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**KINGDOM OF THAILAND  
MINISTRY OF INTERIOR  
ACCELERATED RURAL DEVELOPMENT OFFICE  
EQUIPMENT CONTROL DIVISION**

**AND PUMP IMPROVEMENT FOR THAILAND RURAL AREA**

**Vol. III**

**HAND PUMP DETAILS DRAWING  
ACCELERATED RURAL DEVELOPMENT OFFICE  
&  
EQUIPMENT CONTROL DIVISION TYPES**

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616 III

KINGDOM OF THAILAND

MINISTRY OF INTERIOR

ACCELERATED RURAL DEVELOPMENT OFFICE

EQUIPMENT CONTROL DIVISION

HAND PUMP IMPROVEMENT FOR THAILAND RURAL AREA

Vol. III

HAND PUMP DETAILS DRAWING

ACCELERATED RURAL DEVELOPMENT OFFICE

&

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for

EQUIPMENT CONTROL DIVISION TYPES

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- PART II    HAND PUMP DETAILS DRAWING  
          EQUIPMENT CONTROL DIVISION TYPE

**PART I**



## TYPE OF HAND PUMP

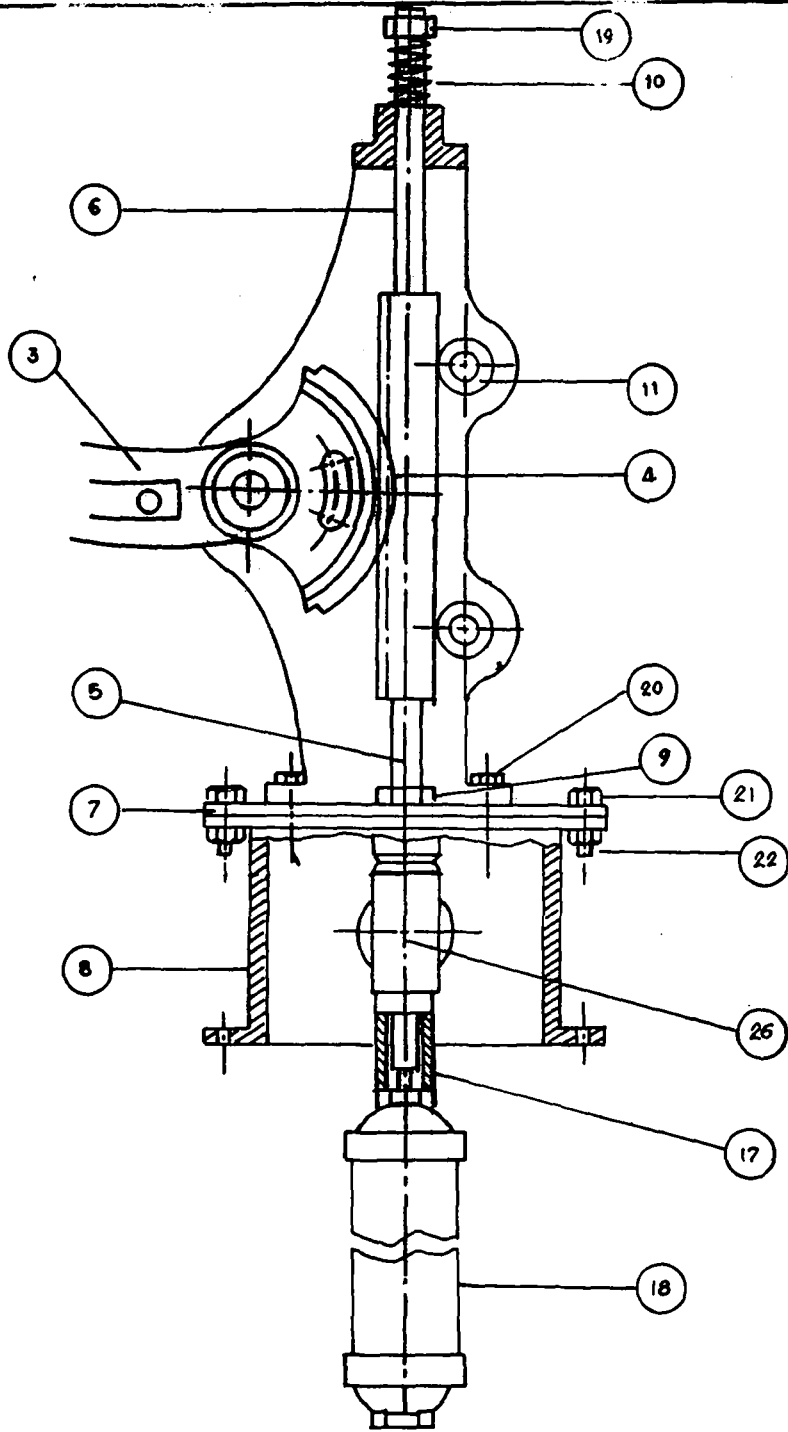
## ACCELERATED RURAL DEVELOPMENT OFFICE

No.	PART NAME	QUAN.	MATERIAL	DRAWING NO.
1.	Body ( left )	1	Cast iron	03-03
2.	Body ( right )	1	Cast iron	-
3.	Handle gear	1	Cast iron	03-04
4.	Gear connecting rod	1	Cast iron	03-07
5.	Connecting rod	1	Steel	03-08
6.	Top connecting rod	1	Steel	03-09
7.	Stuffing box plate	1	Cast iron	03-10
8.	Pump base	1	Cast iron	03-11
9.	Packing nut	1	Brass	03-12
10.	Spring	1	Standard	03-13
11.	Roller	2	Steel	03-14
12.	Bush	2	Steel	03-15
13.	Bush	4	Steel	03-16
14.	Stud	2	Steel	03-17
15.	Stud	1	Steel	03-18
16.	Cover	1	Cast iron	03-19
17.	Pipe	1	Gulv. Steel	03-20
18-1	Cylinder	1	P.V.C.	03-21
18-2	Low cap	1	Brass	03-22
18-3	Top cap	1	Brass	03-23
18-4	Connecting rod	1	Steel	03-24
18-5	Plunger	1	Brass	03-25
18-6	Poppet valve	1	Brass	03-26
18-7	Piston lock	1	Brass	03-27
18-8	Spring cover	1	Brass	03-28
18-9	Spring	1	Brass	03-29
18-10	Poppet valve (down)	1	Brass	03-30
18-11	Piston lock	1	Brass	03-31
18-12	Seal ( Busher )	1	Leather	03-32
18-13	Piston seal	1	Leather	03-33
18-14	Gasket	1	Leather	03-34

