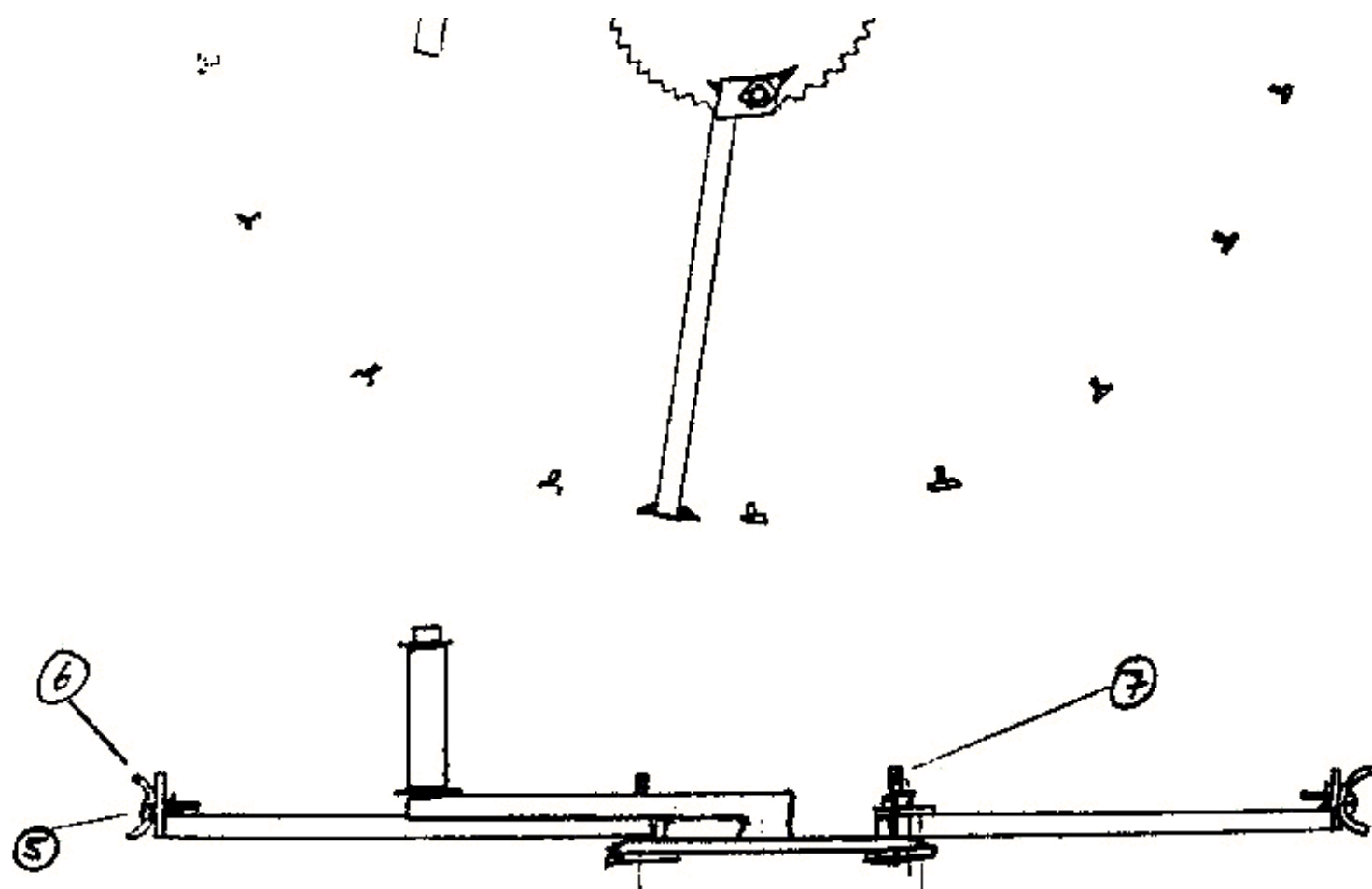
WOODEN BEARING ASSEMBLY, 1 OFF,
HARDWOOD IMPRESSED INTO 60X60X3
MILD STEEL SQUARE HOLLOW SECTION,
WITH HOLE FOR GREASE OR OIL.
ALSO SCREW BEARING PLATE OF 30X3 MILD
STEEL STRIP.



WOODEN BEARING ASSEMBLY, 1 OFF,
HARDWOOD 1" THICK PRESSFIT INTO 60X60X3
MILD STEEL SQUARE HOLLOW SECTION,
WITH HOLE FOR GREASE OR OIL.
ALSO SCREW BEARING PLATE OF 30X3 MILD
STEEL STRIP.

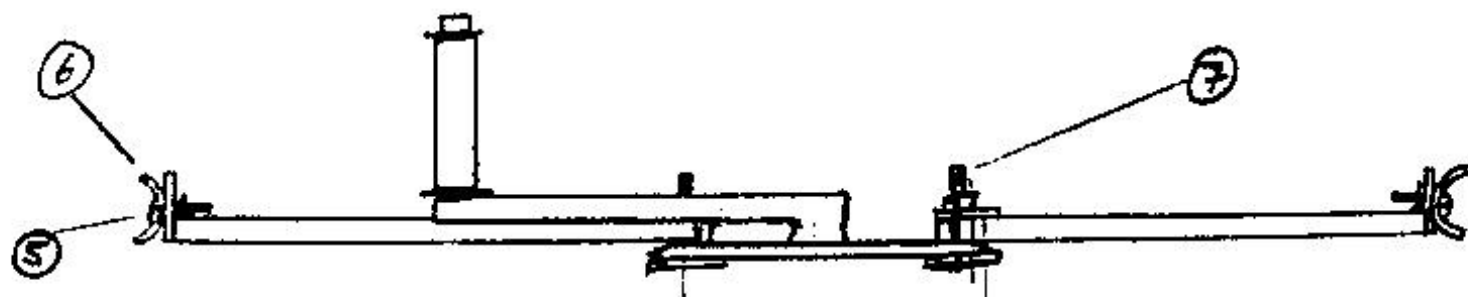
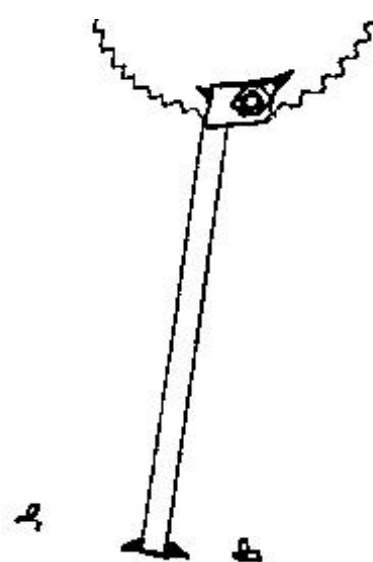






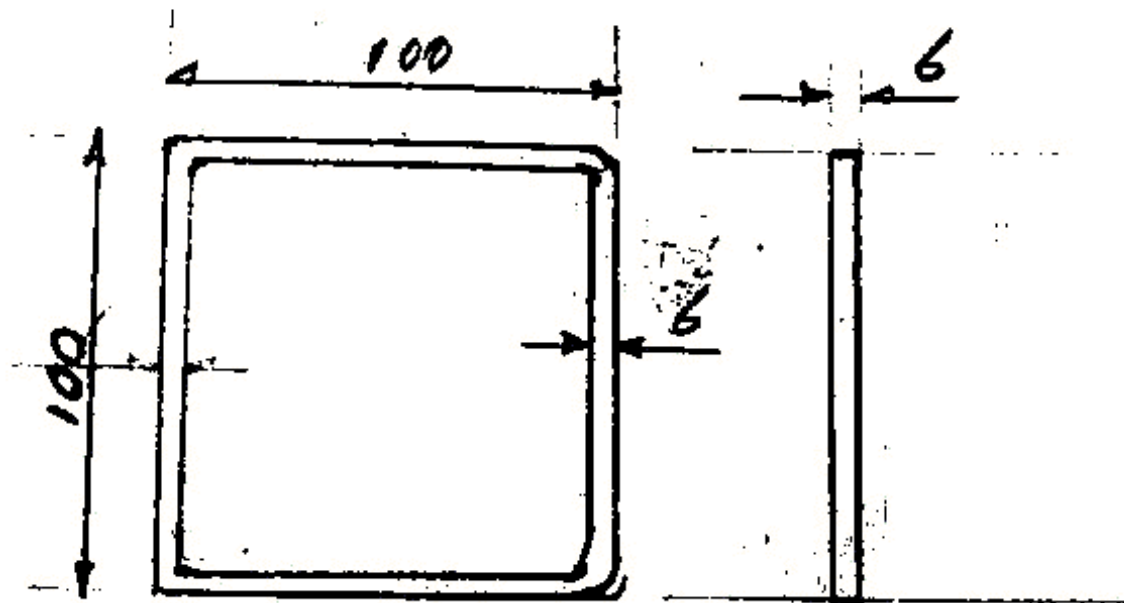
PULLEY WHEEL BOLTED TO STANDARD BICYCLE CHAIN WHEEL, COMPLETE WITH PLASTIC DRIVE BELT RETAINER.

5. DOME-HEAD MILD STEEL SCREWS, $\frac{1}{4}$ " DIA X 1" LONG, 18 OFF
6. $\frac{3}{4}$ " BORE PLASTIC WATER HOSE, 2m LONG, CUT IN HALF
7. $\frac{5}{16}$ " DIA HTS BOLTS, 35mm LONG.

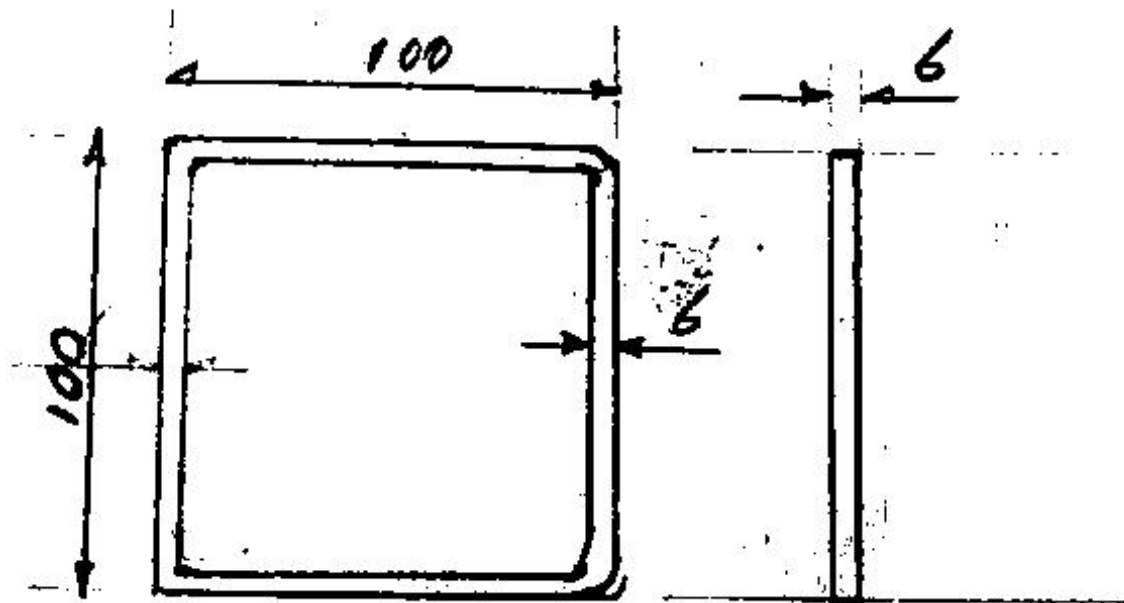


PULLEY WHEEL BOLTED TO STANDARD
BICYCLE CHAIN WHEEL, COMPLETE WITH
PLASTIC DRIVE BELT RETAINER

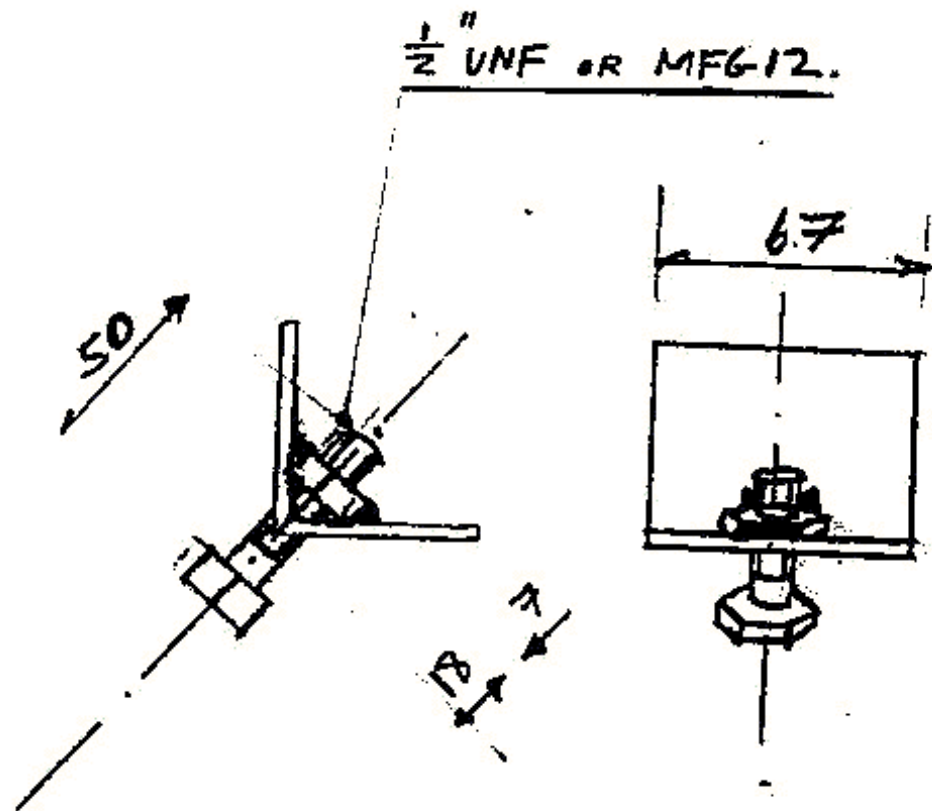
- 5 DOME-HEAD MILD STEEL SCREWS, $\frac{1}{4}$ " DIA X 1" LONG, 18 OFF
6. $\frac{3}{4}$ " BORE PLASTIC WATER HOSE, 2m LONG, CUT IN HALF
7. $\frac{5}{16}$ " DIA HTS BOLTS, 35mm LONG.



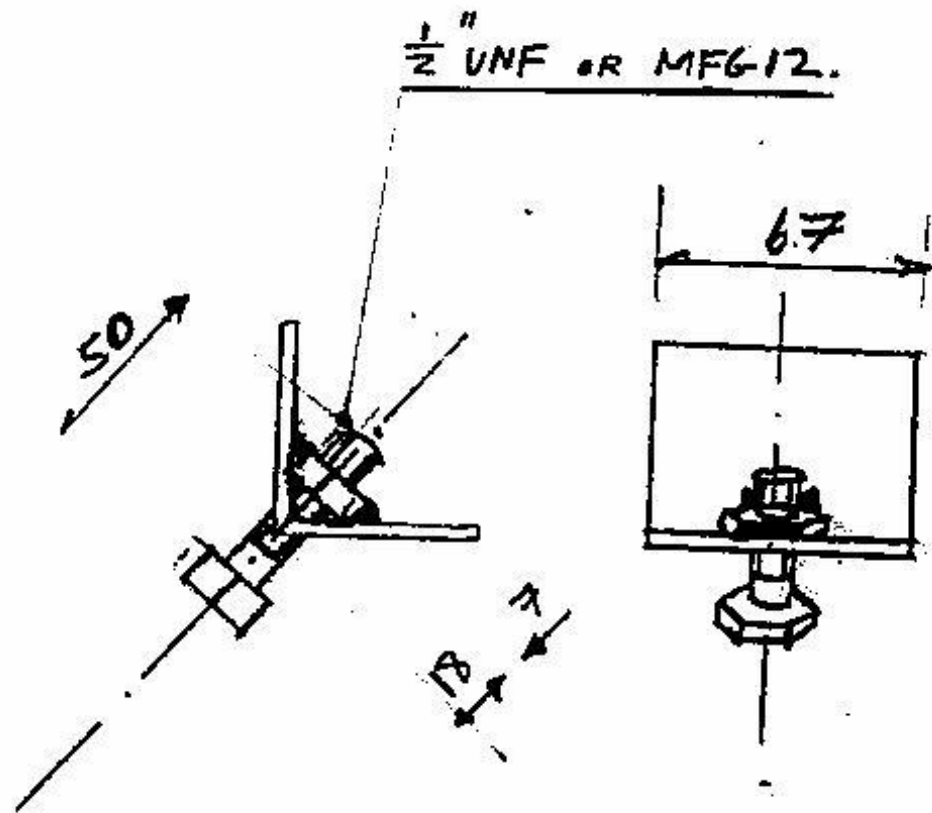
BEARING CLAMPING FRAMES, 2 OFF,
 MILD STEEL SQUARE HOLLOW SECTION
 SAWN OUT SQUARE IN TWO OPPOSITE CORNERS.



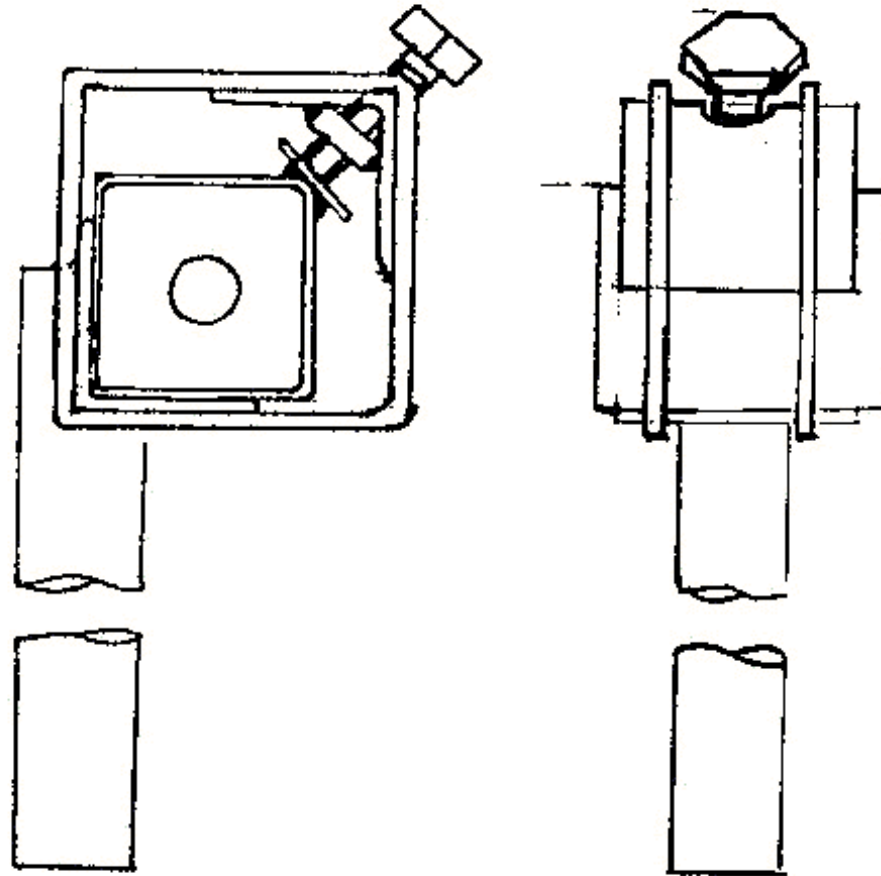
BEARING CLAMPING FRAMES, 2 OFF,
 MILD STEEL SQUARE HOLLOW SECTION
 SAWN OUT SQUARE IN TWO OPPOSITE CORNERS.



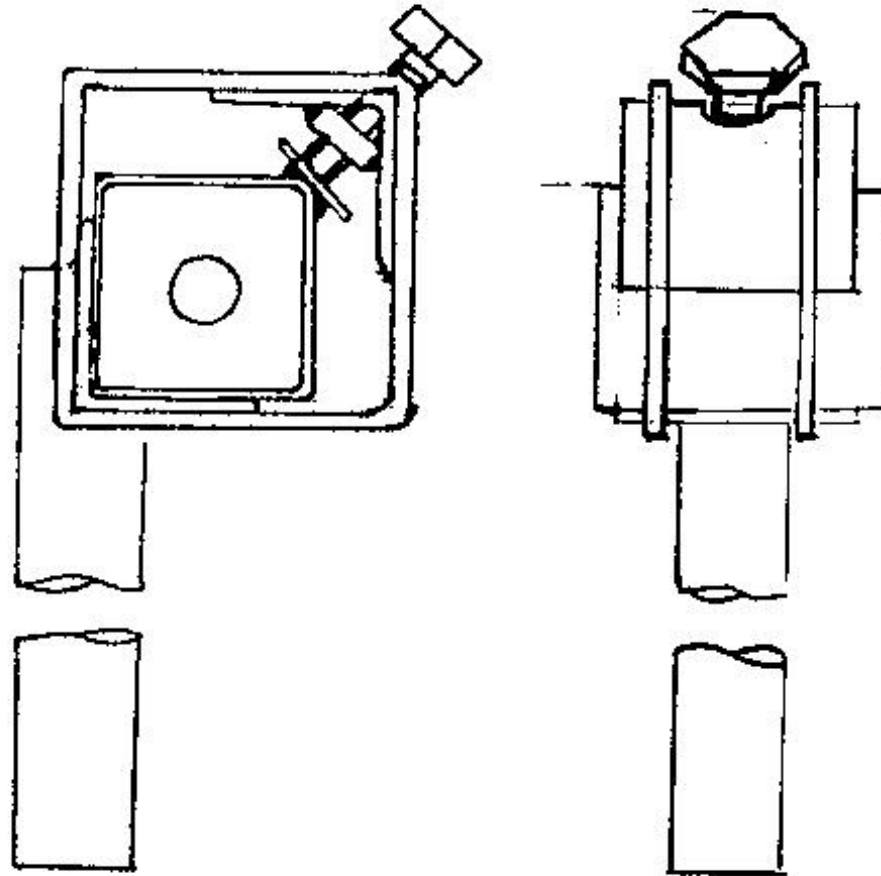
BEARING CLAMP ASSEMBLY, 1 OFF,
MILD STEEL ANGLE 50X50X6 AND
HIGH TENSILE STEEL BOLT



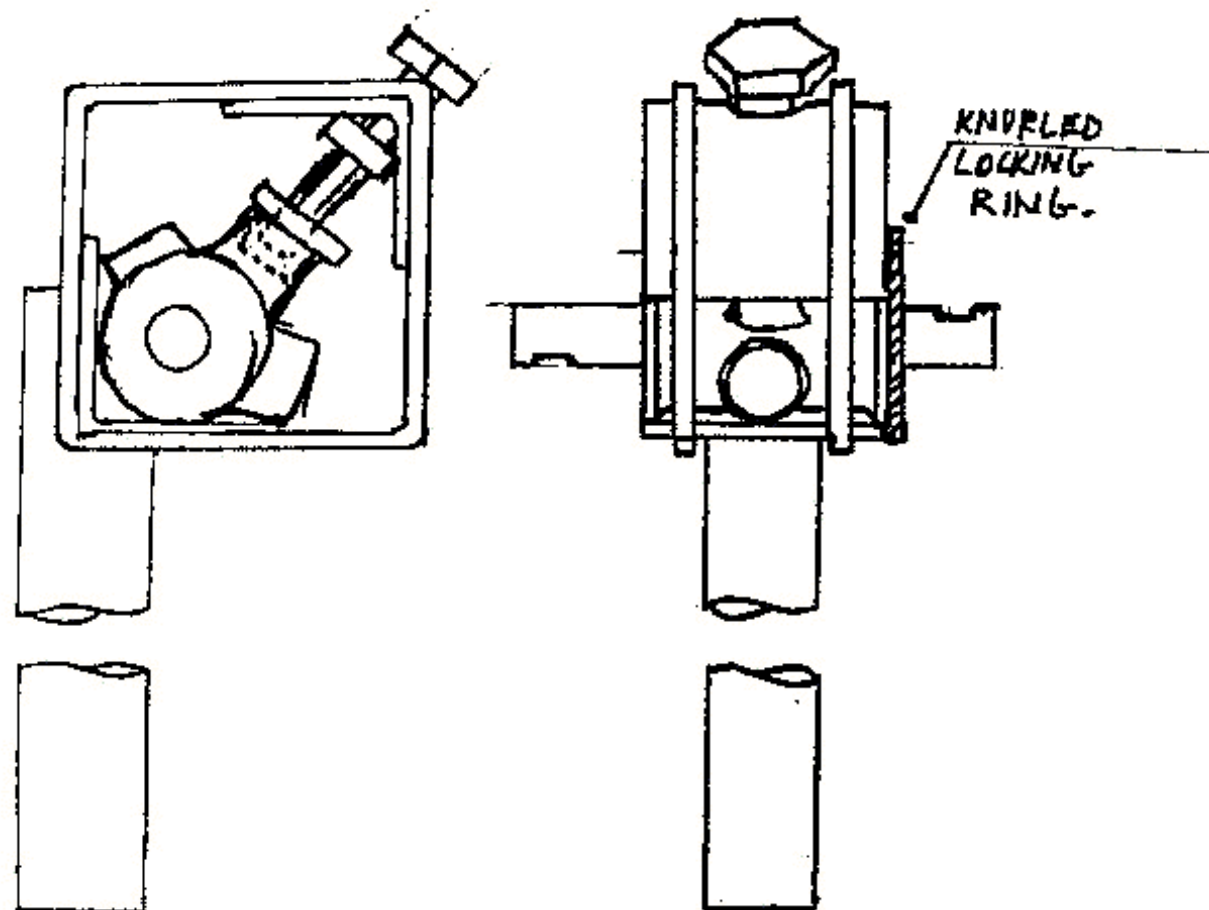
BEARING CLAMP ASSEMBLY, 1 OFF,
MILD STEEL ANGLE 50X50X6 AND
HIGH TENSILE STEEL BOLT



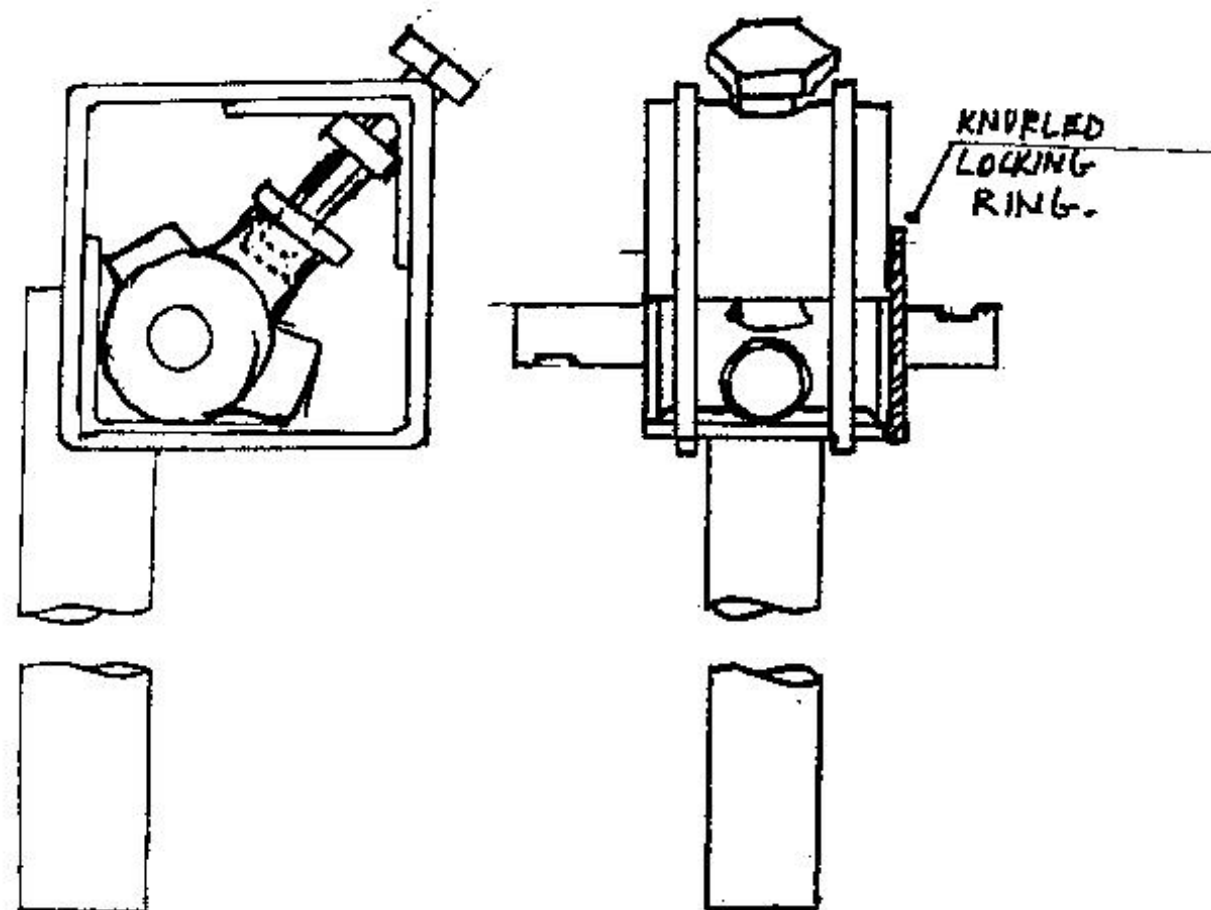
PEDAL DRIVE UNIT SUPPORT
WITH WOODEN BEARING AND CLAMPING
ASSEMBLY.



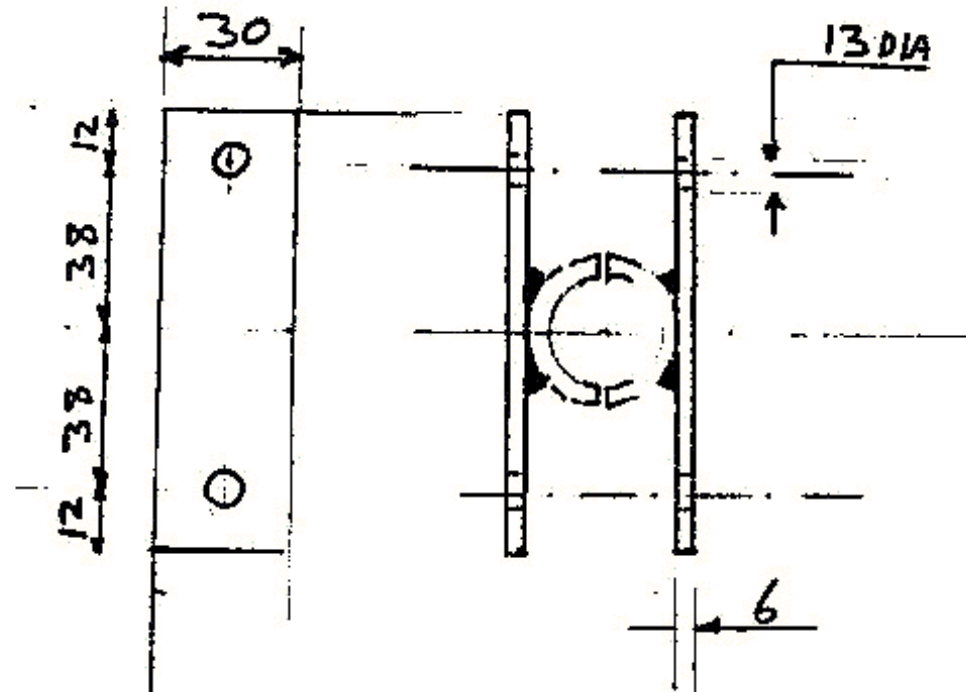
PEDAL DRIVE UNIT SUPPORT
WITH WOODEN BEARING AND CLAMPING
ASSEMBLY.



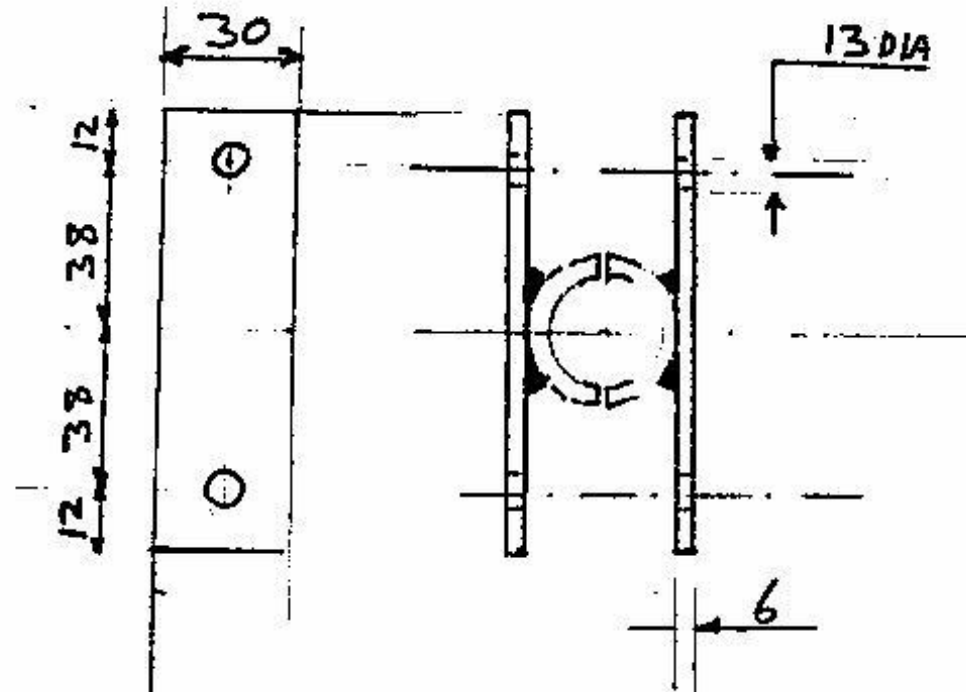
PEDAL DRIVE UNIT SUPPORT WITH
STANDARD BICYCLE BOTTOM BRACKET
AND SPINDLE ASSEMBLY AND CLAMPING
ASSEMBLY, SHOWING CORRECT POSITION
WITH KNURLED LOCKING RING JUST



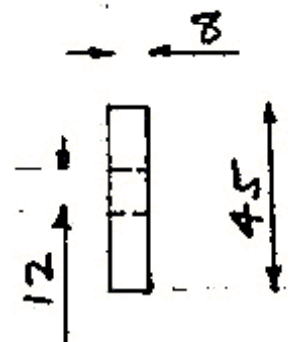
PEDAL DRIVE UNIT SUPPORT WITH
STANDARD BICYCLE BOTTOM BRACKET
AND SPINDLE ASSEMBLY AND CLAMPING
ASSEMBLY, SHOWING CORRECT POSITION
WITH KNUBBED LOCKING RING JUST



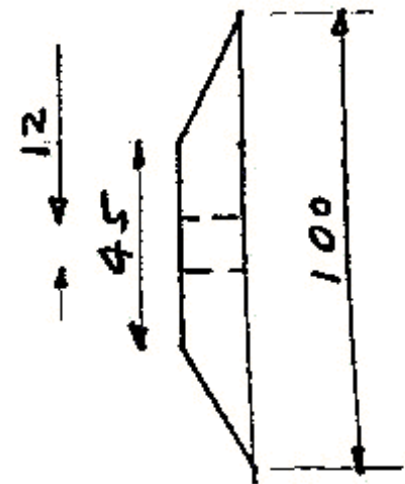
BEARING / FRAME CLAMPING
 UNIT, ASSEMBLIES, 2 OFF
 MILD STEEL PLATE AND
 1" BORE PIPE.
 [ATTACHED TO THRESHER
 FRAME BY 4 BOLTS,
 M12 X 75 mm LONG]



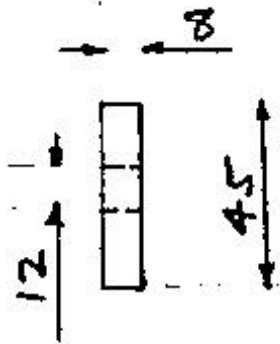
BEARING / FRAME CLAMPING
 UNIT, ASSEMBLIES, 2 OFF
 MILD STEEL PLATE AND
 1" BORE PIPE.
 [ATTACHED TO THRESHER
 FRAME BY 4 BOLTS,
 M12 X 75 mm LONG]



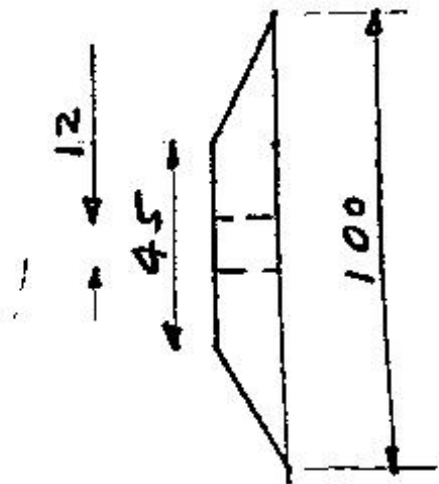
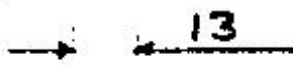
PULLEY INNER DISC - 2 OFF



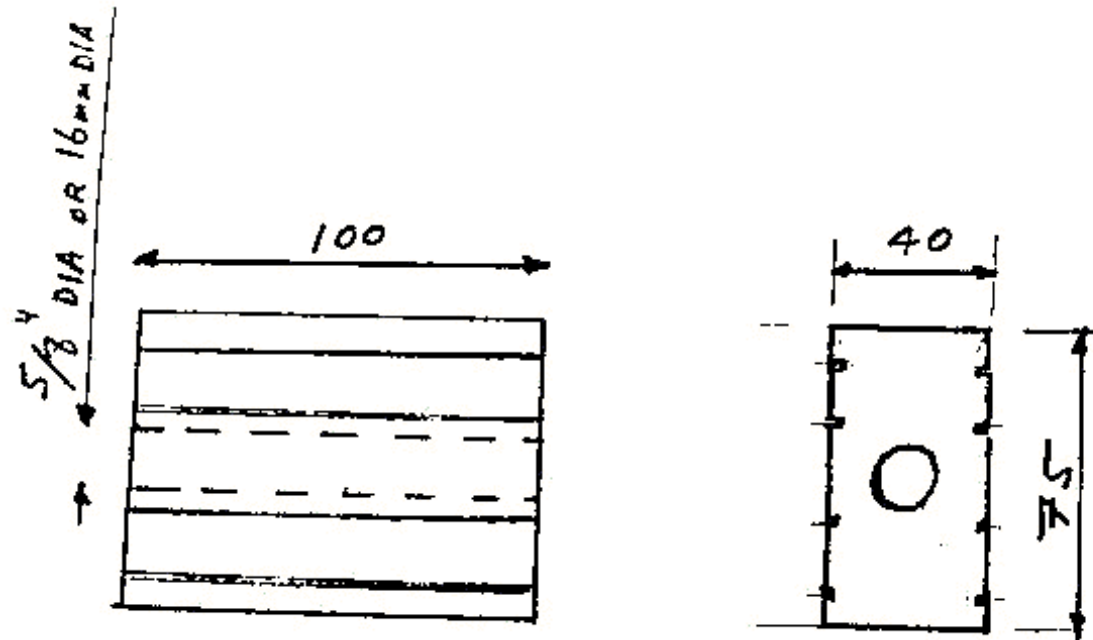
PULLEY OUTER DISC - 4 OFF



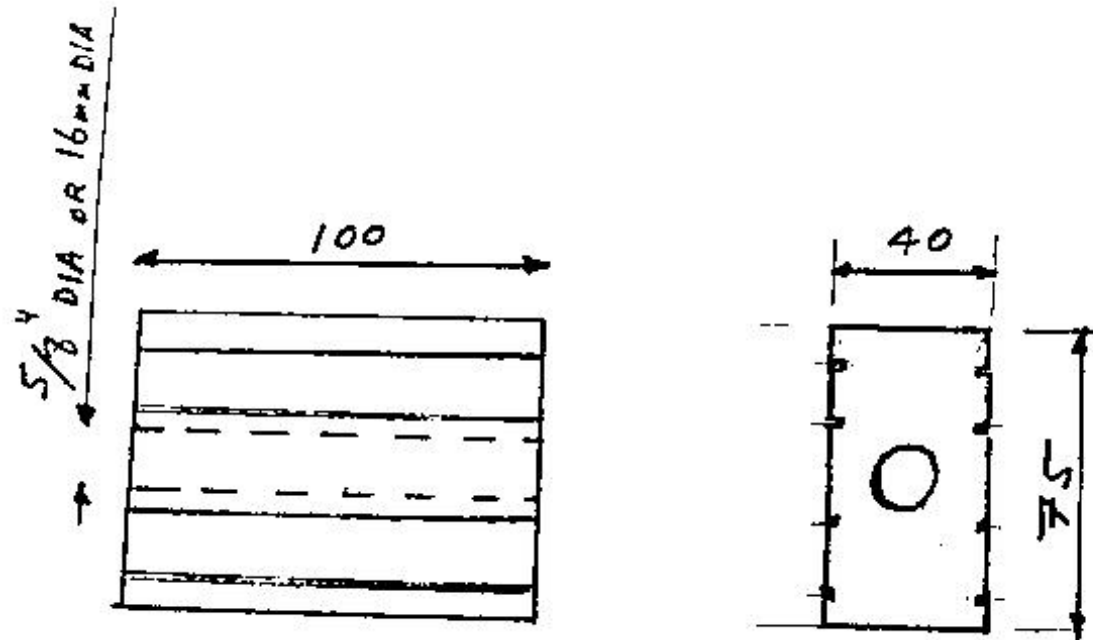
PULLEY INNER DISC - 2 OFF



PULLEY OUTER DISC - 4 OFF

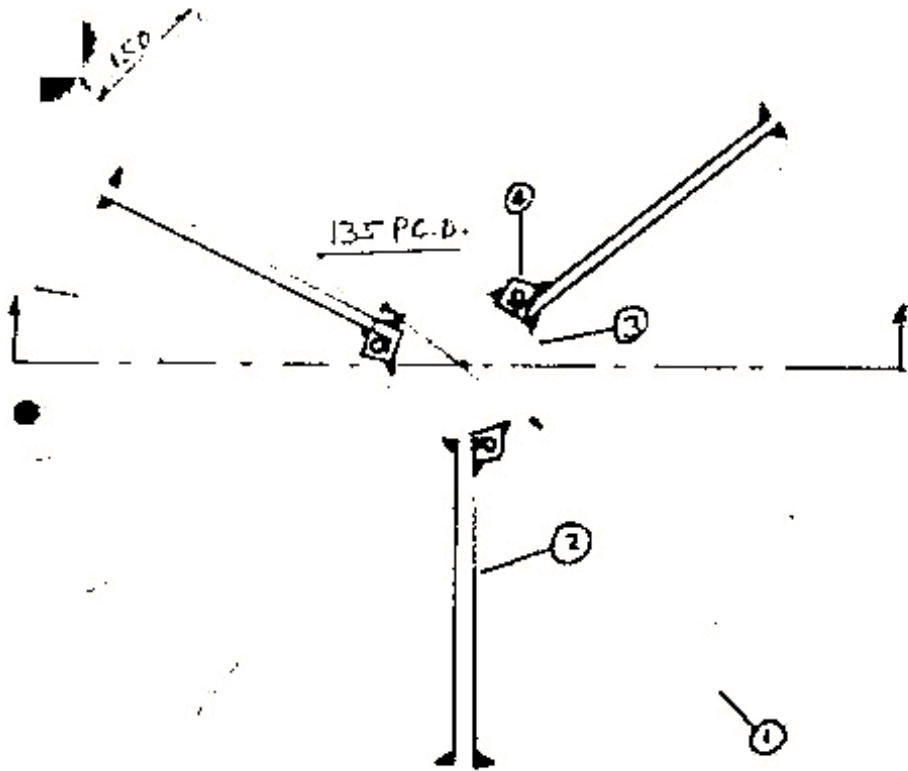


WOODEN PEDALS, 2 OFF, COMPLETE WITH
ANTI-SLIP GROOVES CUT USING
CIRCULAR SAW



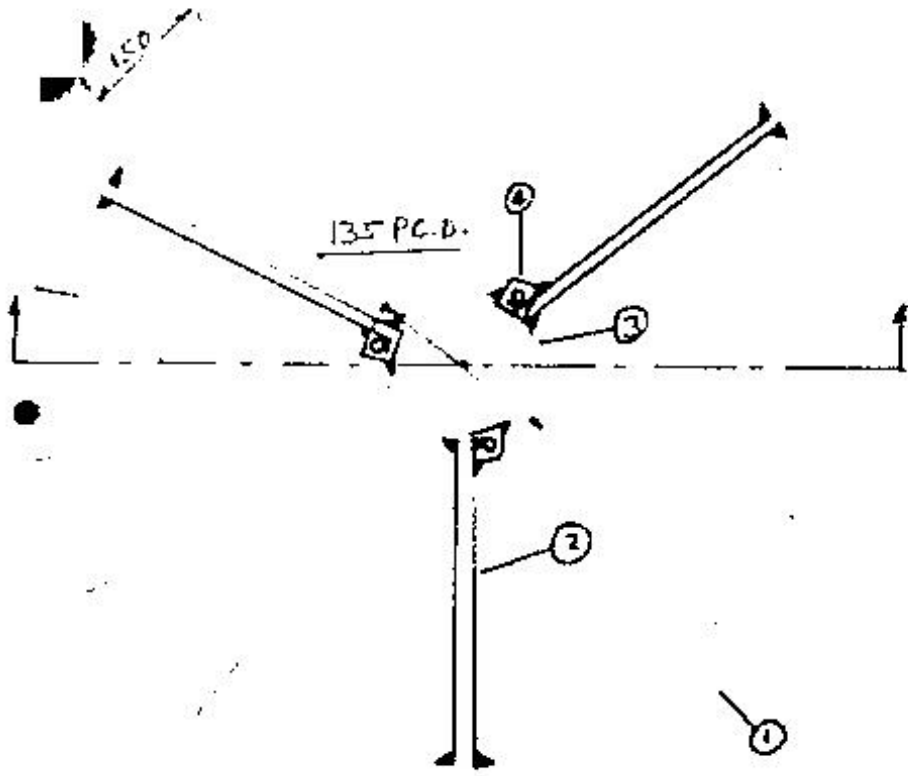
WOODEN PEDALS, 2 OFF, COMPLETE WITH
ANTI-SLIP GROOVES CUT USING
CIRCULAR SAW

17 Holes, 7mm DIA
30 150

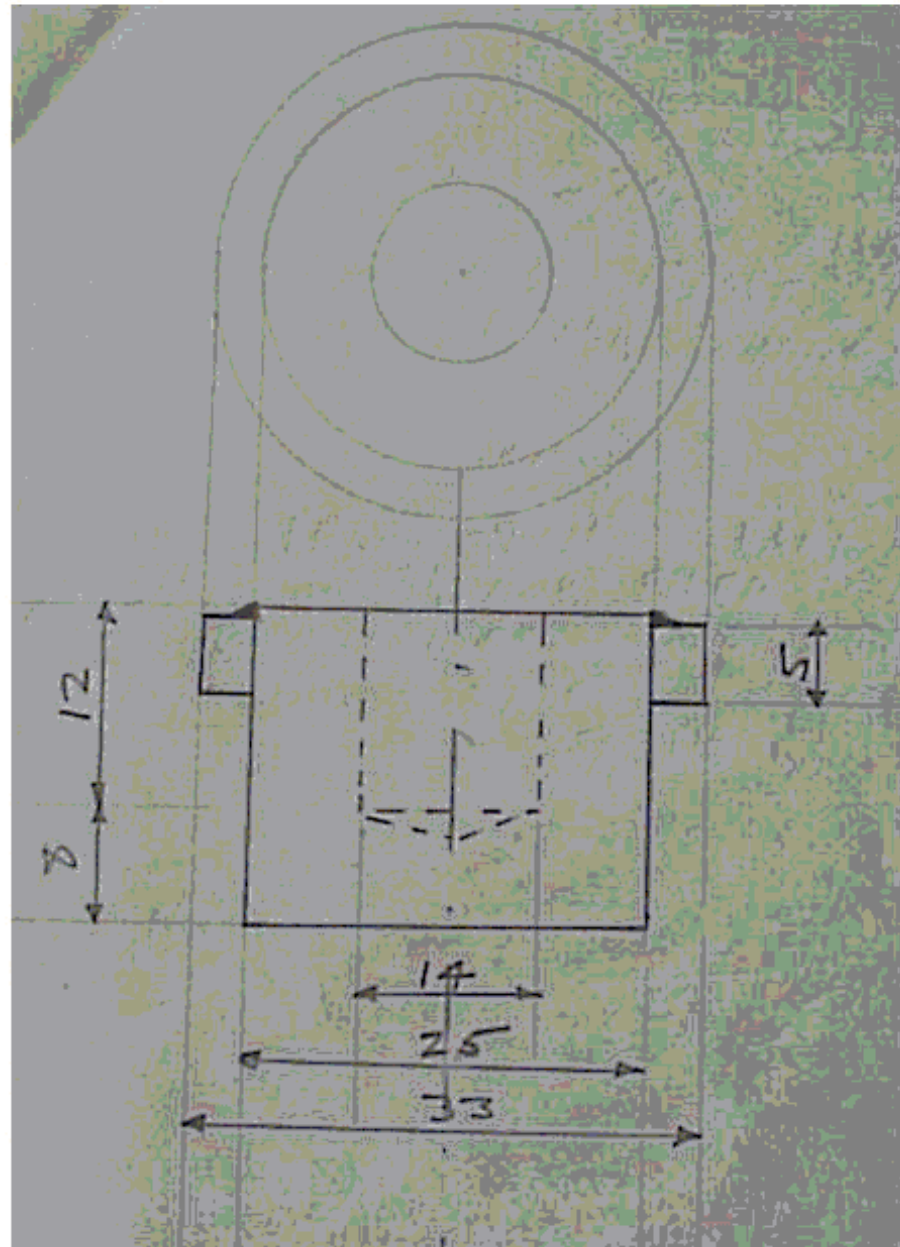


OPTIONAL BOLT-ON PULLEY WHEEL
ASSEMBLY — MILD STEEL.

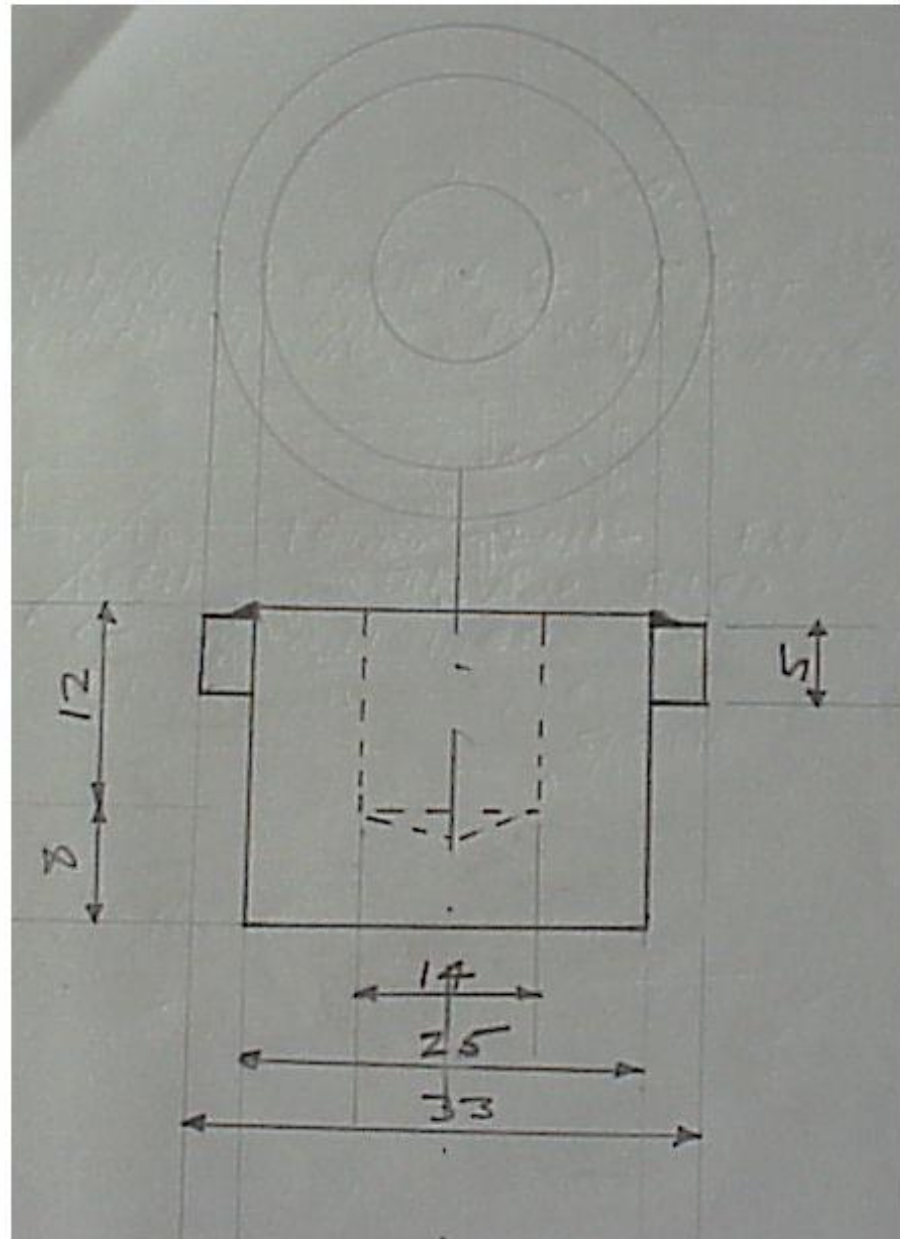
17 Holes, 7mm DIA
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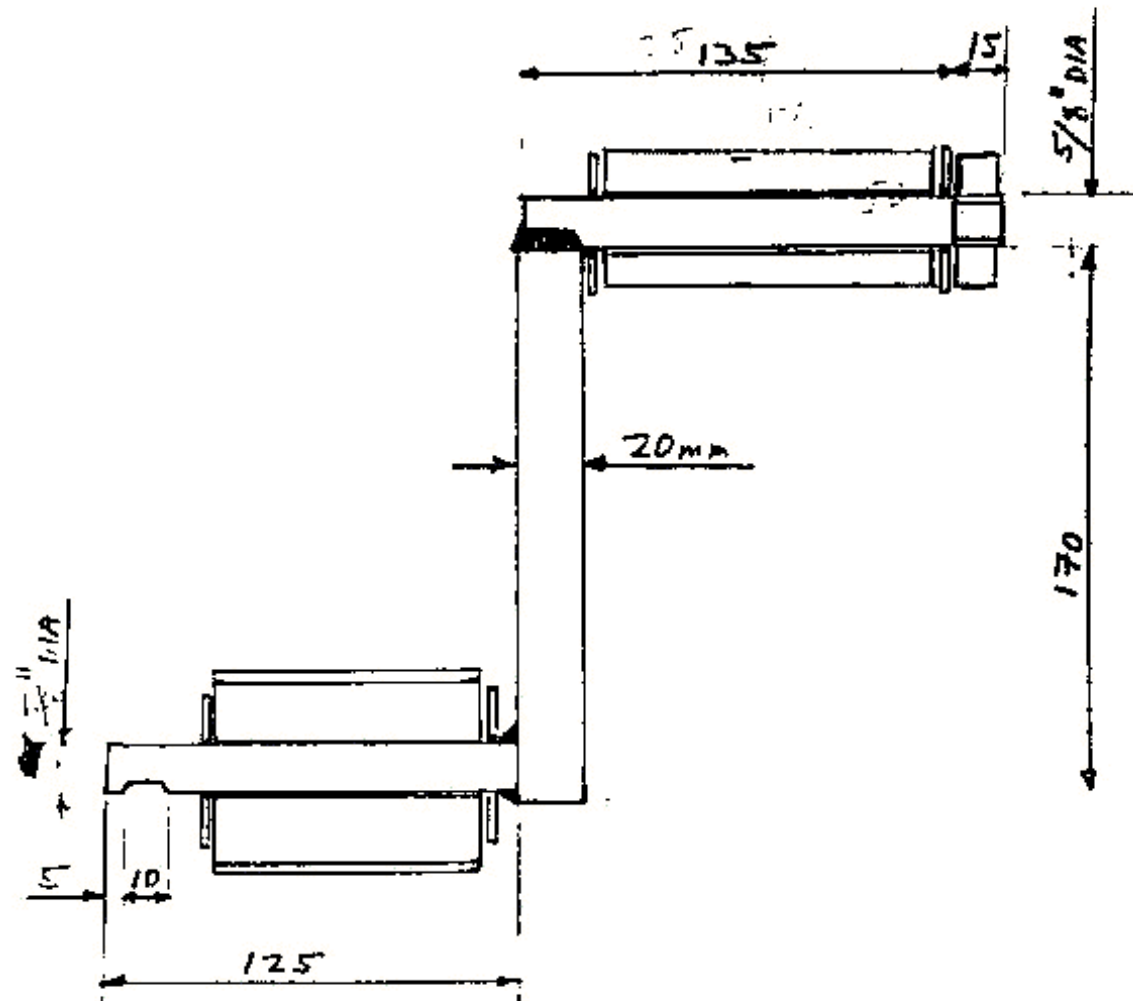
OPTIONAL BOLT-ON PULLEY WHEEL
ASSEMBLY — MILD STEEL.



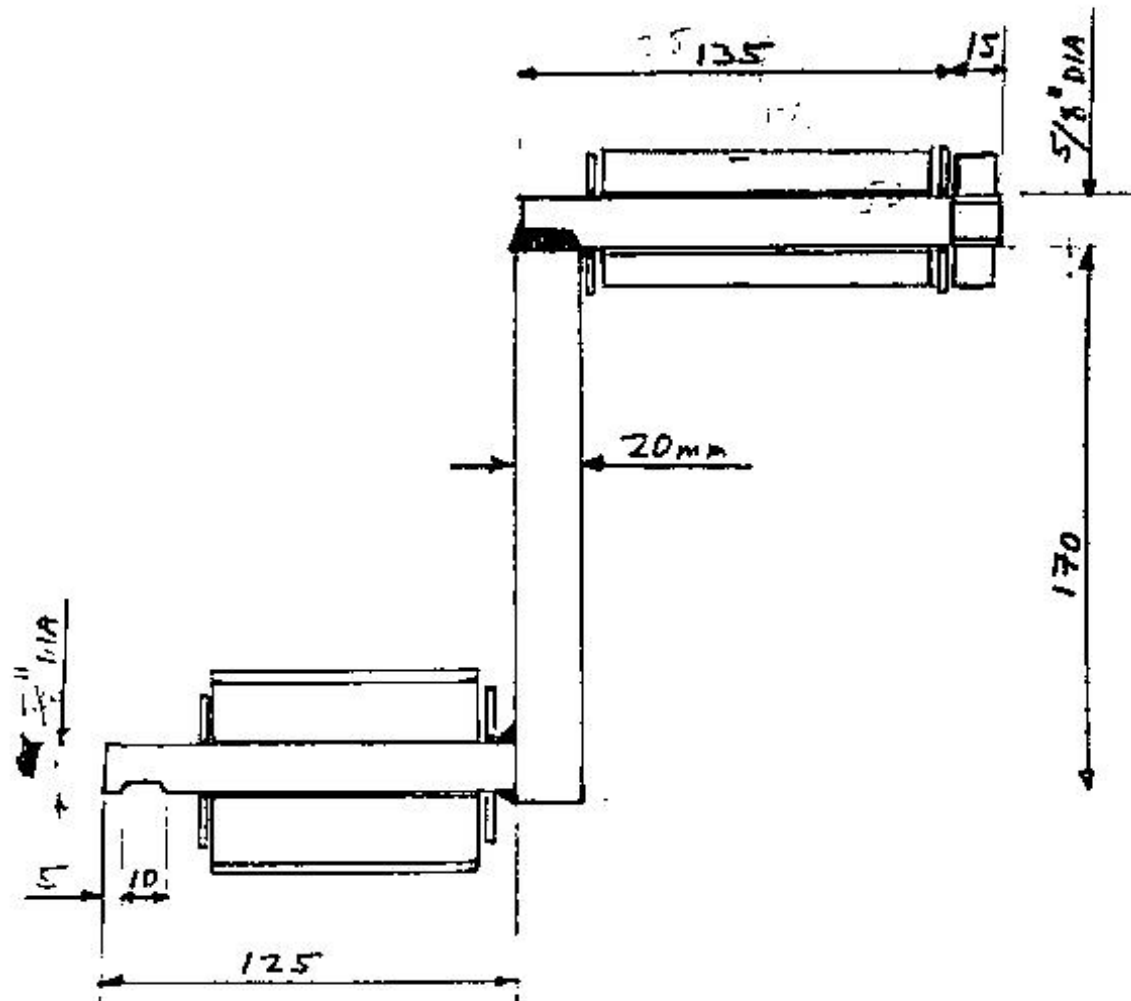
BOTTOM BRACKET CLAMPING
FITMENT ASSEMBLY — 25mm DIA MILD



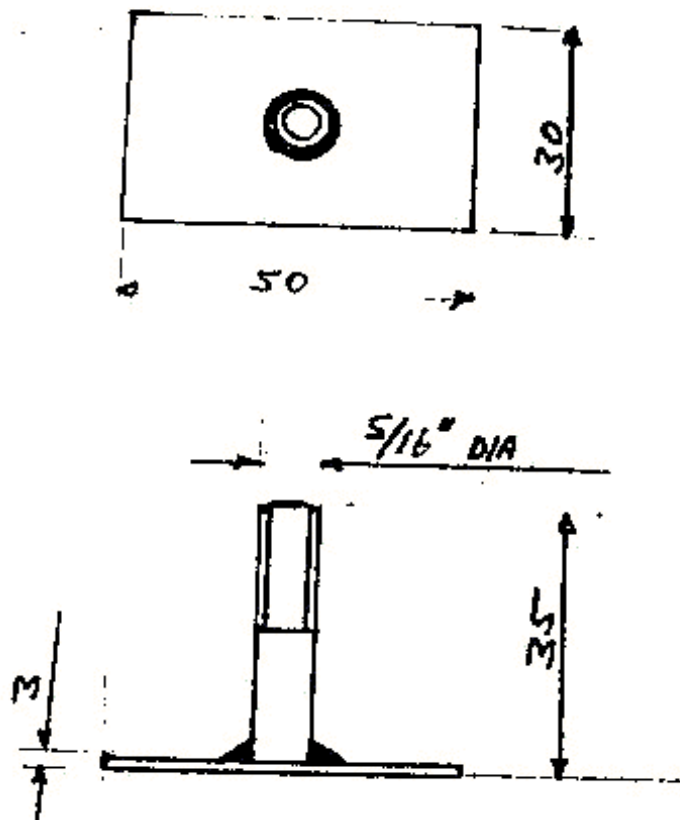
BOTTOM BRACKET CLAMPING
FITMENT ASSEMBLY — 25mm DIA MILD



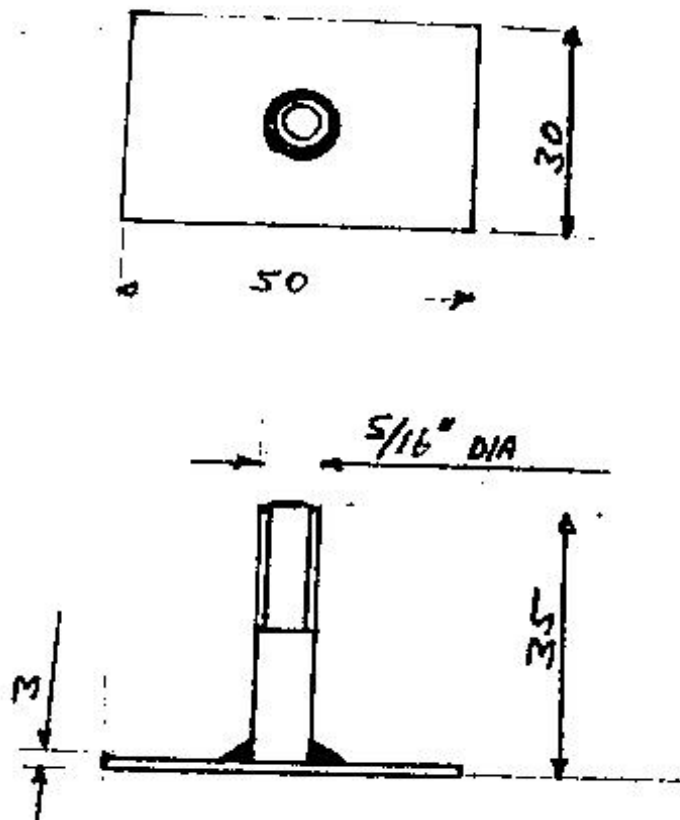
SECTIONED VIEW OF MILD STEEL SPINDLE,
 CRANK AND PEDAL ROD ASSEMBLY, WITH
 WOODEN BEARING, & THRUST WASHERS,
 WOODEN PEDAL, AND RETAINING NUT.
 NOTE 14mm - LONG FLAT WASH WAS



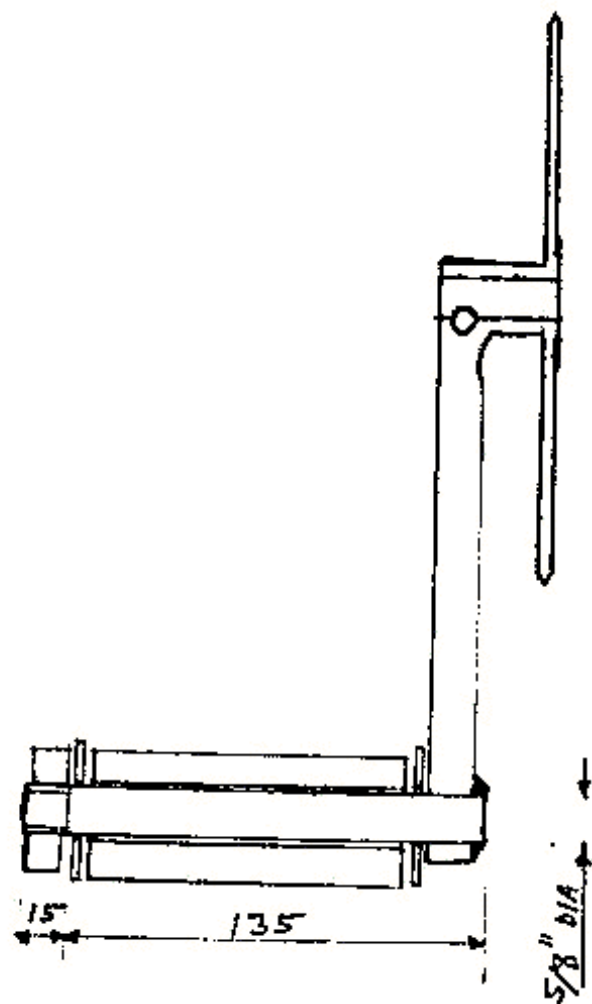
SECTIONED VIEW OF MILD STEEL SPINDLE,
 CRANK AND PEDAL ROD ASSEMBLY, WITH
 WOODEN BEARING, & THRUST WASHERS,
 WOODEN PEDAL, AND RETAINING NUT.
 NOTE 14mm - LONG FLAT WASH WAS



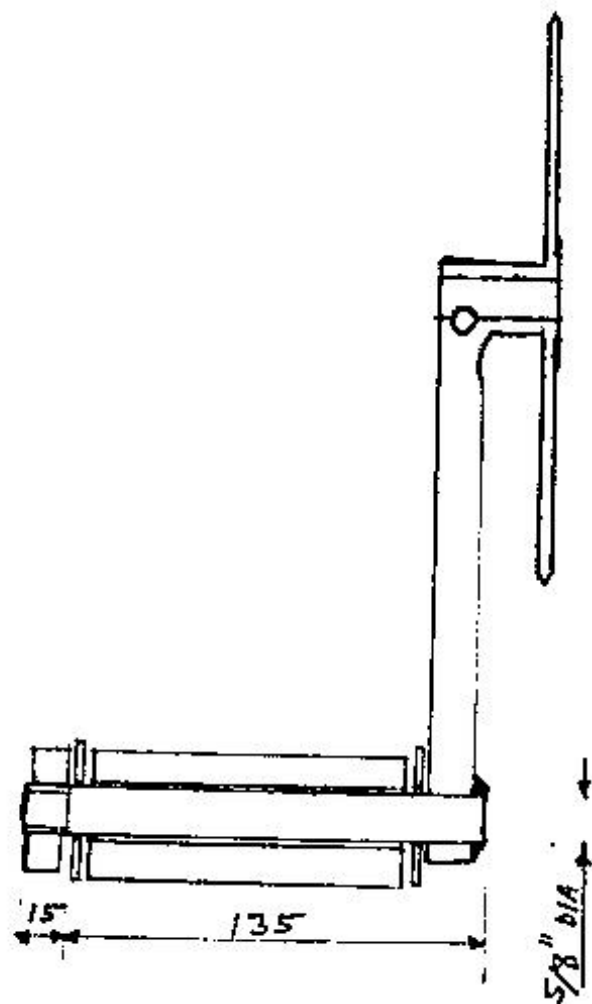
PT. 7 - CHAINWHEEL/PULLEY CLAMPING BOLT ASSEMBLY,
 5/16" DIA HTS BOLT AND 30X3 MILD
 STEEL STRIP.



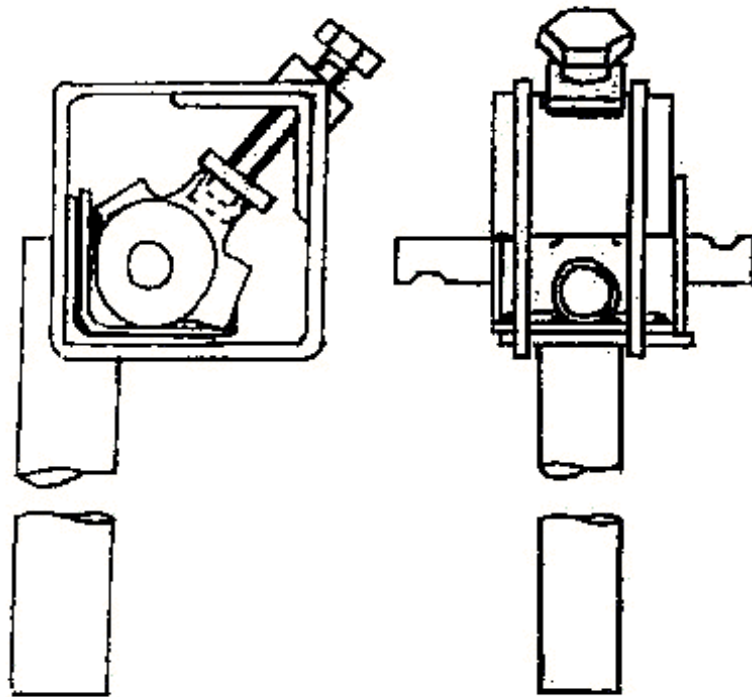
PT. 7 - CHAINWHEEL/PULLEY CLAMPING BOLT ASSEMBLY,
 5/16" DIA HTS BOLT AND 30X3 MILD
 STEEL STRIP.



SECTIONED VIEW OF BICYCLE
CHAINWHEEL AND PEDAL ROD
ASSEMBLY, WITH WOODEN PEDAL,
2 THRUST WASHERS, AND PEDAL
RETAINING NUT.



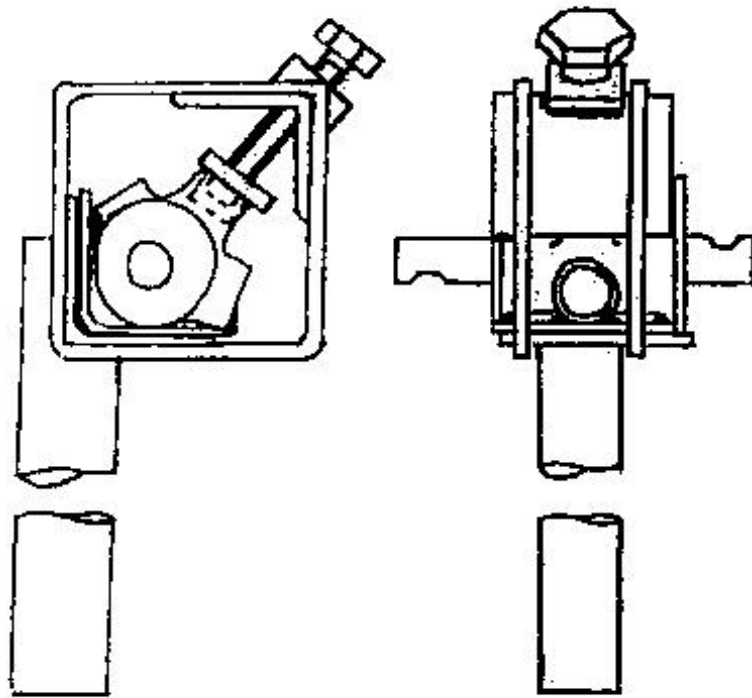
SECTIONED VIEW OF BICYCLE
CHAINWHEEL AND PEDAL ROD
ASSEMBLY, WITH WOODEN PEDAL,
2 THRUST WASHERS, AND PEDAL
RETAINING NUT.



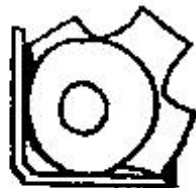
BEARING UNIT SUPPORT
WITH STANDARD BICYCLE BOTTOM
BRACKET AND SPINDLE ASSEMBLY
AND CLAMPING ASSEMBLY.



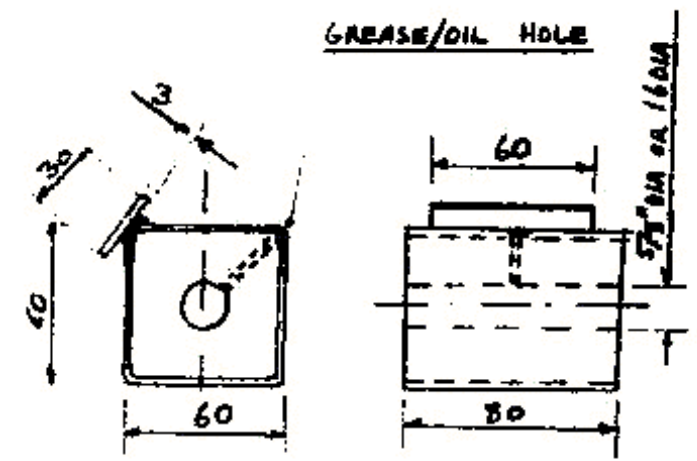
STANDARD BICYCLE BOTTOM
BRACKET AND SPINDLE
ASSEMBLY BRAZED TO
LATERAL ADJUSTMENT
INTERMEDIARY
MILD STEEL ANGLE,
50X50X6X67mm LONG



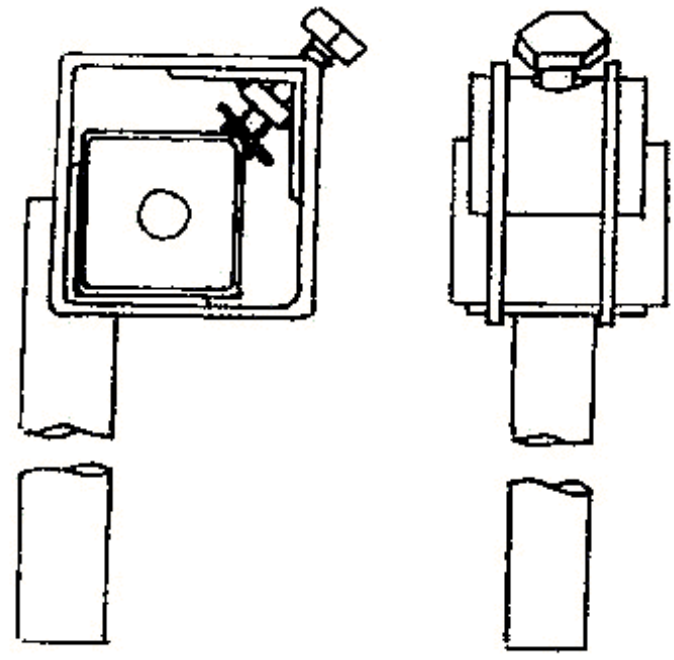
BEARING UNIT SUPPORT
WITH STANDARD BICYCLE BOTTOM
BRACKET AND SPINDLE ASSEMBLY
AND CLAMPING ASSEMBLY.

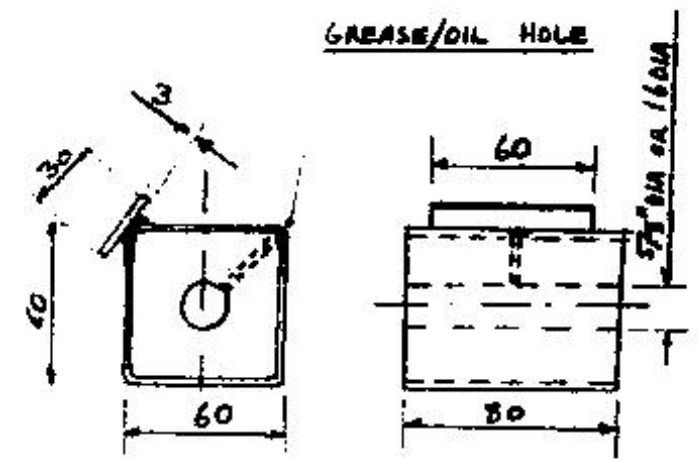


STANDARD BICYCLE BOTTOM
BRACKET AND SPINDLE
ASSEMBLY BRAZED TO
LATERAL ADJUSTMENT
INTERMEDIARY
MILD STEEL ANGLE,
50X50X6X67mm LONG

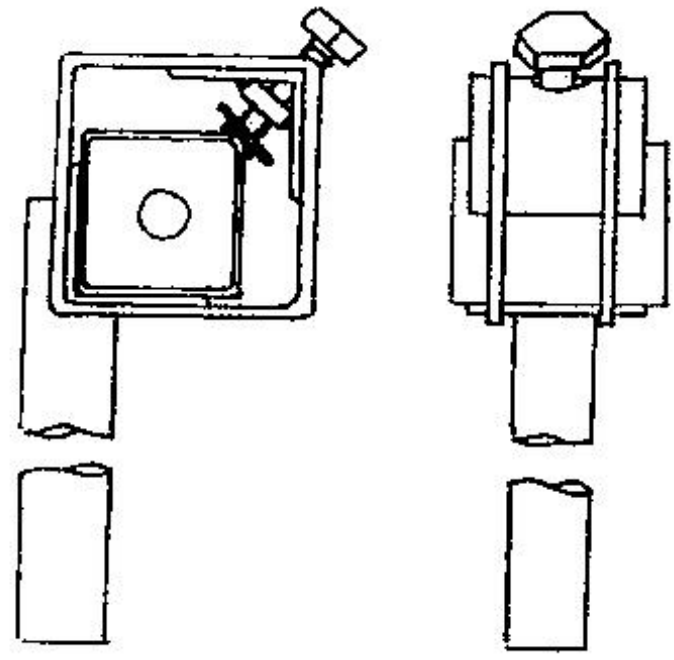


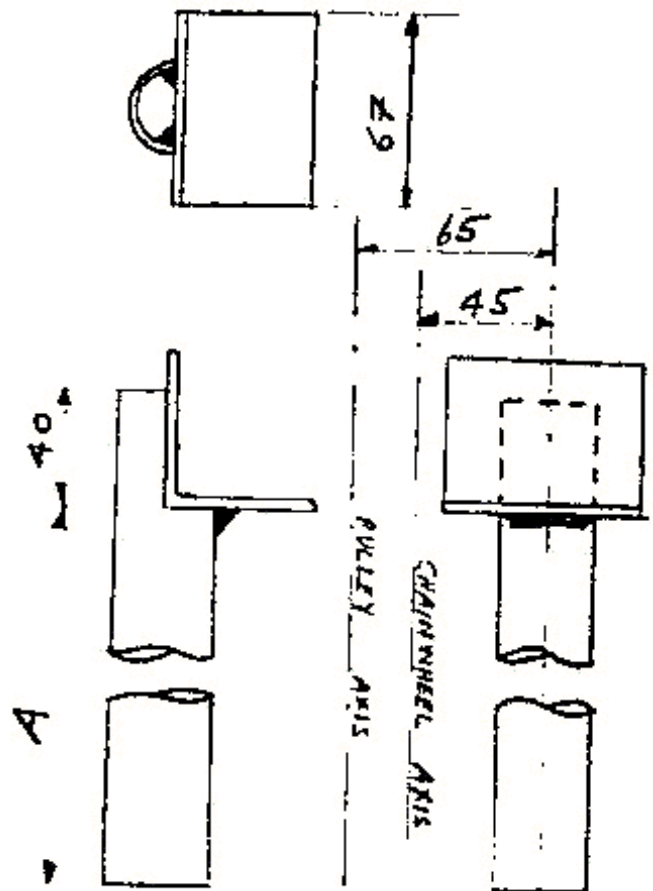
VOIDEN BEARING PRESSED INTO S.H.S.





VIDDEN BEARING PRESSED INTO S.H.S.

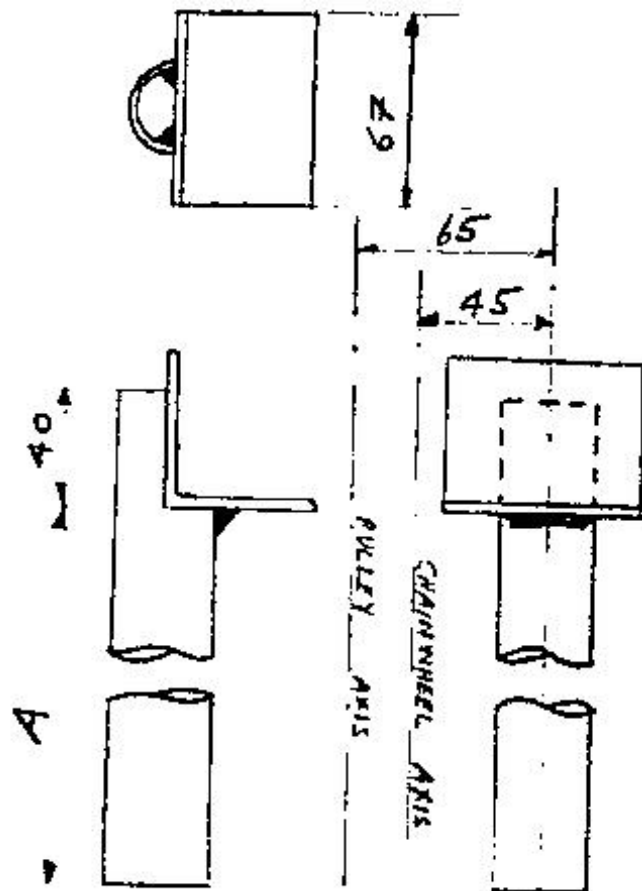




BEARING UNIT SUPPORT - 1 OFF,
 3/4" BORE MILD STEEL PIPE AND
 MILD STEEL ANGLE, 50X50X6 MM.

	A
PULLEY-DRIVEN MACHINE	320mm
CHAIN-DRIVEN MACHINE	260

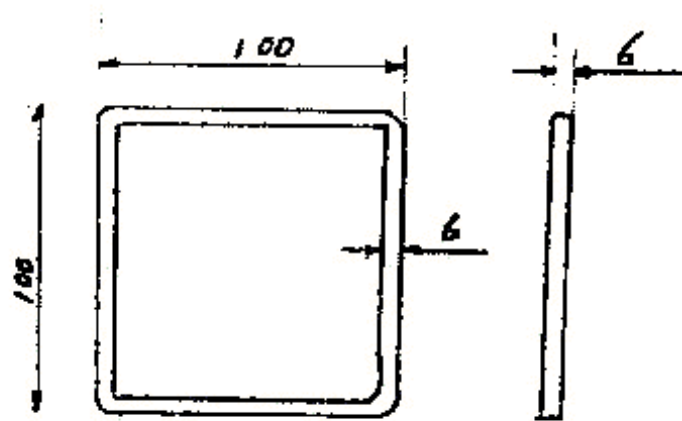
NOTE THAT THE POSITION OF THE BEARING UNIT CAN BE ADJUSTED LATERALLY ON THE BEARING UNIT SUPPORT.



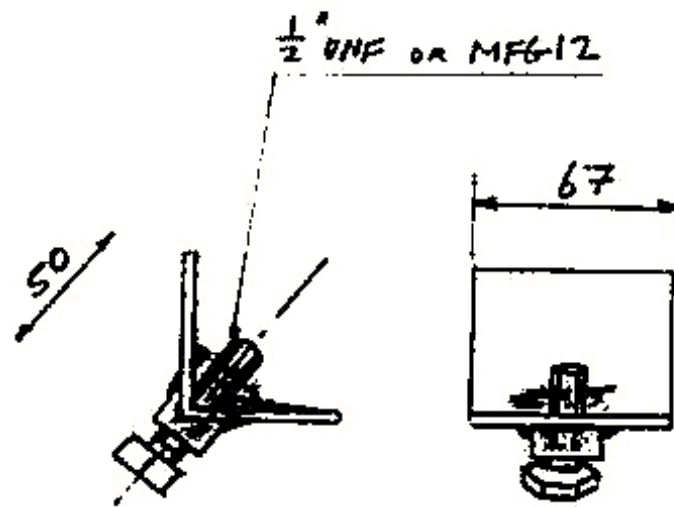
BEARING UNIT SUPPORT - 1 OFF,
 3/4" BORE MILD STEEL PIPE AND
 MILD STEEL ANGLE, 50X50X6 MM.

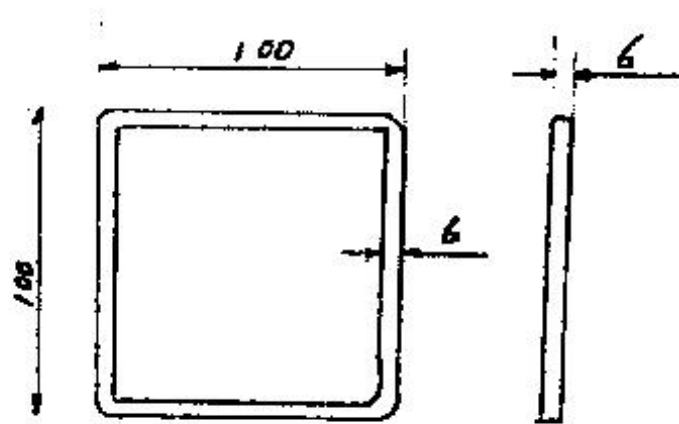
	A
PULLEY-DRIVEN MACHINE	320mm
CHAIN-DRIVEN MACHINE	260

NOTE THAT THE POSITION OF THE BEARING UNIT CAN BE ADJUSTED LATERALLY ON THE BEARING UNIT SUPPORT.

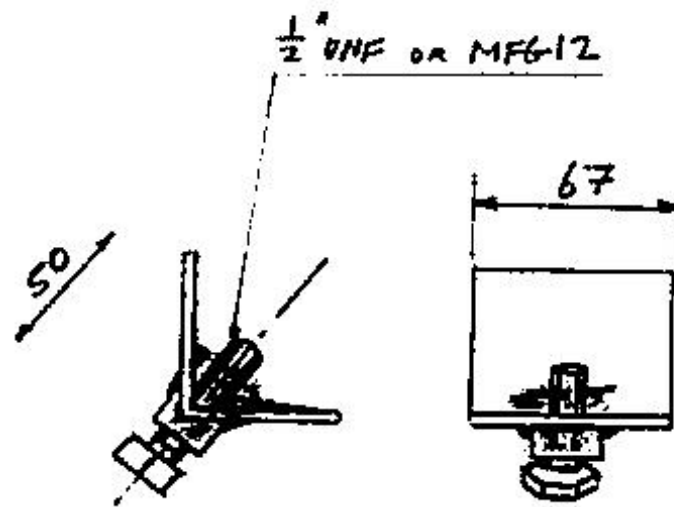


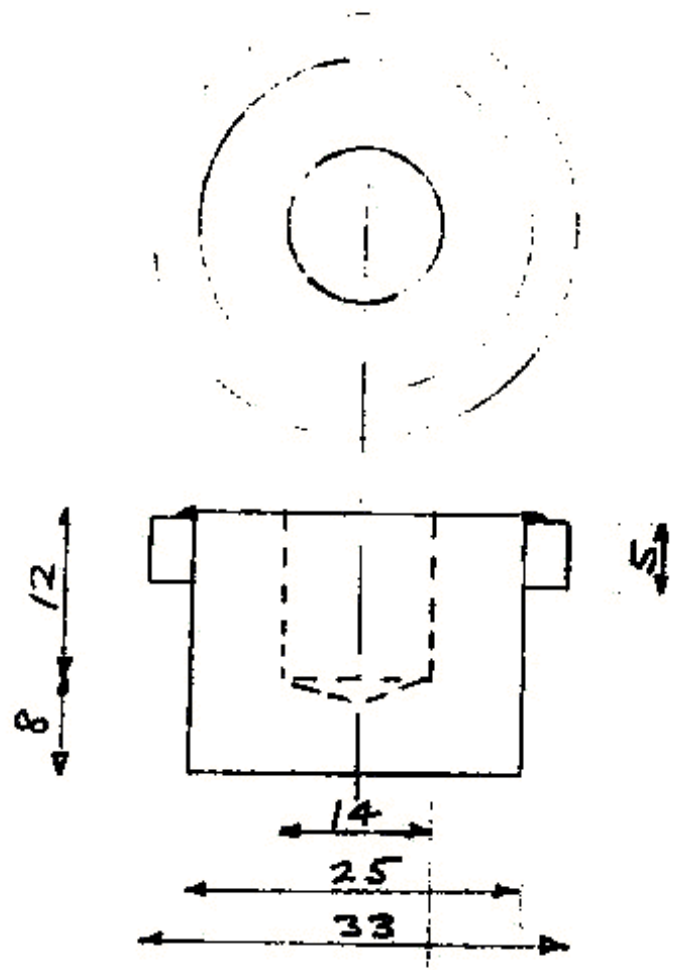
BEARING CLAMPING FRAMES, 2 OFF,
 MILD STEEL SQUARE HOLLOW SECTION,
 SAWN OUT SQUARE IN TWO OPPOSITE CORNERS.