TYPE OF HAND PUMP

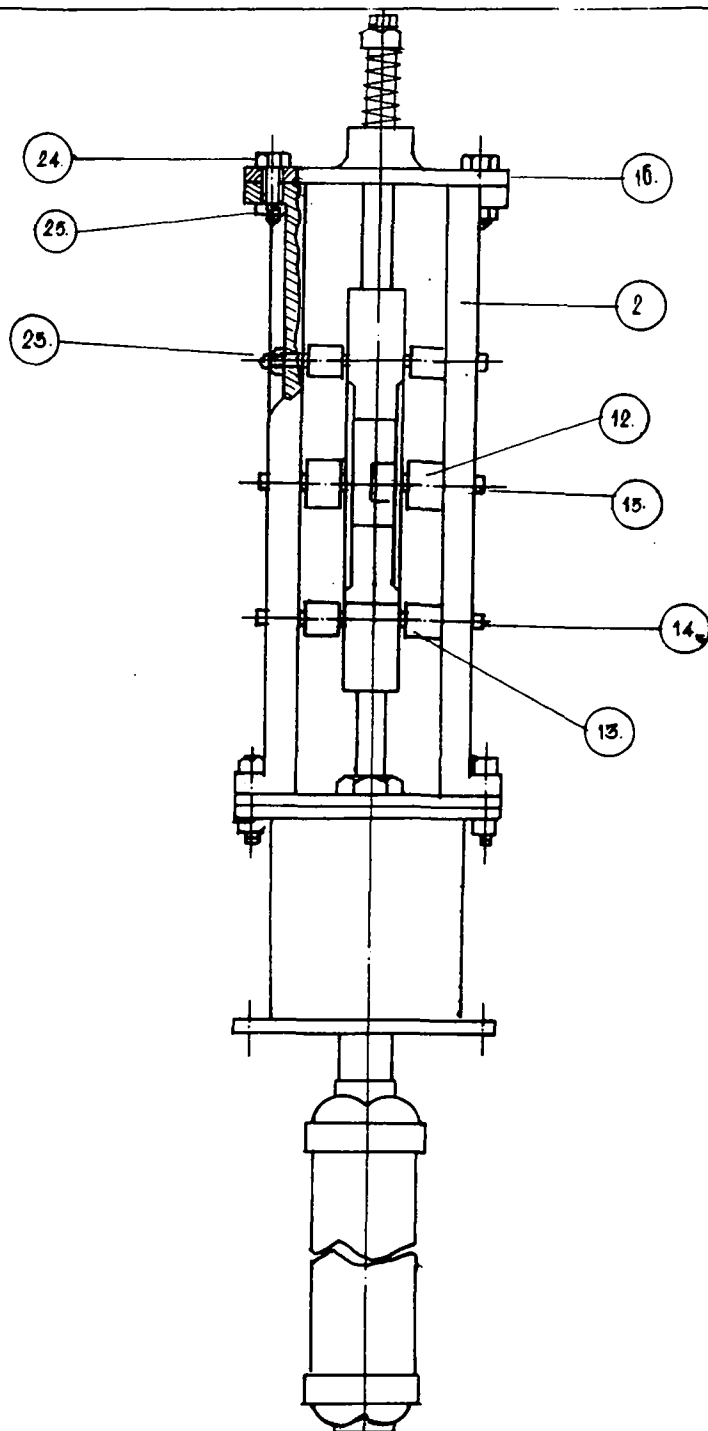
ACCELERATED RURAL DEVELOPMENT OFFICE

NO.	PART NAME	QUAN.	MATERIAL	DRAWING NO.
19.	Spring lock nut	1	Standard	-
20.	Bolt	4	Standard	-
21.	Bolt	6	Standard	-
22.	Nut	6	Standard	-
23.	Nut	3	Standard	-
24.	Bolt	2	Standard	-
25.	Nut	2	Standard	-
26.	Reduce joint	1	Steel	03-35
27.	Handle gear bush	1	Brass	03-05
28.	Handle	1	Steel	03-06