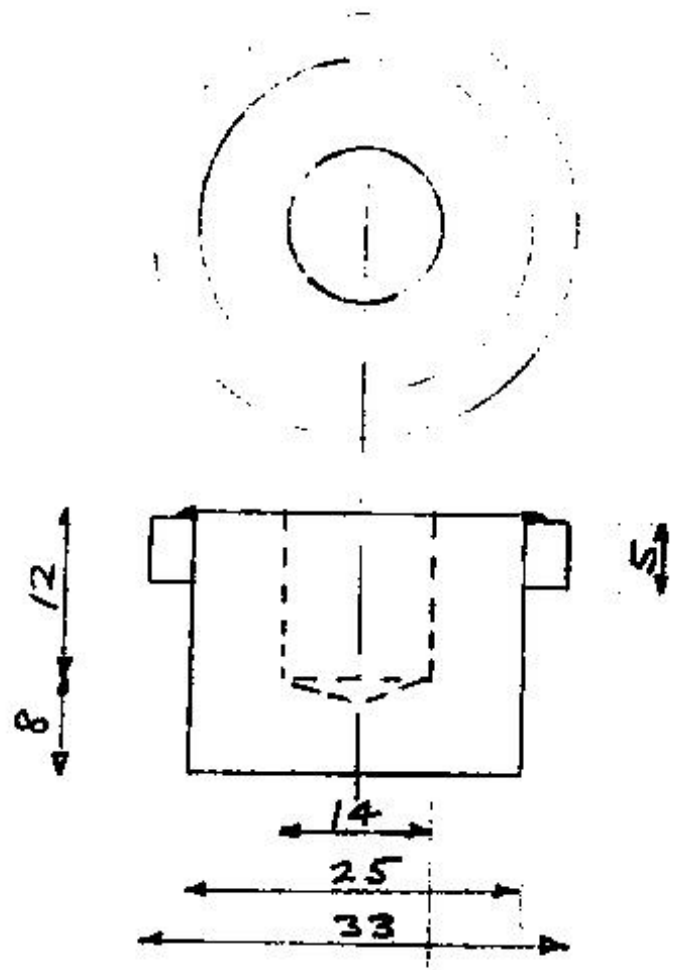


BEARING CLAMPING FRAMES, 2 OFF,
 MILD STEEL SQUARE HOLLOW SECTION,
 SAWN OUT SQUARE IN TWO OPPOSITE CORNERS.

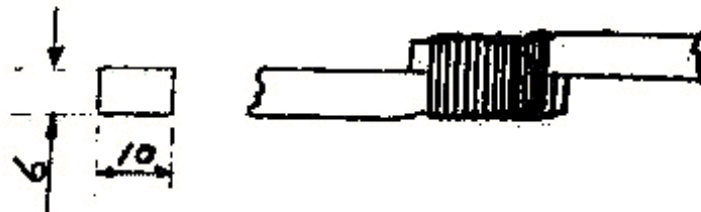




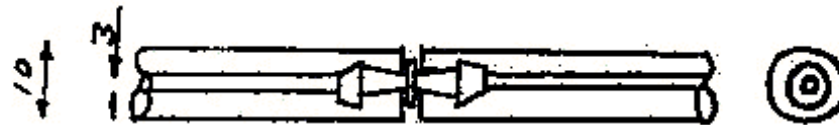
BOTTOM BRACKET CLAMPING
 FITMENT ASSEMBLY -
 25mm DIA MILD STEEL BAR AND
 1" BORE MILD STEEL PIPE.



BOTTOM BRACKET CLAMPING
FITMENT ASSEMBLY -
25mm DIA MILD STEEL BAR AND
1" BORE MILD STEEL PIPE.

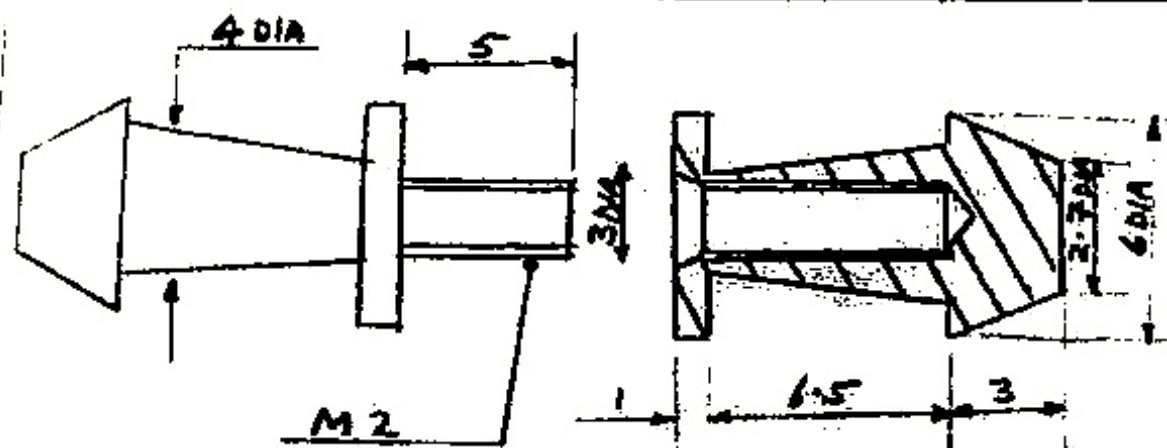


CAR TYRE BELTING CUT FROM CIRCUMFERENCE OF WORN TYRE, AND FASTENED BY BINDING WITH 1.2mm DIA ALUMINIUM OR COPPER WIRE.

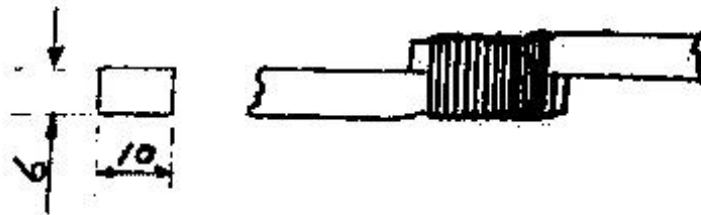


HOLLOW EXTRUDED PLASTIC BELTING, FASTENED BY HARPOON-TYPE ALUMINIUM FASTENER [EATON, BIRMINGHAM]

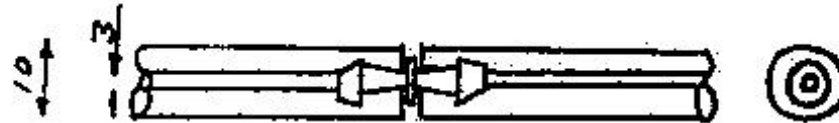
SCALE 1:1



HIGH TENSILE STEEL SEPARABLE FASTENER FOR HOLLOW PLASTIC BELTING.

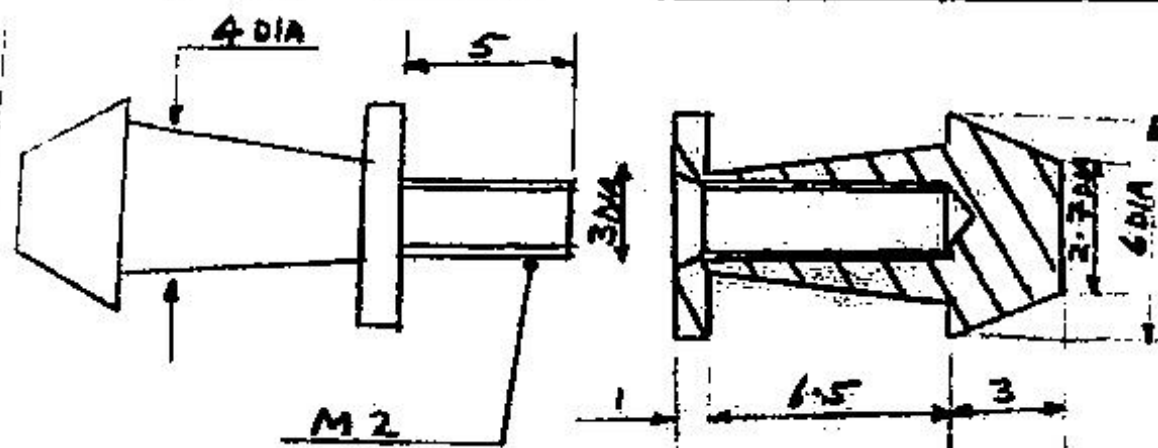


CAR TYRE BELTING CUT FROM CIRCUMFERENCE OF WORN TYRE, AND FASTENED BY BINDING WITH 1.2mm DIA ALUMINIUM OR COPPER WIRE.

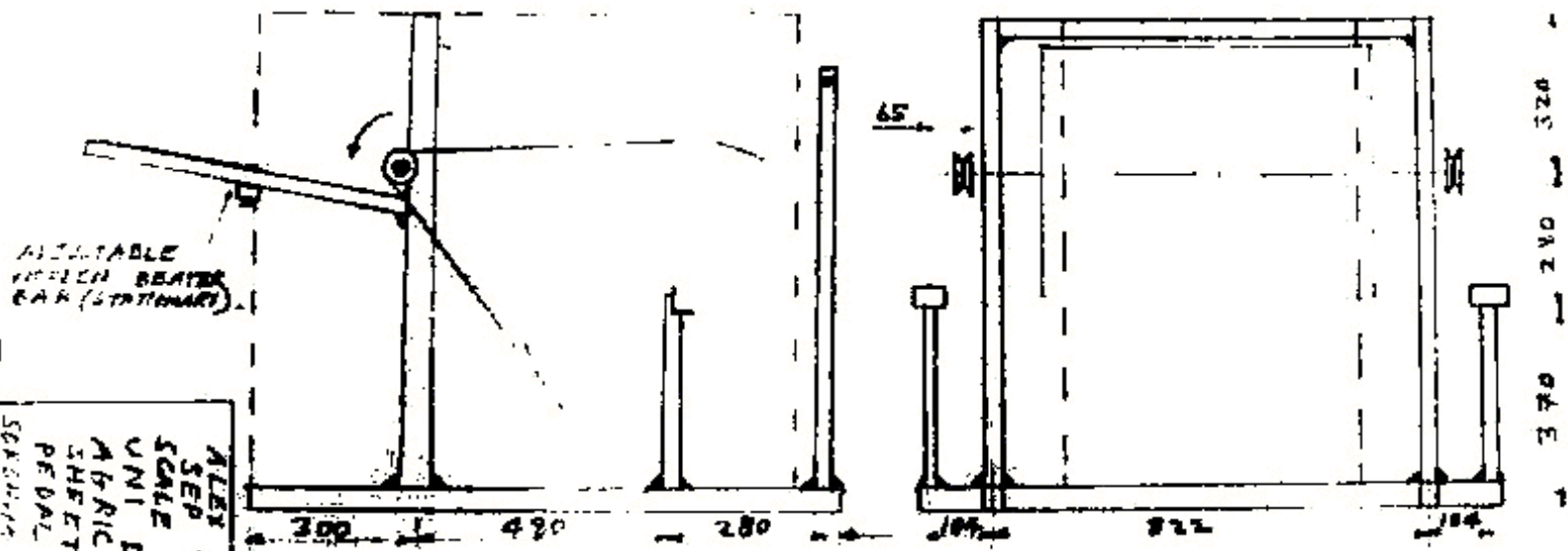


HOLLOW EXTRUDED PLASTIC BELTING, FASTENED BY HARPOON-TYPE ALUMINIUM FASTENER [EATON, BIRMINGHAM]

SCALE 1:1



HIGH TENSILE STEEL SEPARABLE FASTENER FOR HOLLOW PLASTIC BELTING.

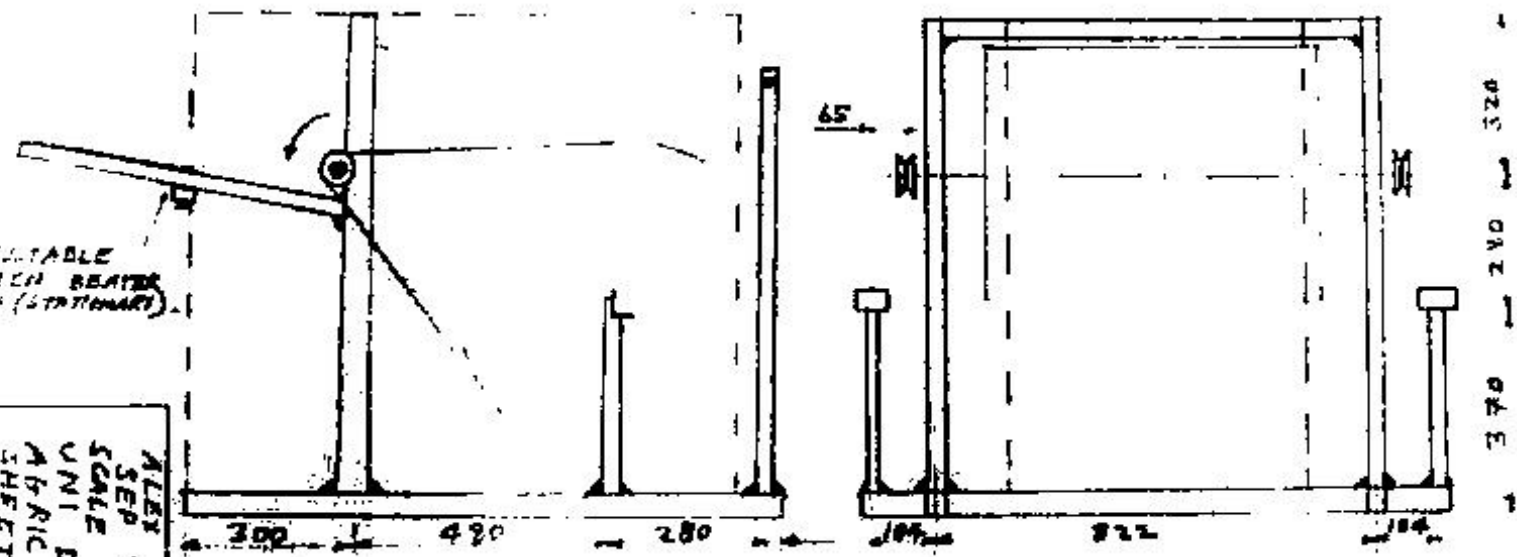


ALEX WEIR
 SEP 74
 SCALE 1:10
 UNI DSM
 AGRIC ENG
 SHEET 15
 PEDAL DRIVES—
 SECTION THRESHER

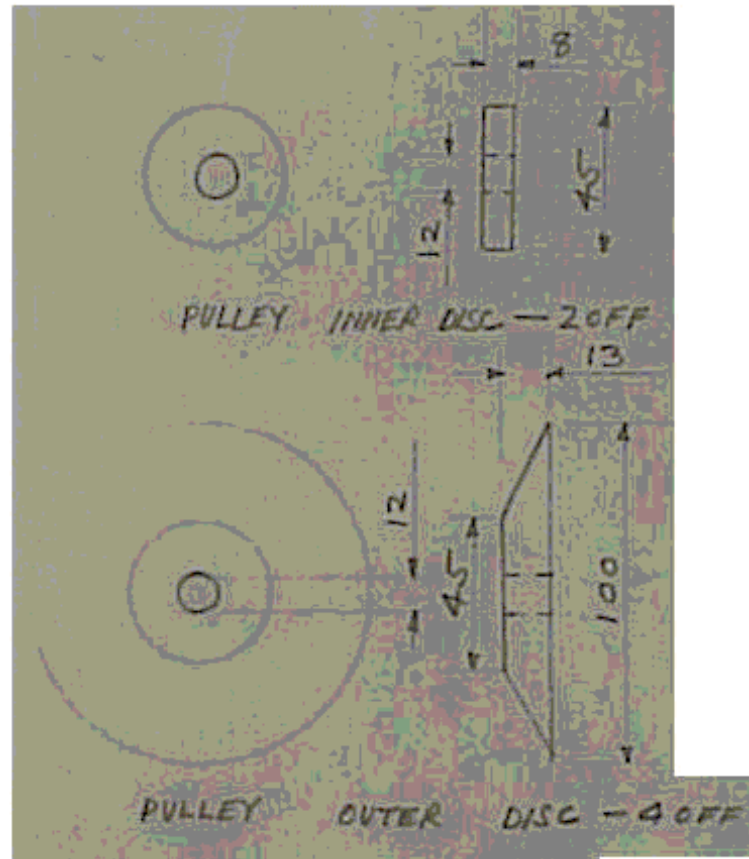
SKELETON ASSEMBLY OF THRESHER WITHOUT BEARING UNITS
 OF SADDLE AND HANDLEBAR UNITS. FRAME IS Largely OF SECTIONAL
 STEEL SQUARE HOLLOW SECTION. DOTTED LINES SHOW COVERING OF
 8.95 mm - THICK GALVANISED STEEL SHEET.

AVAILABLE
WHEEL BEATER
BAR (STATIONARY)

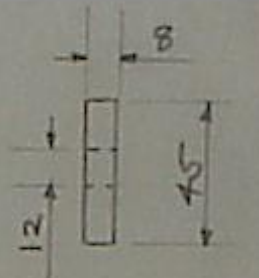
ALLEN WEIR
SEP 74
SCALE 1:10
UNI DSM
AGRIC ENG
SHEET 15
PEDAL DRIVES—
SECTION THRESHER



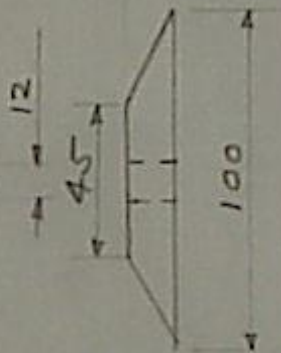
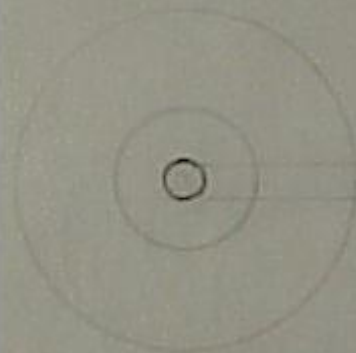
SKELETON ASSEMBLY OF THRESHER WITHOUT BEARING UNITS
OF SADDLE-HAND-HANDLEBAR UNITS. FRAME IS Largely OF SECTION
STEEL SQUARE HOLLOW SECTION. DOTTED LINES SHOW COVERING OF
6.95 mm - THICK GALVANIZED STEEL SHEET.



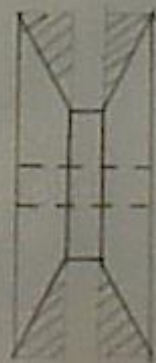
WOODEN PULLEY ASSEMBLY,
SHOWING SECTION REMOVED
BY WOOD-FILING



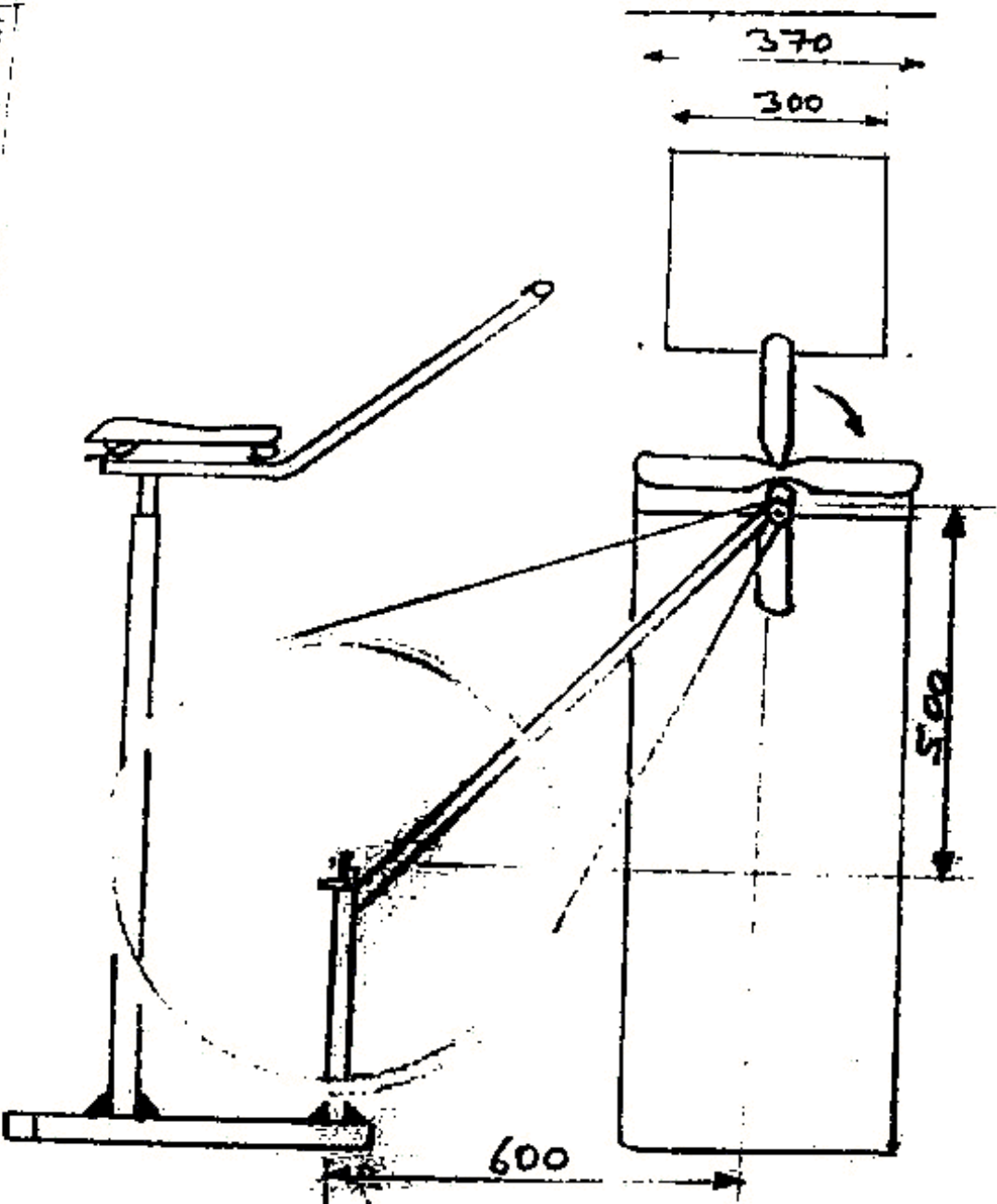
PULLEY INNER DISC - 2 OFF



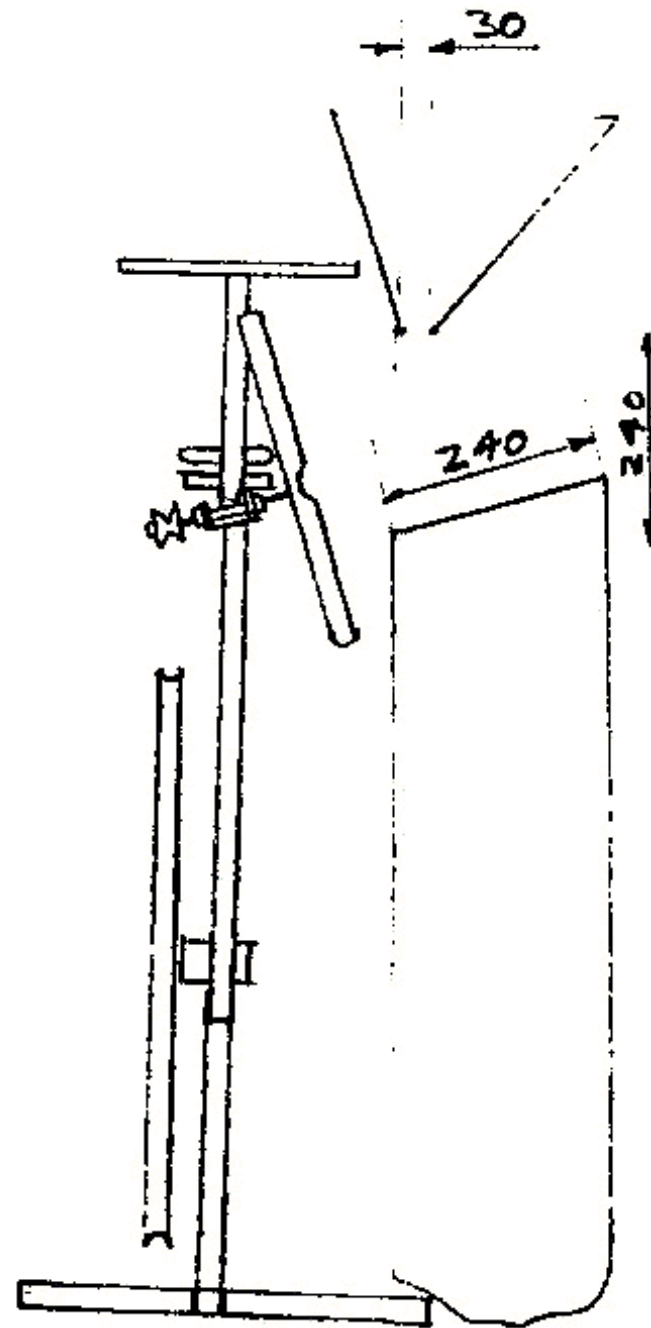
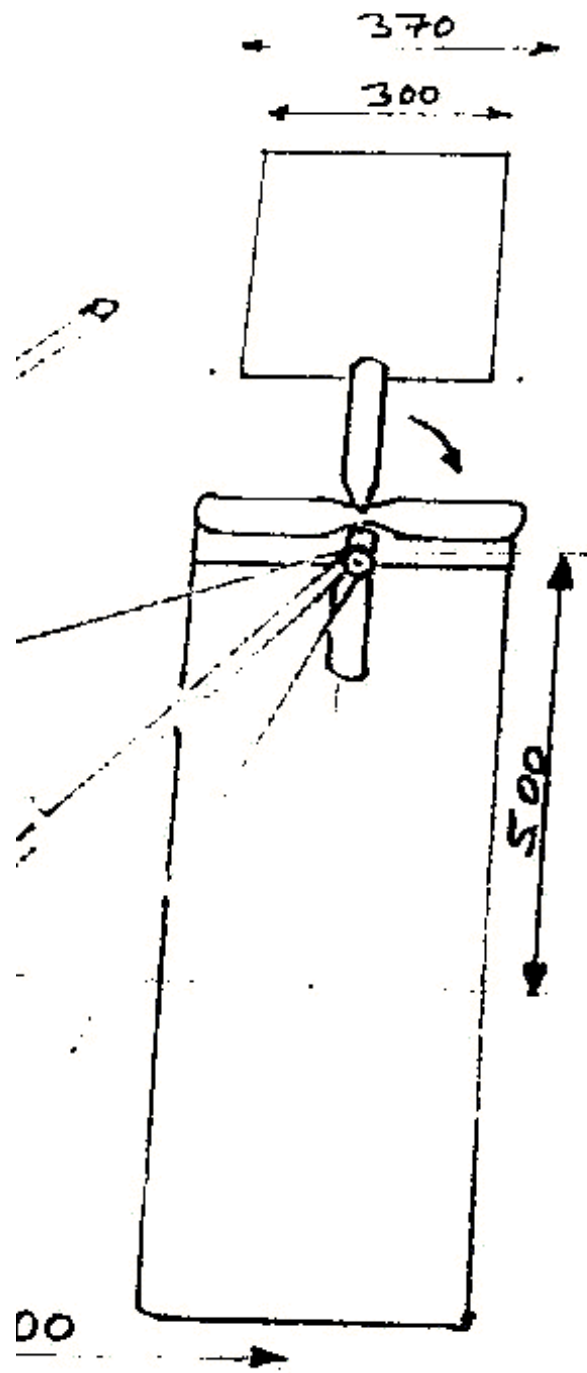
PULLEY OUTER DISC - 4 OFF

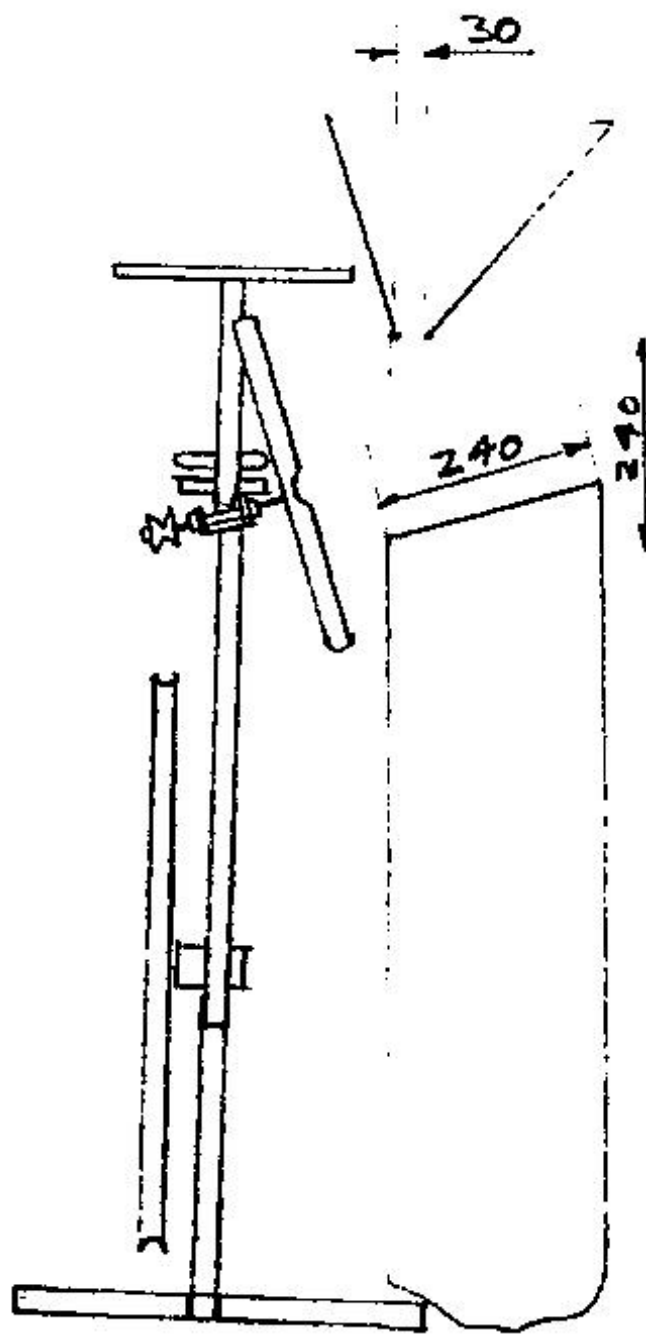
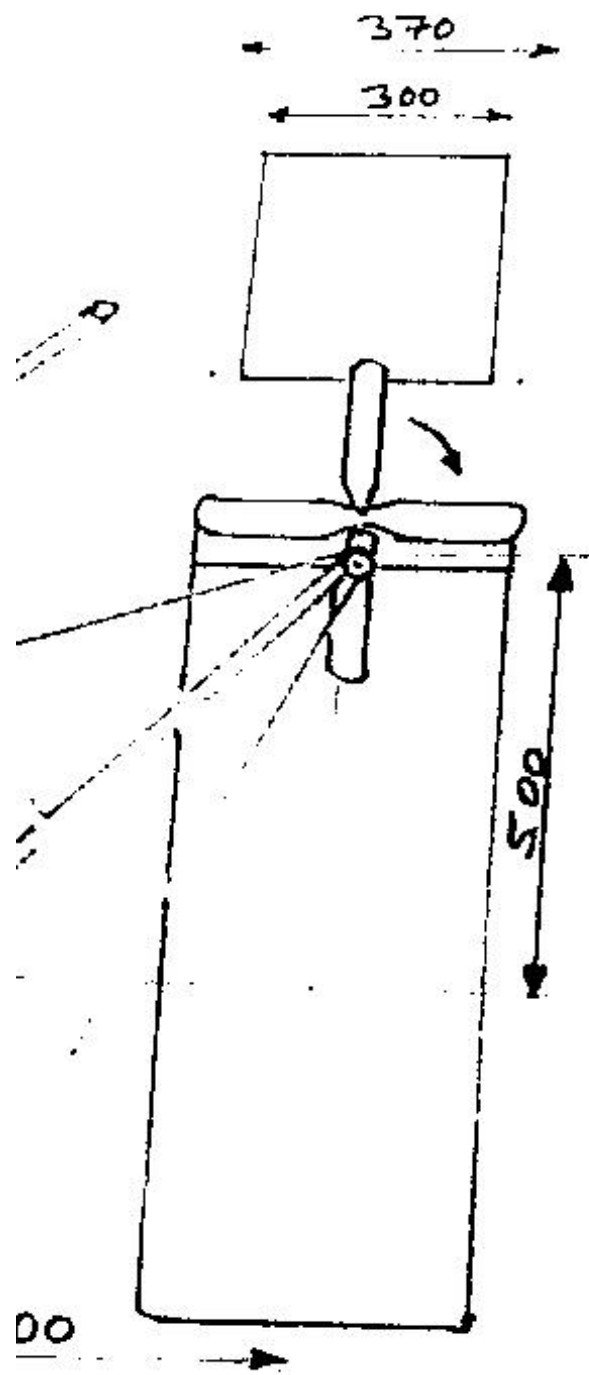


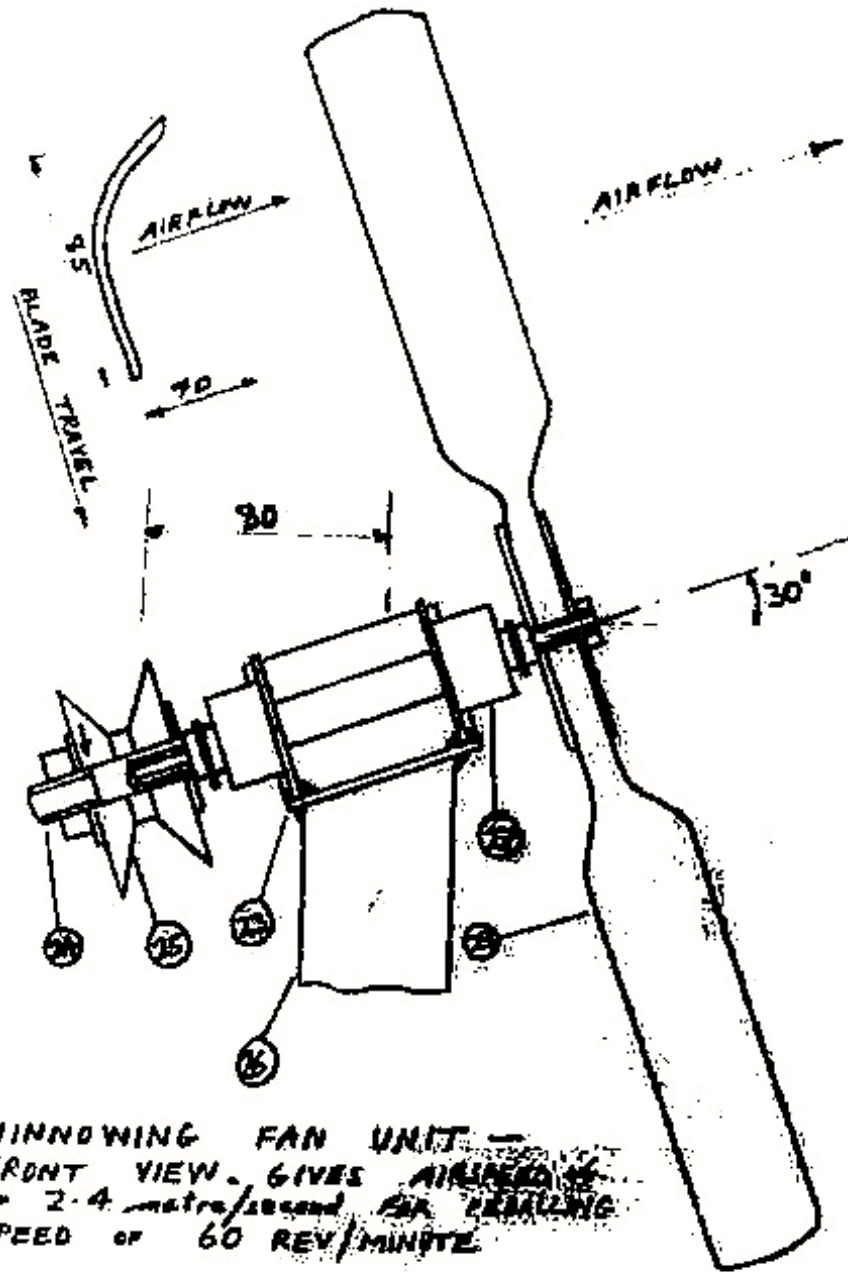
WOODEN PULLEY ASSEMBLY,
SHOWING SECTION REMOVED
BY WOOD-FILING



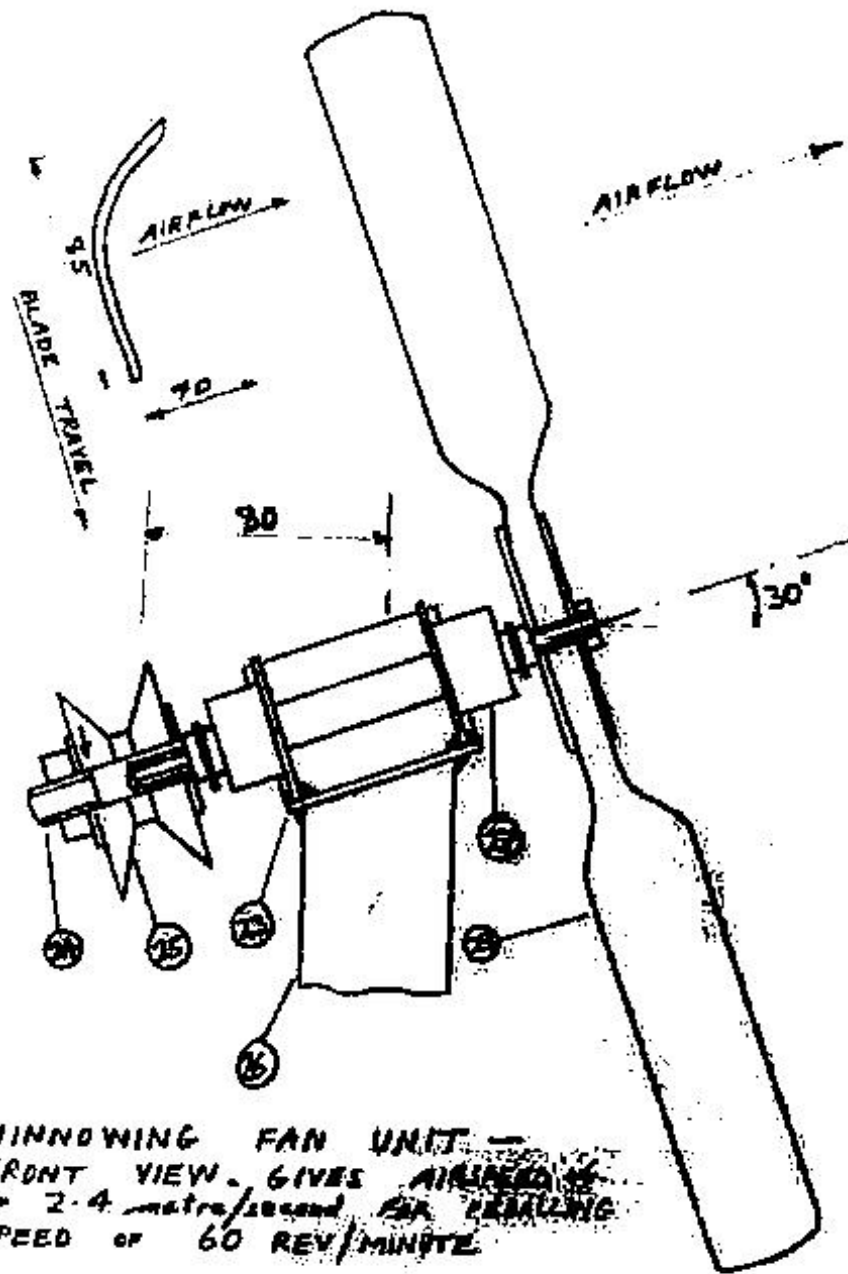
WINNING COINSET UNIT, PULLEY ALSO SHOWN UNIT UNIT UNIT	FAN & FRAME WITH BEARING & UNIT UNIT UNIT	ALEX WEIR SEP 74 SCALE 1:10	UNI DSM AB RIC ENG SHEET 20 PEDAL DRIVES
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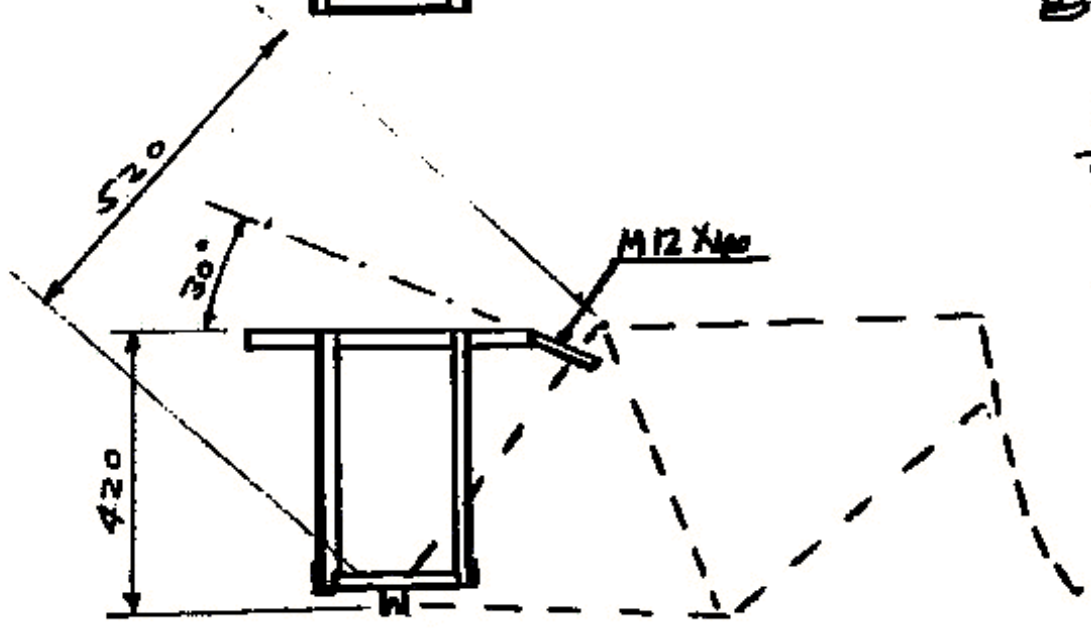
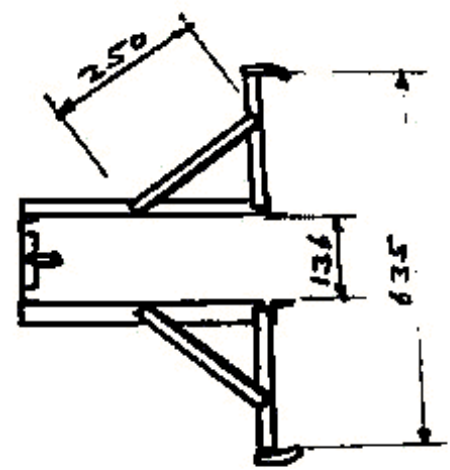
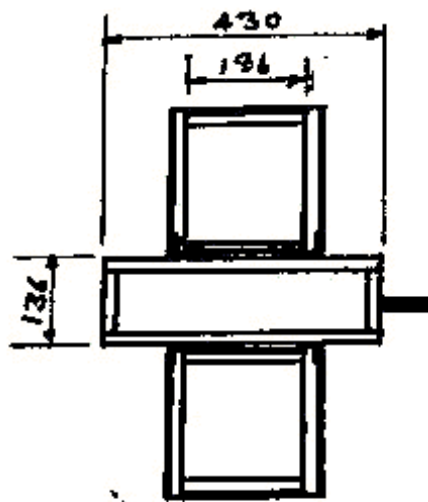




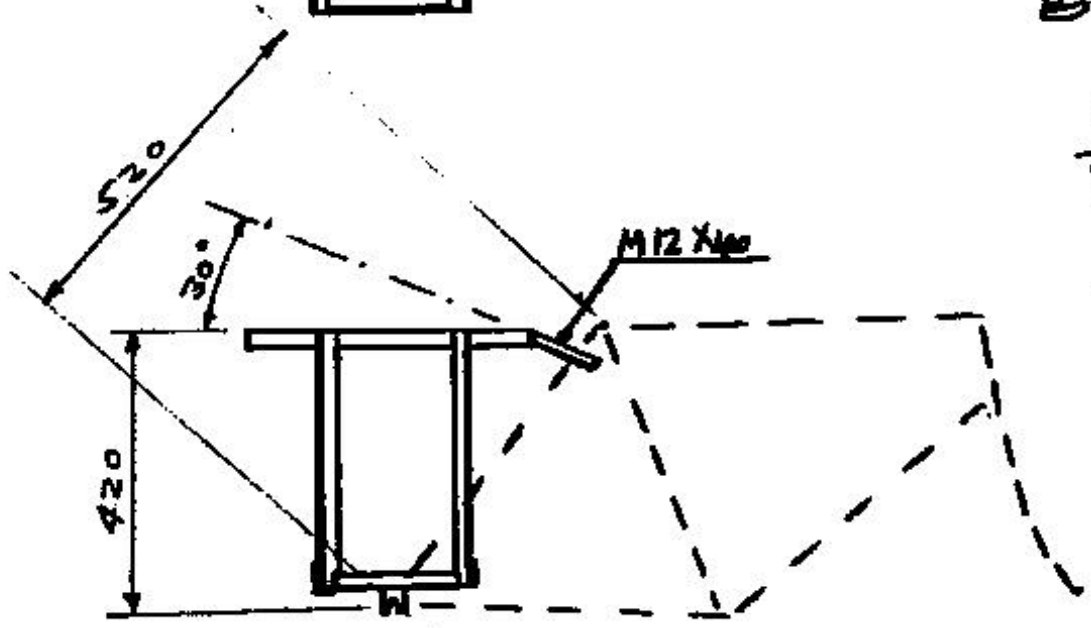
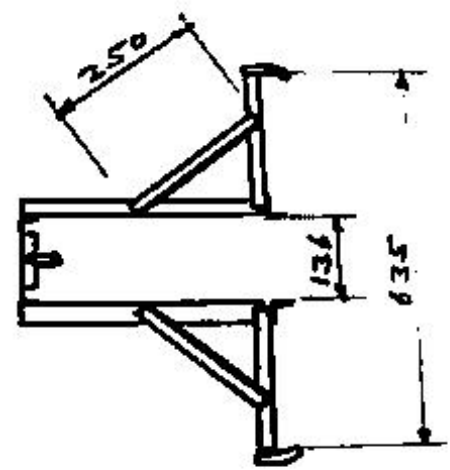
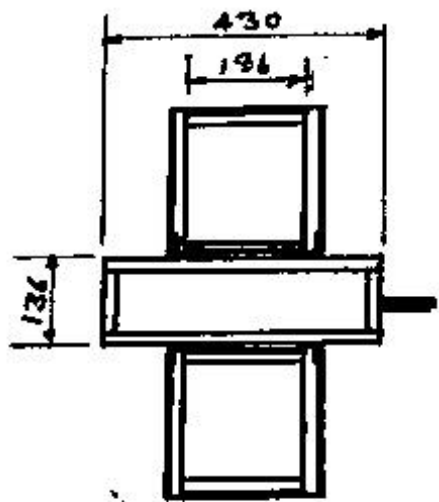
WINNOWING FAN UNIT -
 FRONT VIEW. GIVES AIRFLOW OF
 OF 2.4 METRE/SECOND AT LEADING
 SPEED OF 60 REV/MINUTE.



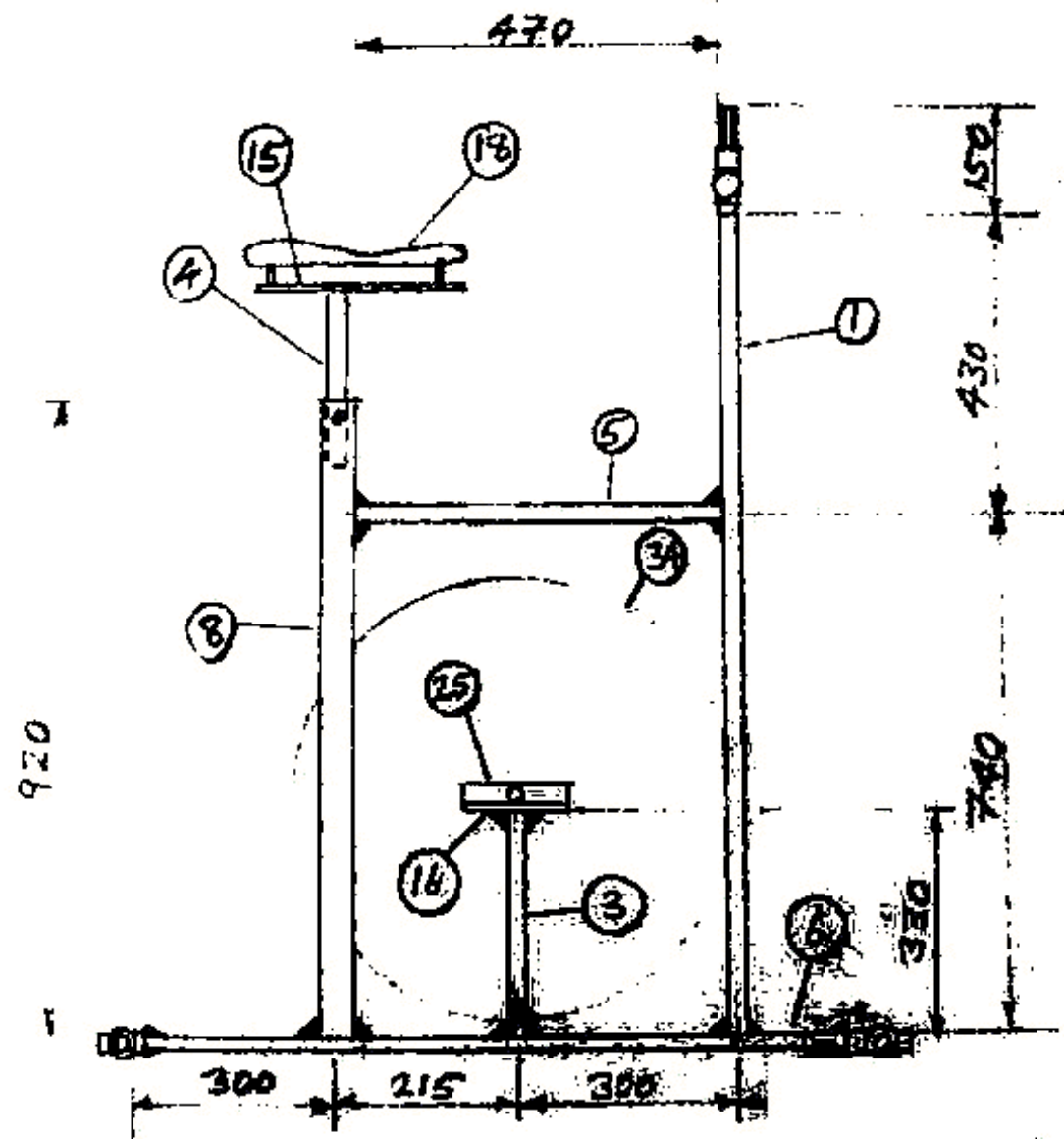
WINNOWING FAN UNIT -
 FRONT VIEW. GIVES AIRFLOW OF
 OF 2.4 metres/second AT LEADING
 SPEED OF 60 REV/MINUTE.

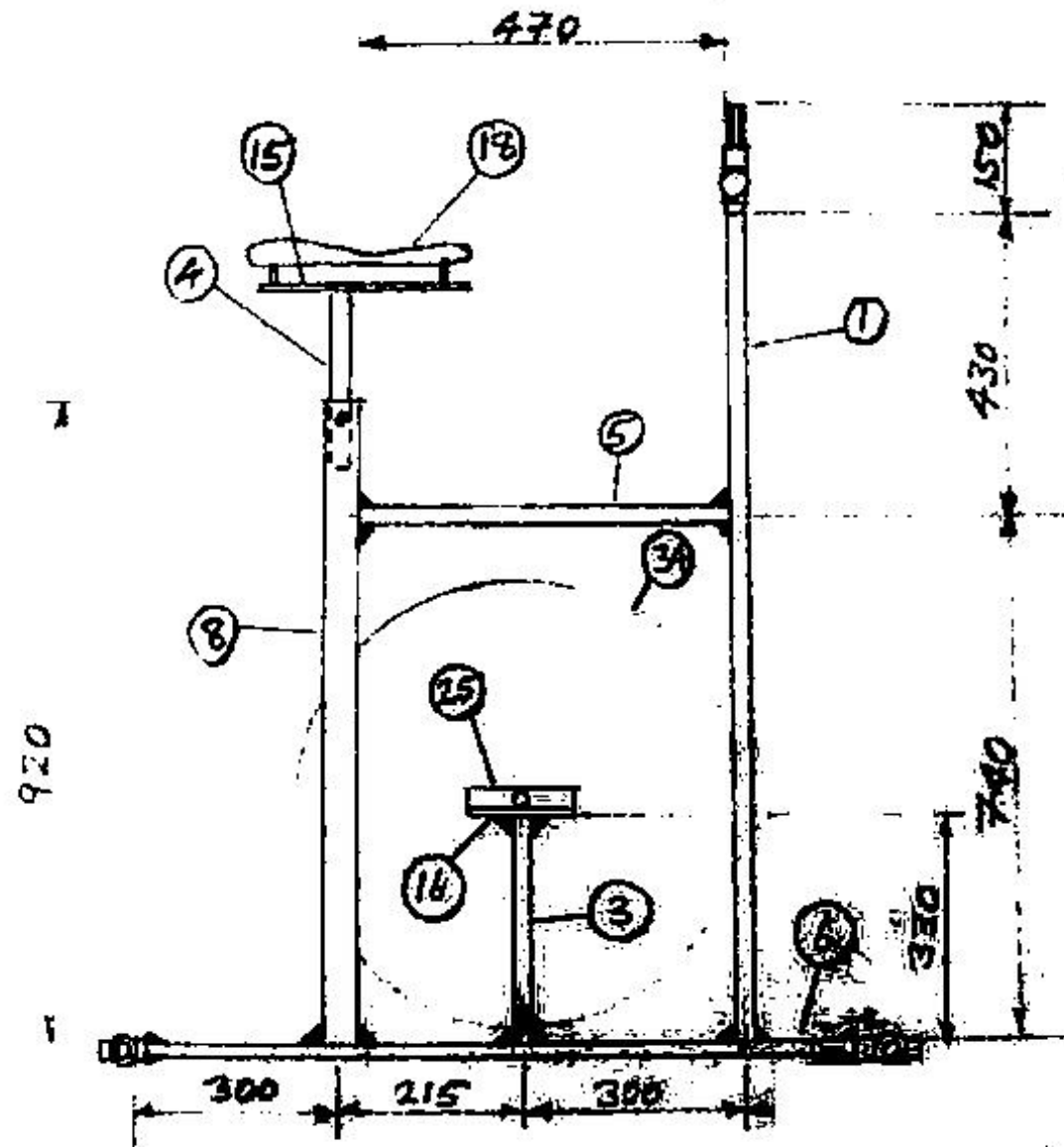


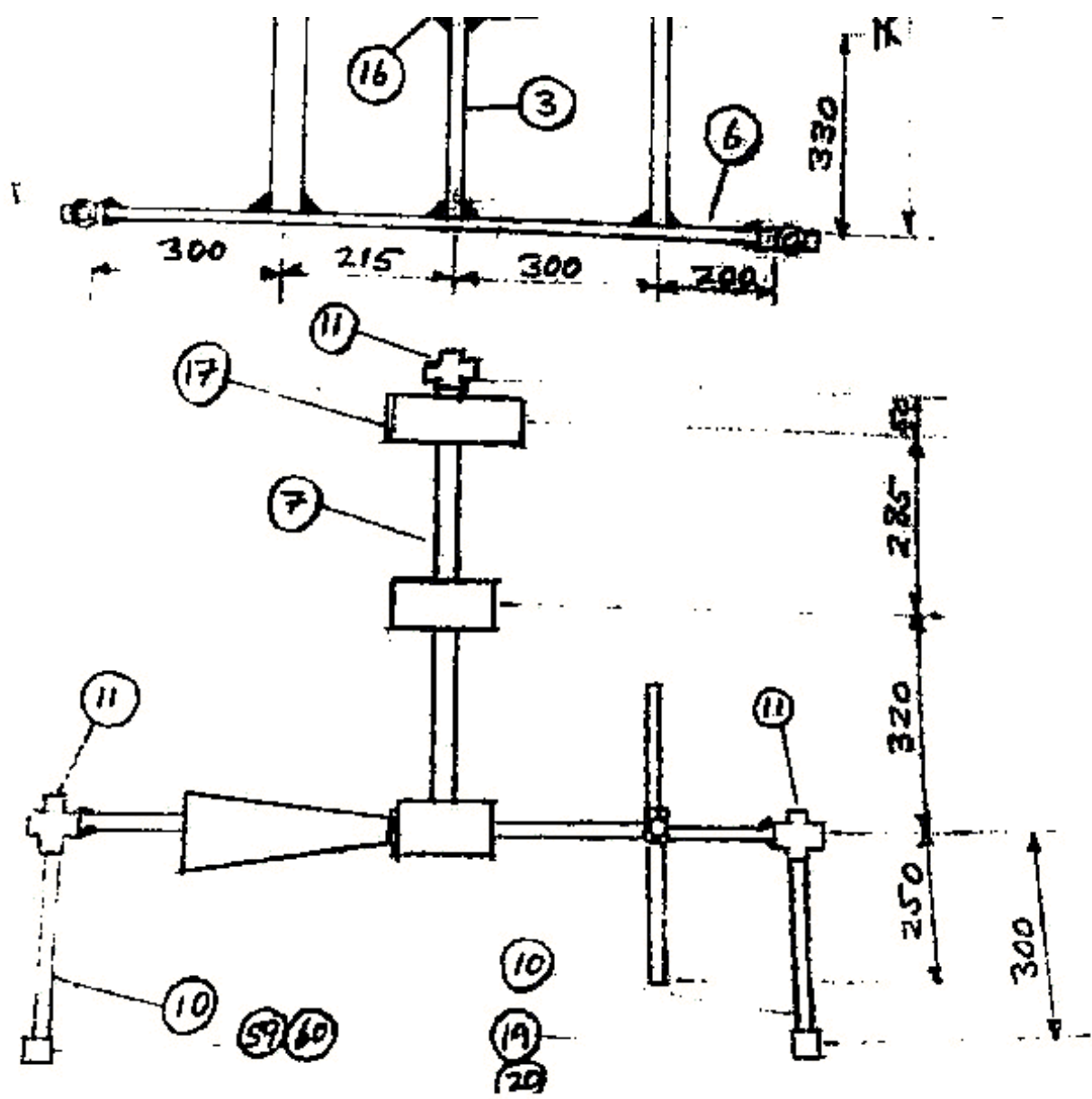
BICYCLE CARRIER FOR
TWO 20-LITRE KEROSENE
CANS. 30x30x2mm MILD
STEEL EQUAL ANGLE X 6 METRE
TOTAL LENGTH, TO CONTAIN TWO
CANS OF DIMENSIONS 240x240.

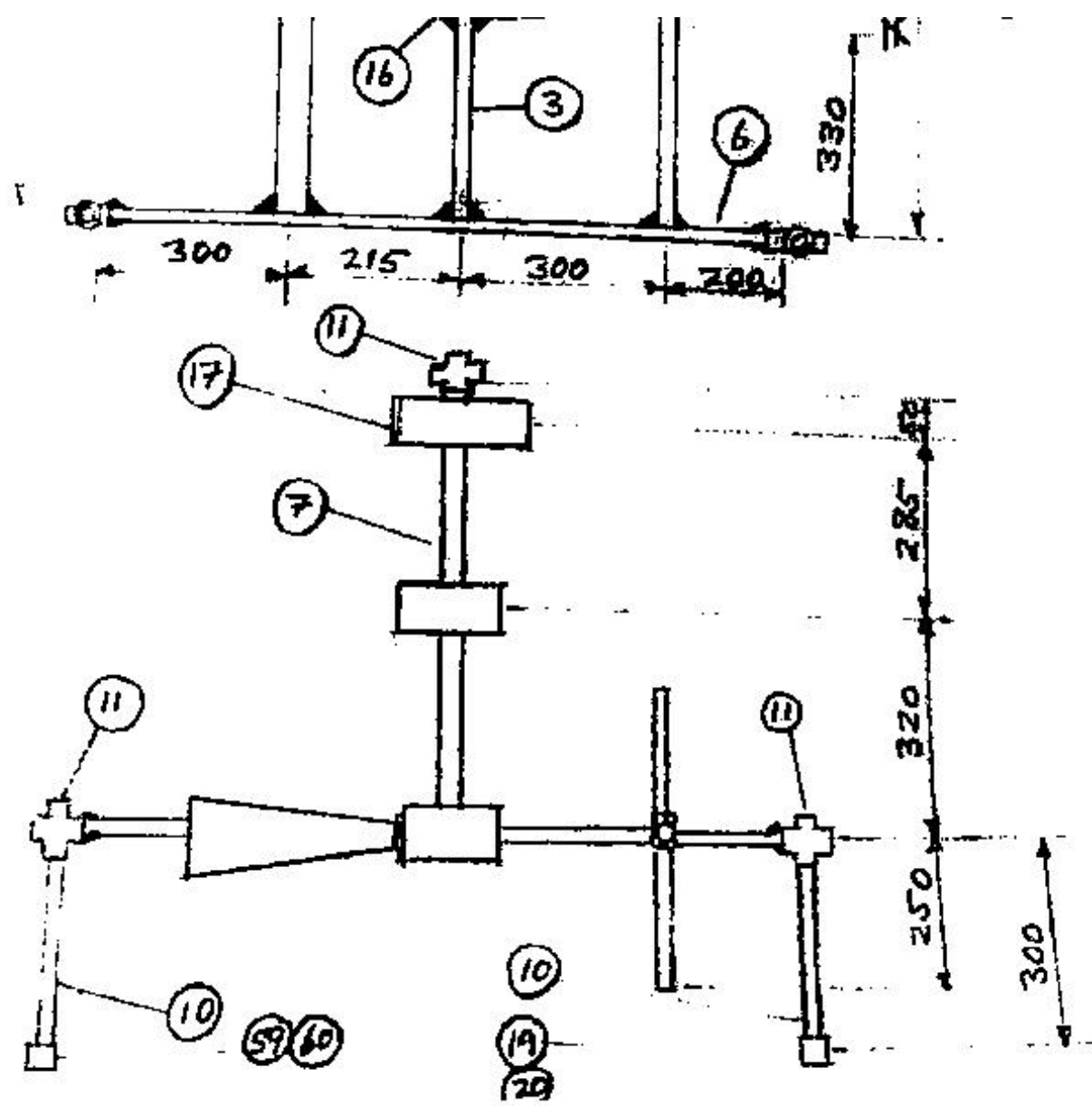


BICYCLE CARRIER FOR
 TWO 20-LITRE KEROSENE
 CANS. 30x30x2mm MILD
 STEEL EQUAL ANGLE X 6 METRE
 TOTAL LENGTH, TO CONTAIN TWO
 CANS OF DIMENSIONS 240x240

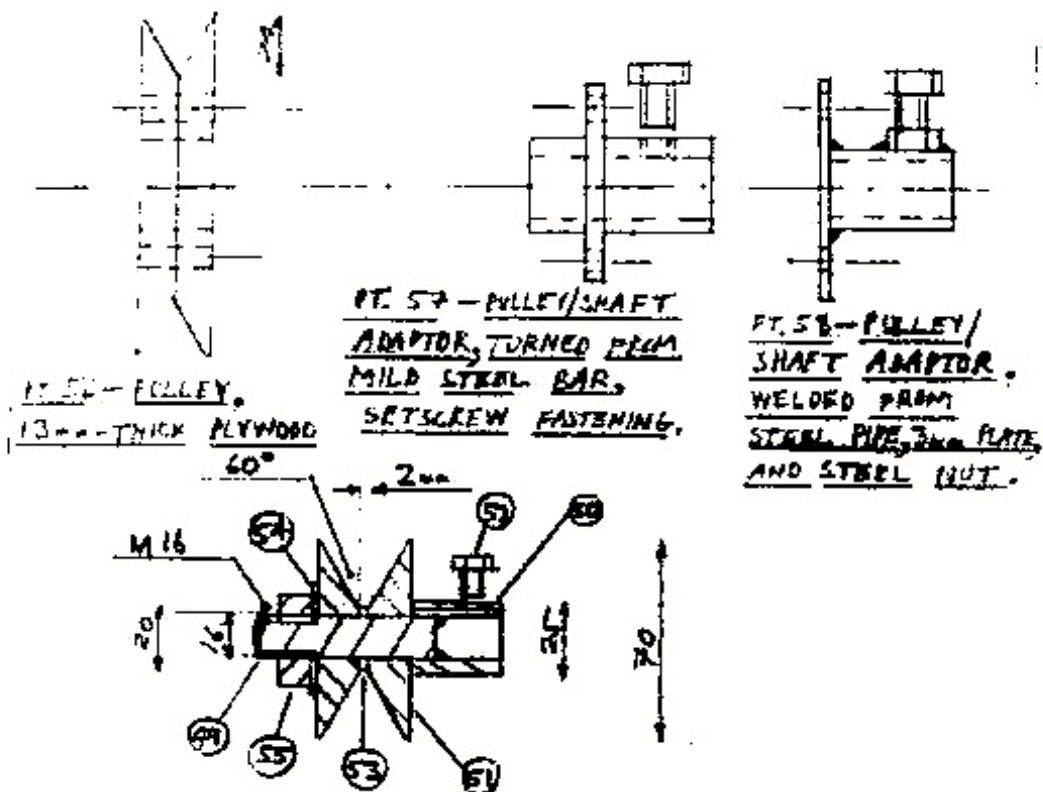








13/12



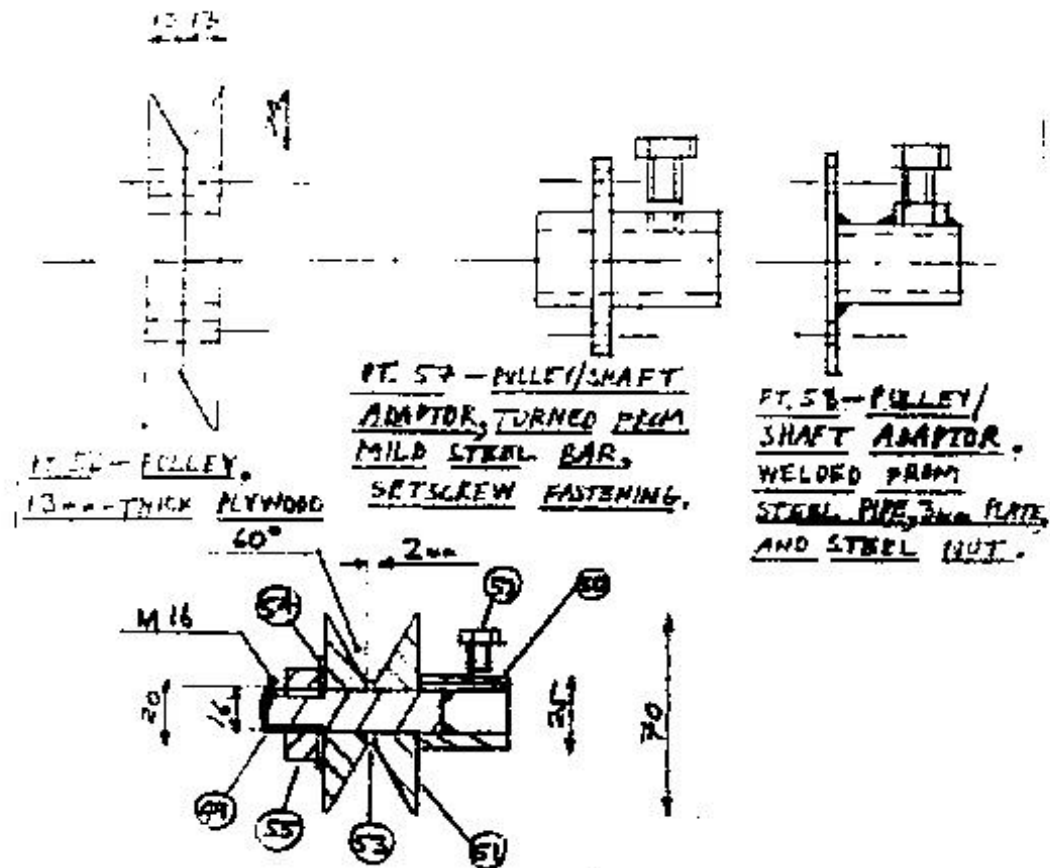
PT. 50 - PULLEY.
13mm THICK PLYWOOD

PT. 57 - PULLEY/SHAFT
ADAPTOR, TURNED FROM
MILD STEEL BAR,
SETSCREW FASTENING.

PT. 58 - PULLEY/
SHAFT ADAPTOR,
WELDED FROM
STEEL PIPE, 3mm PLATE,
AND STEEL NUT.

ASSEMBLY - 1500 R.P.M. PULLEY FOR 16mm DIA SHAFT -
KEYWAY AND SETSCREW FASTENING.

- PT. 49 - 16mm DIA MILD STEEL BAR
- PT. 50 - 25mm DIA MILD STEEL BAR
- PT. 51 - 14mm THICK HARDWOOD
- PT. 52 - M6 SETSCREW
- PT. 53 - 1/2" STEEL PIPE
- PT. 54 - 16mm DIA STEEL WASHER
- PT. 55 - M16 STEEL NUT.



PT. 50 - PULLEY.
13mm THICK PLYWOOD

PT. 57 - PULLEY/SHAFT
ADAPTOR, TURNED FROM
MILD STEEL BAR,
SETScrew FASTENING.

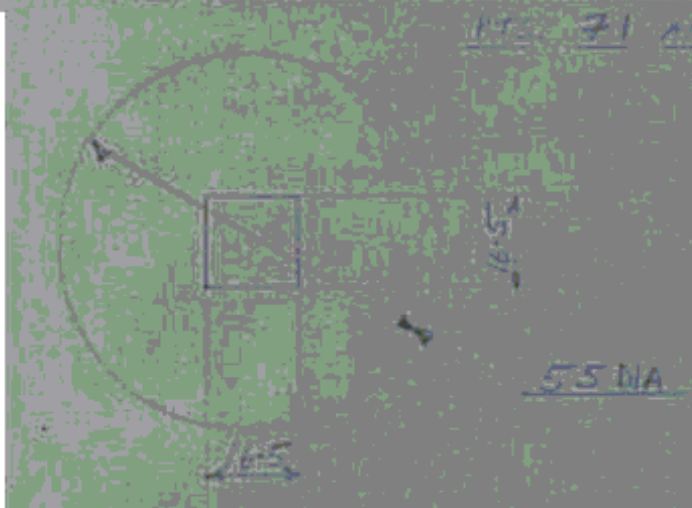
PT. 58 - PULLEY/
SHAFT ADAPTOR.
WELDED FROM
STEEL PIPE, 3mm PLATE,
AND STEEL NUT.

ASSEMBLY - 1500 R.P.M. PULLEY FOR 16mm DIA SHAFT -
KEYWAY AND SETSCREW FASTENING.

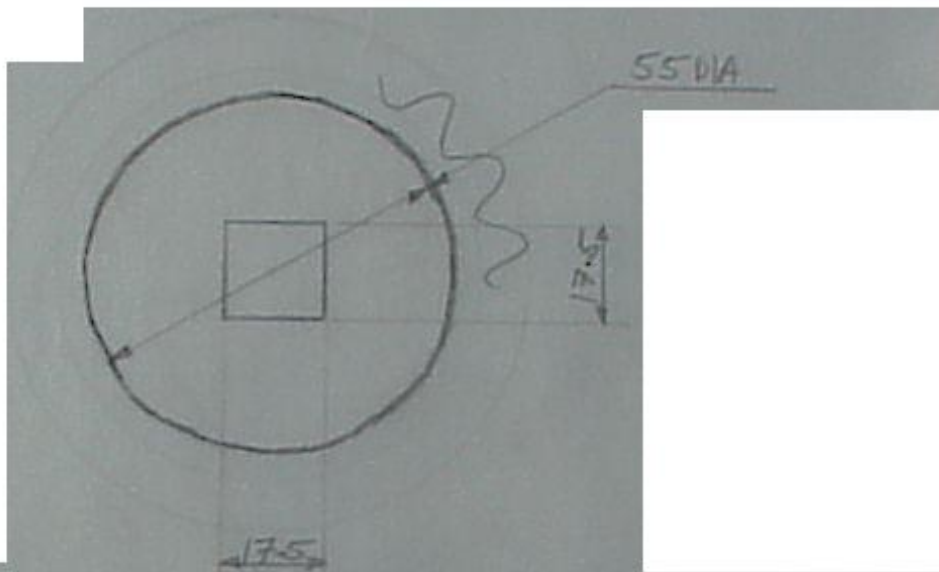
- PT. 49 - 16mm DIA MILD STEEL BAR
- PT. 50 - 25mm DIA MILD STEEL BAR
- PT. 51 - 14mm THICK HARDWOOD
- PT. 52 - M6 SETSCREW
- PT. 53 - 1/2" STEEL PIPE
- PT. 54 - 16mm DIA STEEL WASHER
- PT. 55 - M16 STEEL NUT.



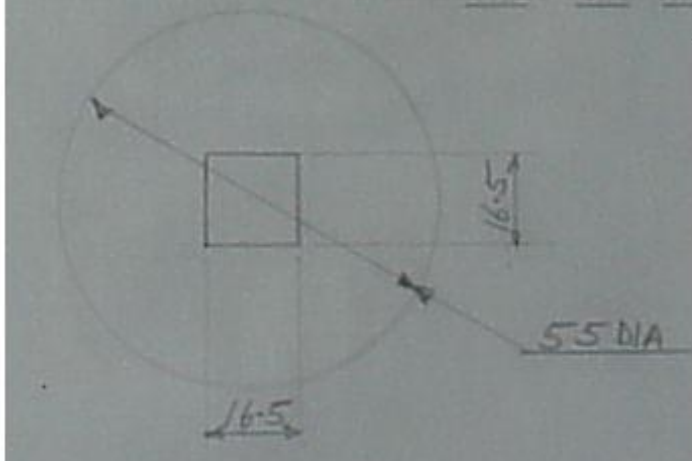
ASSEMBLY — INNER SPROCKET PLATE AND SPROCKET
 IT 71 and 70



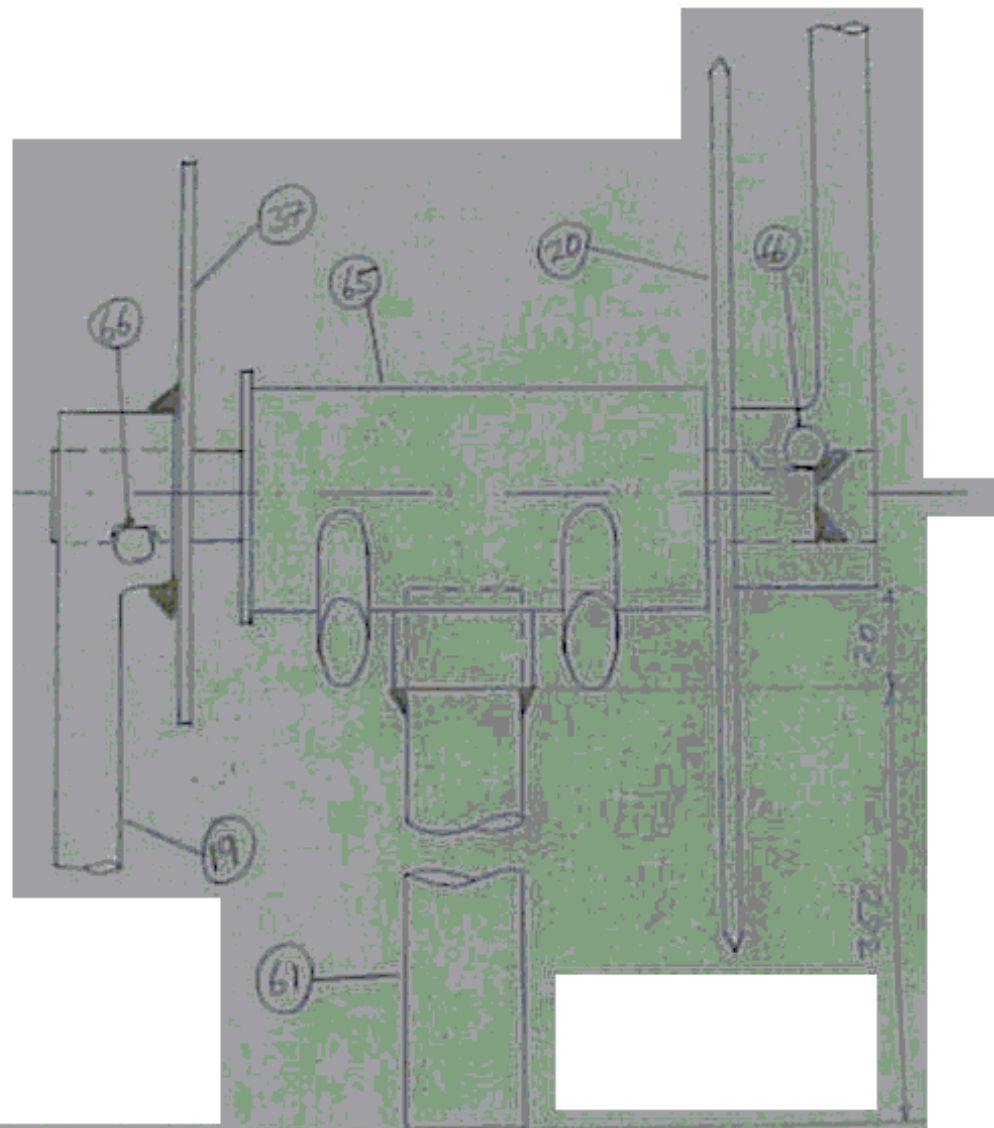
OUTER SPROCKET PLATE, 5mm THICK MILL STEEL
 IT 70



ASSEMBLY — INNER SPROCKET PLATE AND SPROCKET
PTS. 71 AND 70

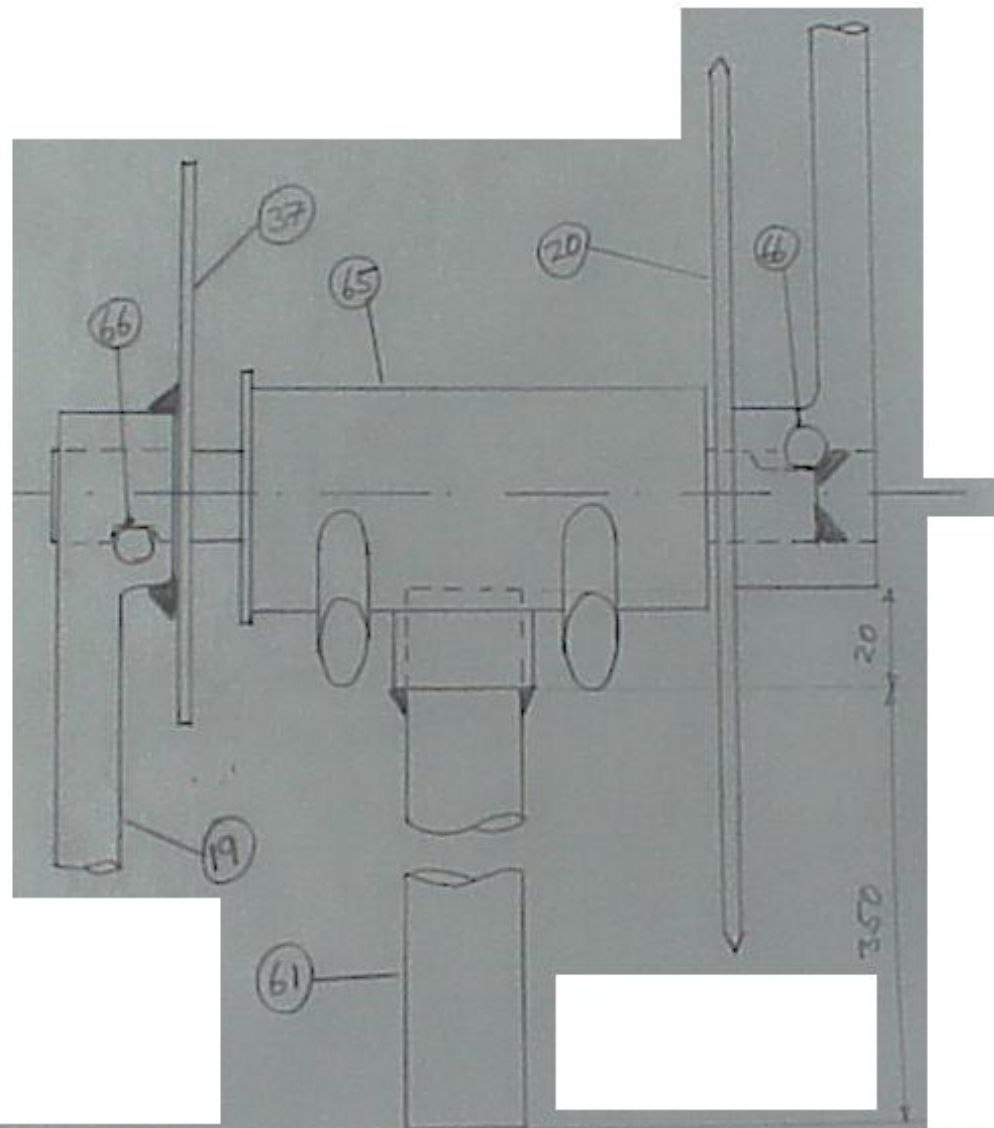


OUTER SPROCKET PLATE, 3mm-THICK MILD STEEL
PT. 72



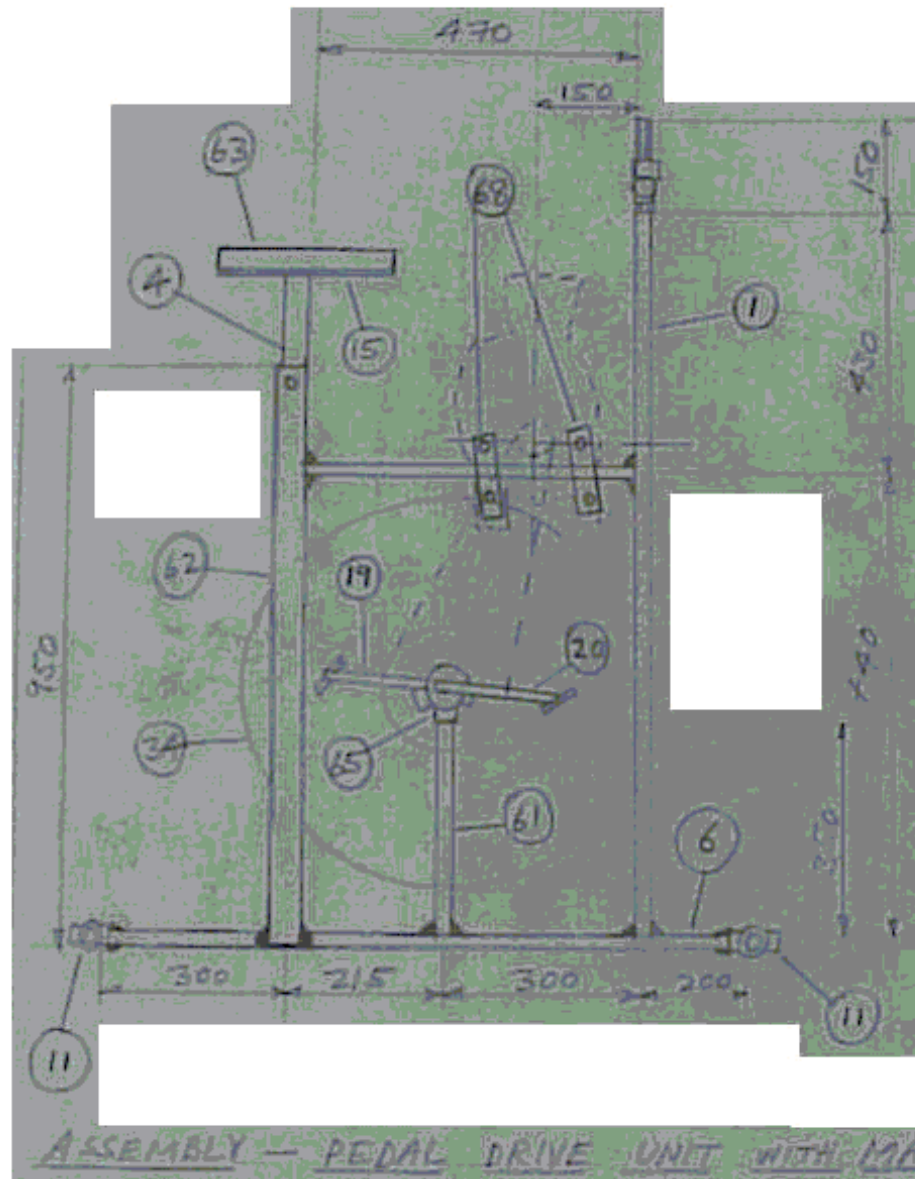
- PT. 19 - LH CRANK
- PT. 20 - RH CRANK & CHAINWHEEL
- PT. 37 - WHEEL PLATE
- PT. 61 - BEARING SUPPORT
- PT. 65 - BEARING BUSH
- PT. 66 - COTTER PIN

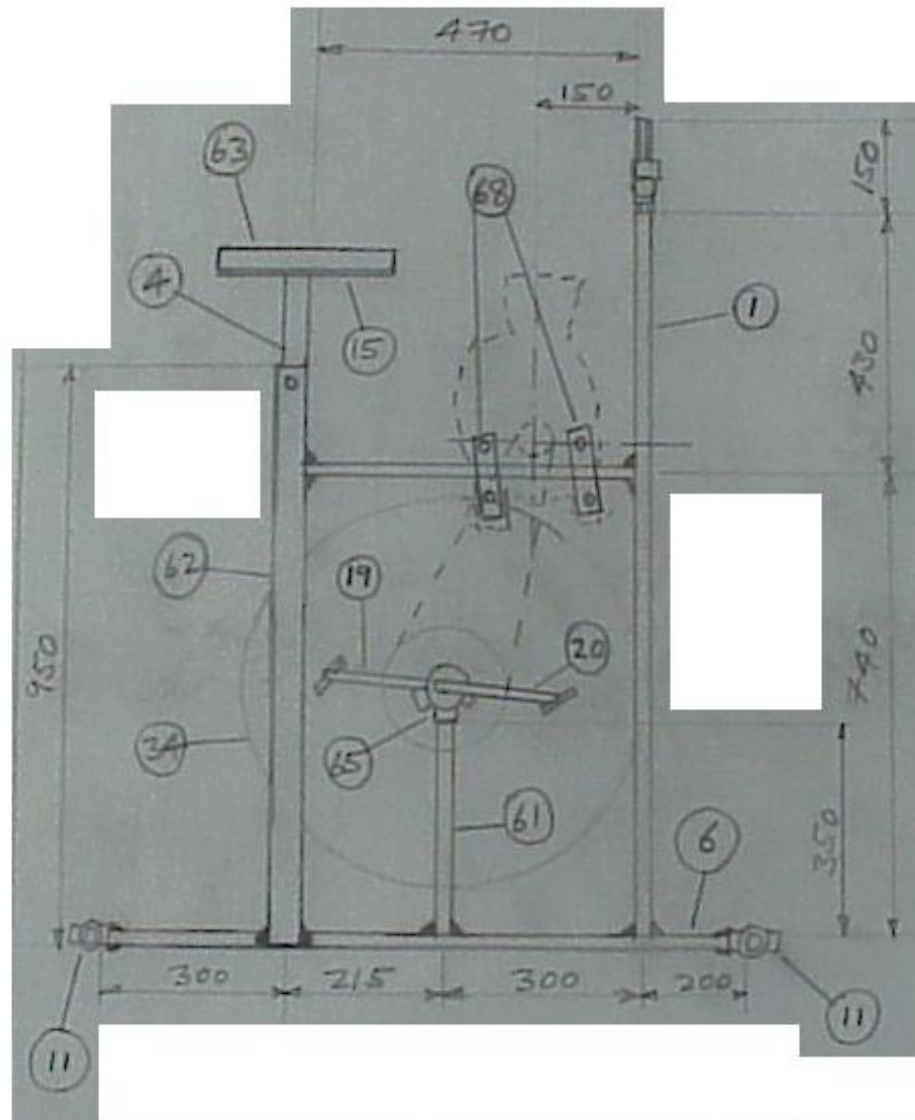
BEARING ASSEMBLY



- PT. 19 - LH CRANK
- PT. 20 - RH CRANK & CHAINWHEEL
- PT. 37 - WHEEL PLATE
- PT. 61 - BEARING SUPPORT
- PT. 65 - BOTTOM BRACKET
- PT. 66 - COTTER PIN

BEARING ASSEMBLY





ASSEMBLY — PEDAL DRIVE UNIT WITH MAIZE SHELLER



100 P.C.D. Pts. 42, 43, 44, 45

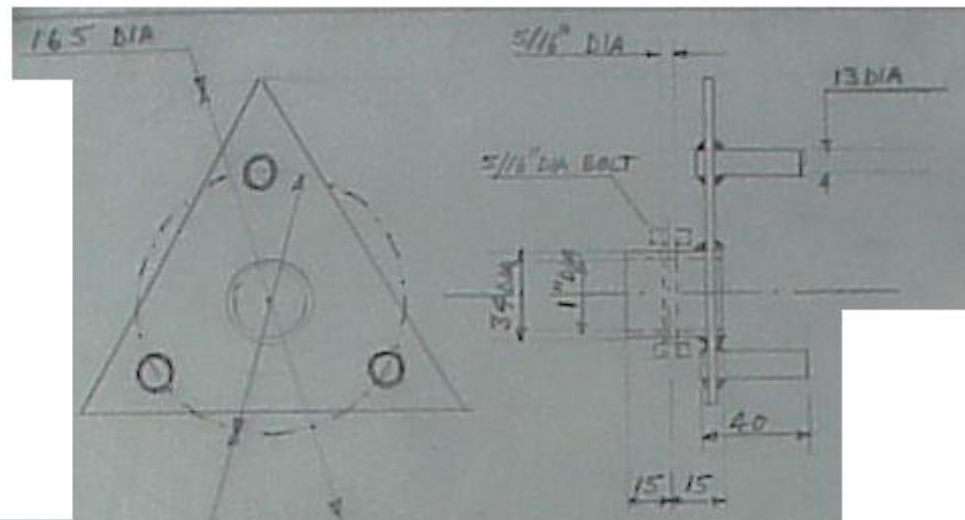
MILL FLEXIBLE COOLING PLATE ASSEMBLY
 3mm - THICK MILD STEEL, 1" DIA AND 13" DIA BAR