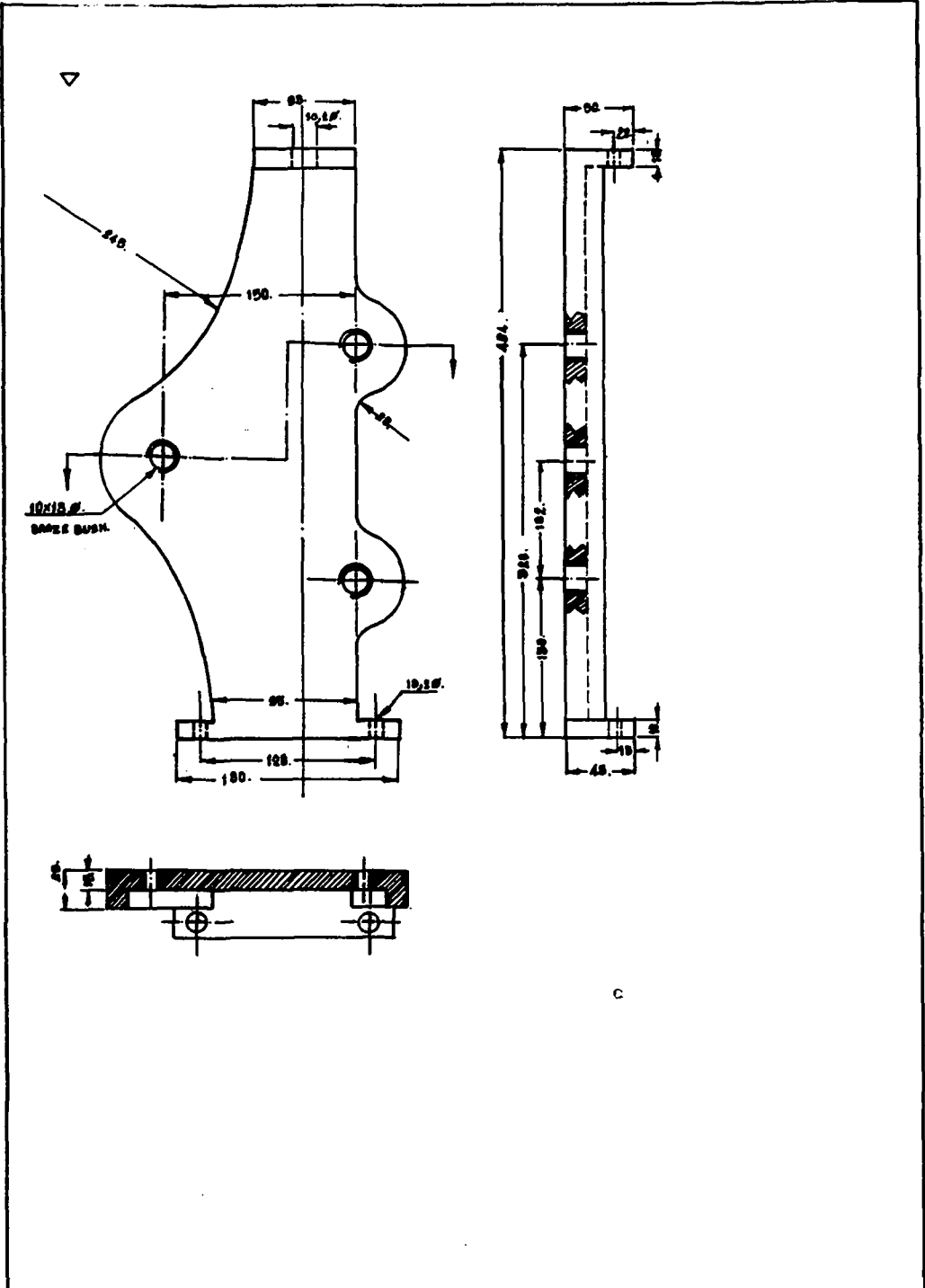


TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 01	PART NO.	-
PART NAME	PUMP ASSEMBLY	MATERIAL	-
SCALE		DRAWN BY	



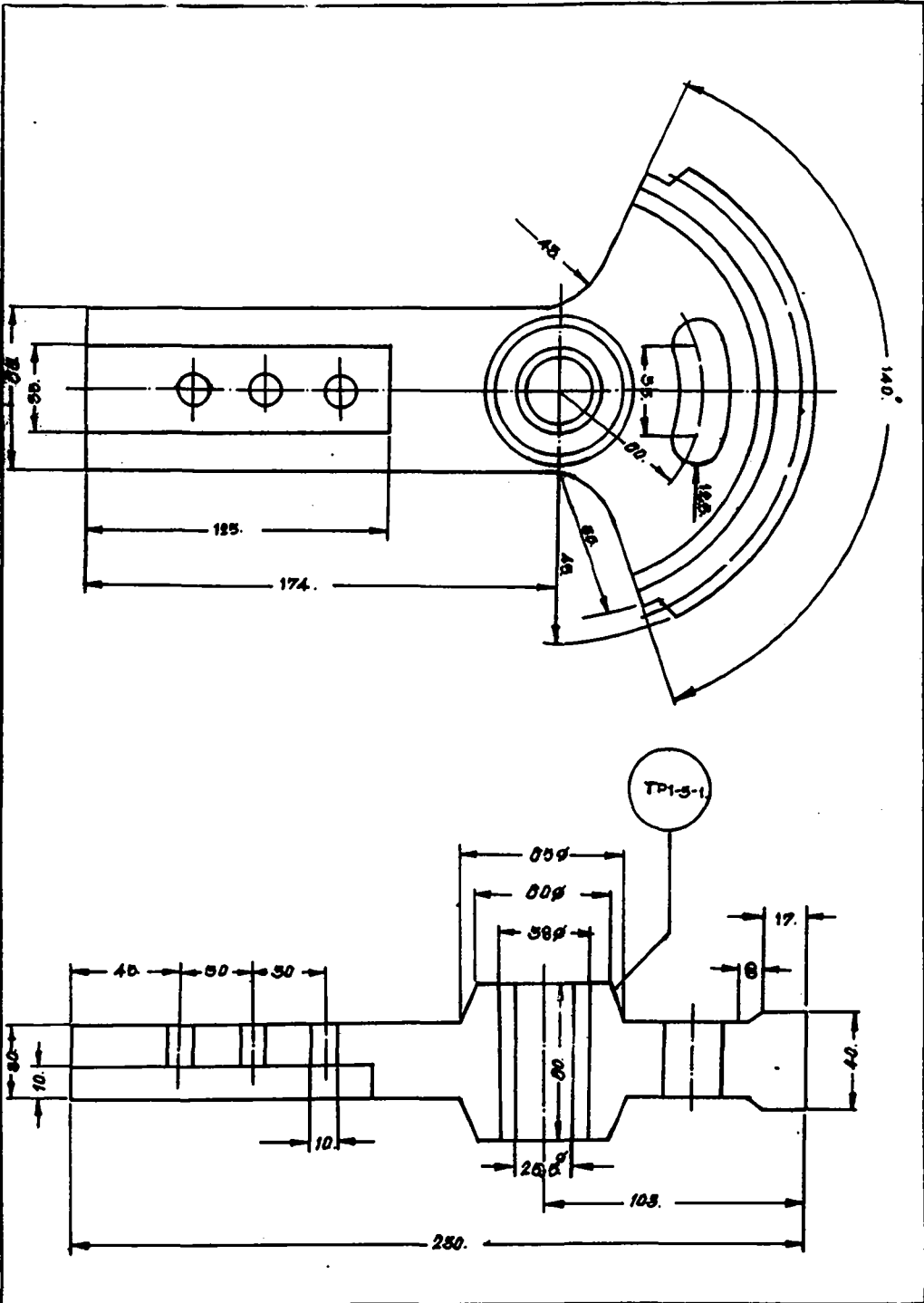


TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 02	PART NO.	-
PART NAME	PUMP ASSEMBLY	MATERIAL	-
SCALE		DRAWN BY	

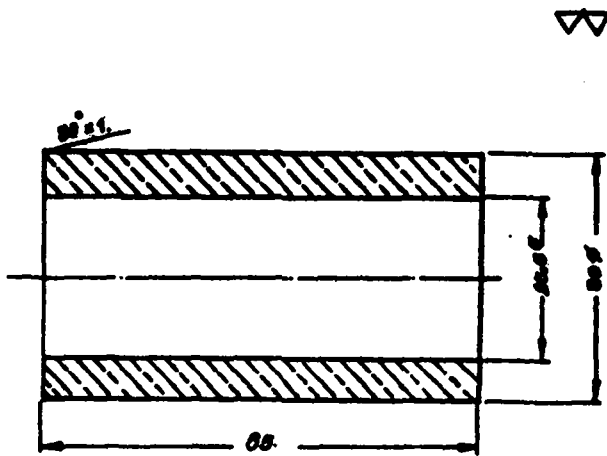


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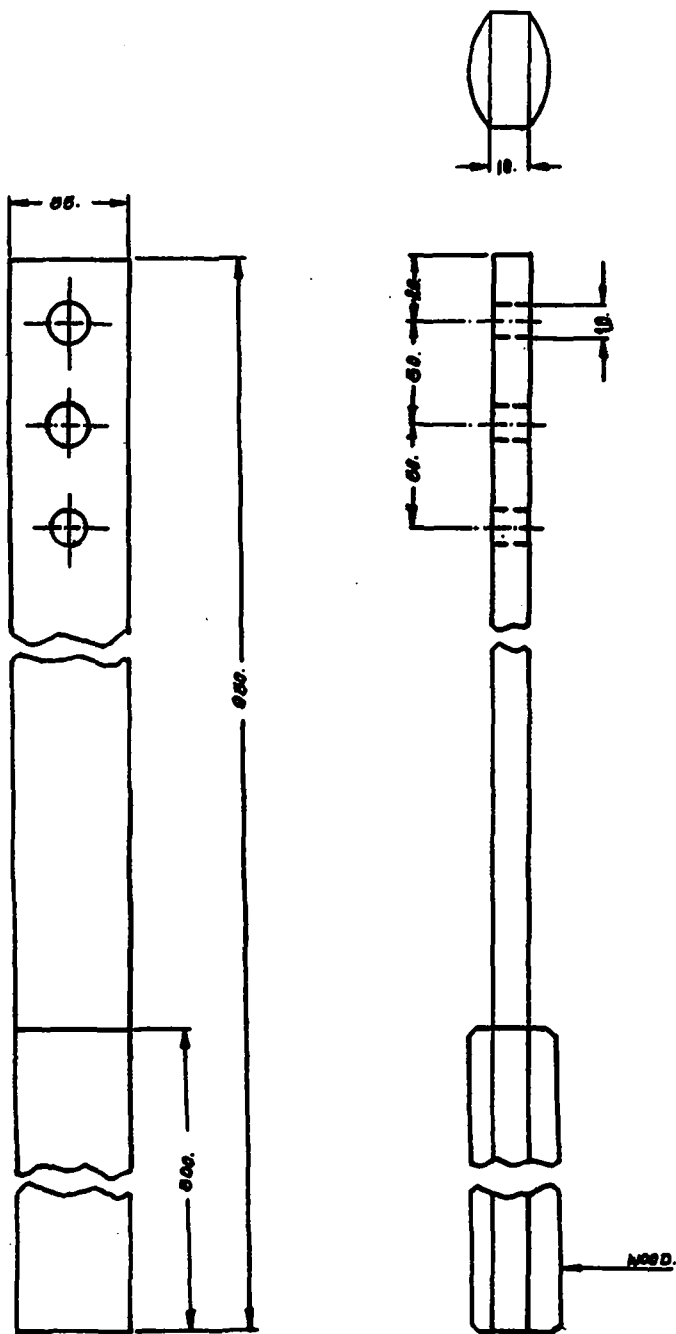
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 03	PART NO.	1
PART NAME	BODY	MATERIAL	CAST IRON
SCALE	1 : 5	DRAWN BY	



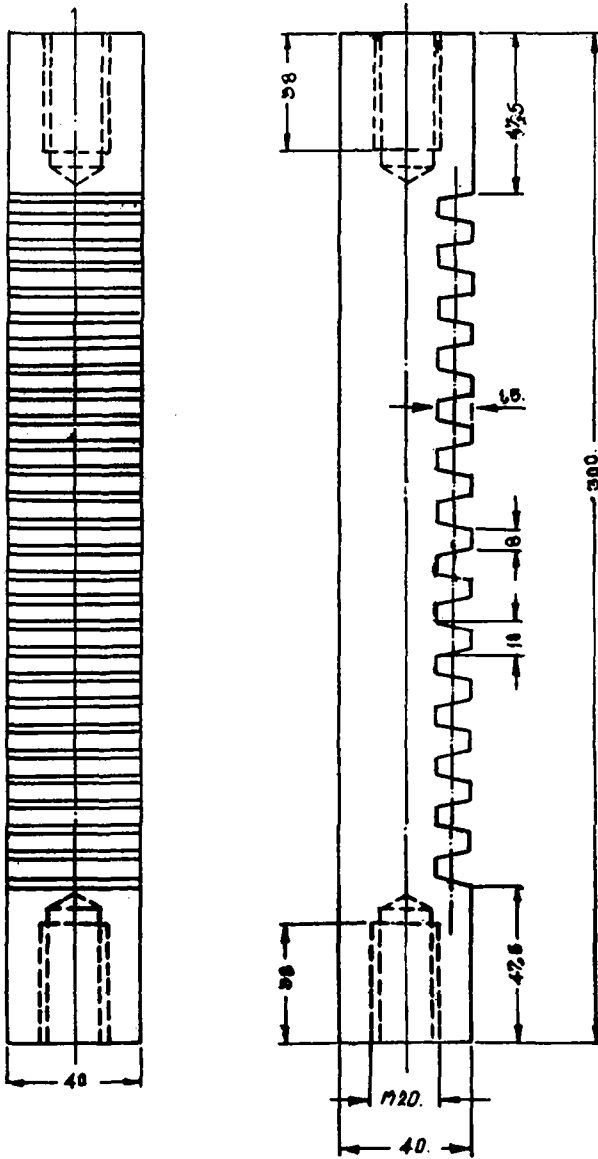
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 04	PART NO.	3
PART NAME	HANDLE GEAR	MATERIAL	CAST IRON
SCALE	1 : 2.5	DRAWN BY	