SHAFT FLEXIBLE COOLING
 PLATE, 1 DEF,
 3mm - THICK STEEL, 6 HOLES, 13mm CLEARANCE

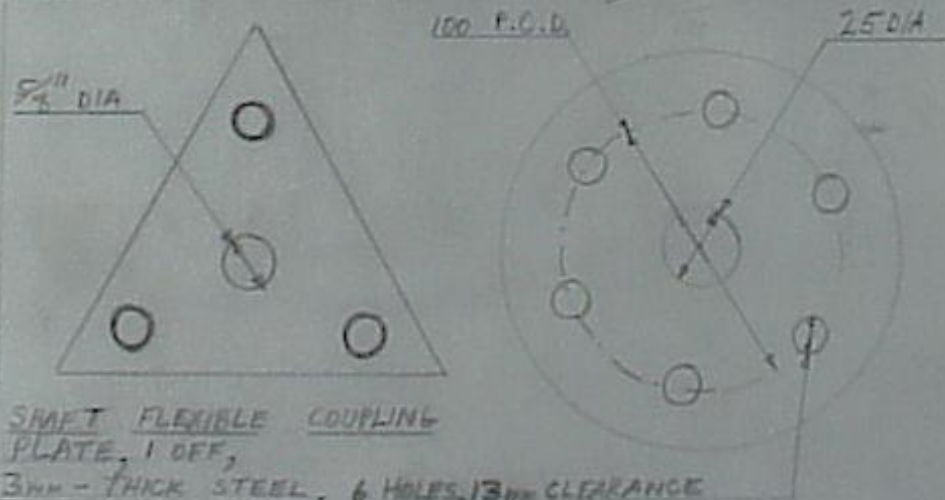
PT. A1 & 42

FLEXIBLE ROLL TOP,
 13mm - THICK RUBBER CAR TYRE
 PT. 46



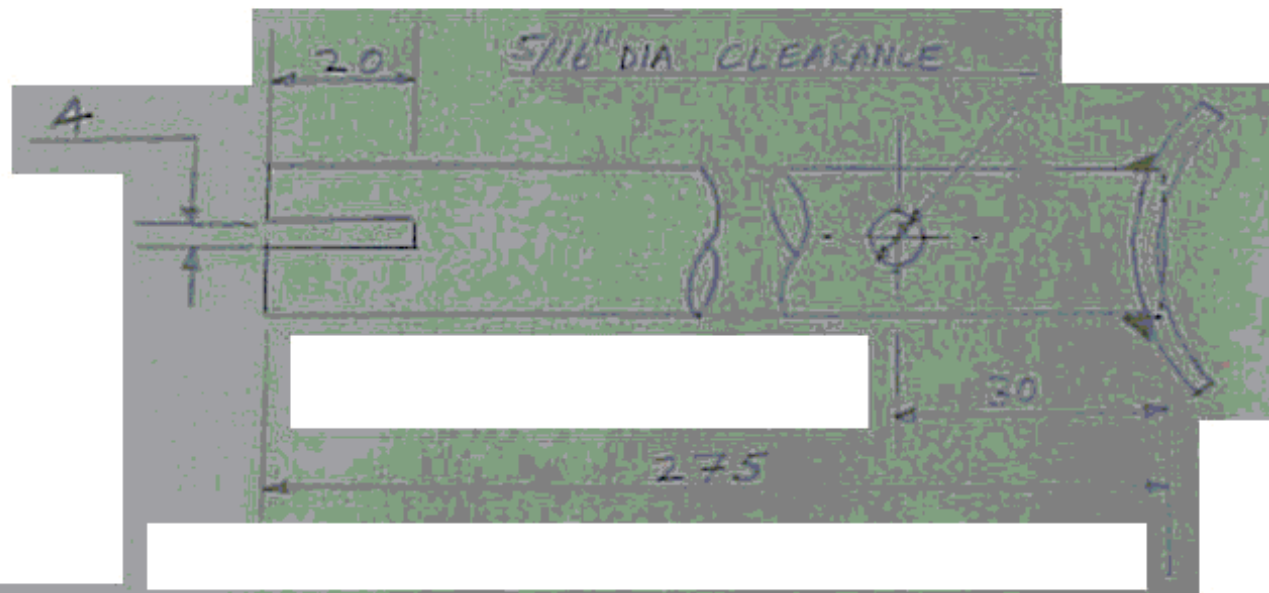
100 P.C.D. PTS. 42, 43, 44, 45

MILL FLEXIBLE COUPLING PLATE ASSEMBLY —
 3mm-THICK MILD STEEL, 1" PIPE, AND 13mm DIA BAR

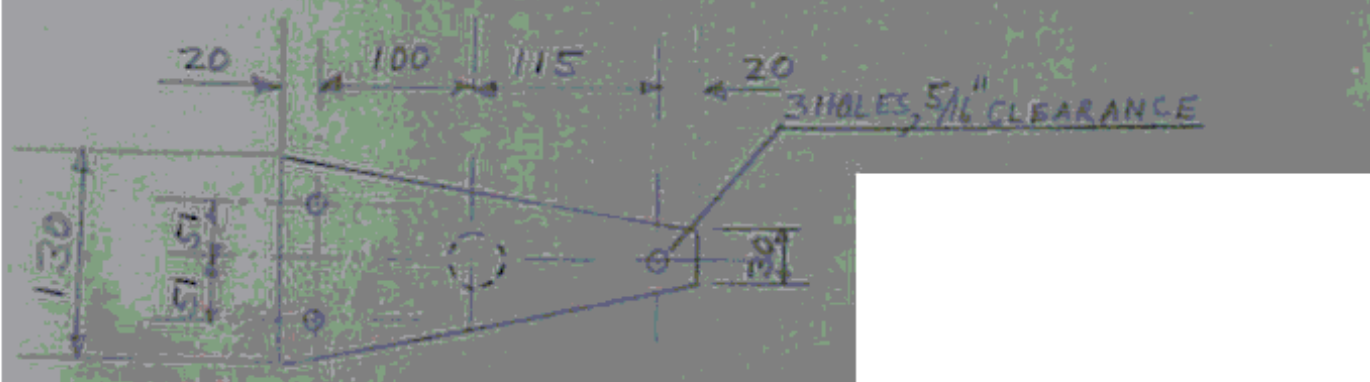


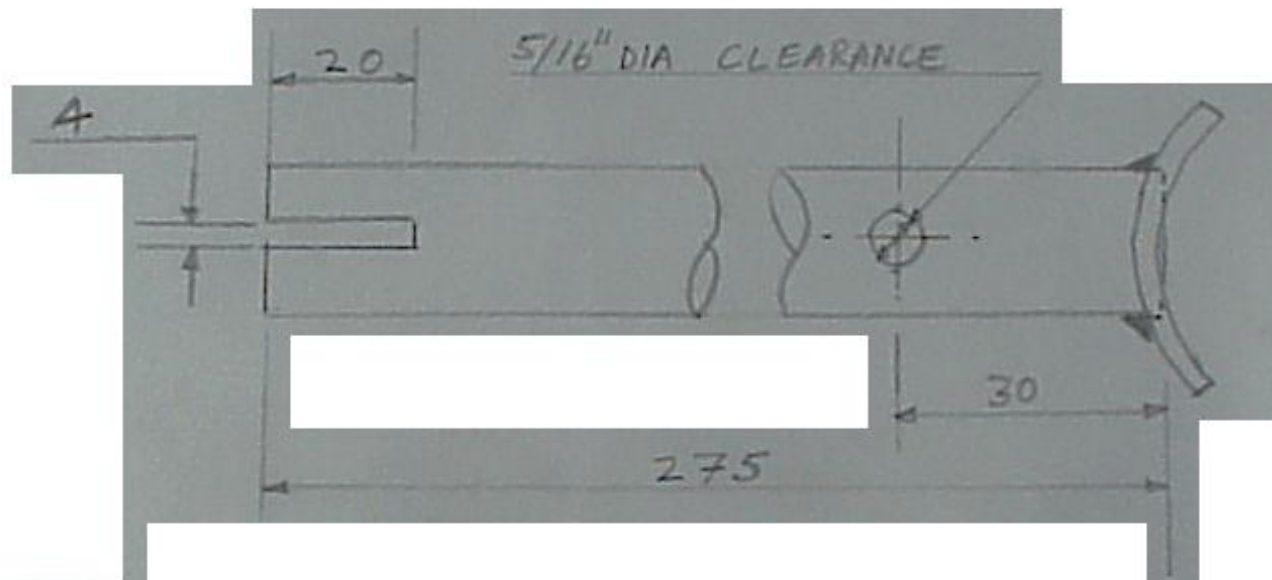
SHAFT FLEXIBLE COUPLING
 PLATE, 1 OFF,
 3mm-THICK STEEL, 6 HOLES, 13mm CLEARANCE
 PT. 41 & 42

FLEXIBLE DISC, 1 OFF,
 13mm-THICK RUBBER CAR TYRE
 PT. 46

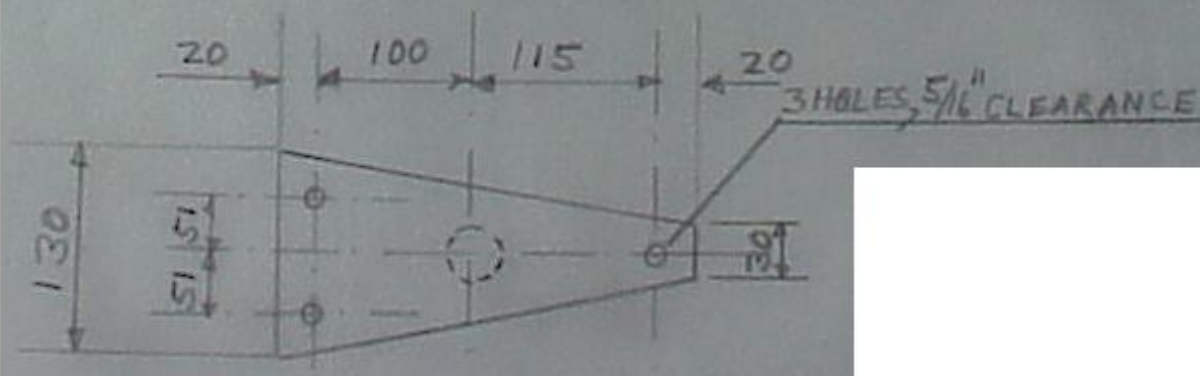


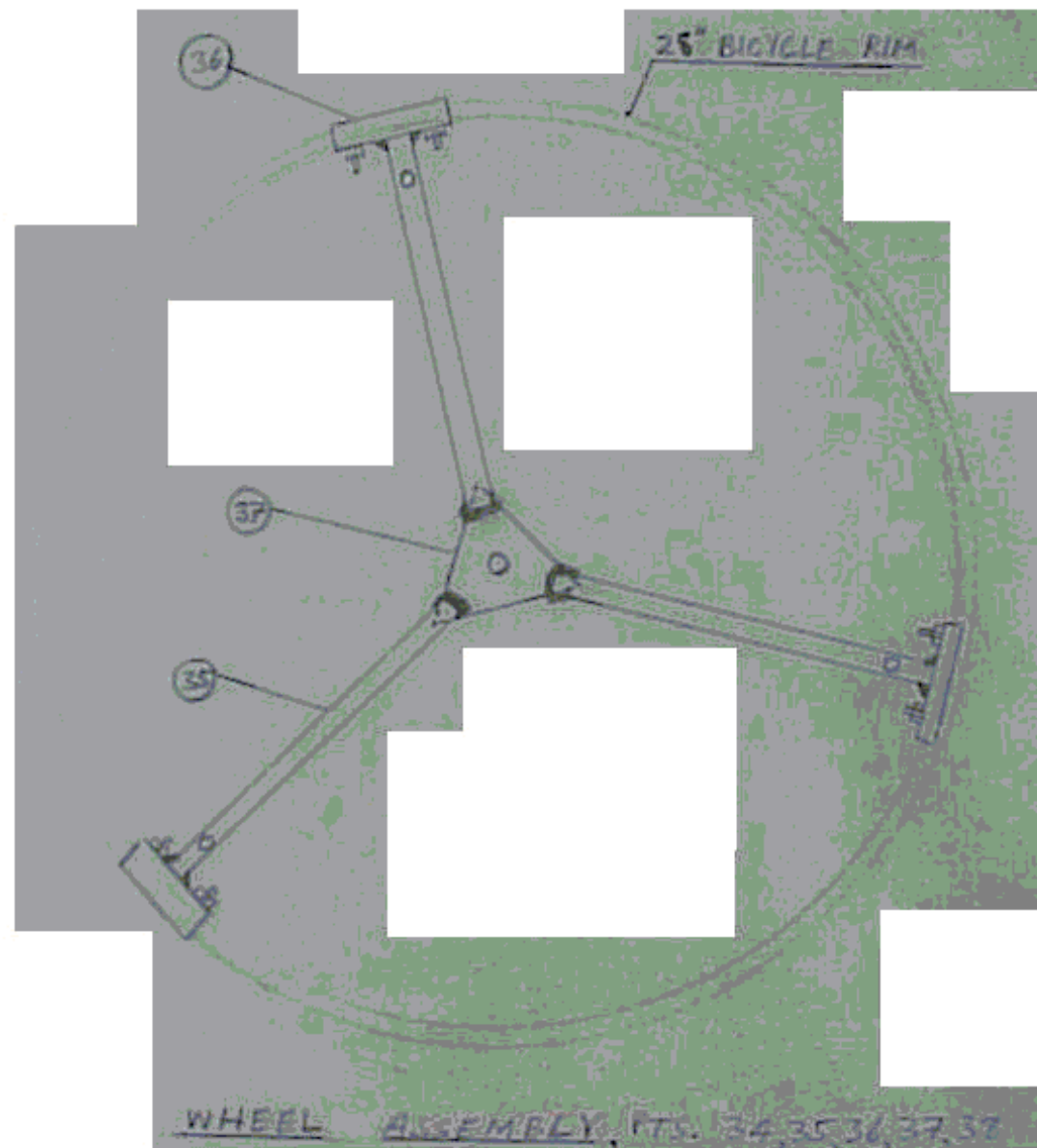
ASSEMBLY — RIM CLAMPS AND WHEEL SPOKES, PTS. 35 & 36
 WHEEL SPOKES — 3 OFF, 1/2" STEEL PIPE

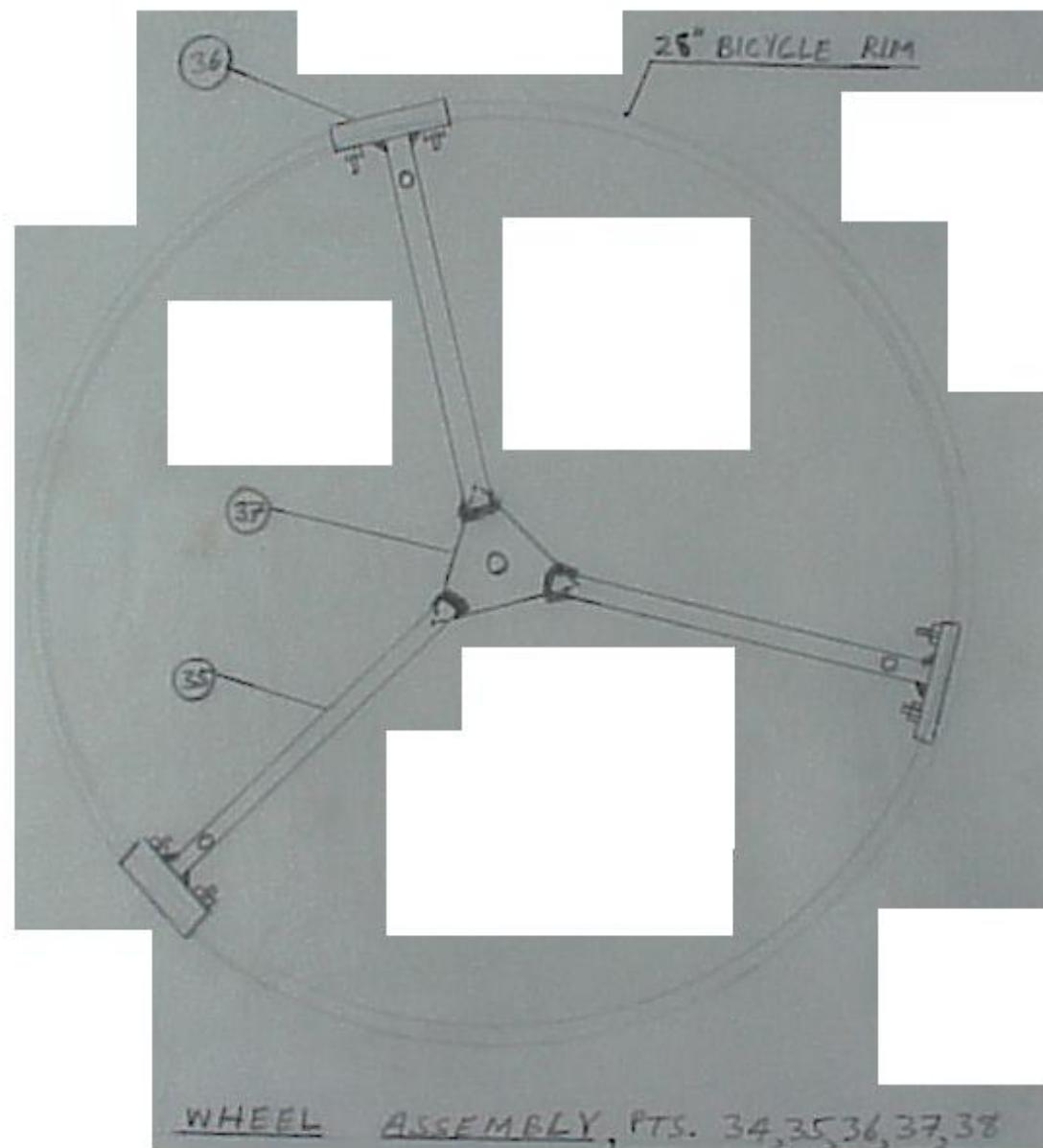


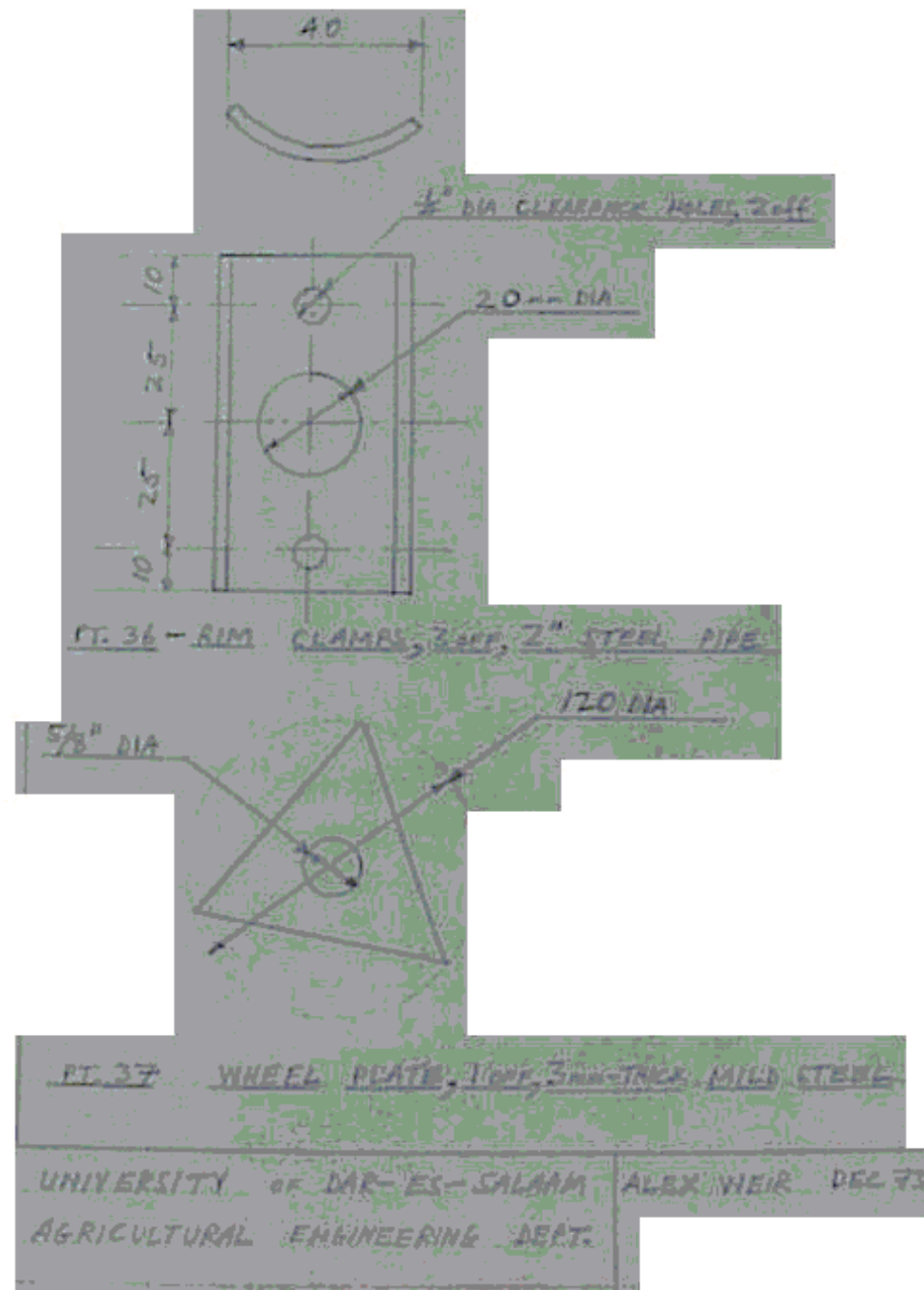


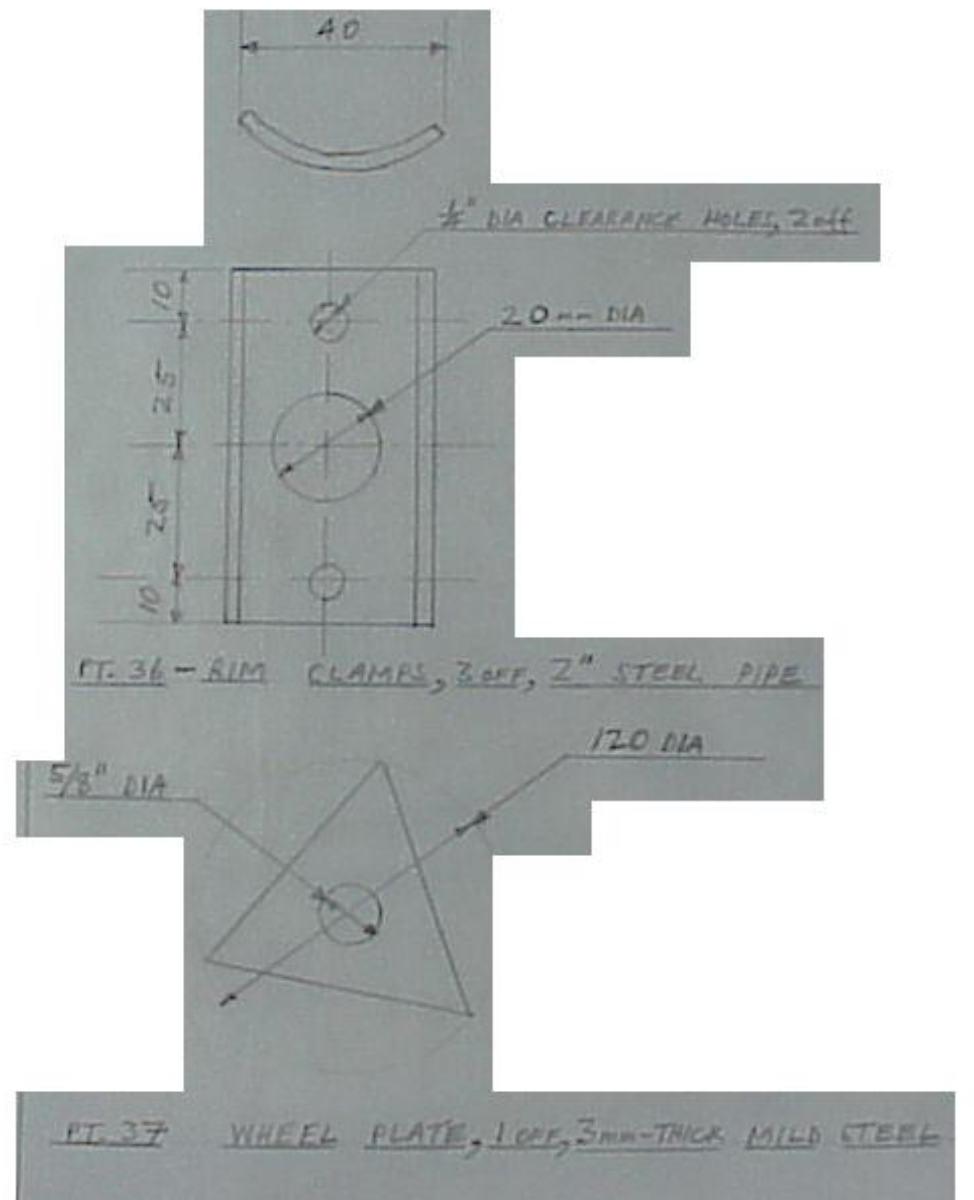
ASSEMBLY — RIM CLAMPS AND WHEEL SPOKES, PTS. 35 & 36
 WHEEL SPOKES — 3 OFF, 1/2" STEEL PIPE



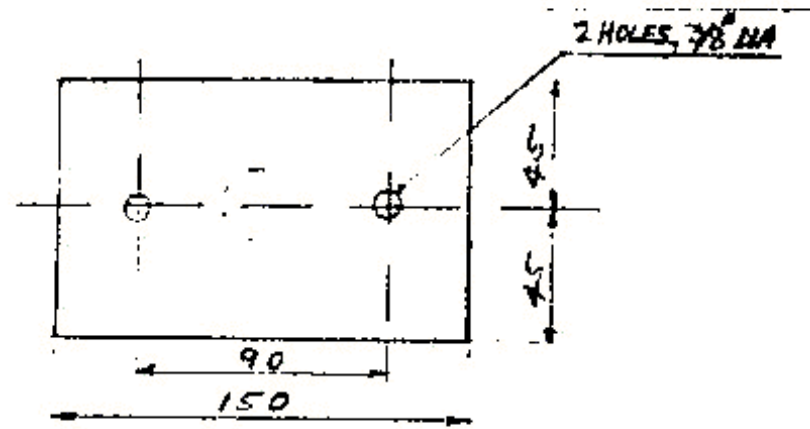




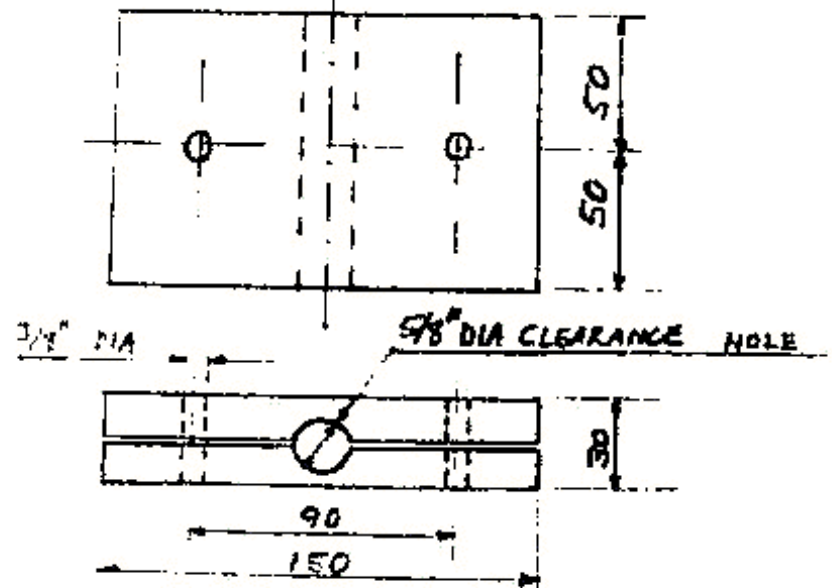




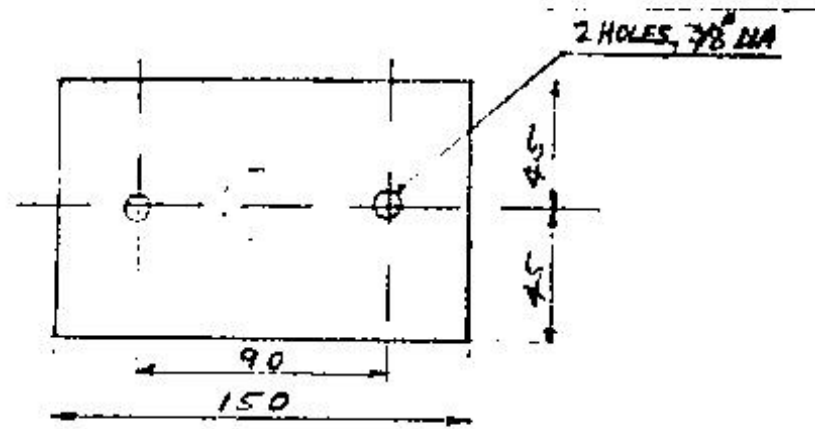
UNIVERSITY of DAR-ES-SALAAM ALEX WEIR DEC 73
 AGRICULTURAL ENGINEERING DEPT.



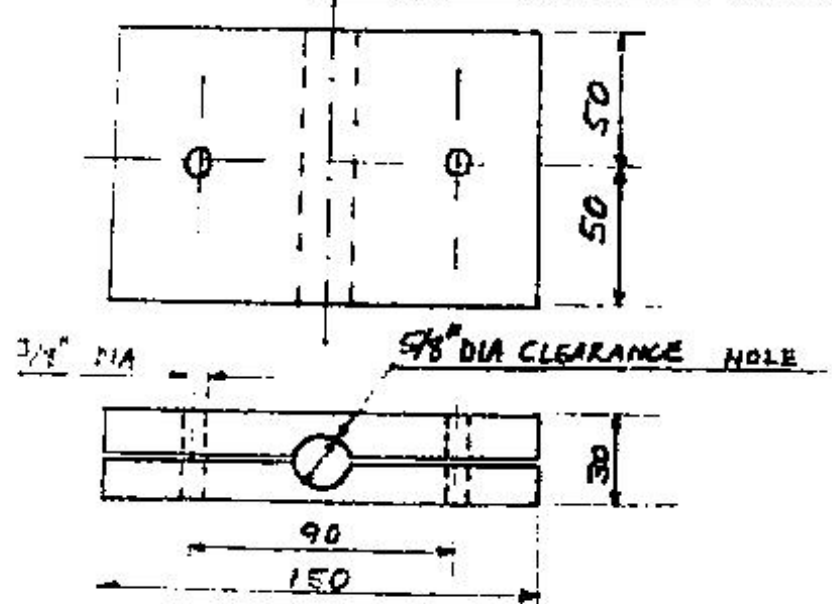
PT. 1.6 - BEARING PLATES, 2 off, 3/4" THICK MILD STEEL



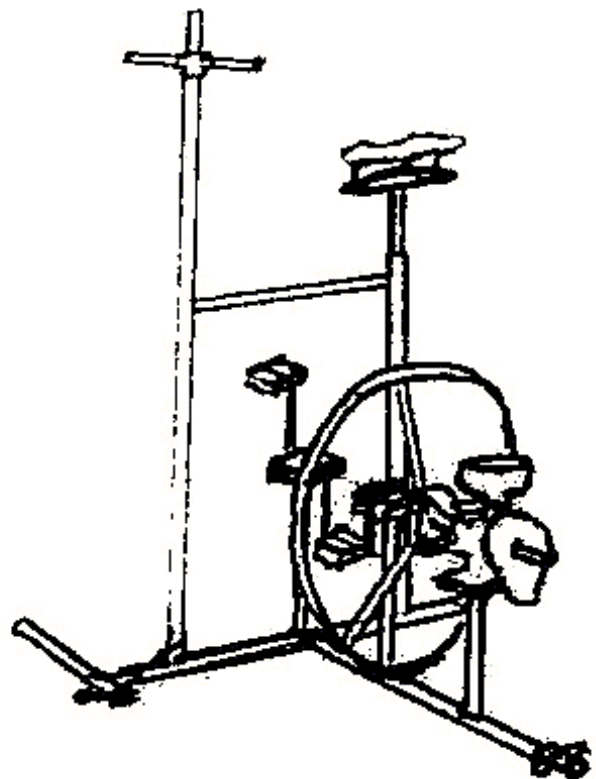
PT. 2.5 - BEARING BLOCKS, 2 off, WOOD



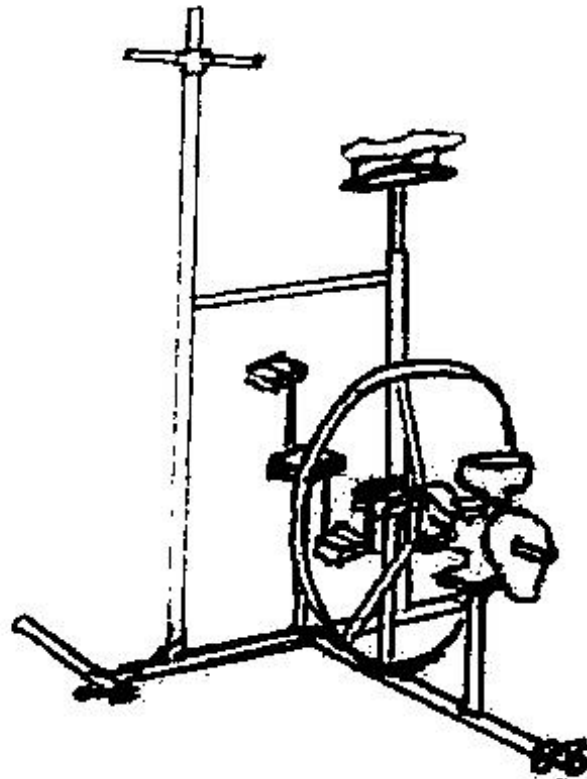
PT. 1.6 - BEARING PLATES, 2 off, 3/4" THICK MILD STEEL



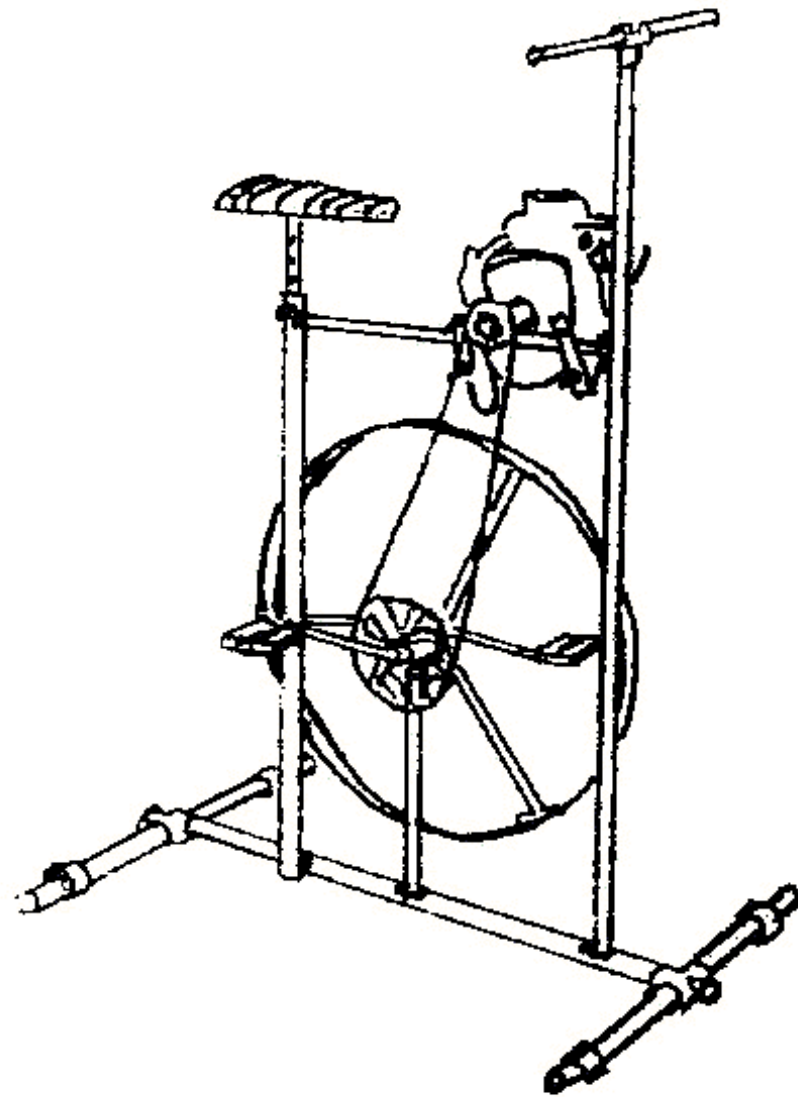
PT. 2.5 - BEARING BLOCKS, 2 off, WOOD



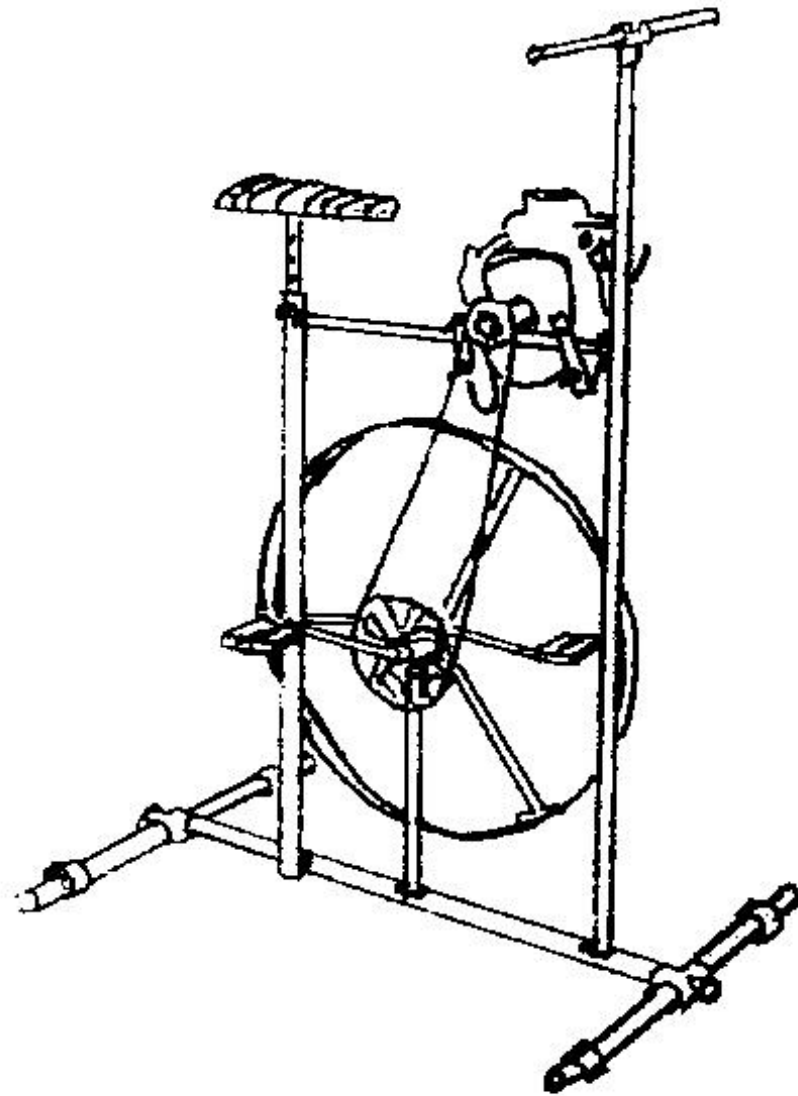
SHAFT - DRIVE PEDAL UNIT WITH GEAR MILL



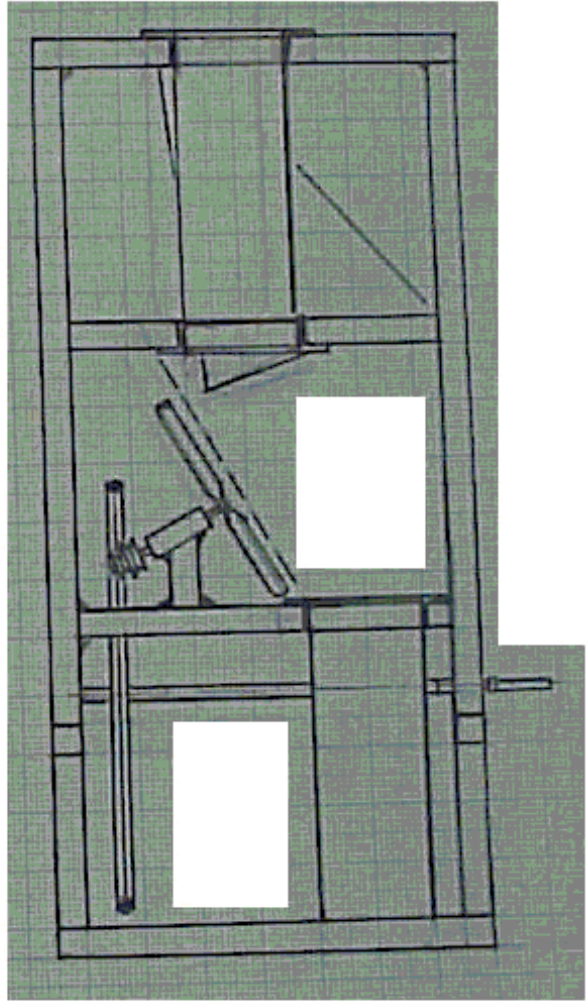
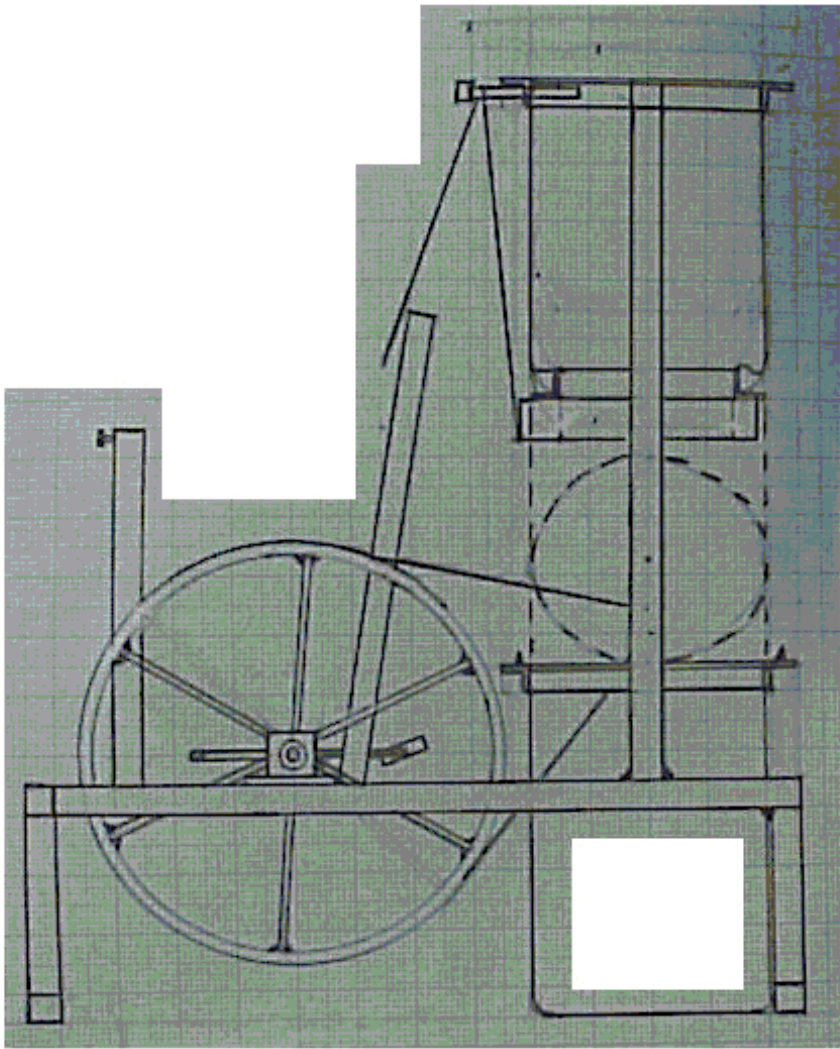
SHAFT - DRIVE PEDAL UNIT WITH GEAR MULTI

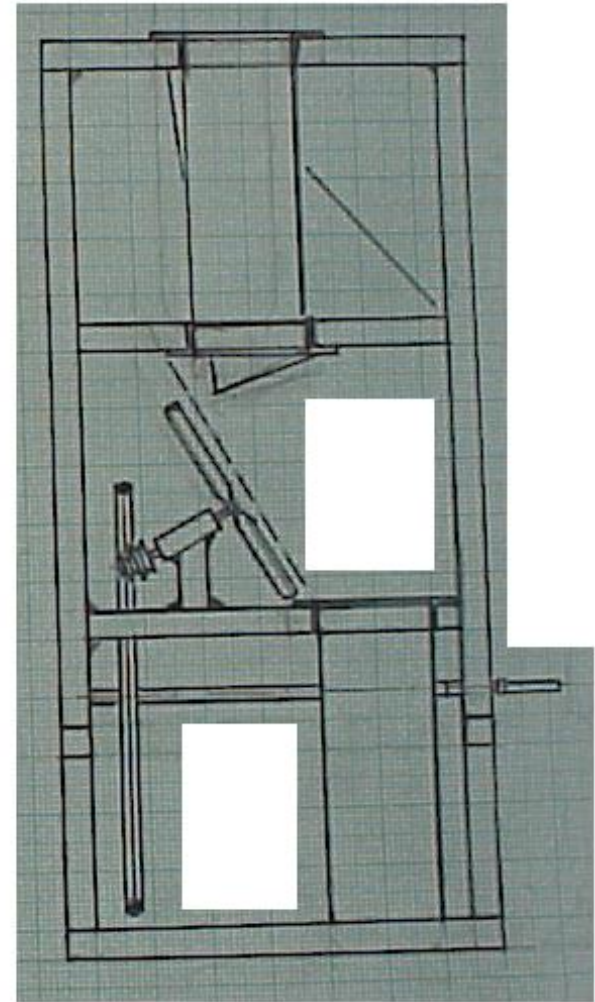
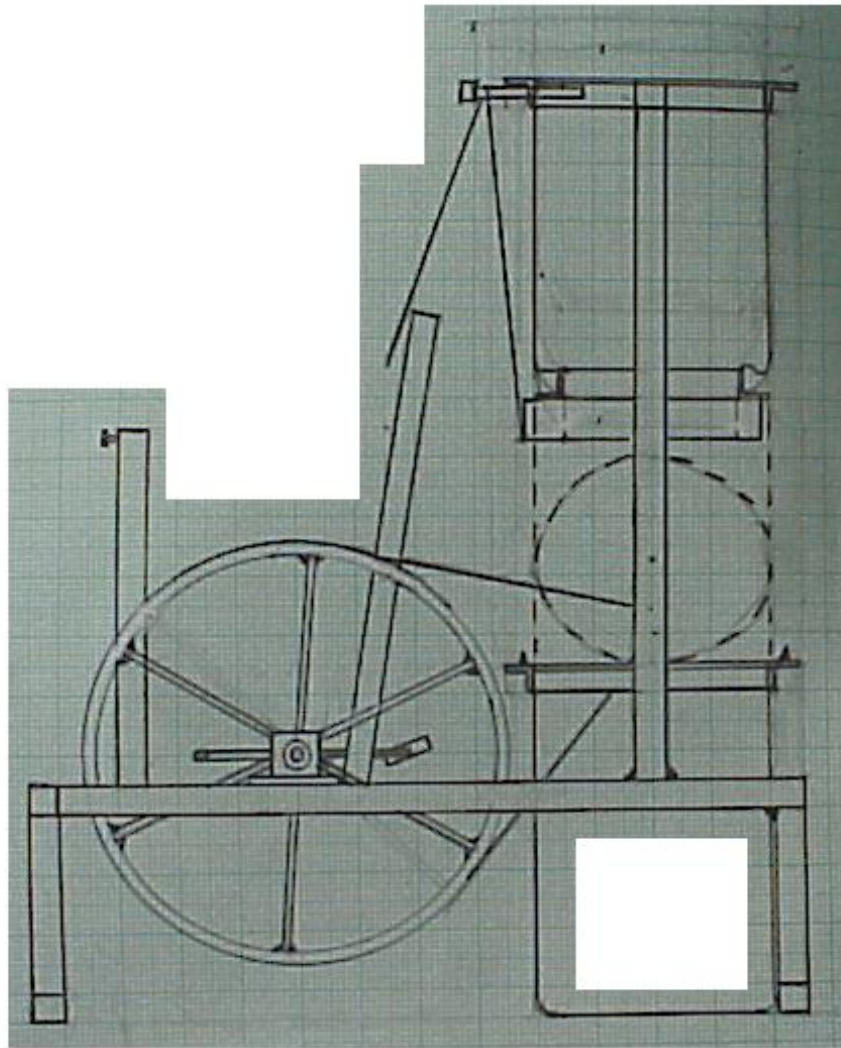


PEDAL UNIT WITH MAIZE SHELLER, CHAIN-DRIVEN.



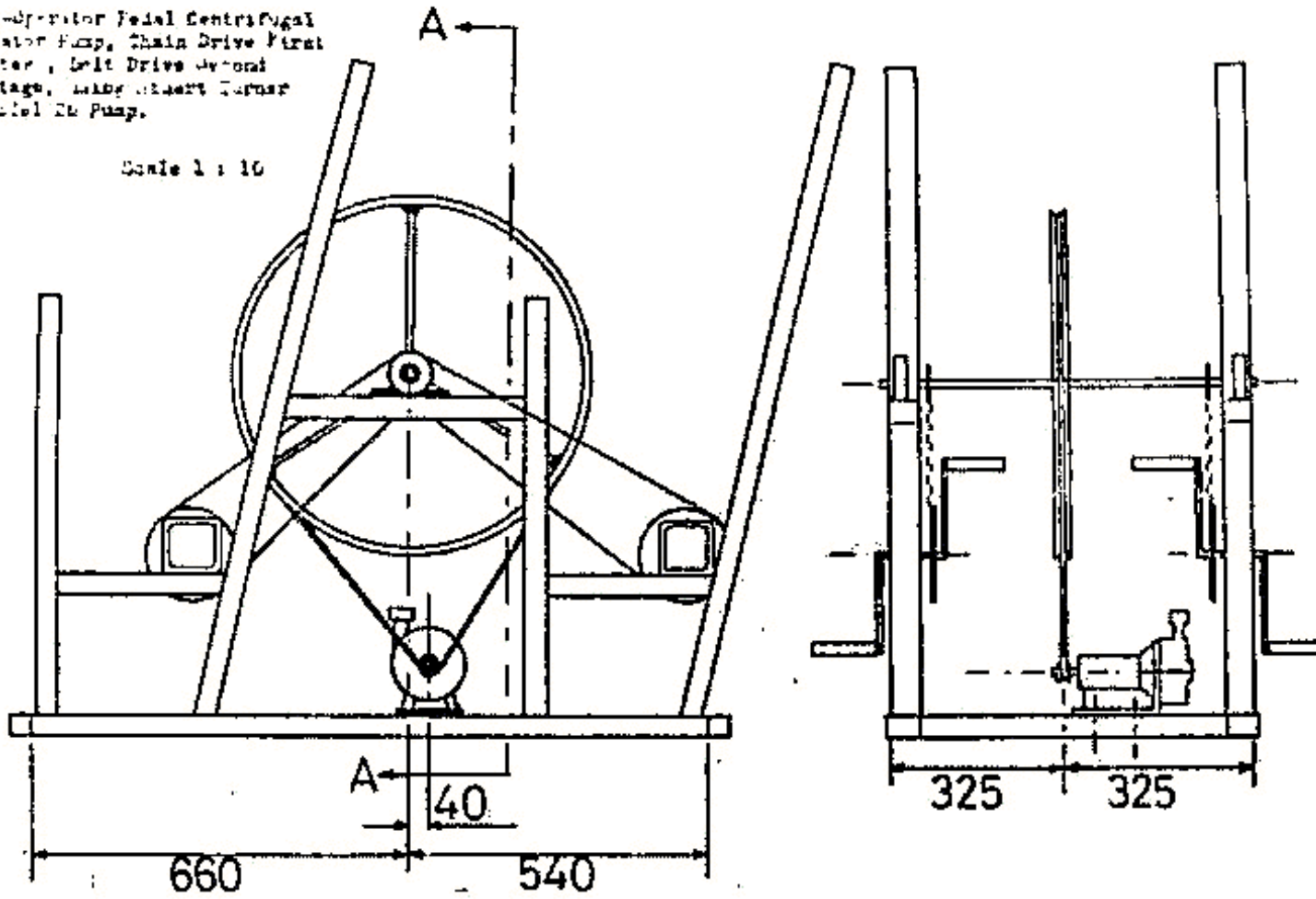
PEDAL UNIT WITH MAIZE SHELLER, CHAIN-DRIVEN.





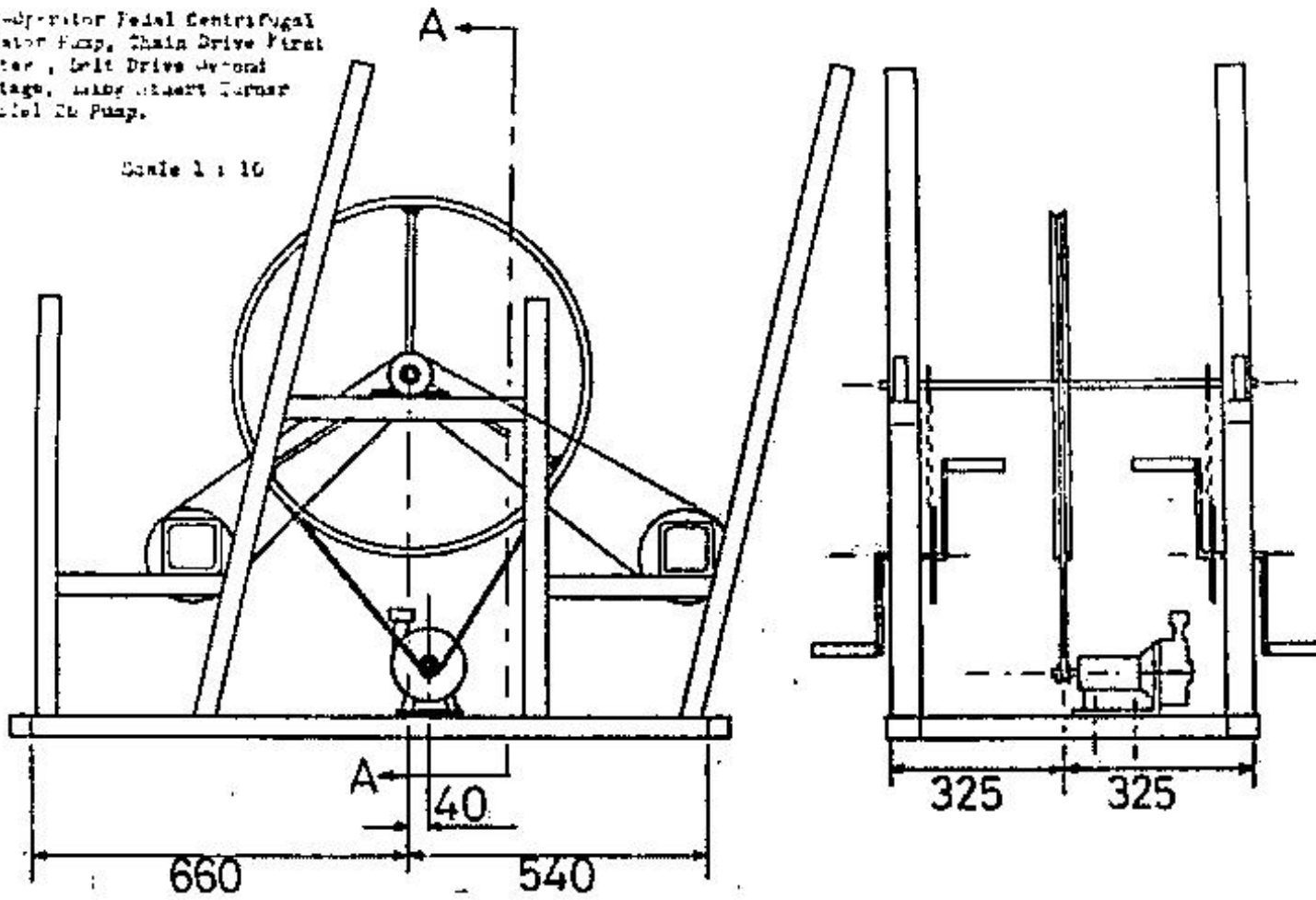
Operator Feeds Centrifugal
Motor Pump, Chain Drive First
stage, Belt Drive Second
stage, Water Jacket Turbine
Motor Pump.

Scale 1 : 10



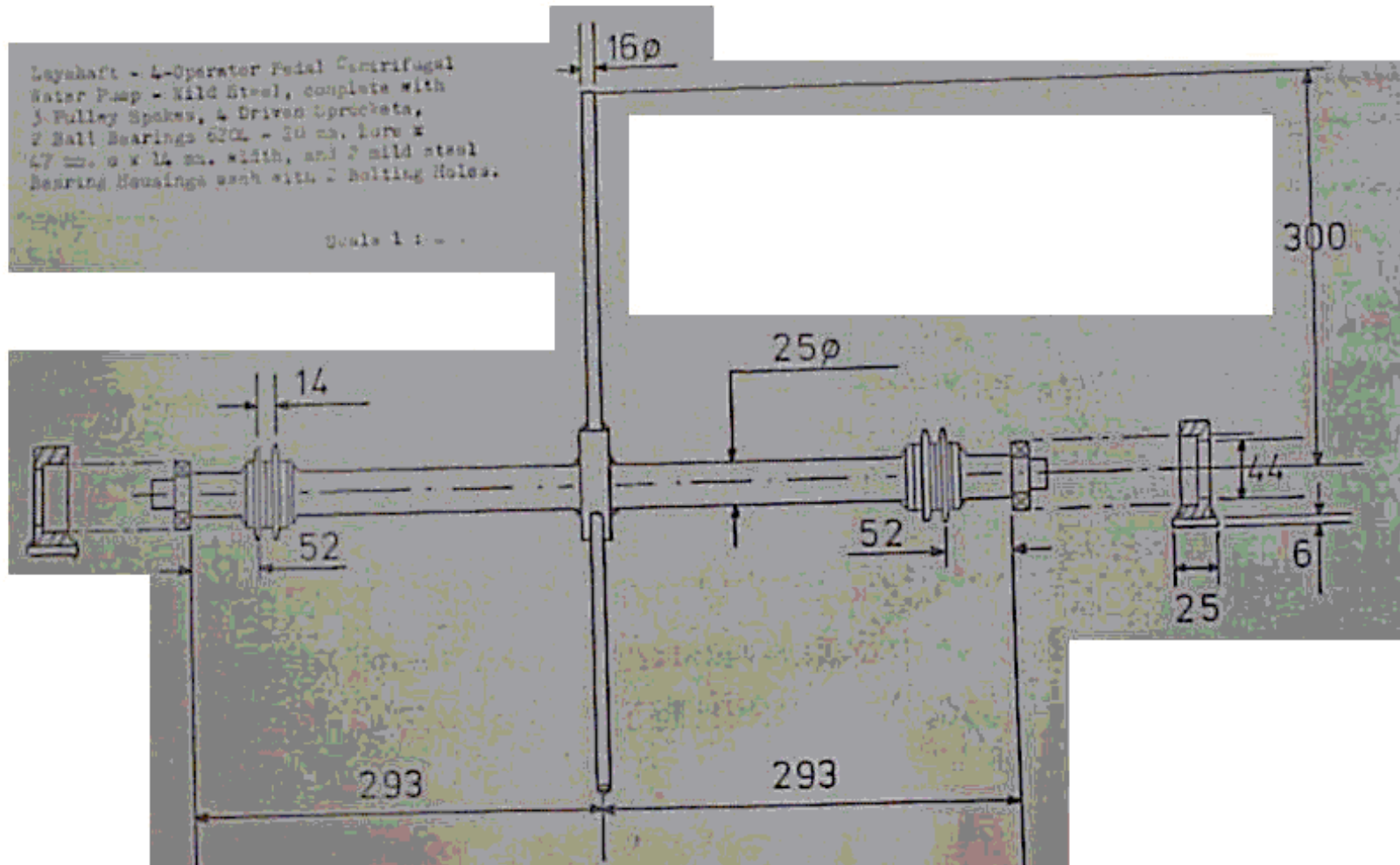
Superior Feed Centrifugal
Motor Pump, Chain Drive First
stage, Belt Drive Second
stage, 1/2" x 1/2" x 1/2" Turner
Metal Oil Pump.

Scale 1 : 10



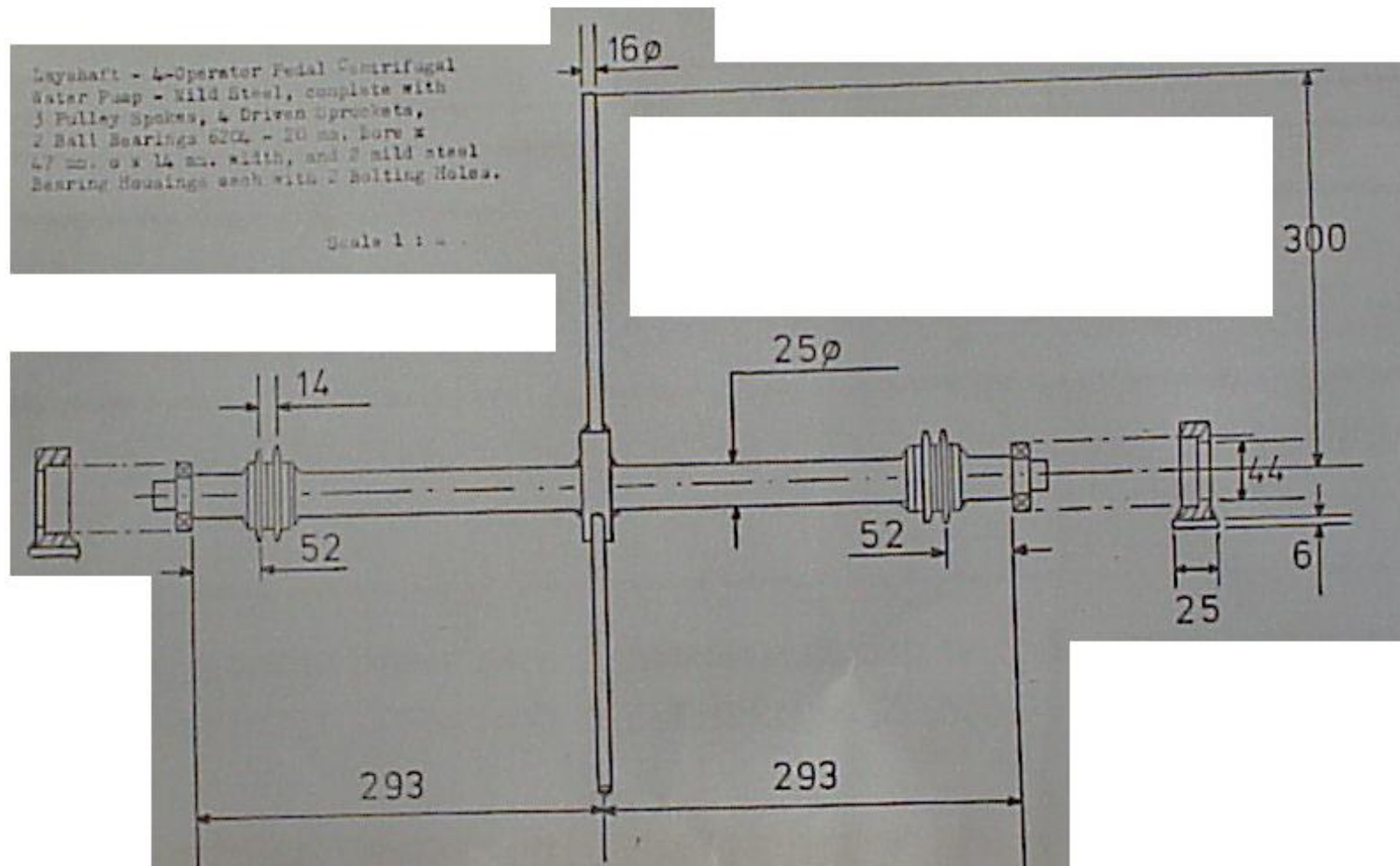
Layshaft - 4-Operator Pedal Centrifugal
Water Pump - Mild Steel, complete with
3 Pulley Spokes, 4 Driven Sprockets,
2 Ball Bearings 6202 - 30 mm. bore x
47 mm. o x 14 mm. width, and 2 mild steel
bearing housings each with 2 bolting holes.

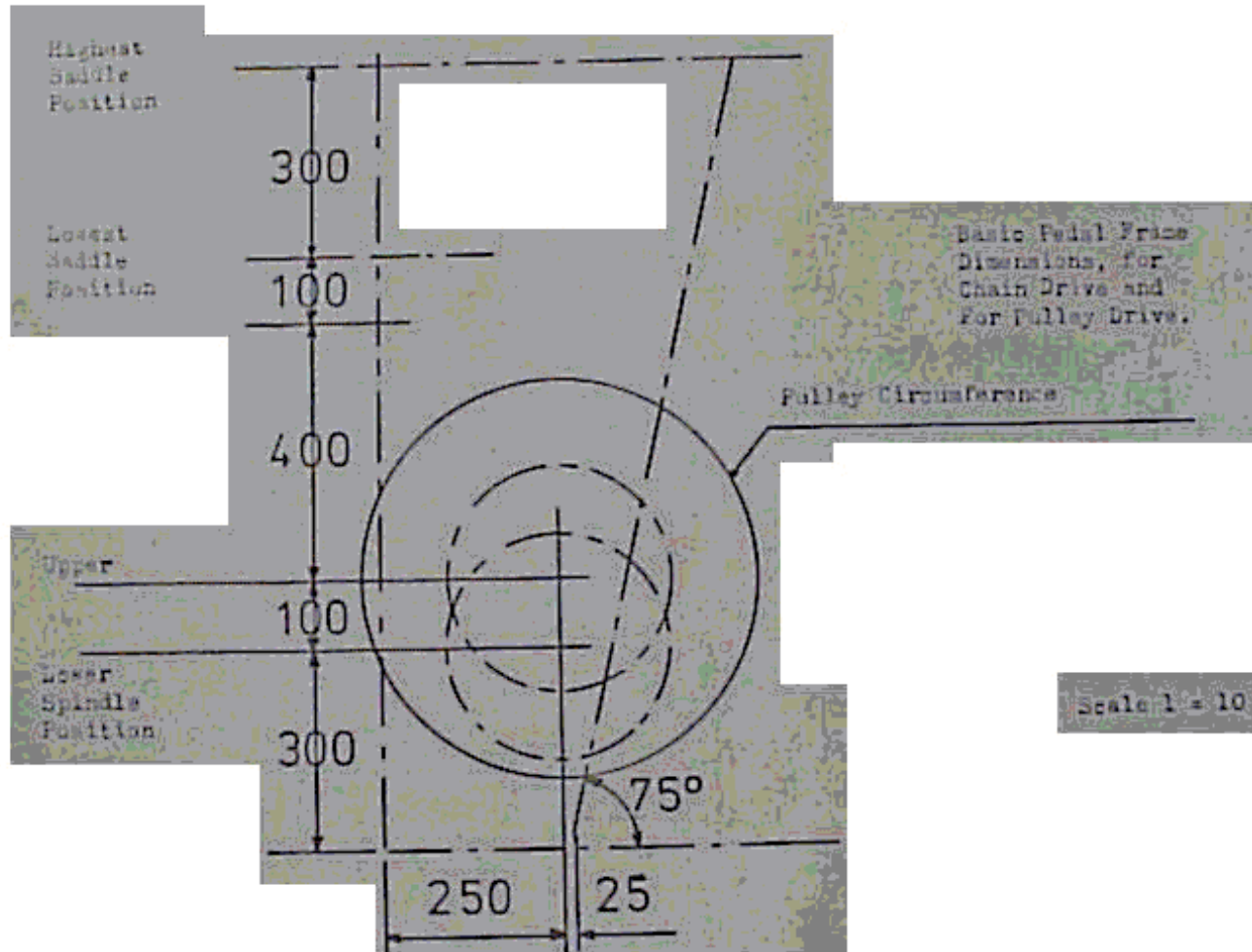
Scale 1 : - .

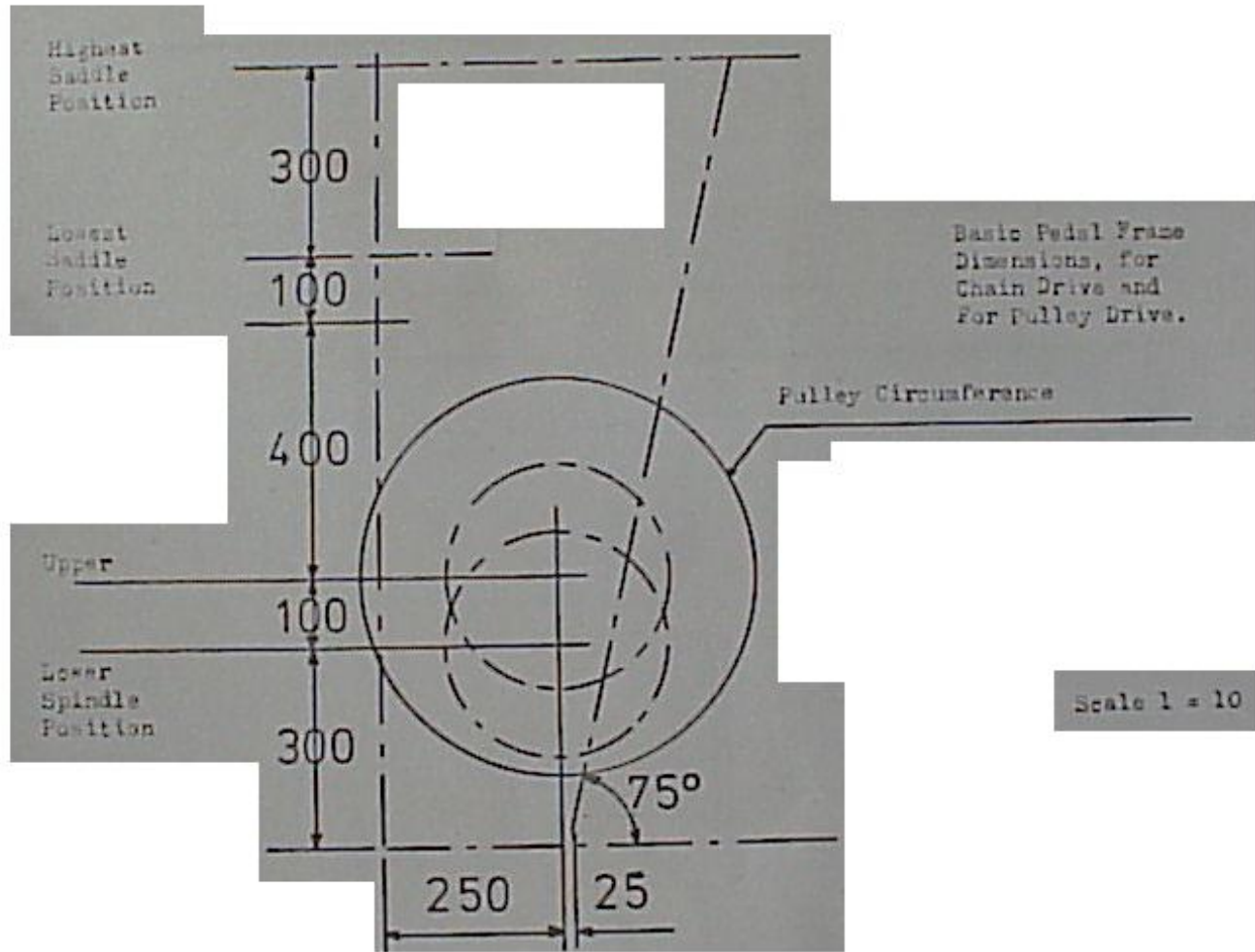


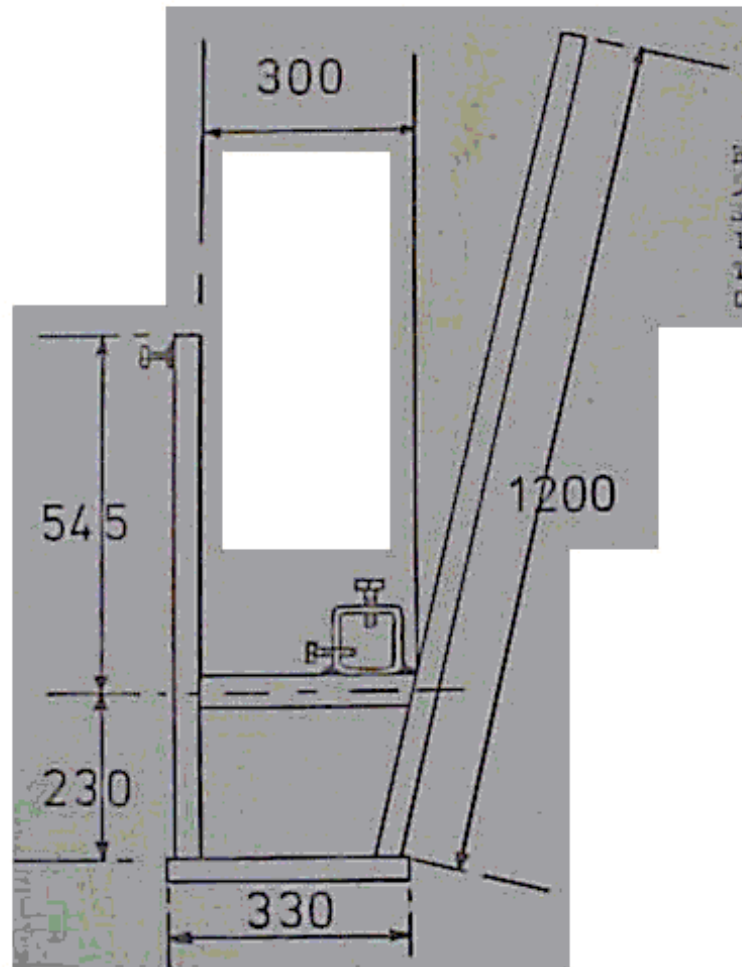
Layshaft - 4-Operator Pedal Centrifugal
Water Pump - Mild Steel, complete with
3 Pulley Spokes, 4 Driven Sprockets,
2 Ball Bearings $\phi 25$ - 20 mm. bore x
47 mm. ϕ x 14 mm. width, and 2 mild steel
Bearing Housings each with 2 Bolting Holes.

Scale 1 : - -



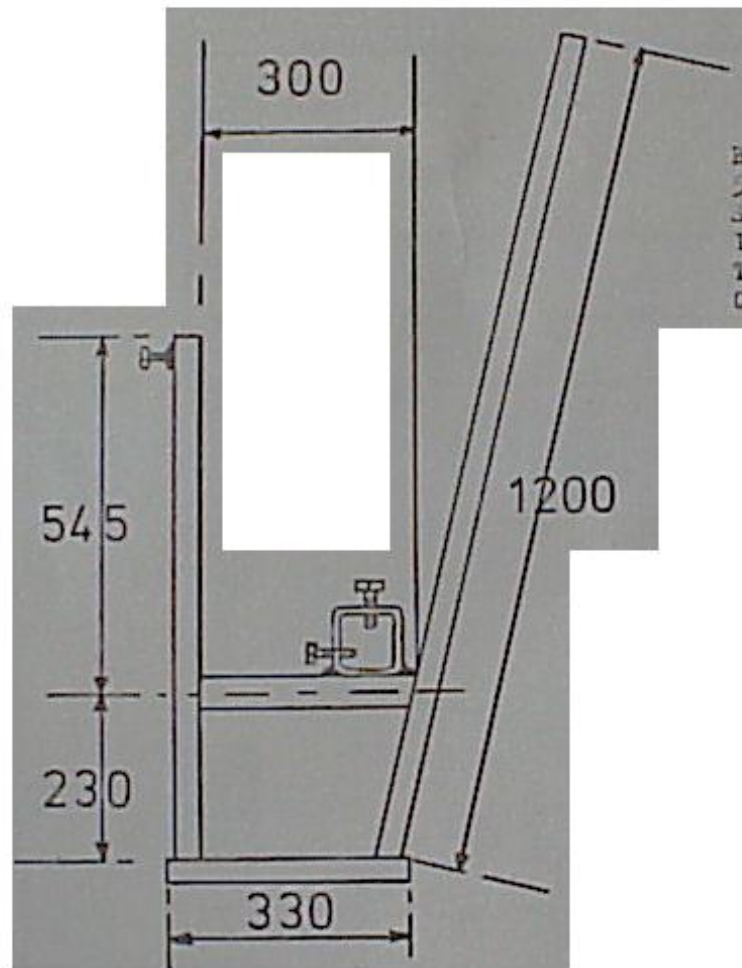






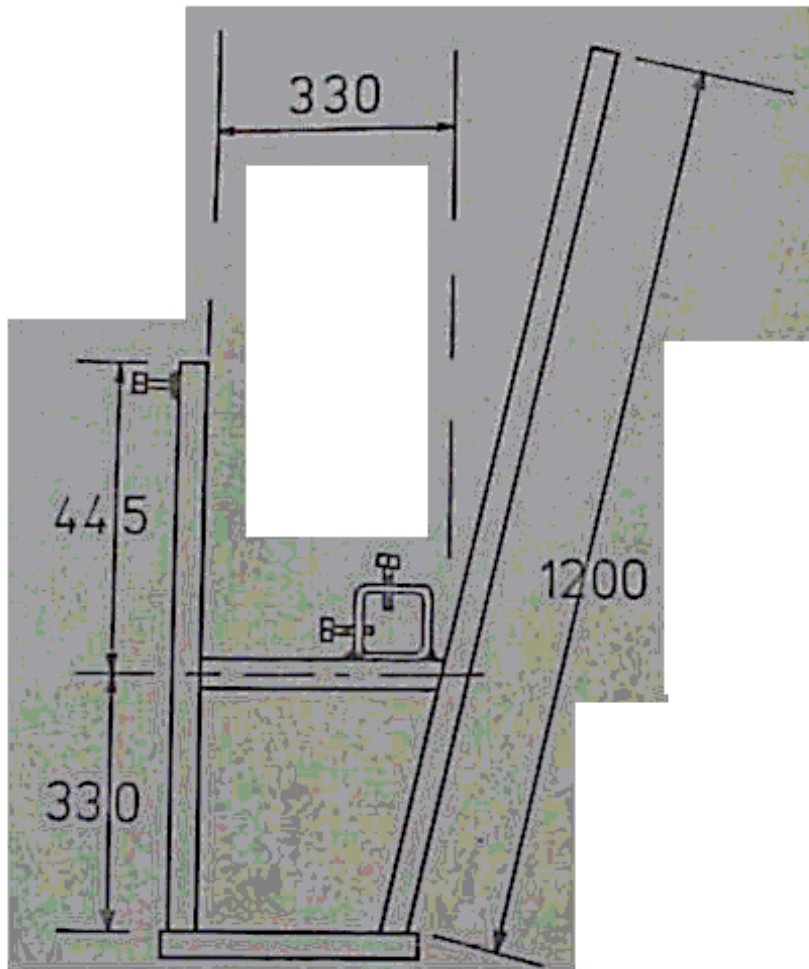
Basic Pedal Frame (Chain Drive Design),
50 x 50 x 2 Mild Steel Square Hollow
Section, complete with 100 x 100 x 6 x 50
long Bearing Unit Clamping Housing and
Two Clamping Screws, and Saddle Pillar
Clamping Screw.

Scale 1 : 10

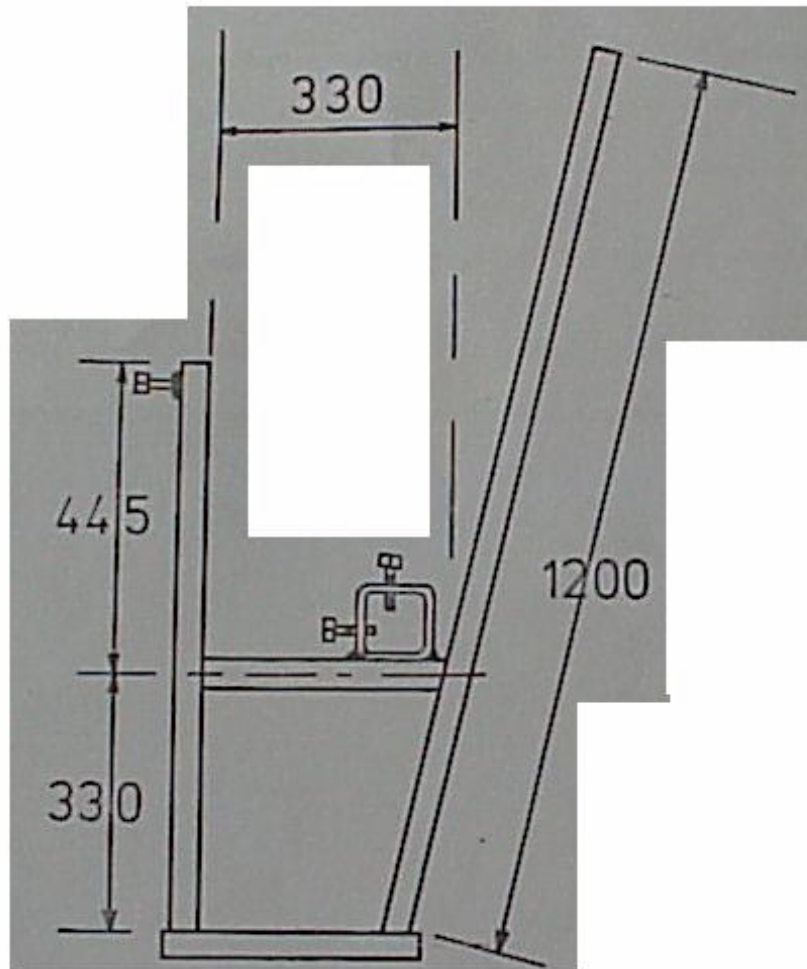


Basic Pedal Frame (Chain Drive Design),
50 x 50 x 2 Mild Steel Square Hollow
Section, complete with 100 x 100 x 6 x 50
long Bearing Unit Clamping Housing and
Two Clamping Screws, and Saddle Pillar
Clamping Screw.

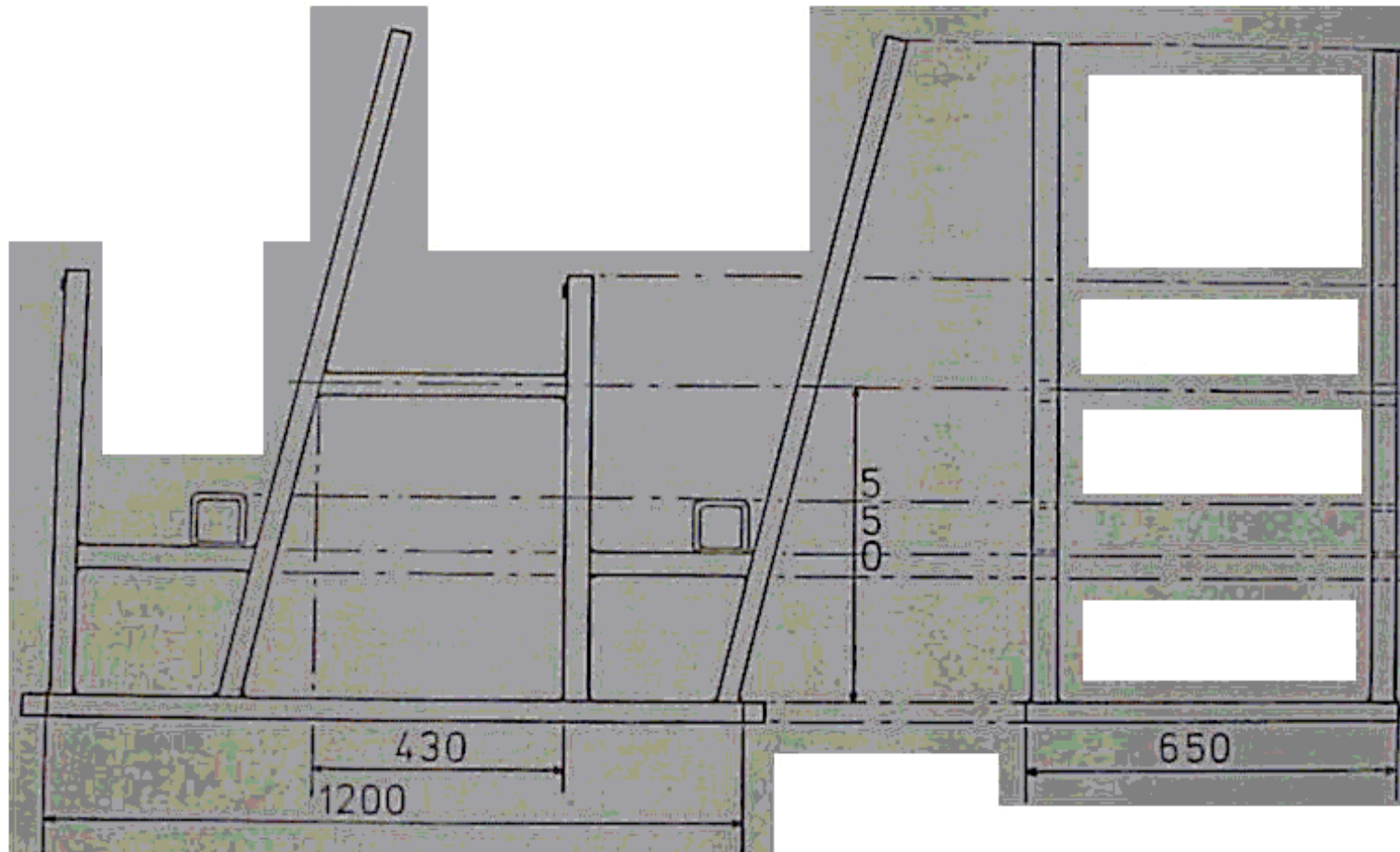
Scale 1 : 10



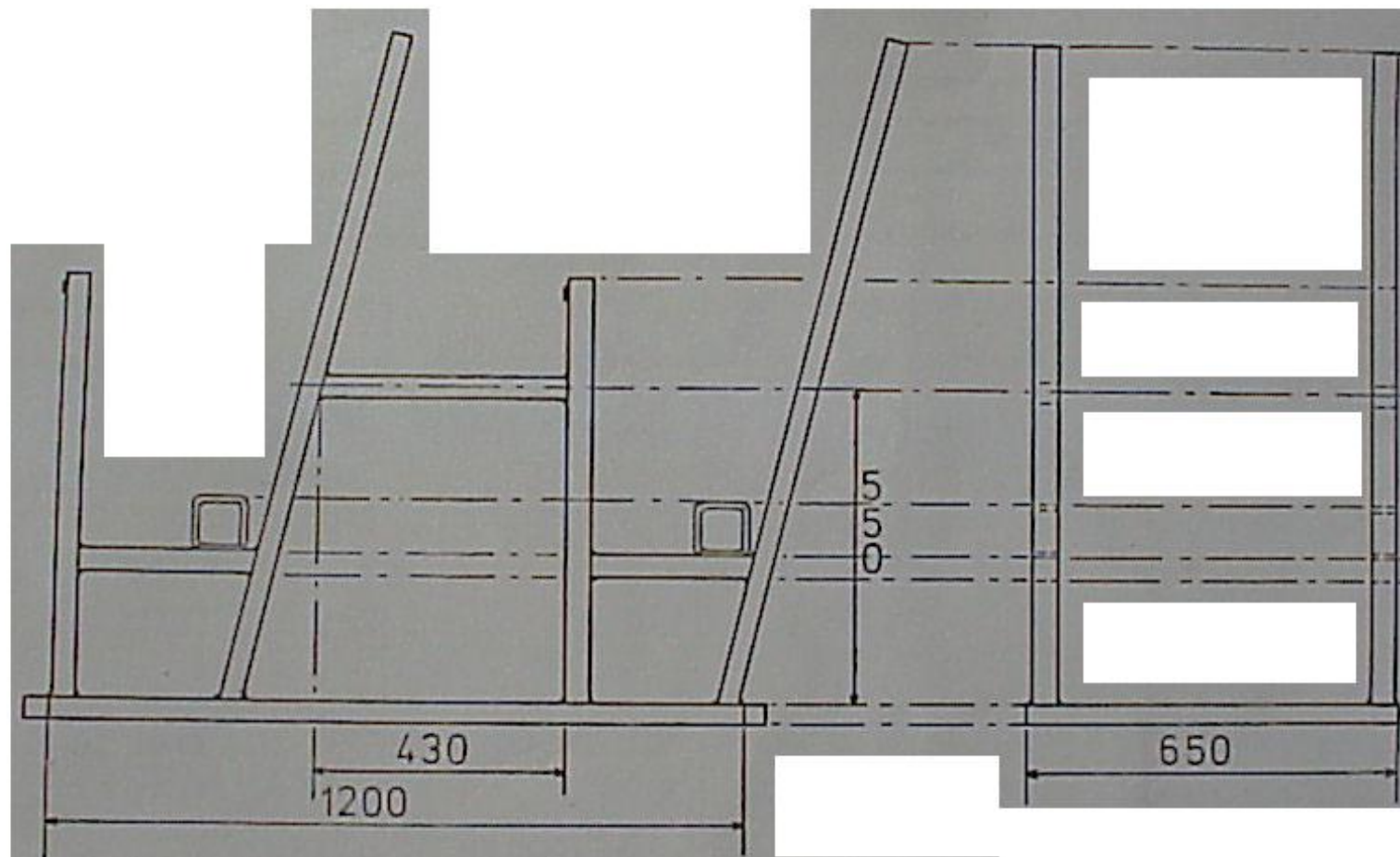
Basic Pedal Frame (Pulley Drive Design),
50 x 50 x 2 MS SHS throughout except
for Bearing Unit Clamping Housing.