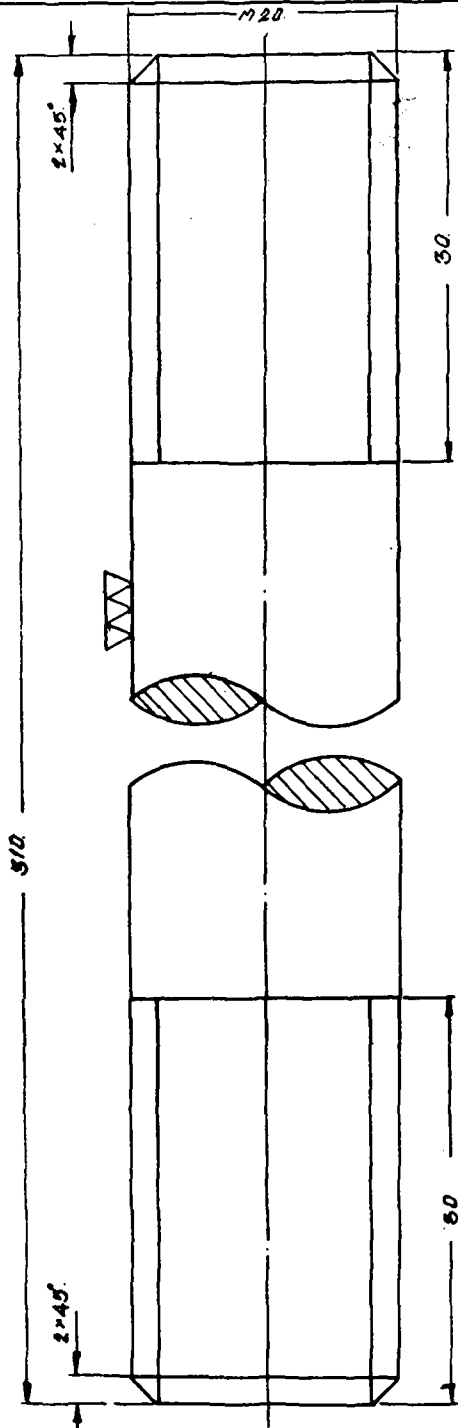
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 05	PART NO.	27
PART NAME	HANDLE GEAR BUSH		
SCALE	1 : 1	MATERIAL	BRASS



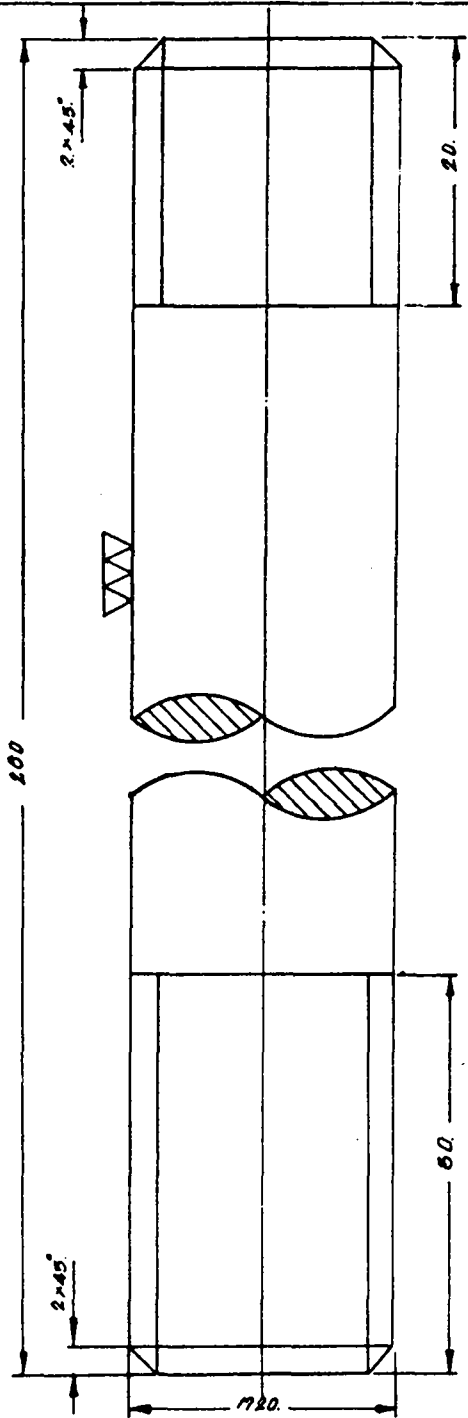
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 06	PART NO.	28
PART NAME	HANDLE	MATERIAL	STEEL
SCALE	1 : 2	DRAWN BY	



TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 07	PART NO.	4
PART NAME	GEAR CONNECTING ROD		
SCALE	1 : 2	MATERIAL	CAST IRON



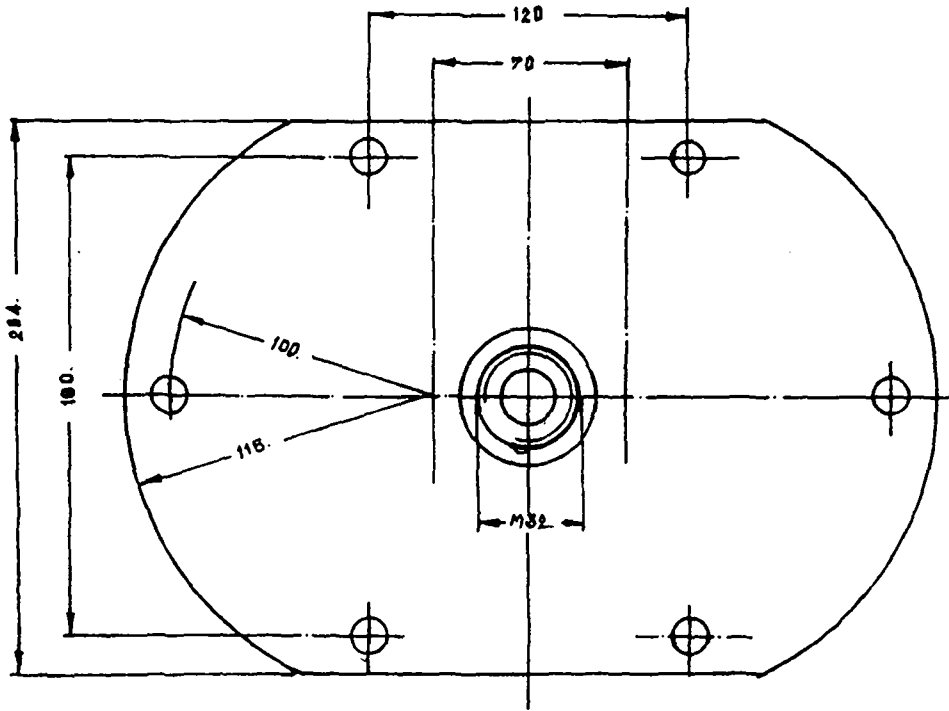
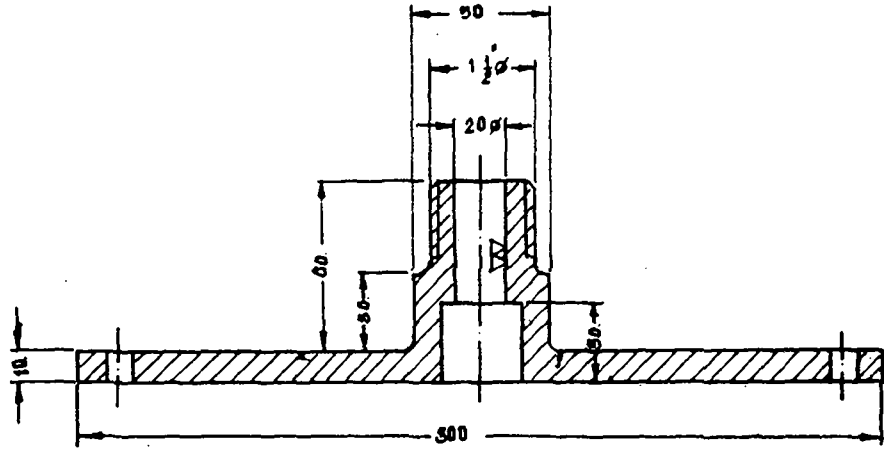
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 08	PART NO.	5
PART NAME	CONNECTING ROD		
SCALE		MATERIAL	STEEL



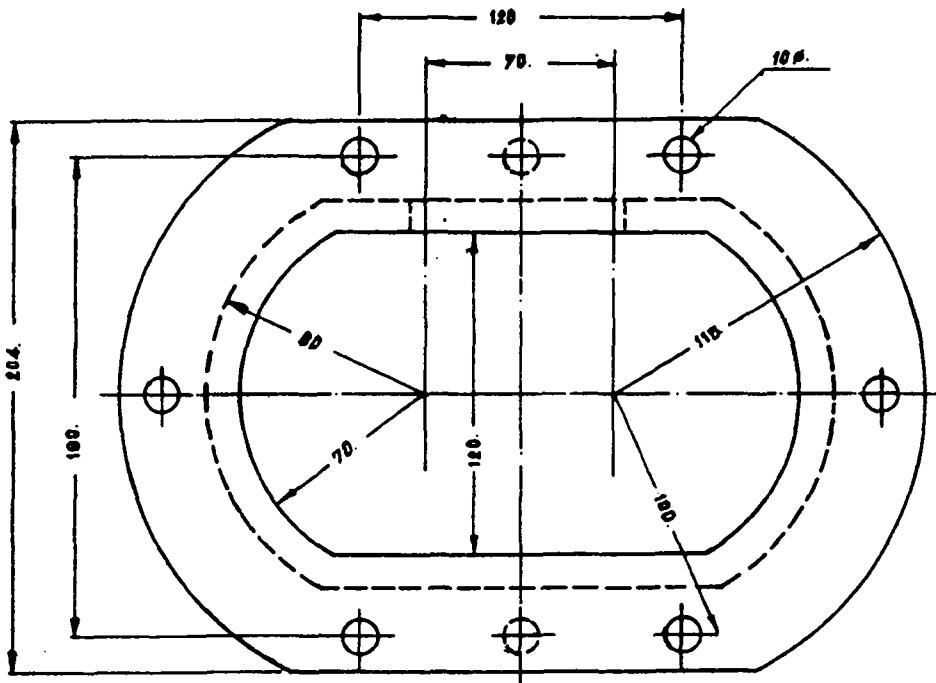
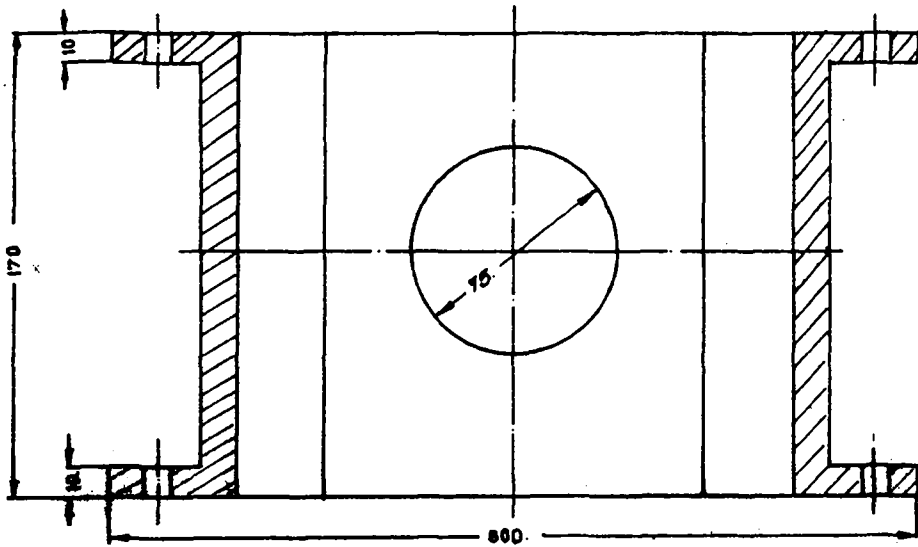
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 09	PART NO.	6
PART NAME	TOP CONNECTING ROD		
SCALE		MATERIAL	STEEL



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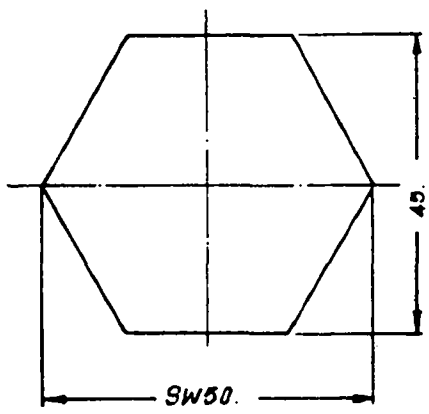
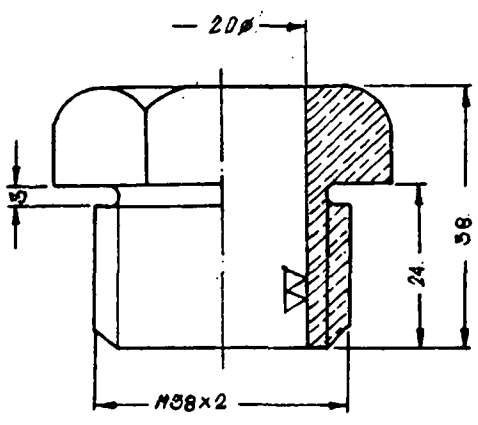


TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 10	PART NO.	7
PART NAME	STUFFING BOX PLATE		
SCALE	1 : 2.5	MATERIAL	CAST IRON

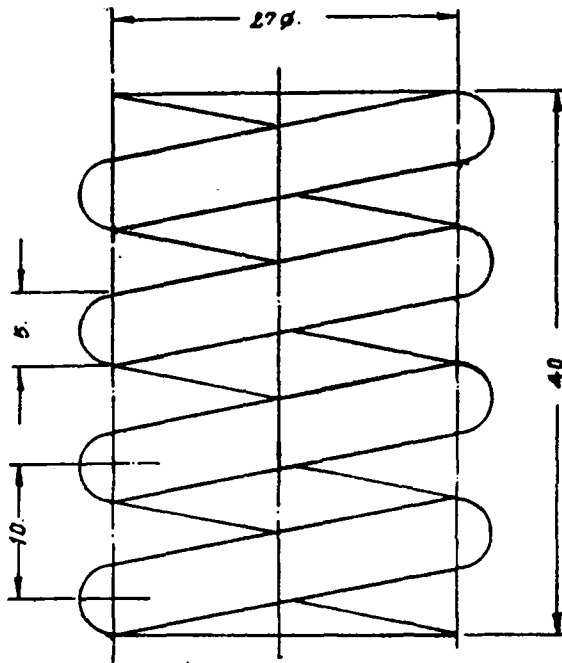


TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 11	PART NO.	8
PART NAME	PUMP BASE	MATERIAL	CAST IRON
SCALE	1 : 2.5	DRAWN BY.	

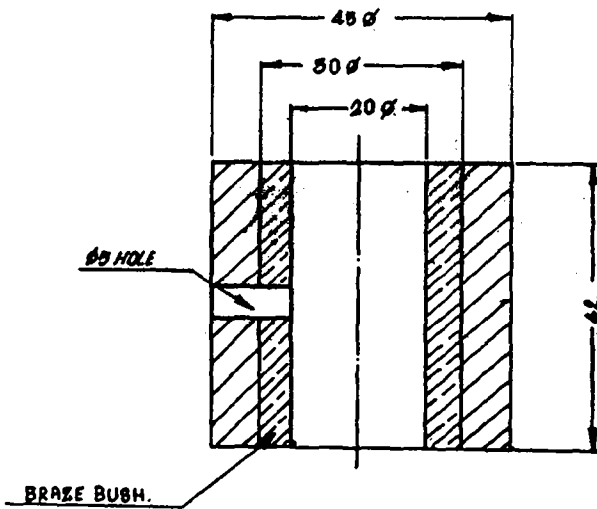
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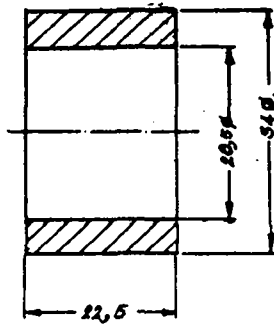
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 12	PART NO.	9
PART NAME	PACKING NUT	MATERIAL	BRASS
SCALE	1 : 1	DRAWN BY	



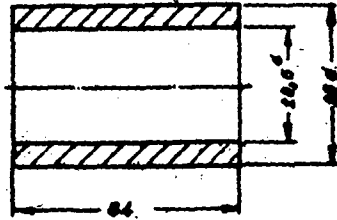
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 13	PART NO.	10
PART NAME	SPRING	MATERIAL	STANDARD
SCALE	3 : 1	DRAWN BY	



TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 14	PART NO.	11
PART NAME	ROLLER	MATERIAL	STEEL
SCALE	1 : 1	DRAWN BY	

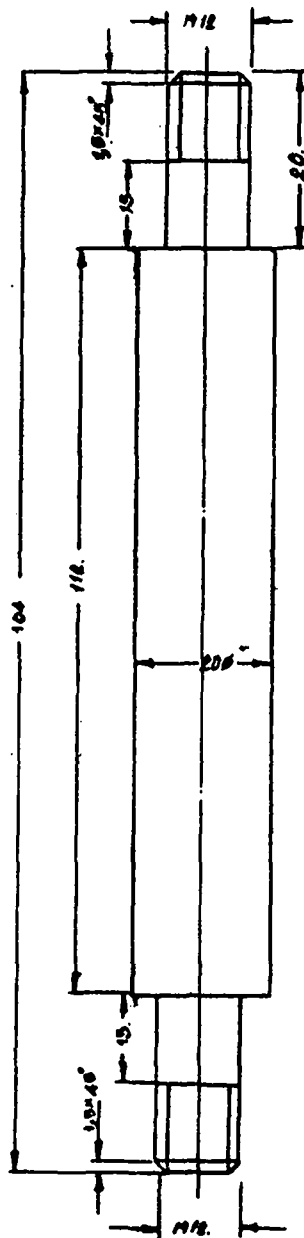


<b>TYPE</b>	<b>ACCELERATED RURAL DEVELOPMENT OFFICE</b>		
<b>DRAWING NO.</b>	<b>03 - 15</b>	<b>PART NO.</b>	<b>12</b>
<b>PART NAME</b>	<b>BUSH</b>	<b>MATERIAL</b>	<b>STEEL</b>
<b>SCALE</b>	<b>1 : 1</b>	<b>DRAWN BY</b>	