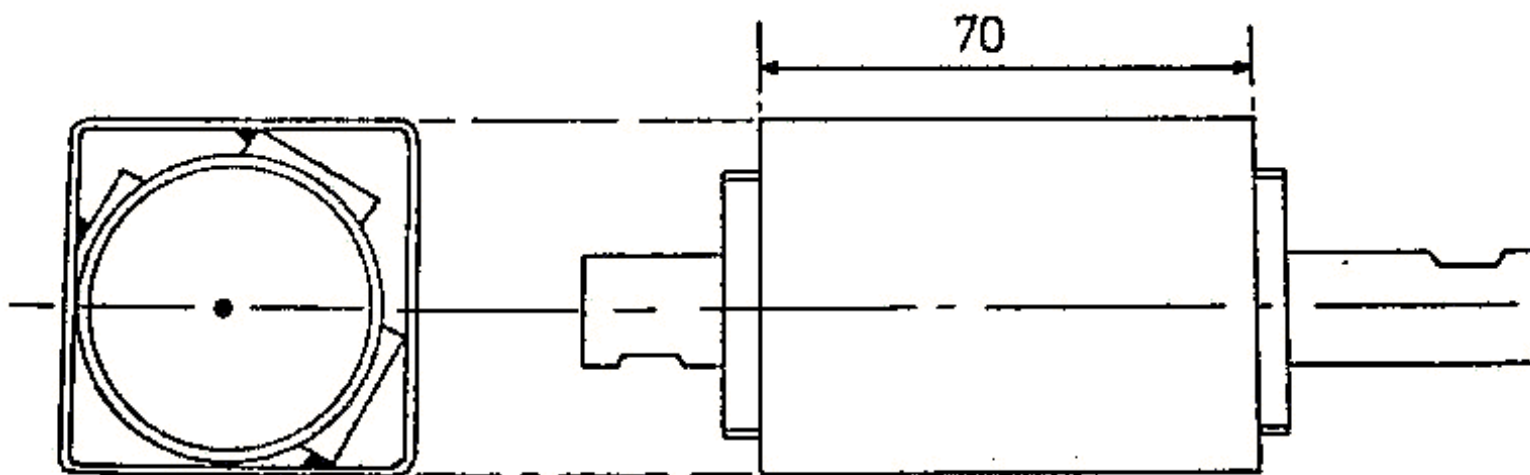
Basic Pedal Frame (Pulley Drive Design),
50 x 50 x 2 MS SHS throughout except
for Bearing Unit Clamping Housing.



Basic Pedal Frame (Chain Drive Design), 4-Operator configuration,
 50 x 50 x 2 W. BMS Throughout - except for Bearing Unit Clamping Chambers
 and Welded Nuts for Clamping of Saddle Pillars.

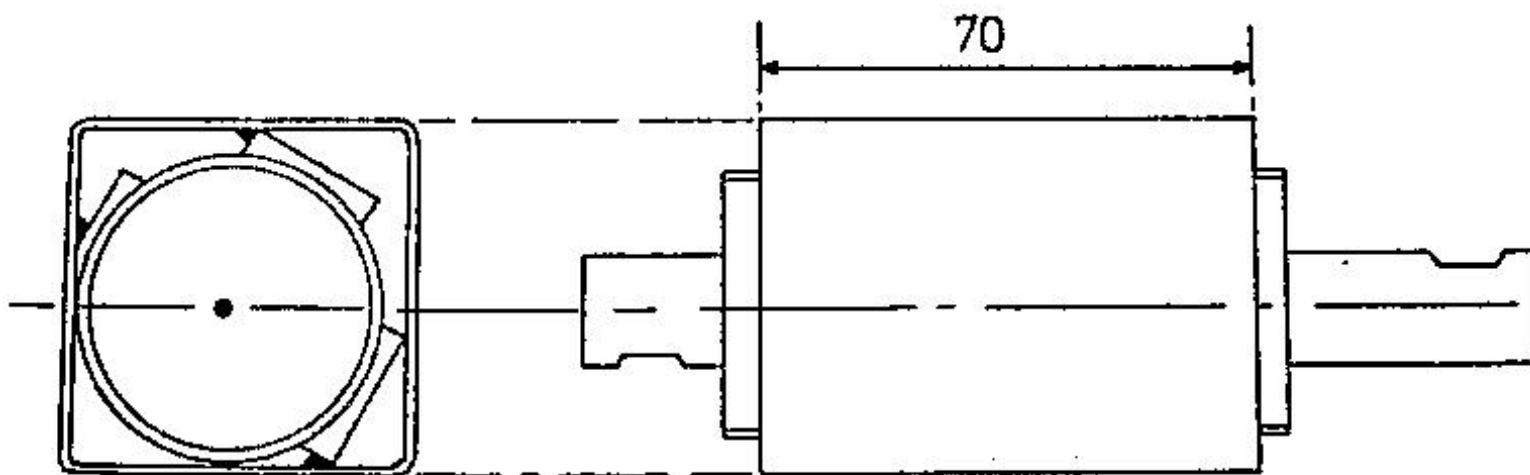


Basic Pedal Frame (Chain Drive Design), 4-Operator configuration,
 50 x 50 x 2 MS SRS throughout - except for Bearing Unit Clamping Chambers
 and Welded Nuts for Clamping of Saddle Pillars.



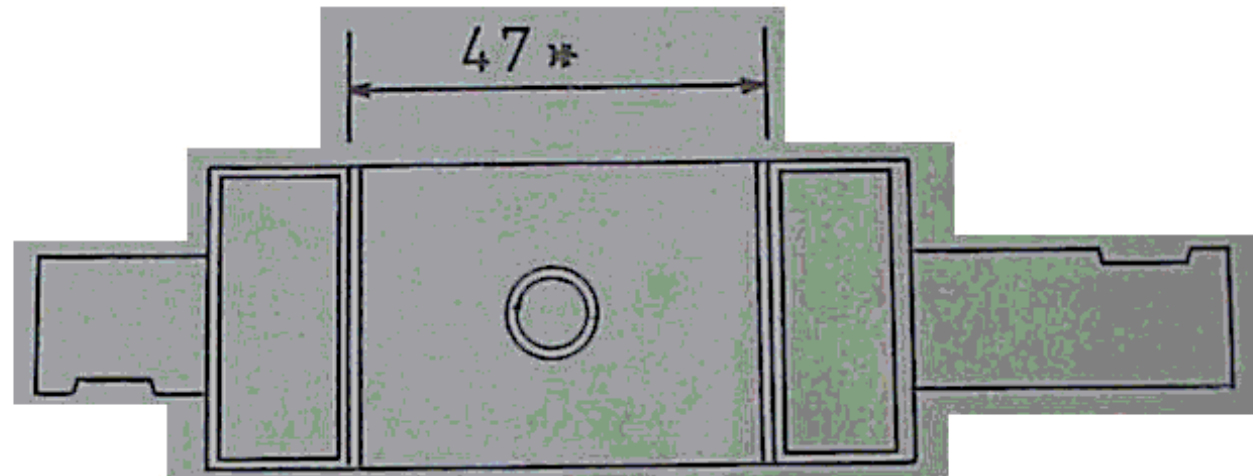
Cast or Fabricated
Bicycle Bottom Bracket,
complete with threads,
Brazed or Soldered inside
50 x 50 x 2 MS SPS.

Bearing Assembly Complete
with Bicycle Cups, Balls,
and Spindle.



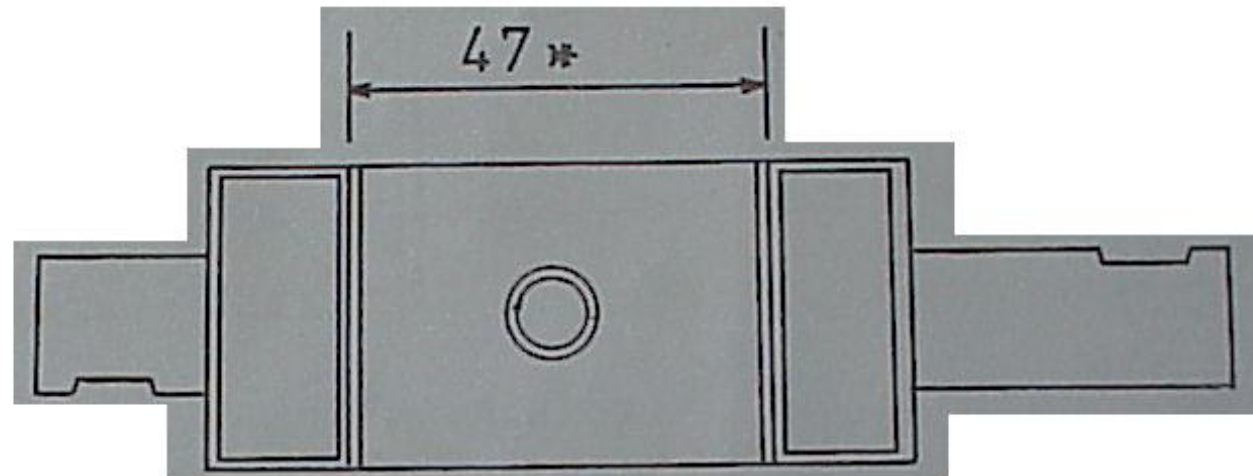
Cast or Fabricated
Bicycle Bottom Bracket,
complete with threads,
Brazed or Soldered inside
50 x 50 x 2 MS SPS.

Bearing Assembly Complete
with Bicycle Cups, Balls,
and Spindle.



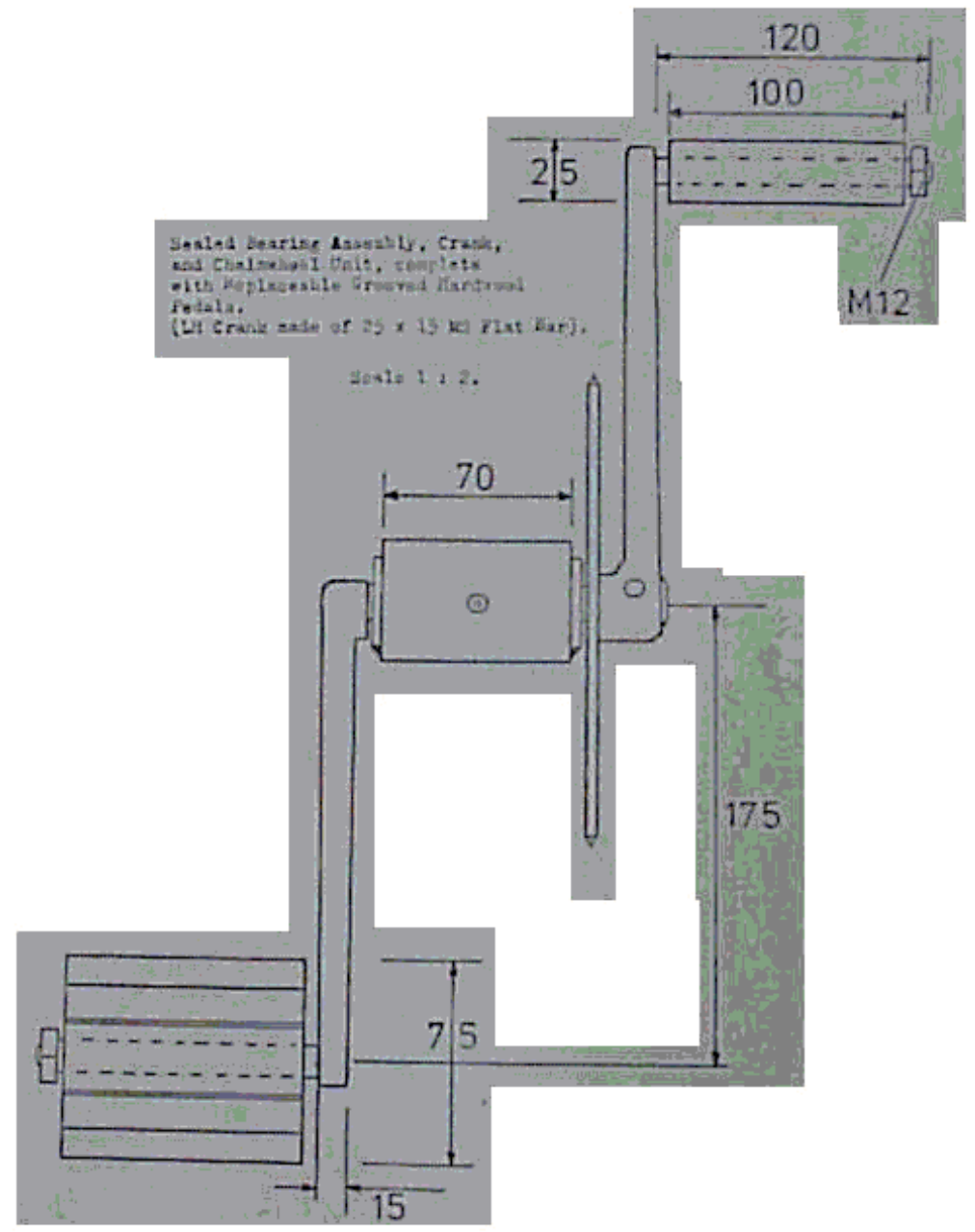
Alternative Sealed Bearing Assembly, with Bicycle Spindle and Balls, and with Bicycle Cups welded to each end of a Piece of 1" bore Water Pipe, faced and chamfered, prior to welding inside 50 x 50 x 2 x 70 SHS.

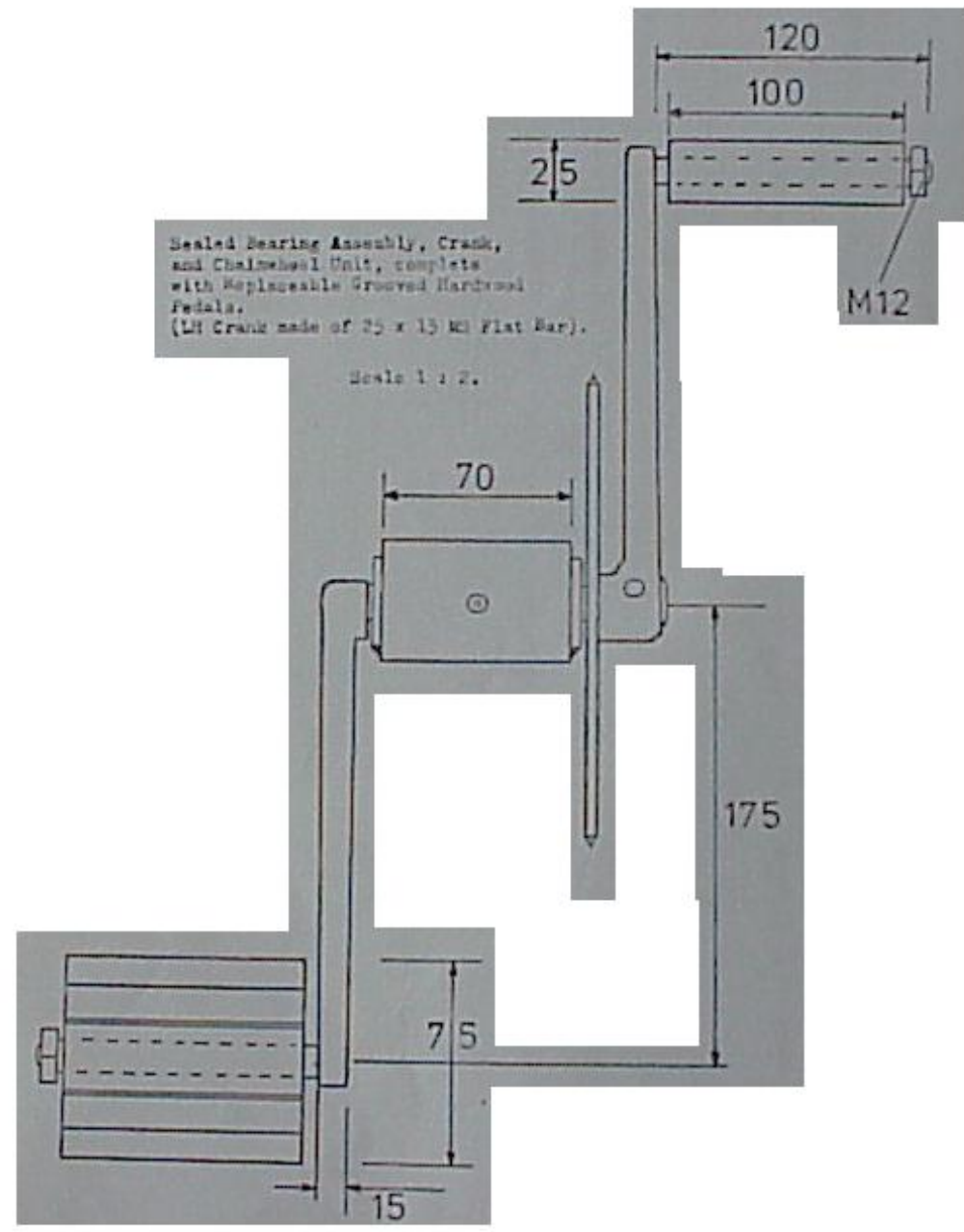
- Note - this Dimension varies with Type of Spindle and Cups used.
Also complete with $\frac{3}{8}$ " UNF.
Tapped Hole for Grease Nipple.

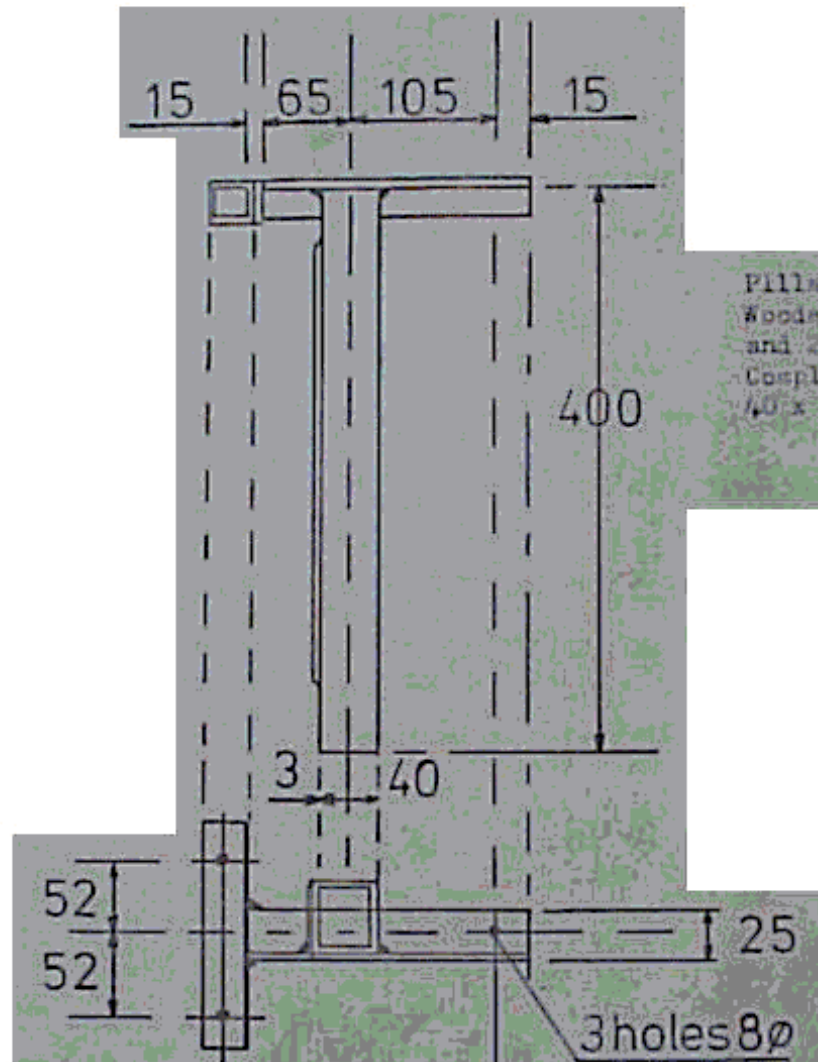


Alternative Sealed Bearing Assembly, with Bicycle Spindle and Balls, and with Bicycle Cups welded to each end of a Piece of 1" bore Water Pipe, faced and chamfered, prior to welding inside 50 x 50 x 2 x 70 SHS.

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Also complete with $\frac{3}{8}$ " UNF.
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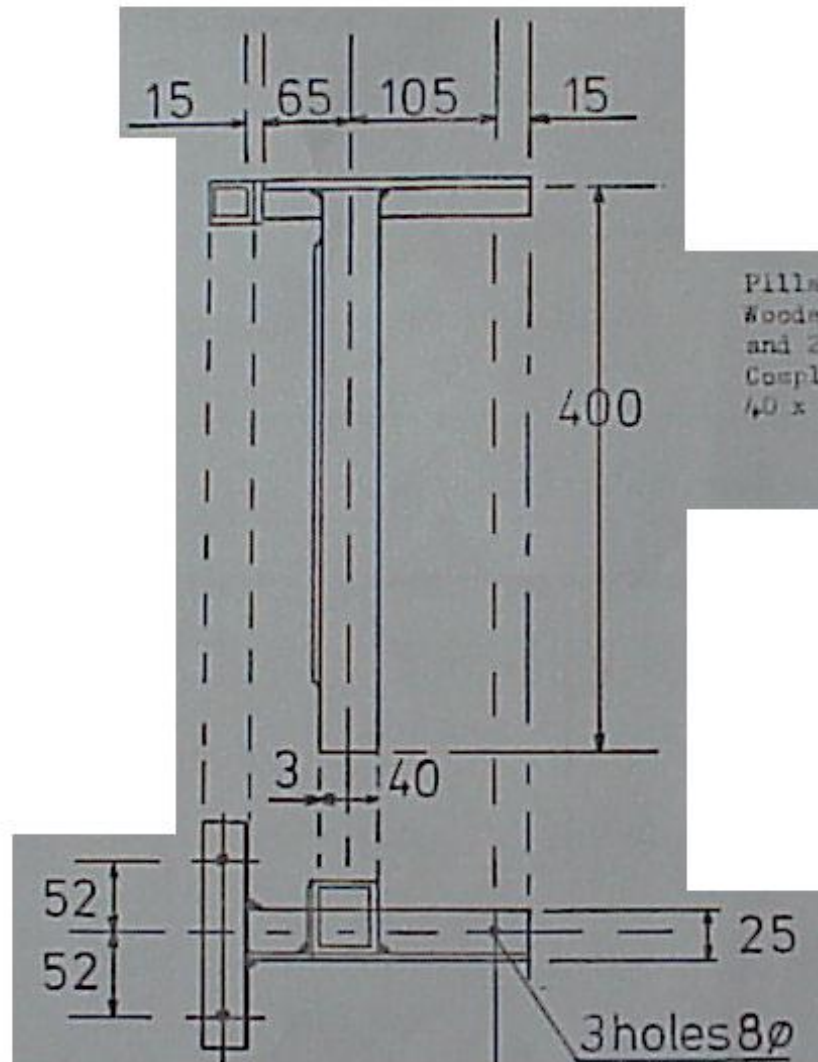






Pillar Unit for Spring Leather or
 Wooden Saddle, 40 x 40 x 1.0 MS MS
 and 25 x 25 x 3 L Equal Angle,
 Complete with Clasp Screw Reinforce nut,
 40 x 3 MS Flat Bar.

Scale 1 : 0.5

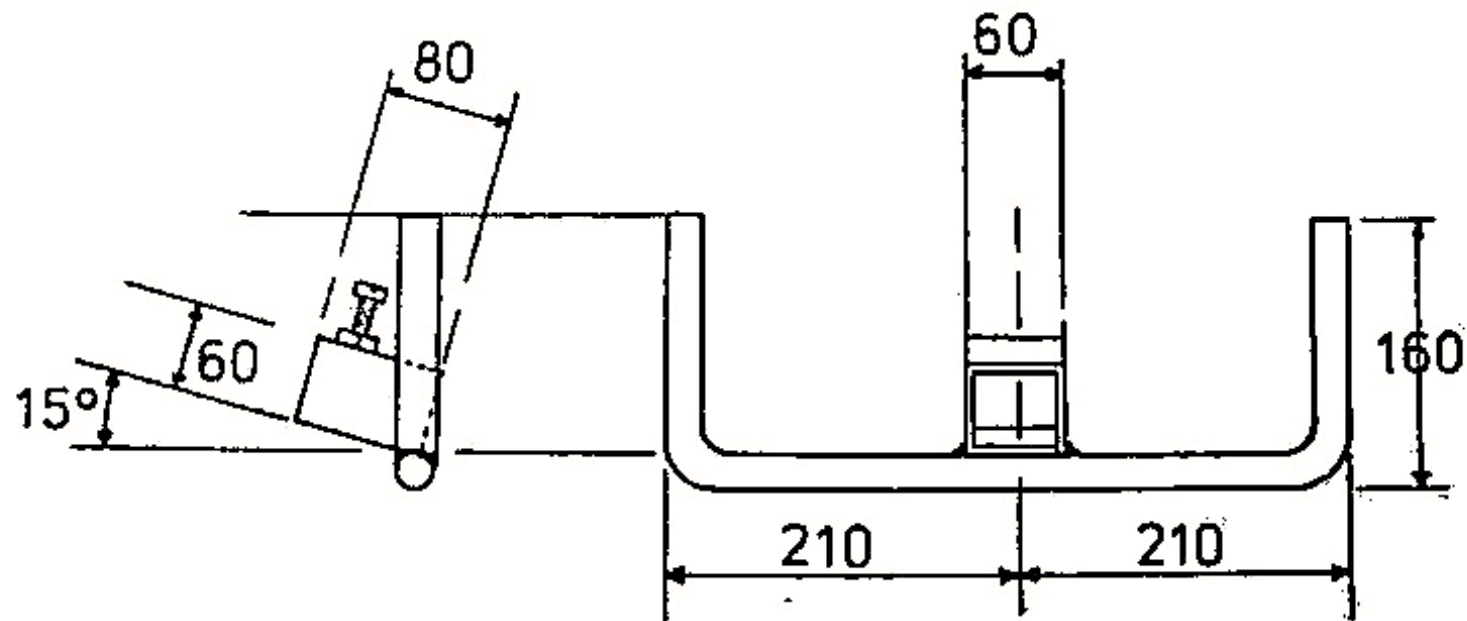


Pillar Unit for Spring Leather or
 Wooden Saddle, 40 x 40 x 1.6 MS SHS
 and 25 x 25 x 3 MS Equal Angle,
 Complete with Clamp Screw Reinforcement,
 40 x 3 MS Flat Bar.

Scale 1 : 5.

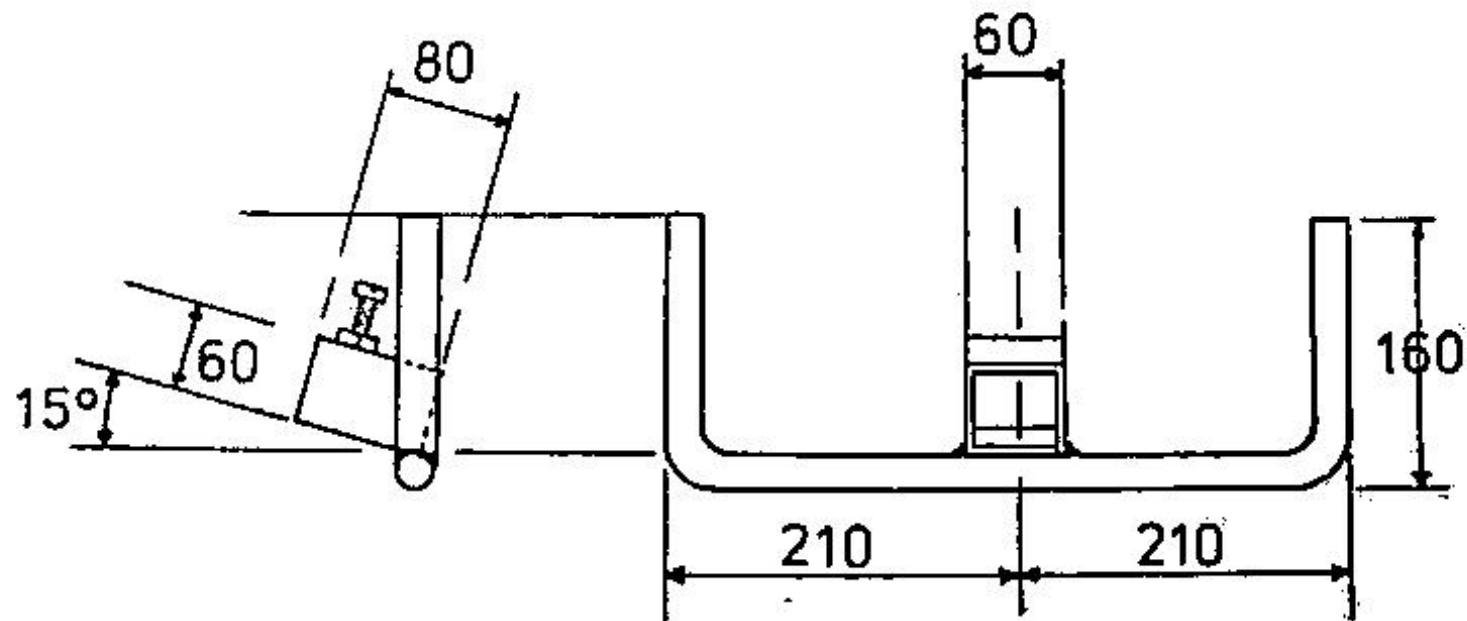
Handlebars, Height-adjustable,
1/2" bore Water Pipe,
60 x 60 x 3 MS, Complete
with M16 Welded Nut and
Clamping Screw.

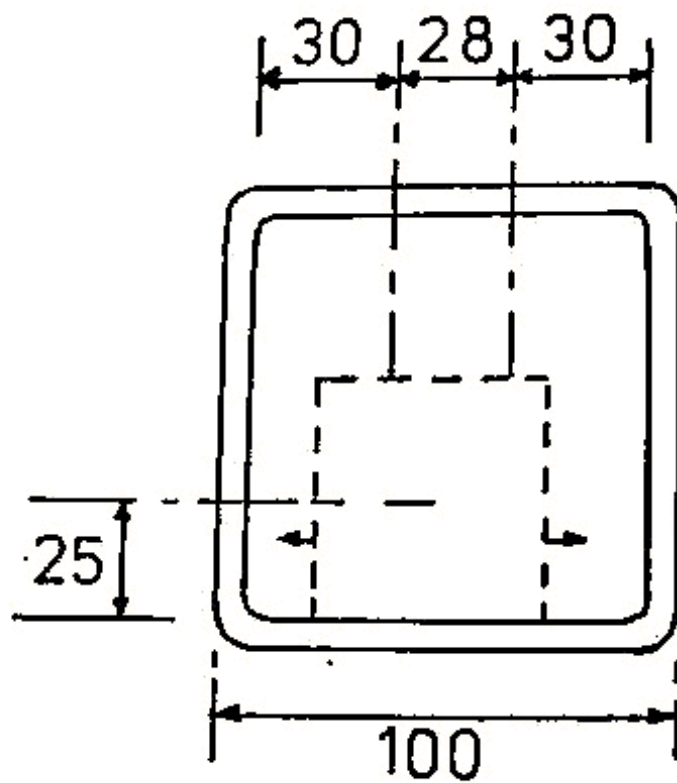
Scale 1 : 5 .



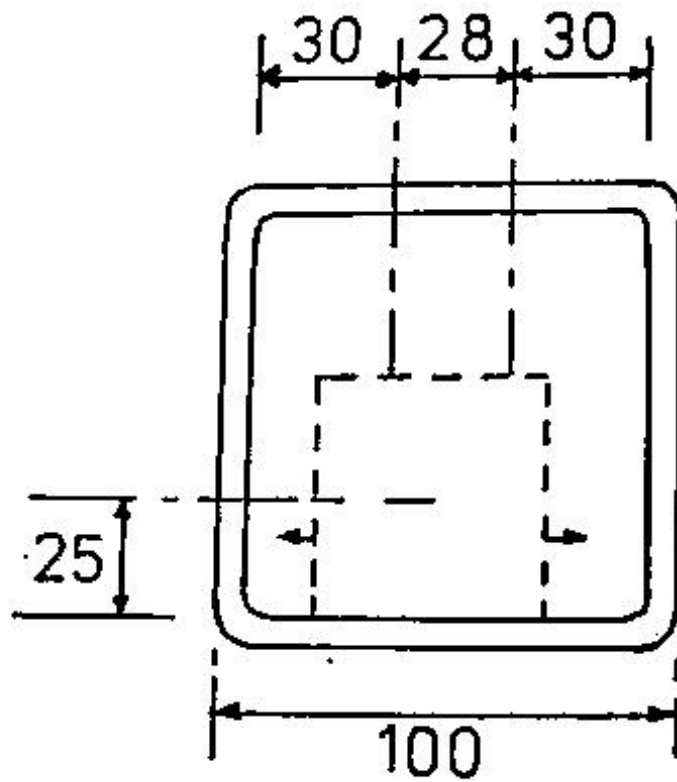
Handlebars, Height-adjustable,
1/2" bore Water Pipe,
60 x 60 x 3 MS, Complete
with M16 Welded Nut and
Clamping Screw.

Scale 1 : 5 .





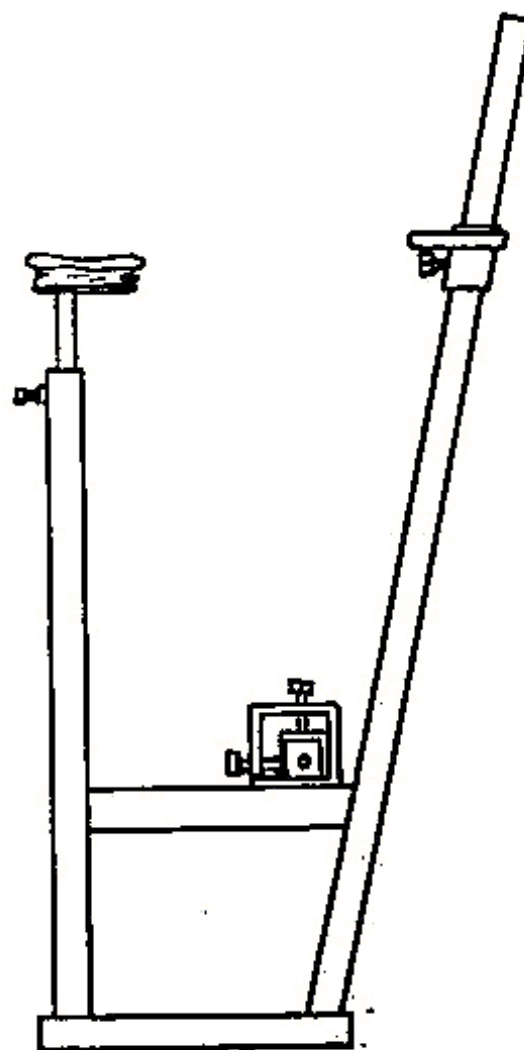
Position of 3 Holes
Tapped M16 in Bearing
Unit Clamping Housing
to allow Various Bearing
Unit Positions for
obtaining Belt Tension.

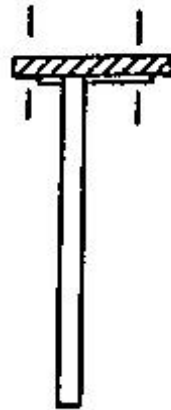


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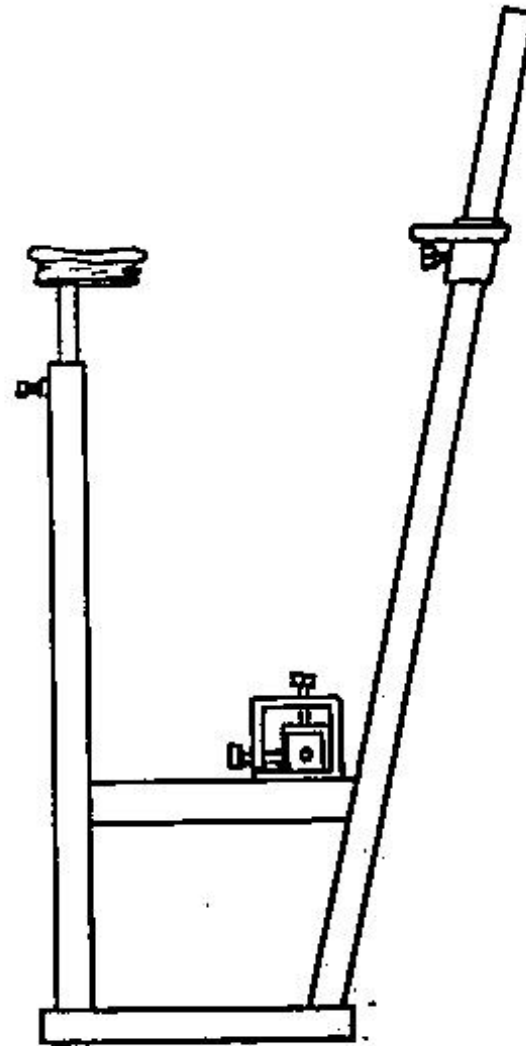


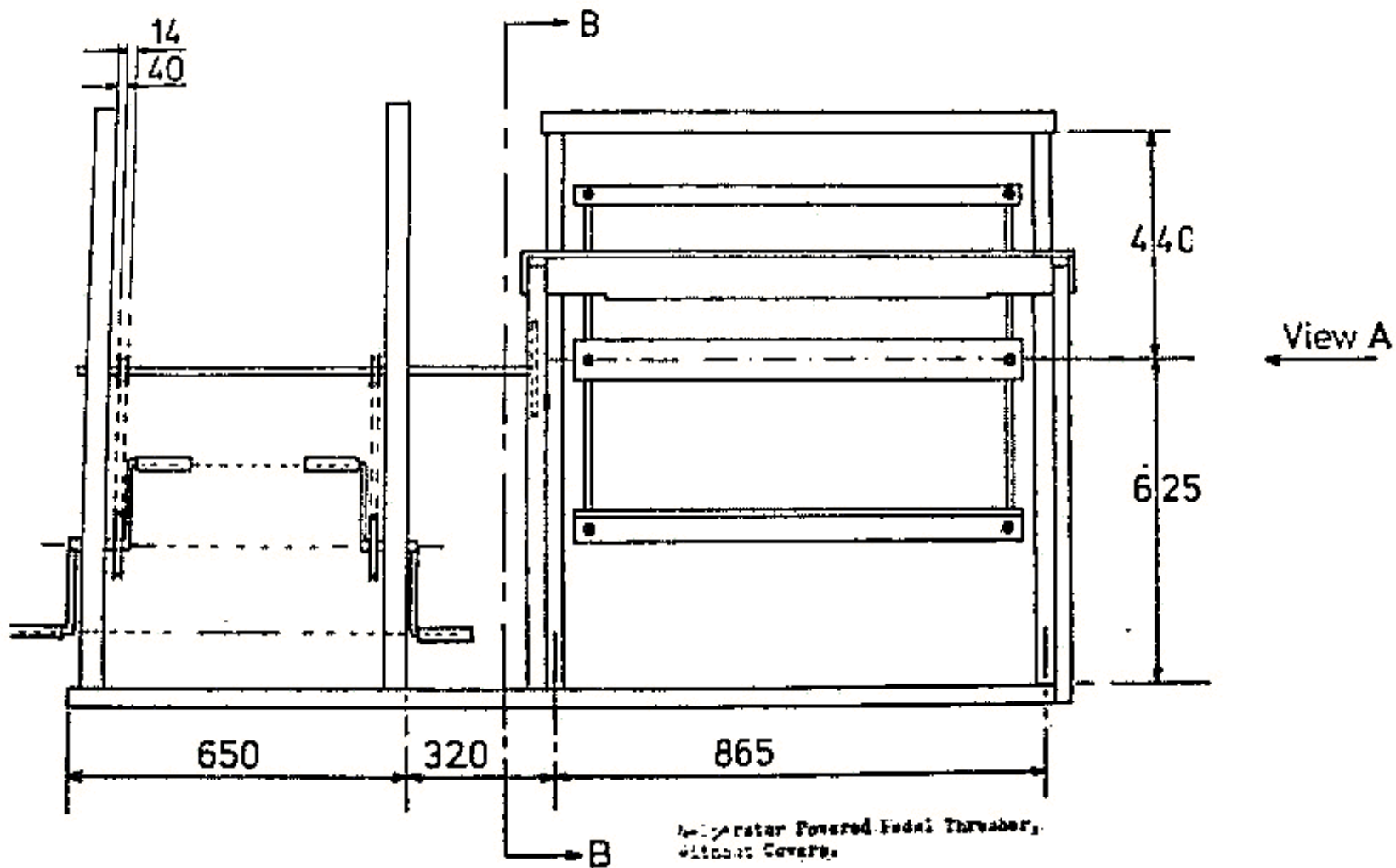
Basic Pedal Frame Design
Complete with Saddle Pillar,
Leather Sprung Saddle,
Handlebars, and 50 x 50
Bearing Housing Clepped in
Position. Also Showing
Alternative Wooden Saddle
Bulted to Saddle Pillar.

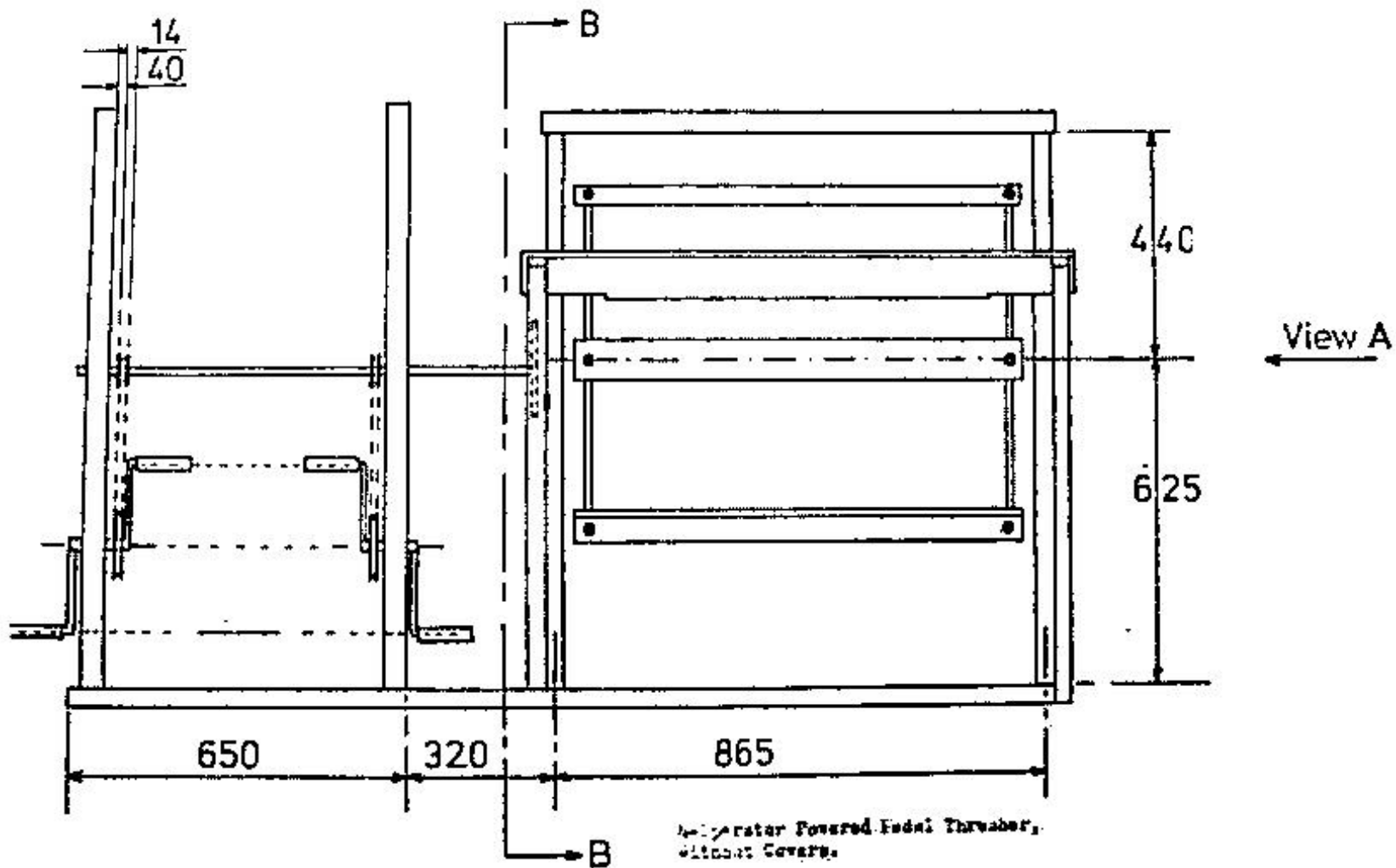


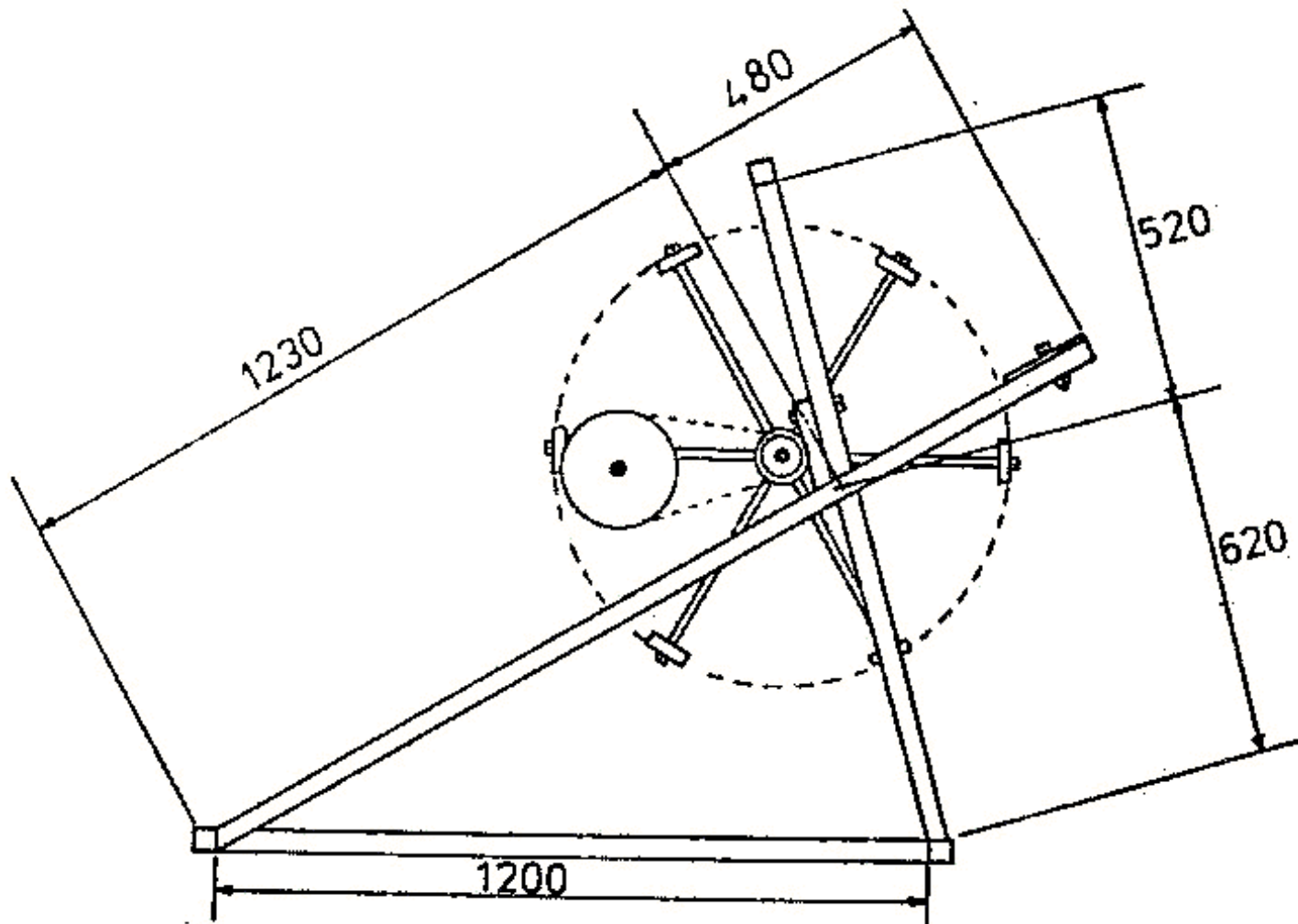


Basic Pedal Frame Design
Complete with Saddle Pillar,
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Bearing Housing Cleaved in
Position. Also Showing
Alternative Wooden Saddle
Bolted to Saddle Pillar.