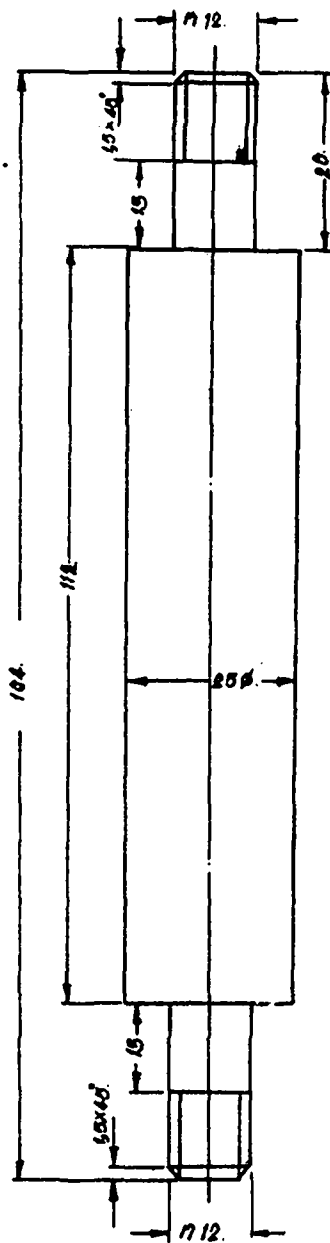
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TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 16	PART NO.	13
PART NAME	BUSH	MATERIAL	STEEL
SCALE	1 : 1	DRAWN BY	



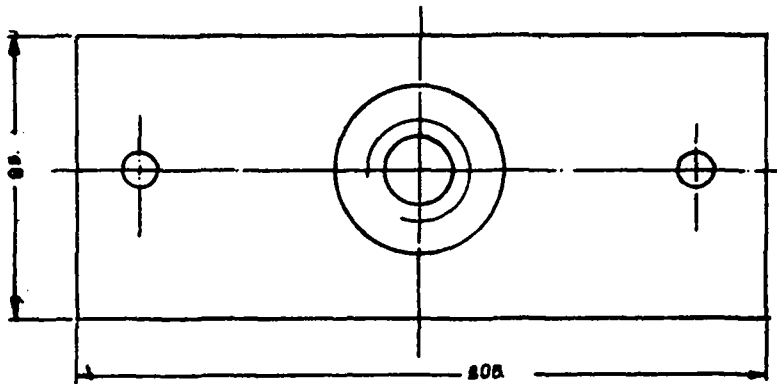
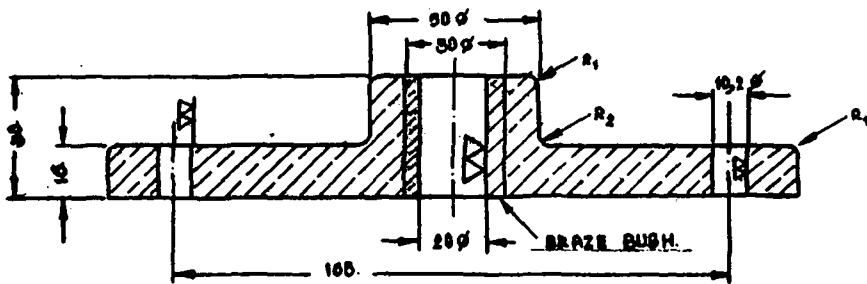
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 17	PART NO.	'14
PART NAME	STUD	MATERIAL	STEEL
SCALE	1 : 1	DRAWN BY	



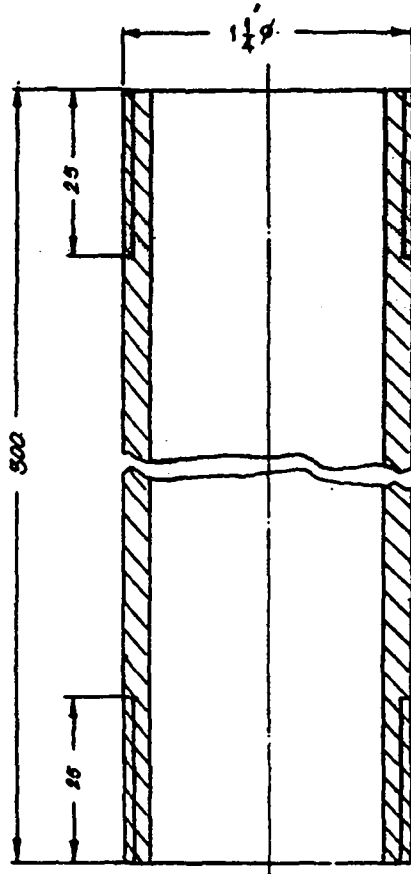


TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 18	PART NO.	15
PART NAME	STUD	MATERIAL	STEEL
SCALE	1 : 1	DRAWN BY	

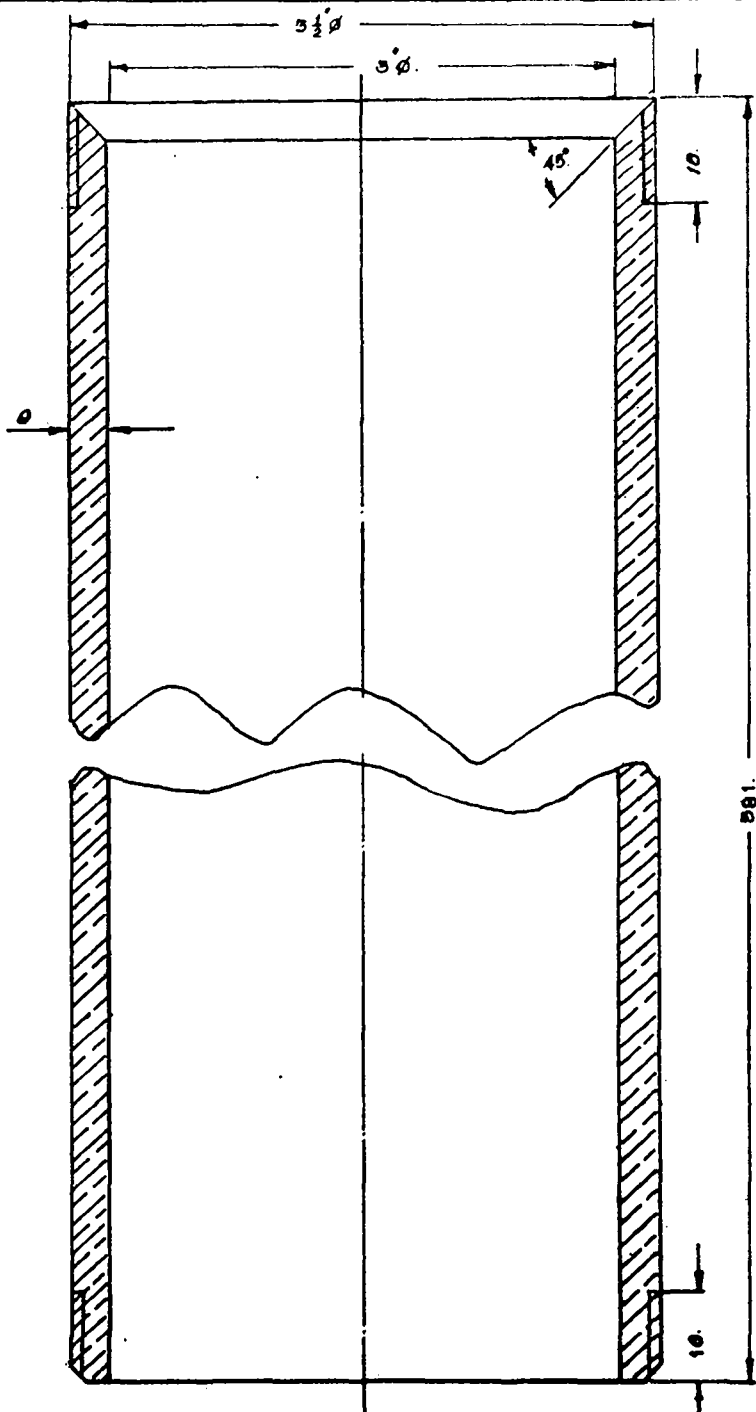
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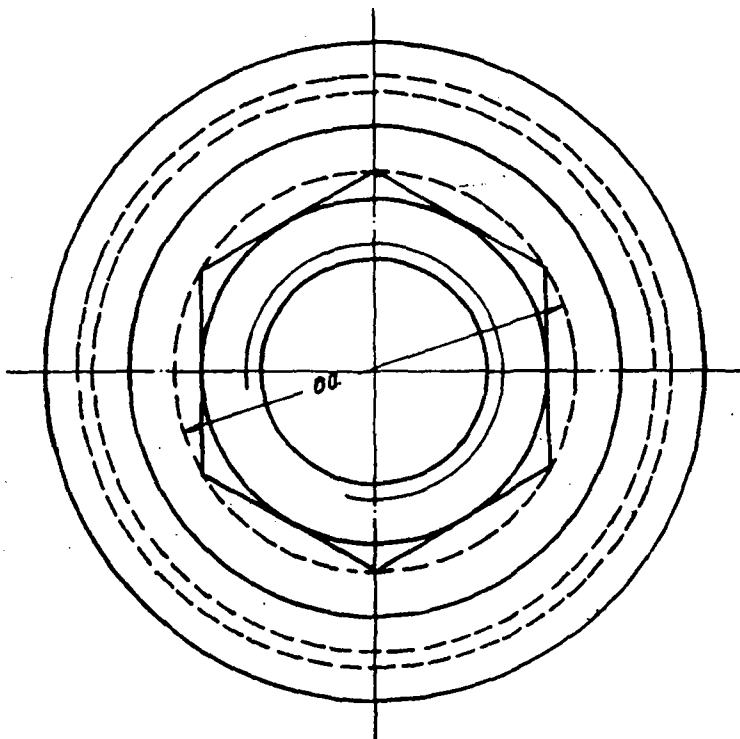
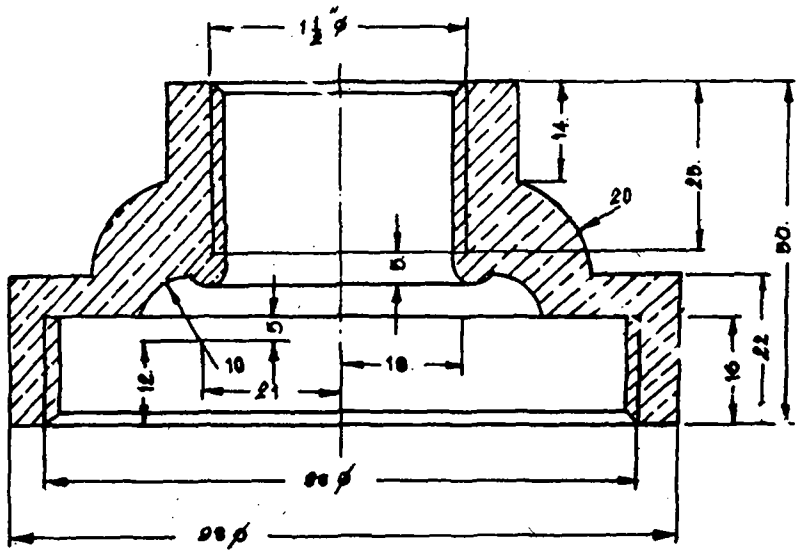
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 19	PART NO.	16
PART NAME	COVER	MATERIAL	CAST IRON
SCALE	1 : 2	DRAWN BY	



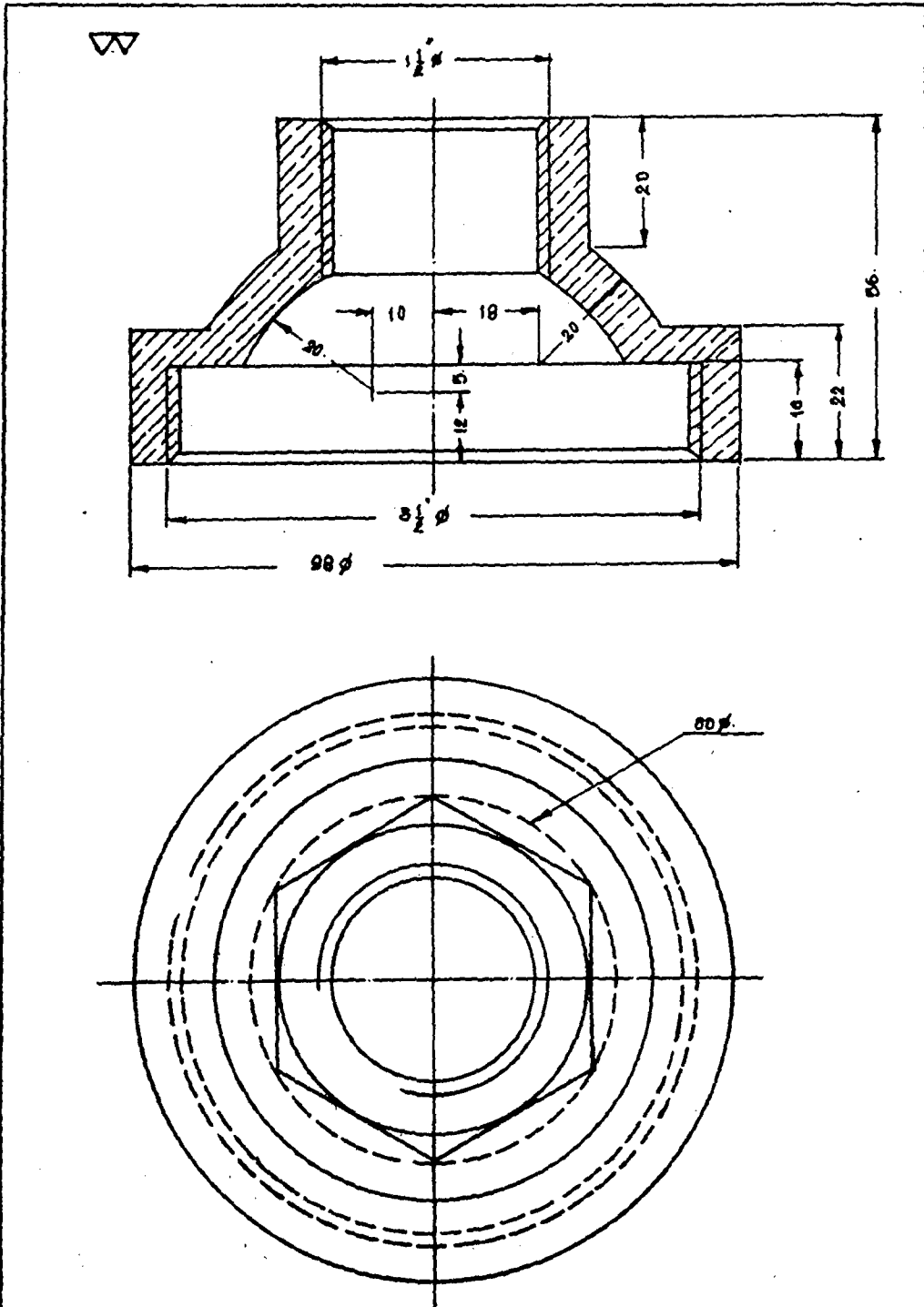
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 20	PART NO.	17
PART NAME	PIPE	MATERIAL	GULV. STEEL
SCALE	1 : 1	DRAWN BY	



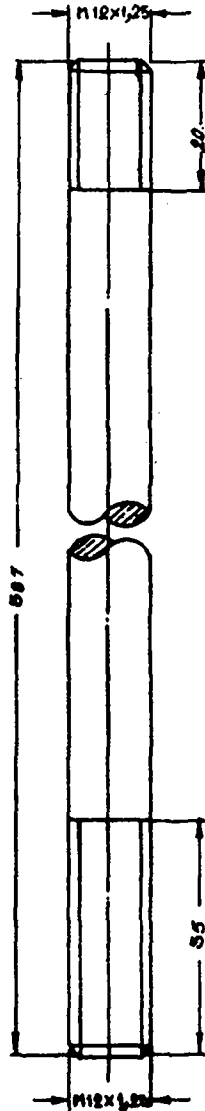
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 21	PART NO.	18 - 1
PART NAME	CYLINDER	MATERIAL	P.V.C.
SCALE	1 : 1	DRAWN BY	