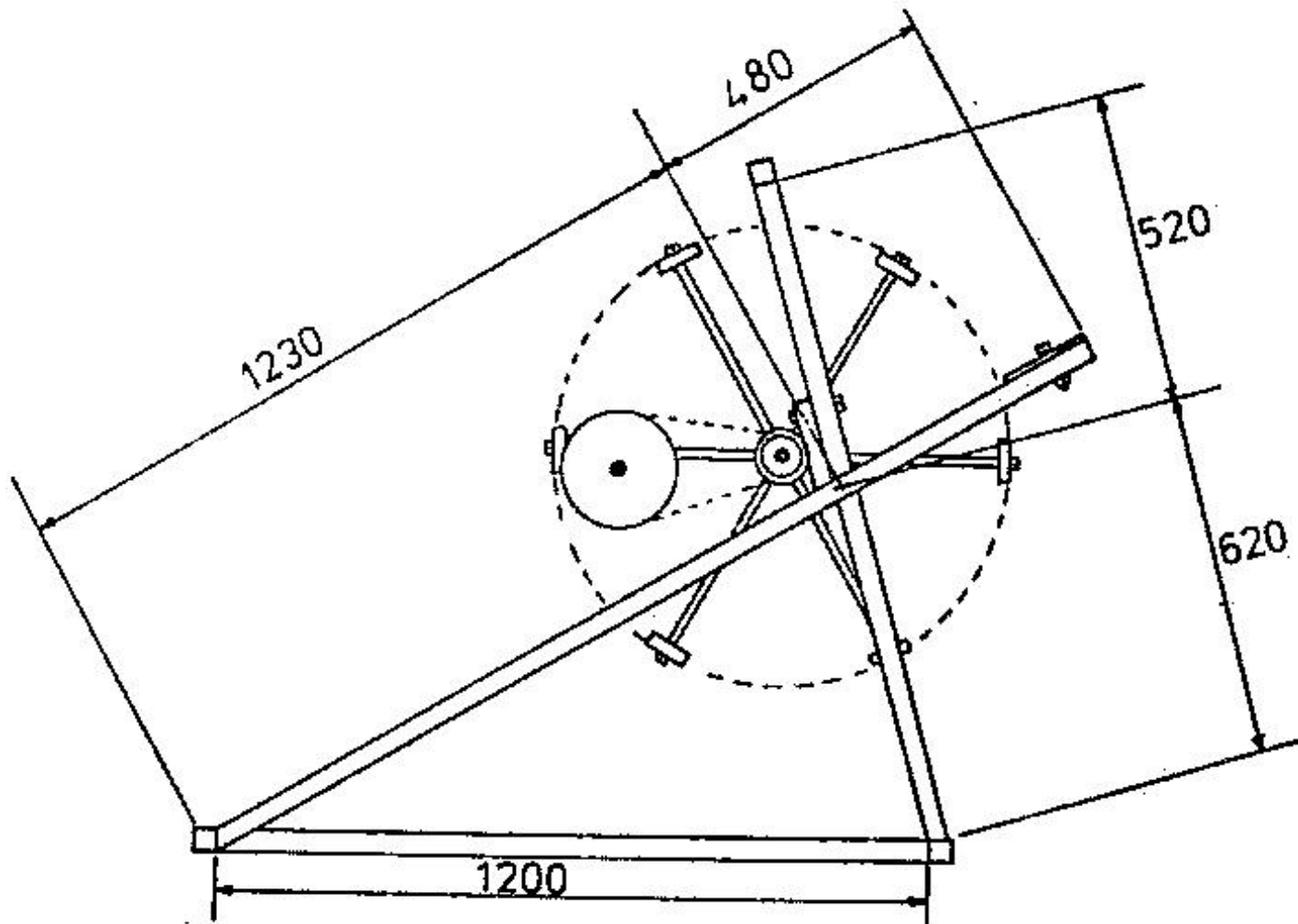






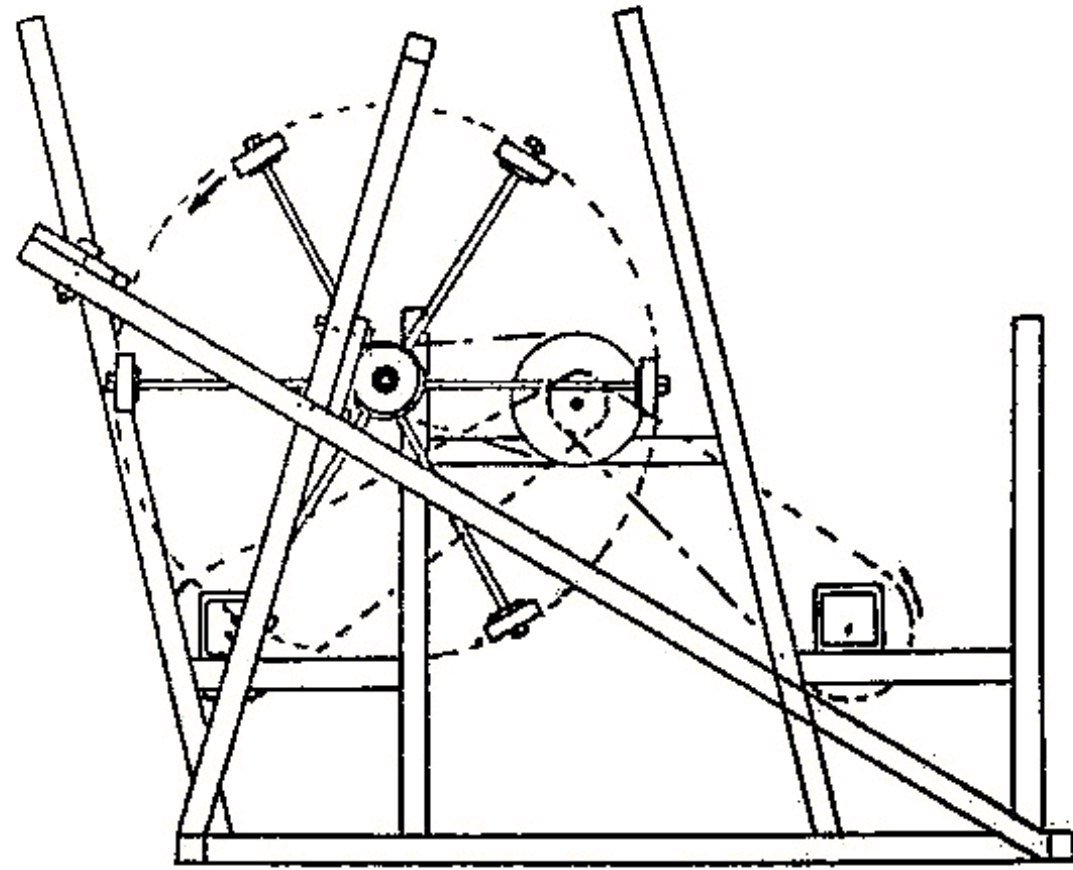
Section BB - 4 Operator Powered Pedal Thrasher.

Scale 1 : 10



Section BB - 4 Operator Powered Pedal Thrasher.

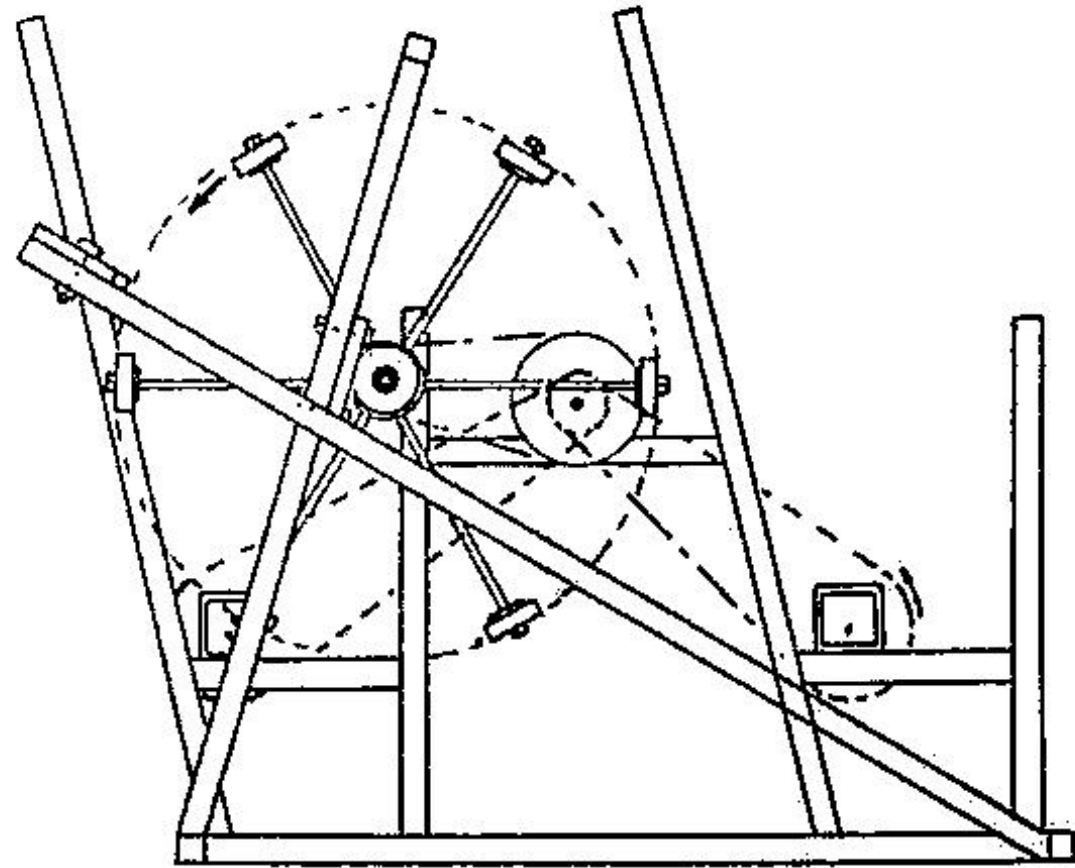
Scale 1 : 10



View A —

4 Operator powered Pedal Thrower,
50 x 30 x 2 MS SWS, Without Covers, showing
2-Stage Chain Drive.

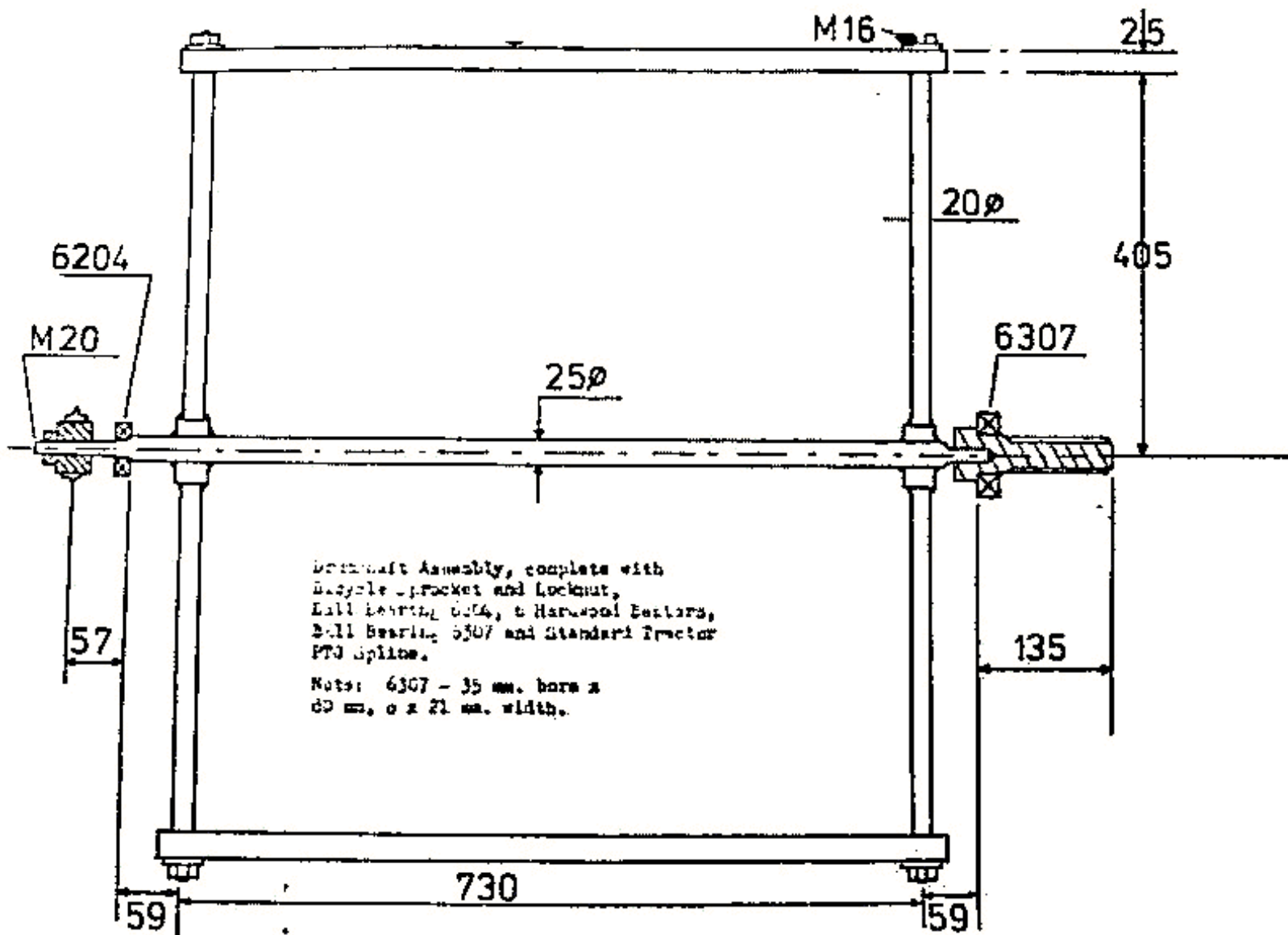
Scale 1:10

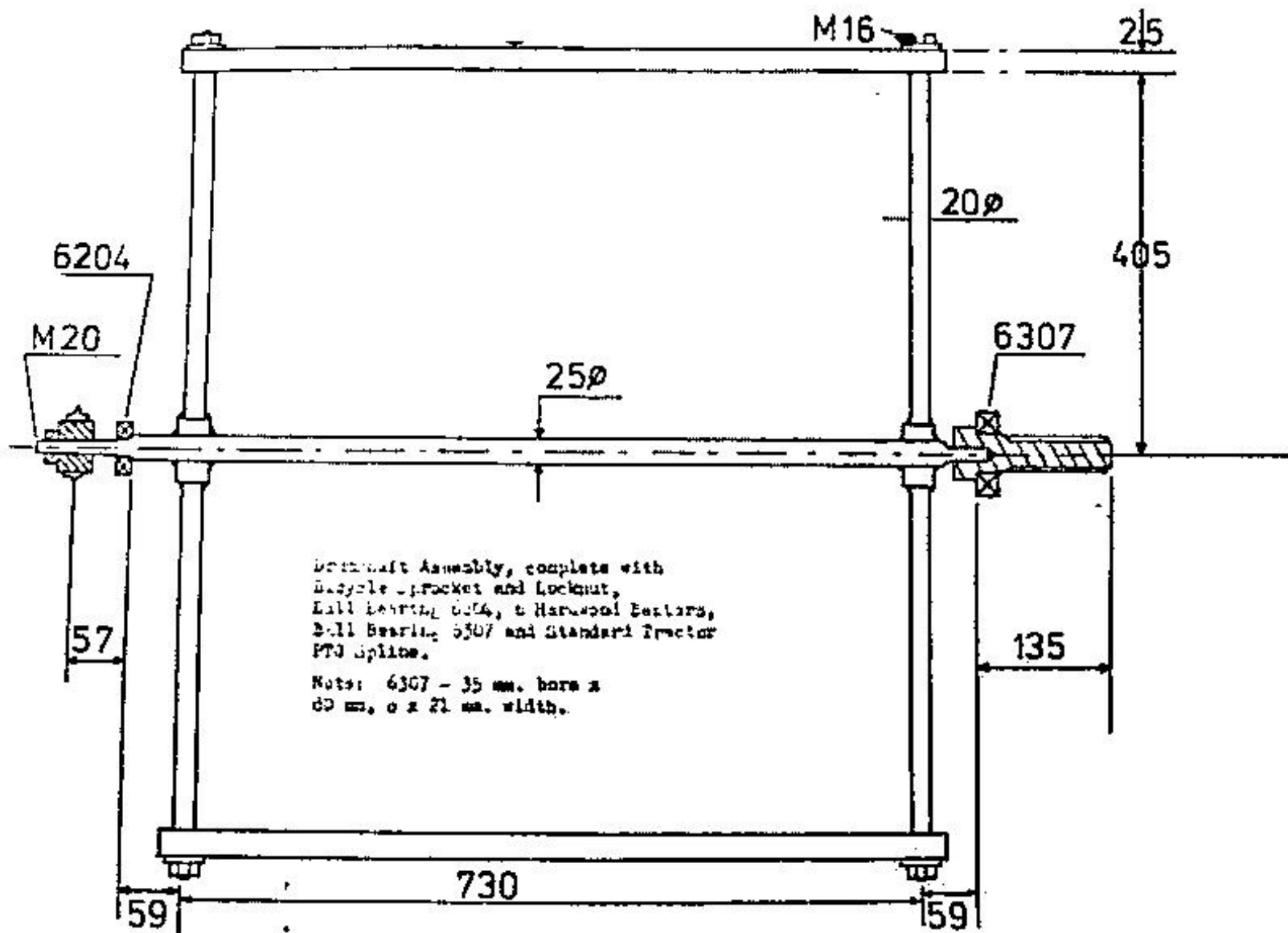


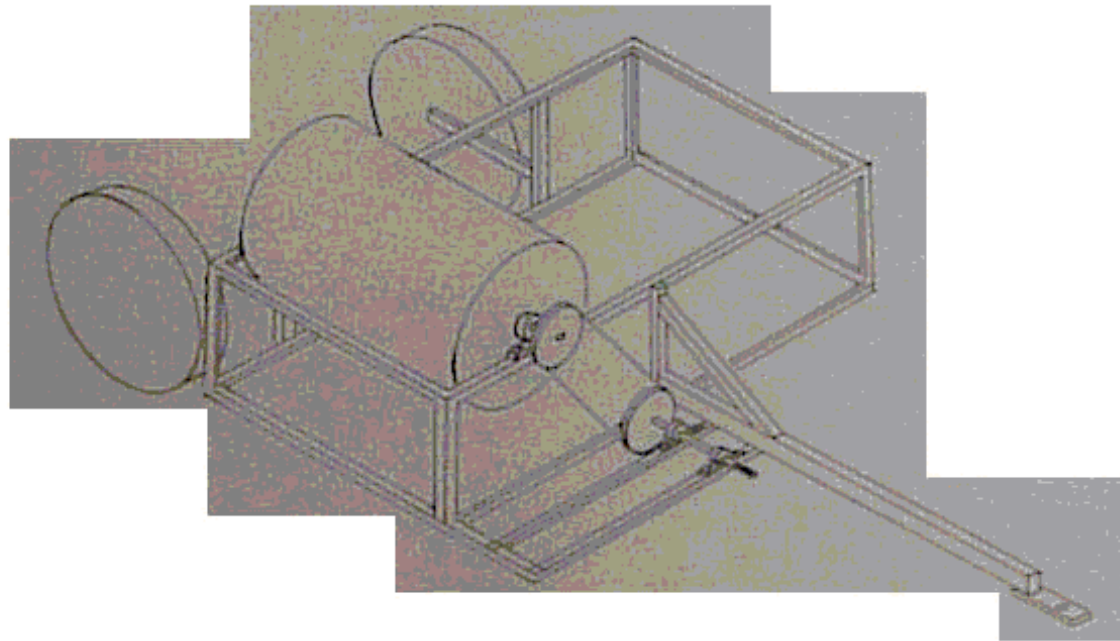
View A —

4 Operator powered Pedal Thresher,
50 x 30 x 2 MS SWS, Without Covers, showing
2-Stage Chain Drive.

Scale 1:10

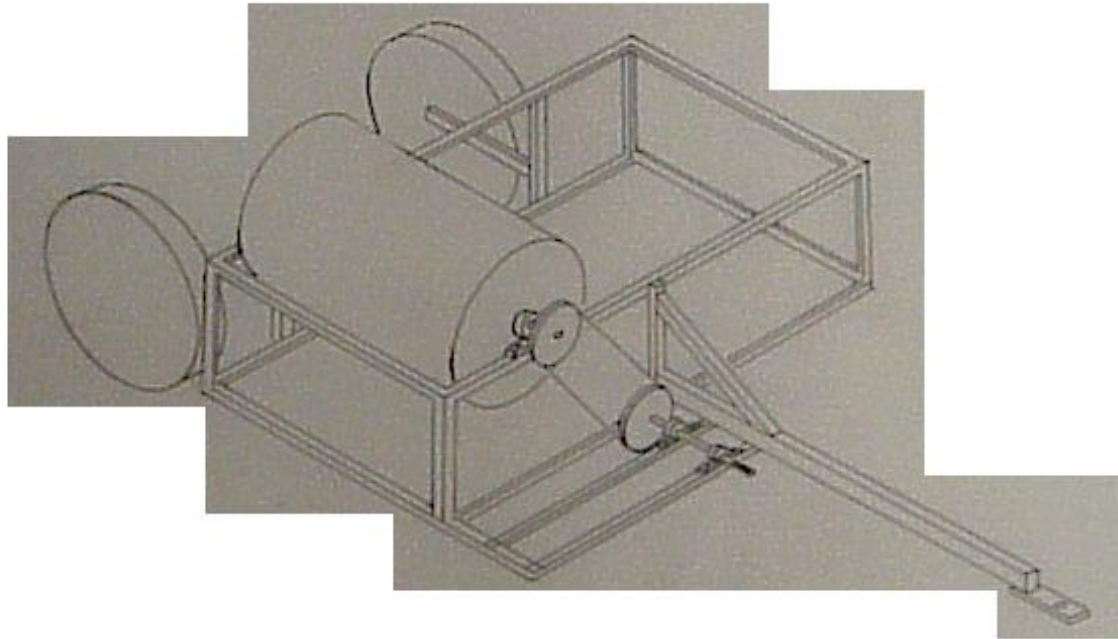






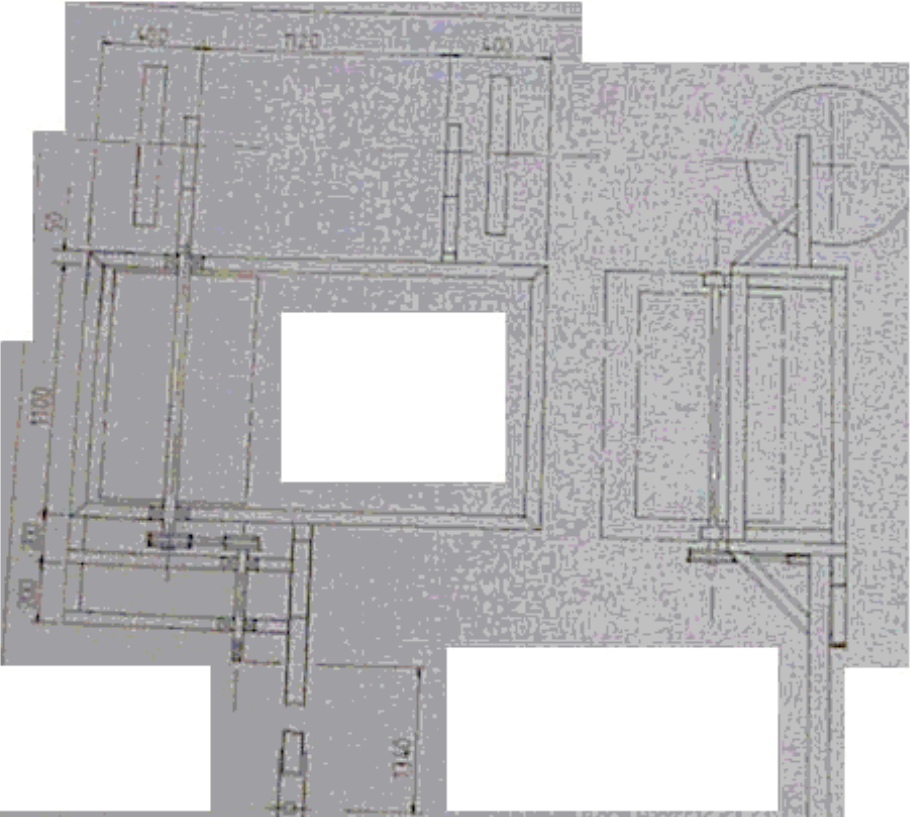
ISOMETRIC TRACTOR PTO THRESHER

A WEIR
MARCH 80



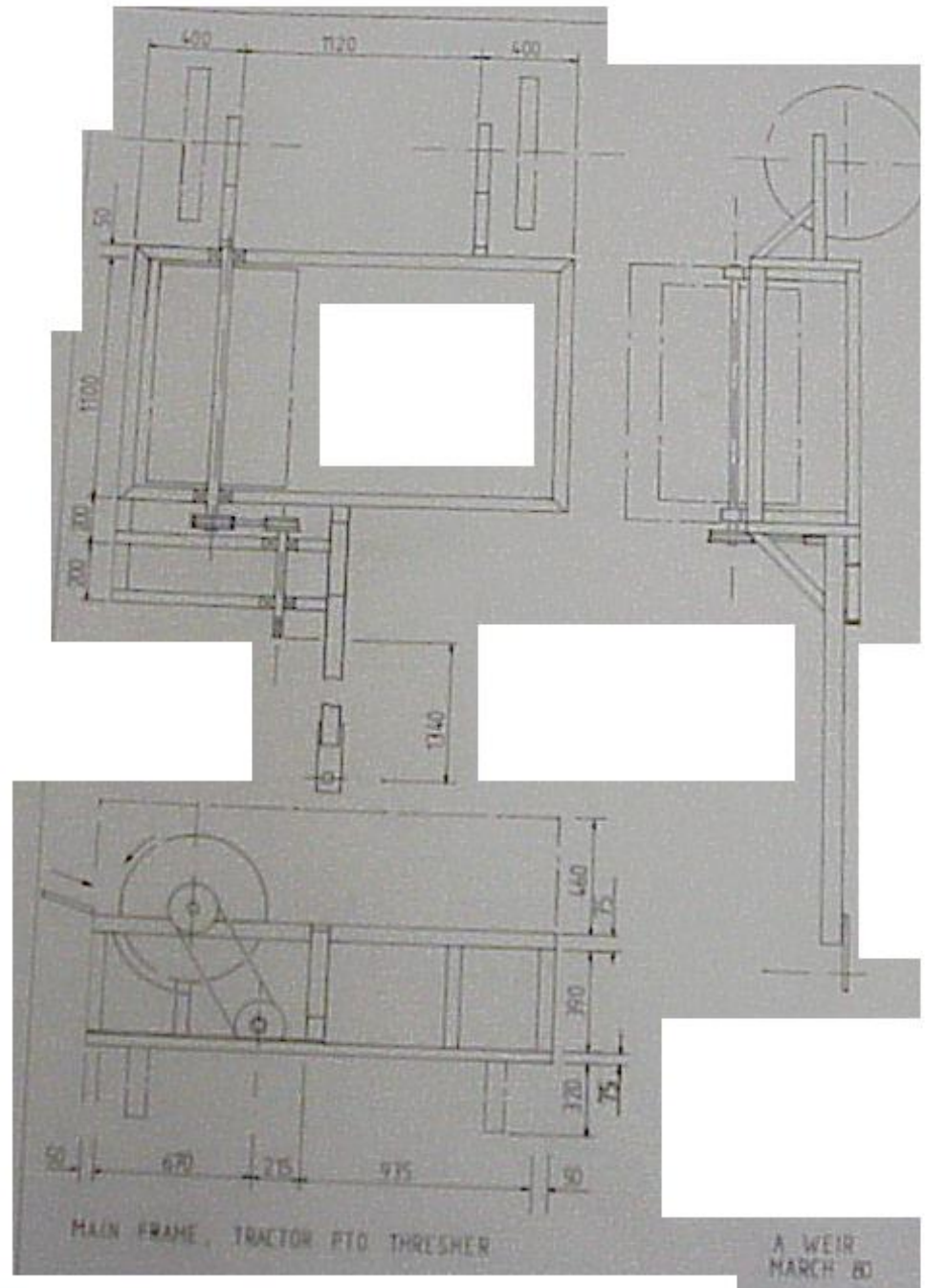
ISOMETRIC TRACTOR PTO THRESHER

A WEIR
MARCH 80



MAIN FRAME TRACTOR FID THRESHER

A WEIR
MARCH 80



MAIN FRAME, TRACTOR PTO THRESHER

A WEIR
MARCH 80

parts List and Material Requirement

- 19m X 75X50X2.5mm MS RHS - main frame
- 8m X 40X40X1.8mm MS RHS - upper frame
- 1.8m X 100X50X2.5mm MS RHS - towbar
- 0.32m X 70X20mm Carbon Steel Flat bar - tow-hitch
- 2m X 50X50X5mm MS Angle - layshaft bearing supports

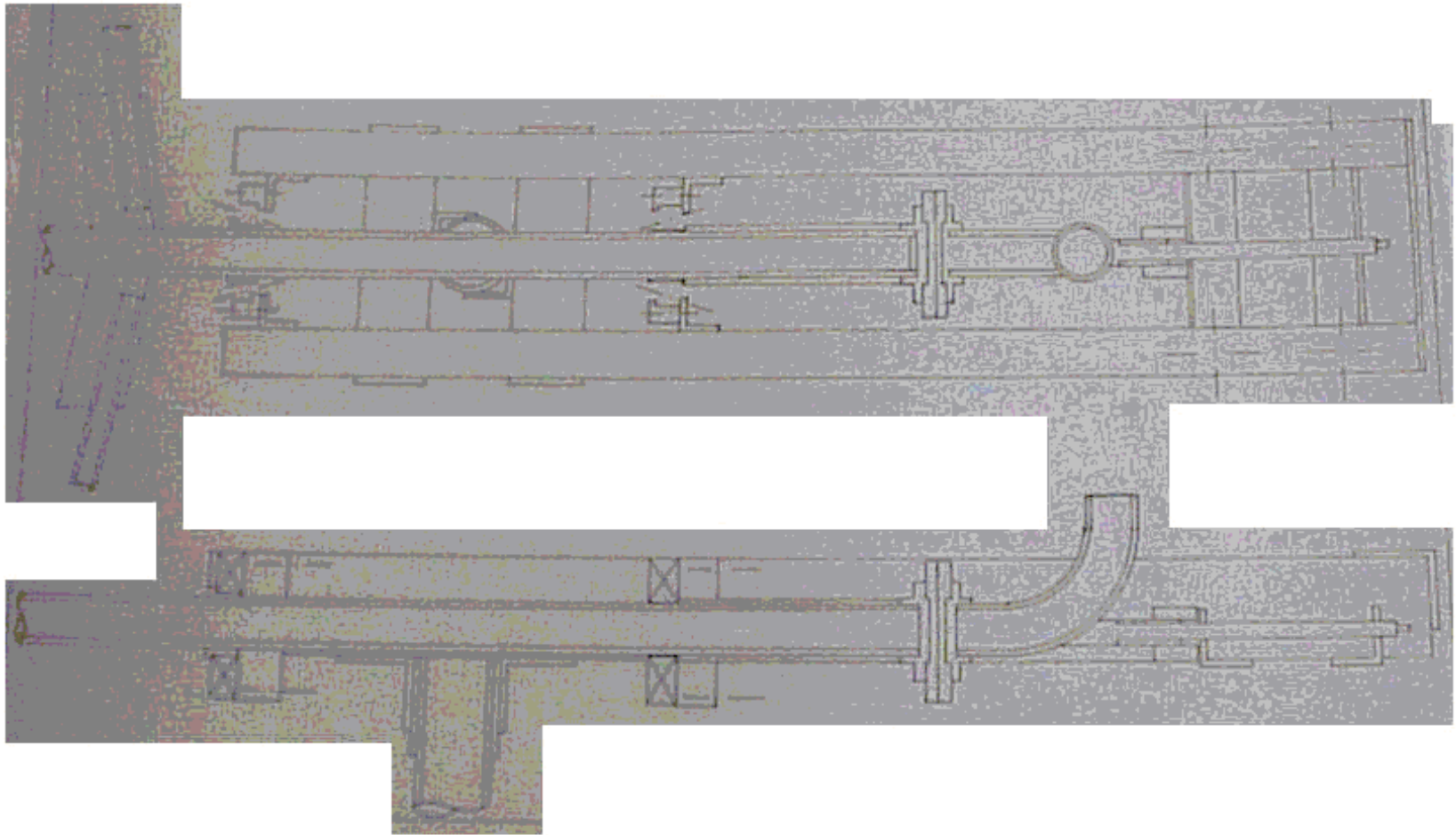
- 1.16m X 1.92m MS - \bar{A} - of 1.5mm MS sheet- grain catchment floor
- 1.16m X 1m of 1mm MS sheet - hinged door, grain catchment area.
- 7 m² of 0.5mm galvanised mild steel sheet - other cladding.
- 1 piece total 1m X 1m X 25mm thick hardwood - feeding table.
- 4 pieces ball bearings with housings to suit.(specification to be determined)
- 1 complete threshing drum and concave, rasp-bar type, approx. 600mm diameter X 1 metre width.

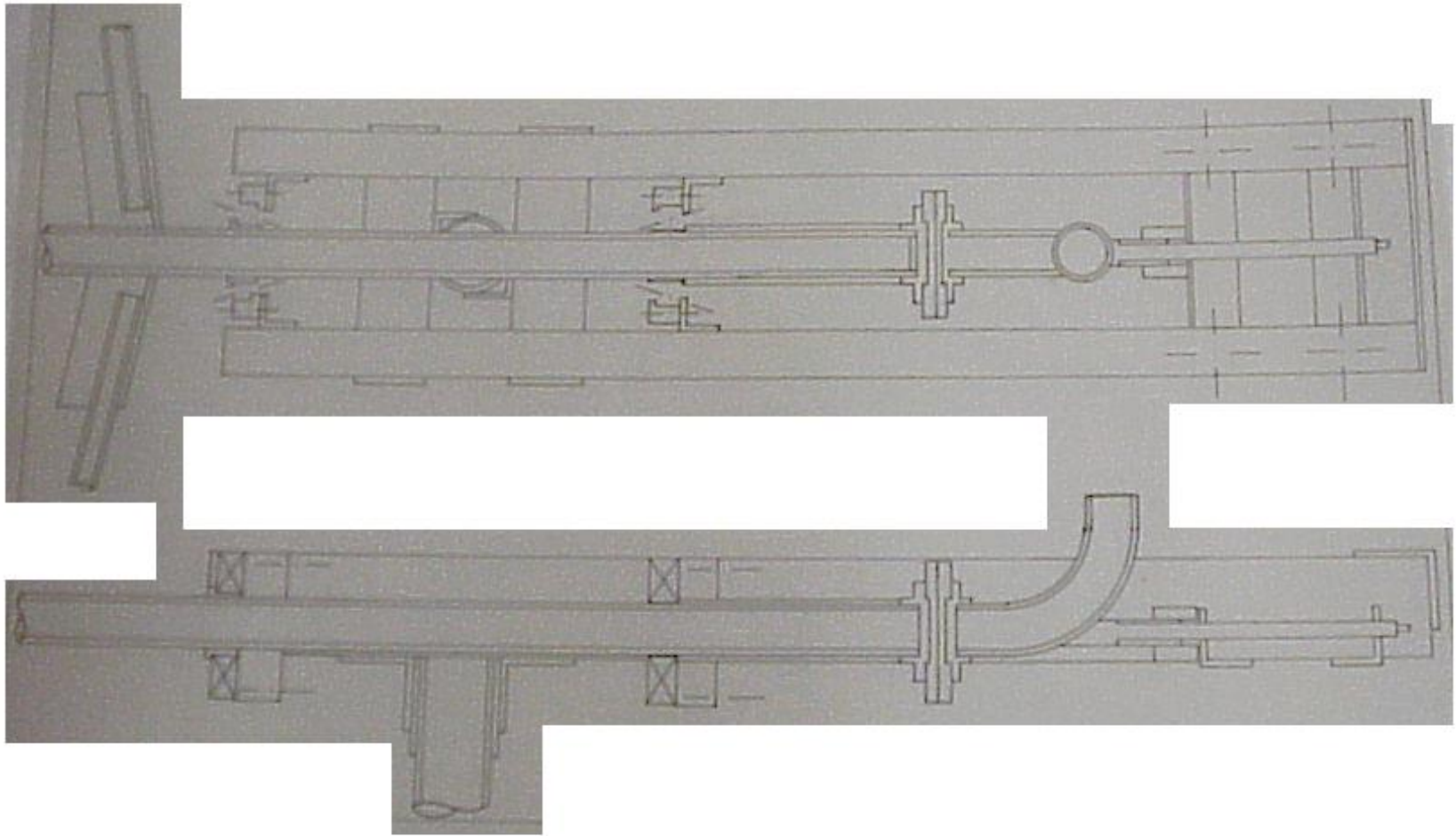
- 2 pieces 'taper-lock' fitting twin-groove B-section pulleys and belts
- 0.45metre X 40mm diameter MS round bar - layshaft assembly
- 1 piece male PTO spline - layshaft assembly

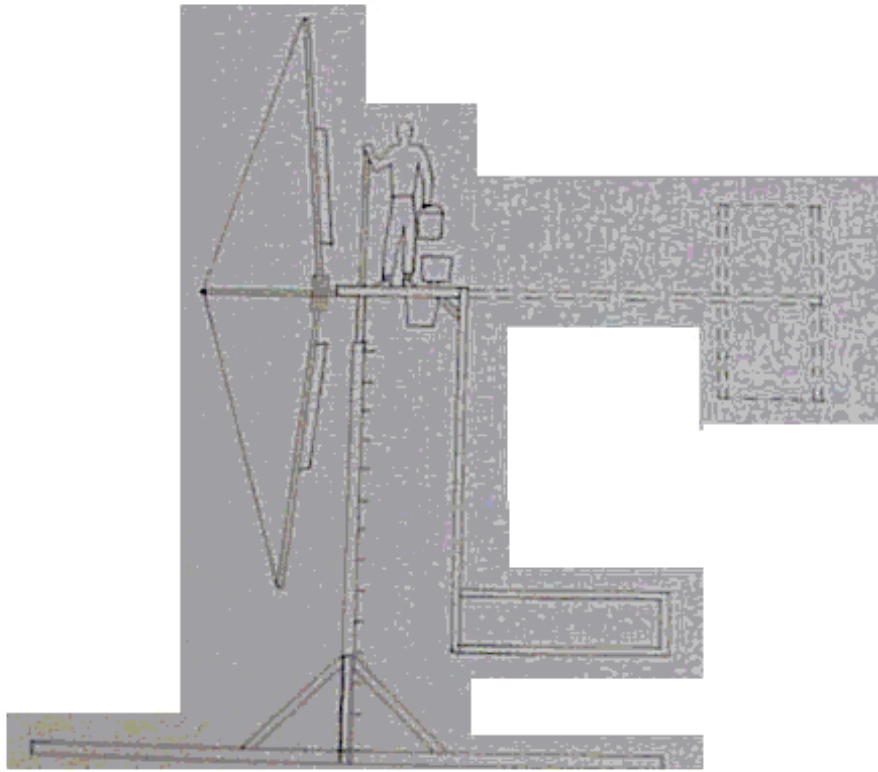
- 2 pieces wheel units, roller bearing type, with or without integral axle, with rims and tyres to suit (suggested type 7.50X16" tyres).

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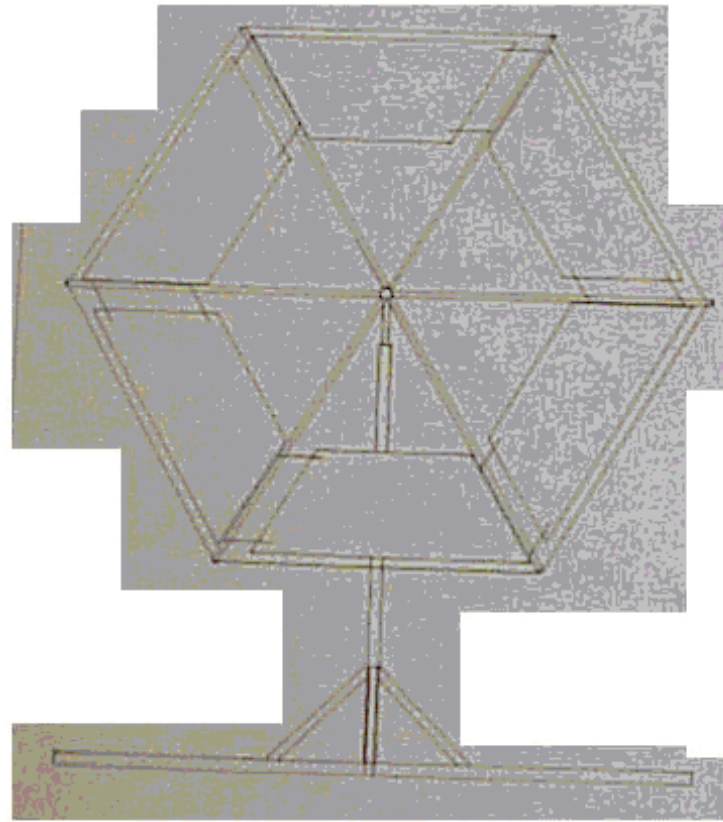






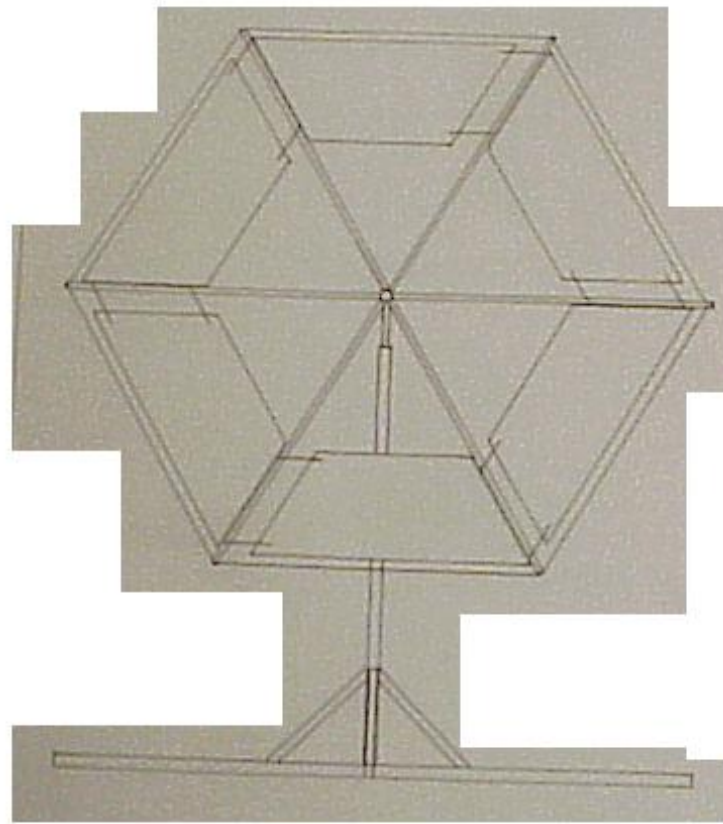
CRETAN TAIL WEIR

A WEIR
APRIL 80
SCALE 0.02



CRETAN SAIL WIND ENERGY
CONVERTER

A WEIR
APRIL 80
SCALE 0.02



CRETAN SAIL WIND ENERGY
CONVERTER

A WEIR
APRIL 80
SCALE 0.02