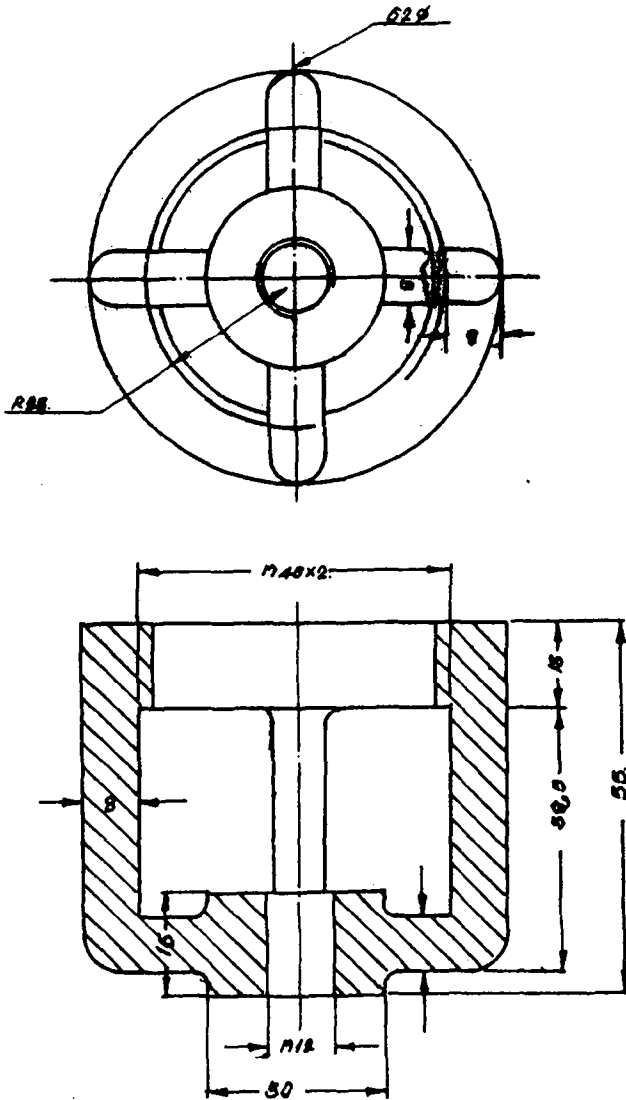
<b>TYPE</b>	<b>ACCELERATED RURAL DEVELOPMENT OFFICE</b>		
<b>DRAWING NO.</b>	03 - 22	<b>PART NO.</b>	18 - 2
<b>PART NAME</b>	LOW CAP	<b>MATERIAL</b>	BRASS
<b>SCALE</b>	1 : 1	<b>DRAWN BY</b>	



TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 23	PART NO.	10 - 3
PART NAME	TOP CAP	MATERIAL	BRASS
SCALE	1 : 1	DRAWN BY	

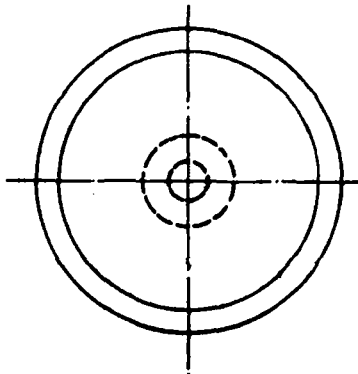
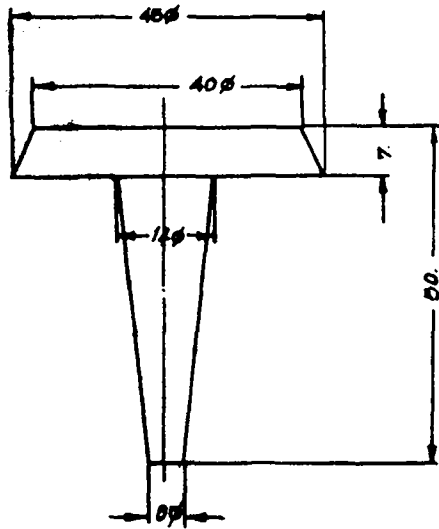


TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 24	PART NO.	18 - 4
PART NAME	CONNECTING ROD		
SCALE	1 : 1	MATERIAL	STEEL

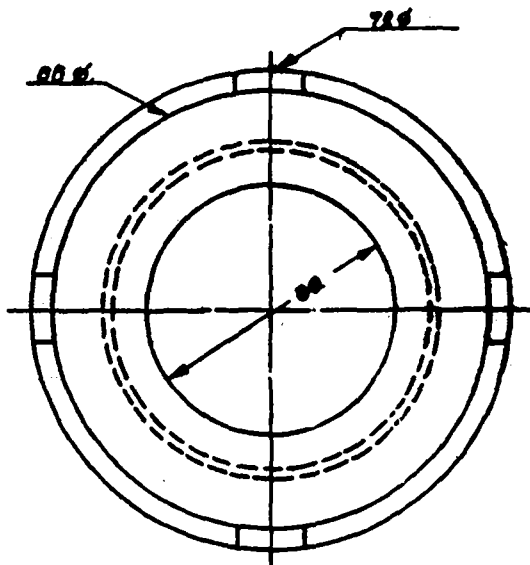
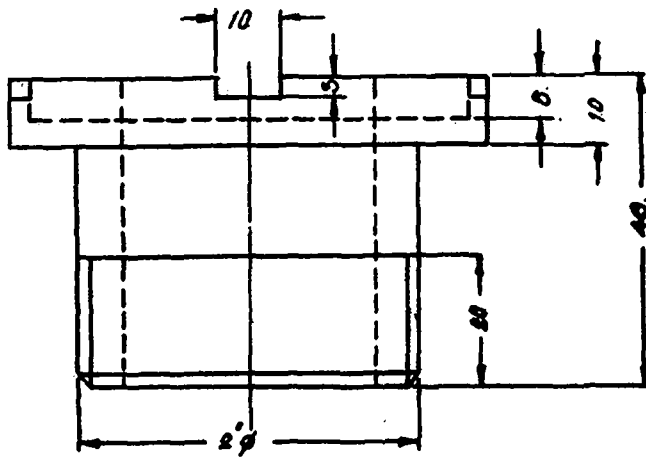


TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 25	PART NO.	18 - 5
PART NAME	PLUNGER	MATERIAL	BRASS
SCALE	1 : 1	DRAWN BY	

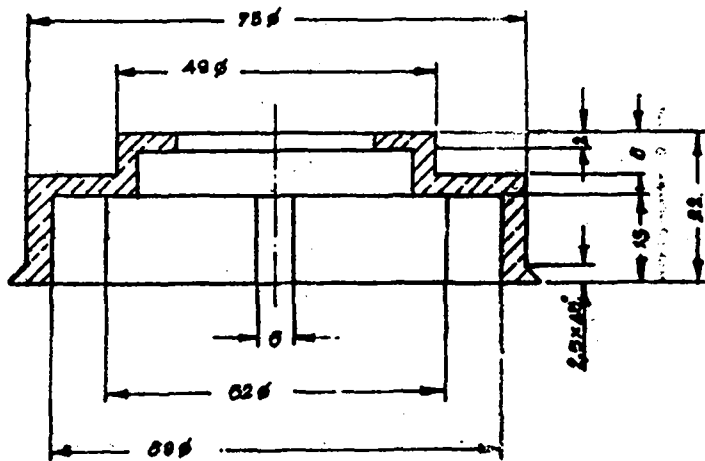
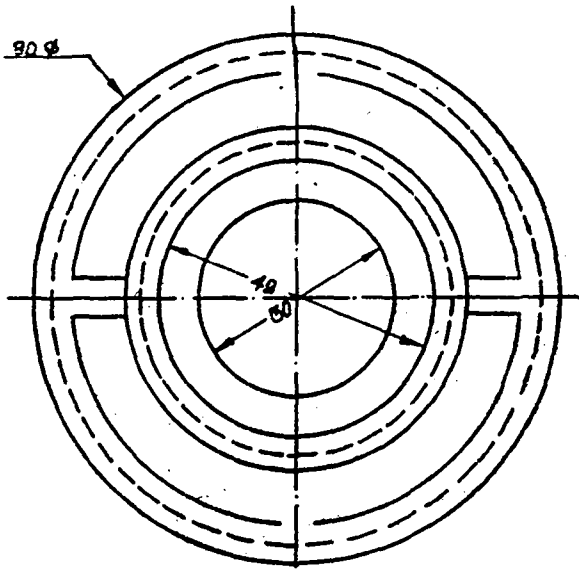




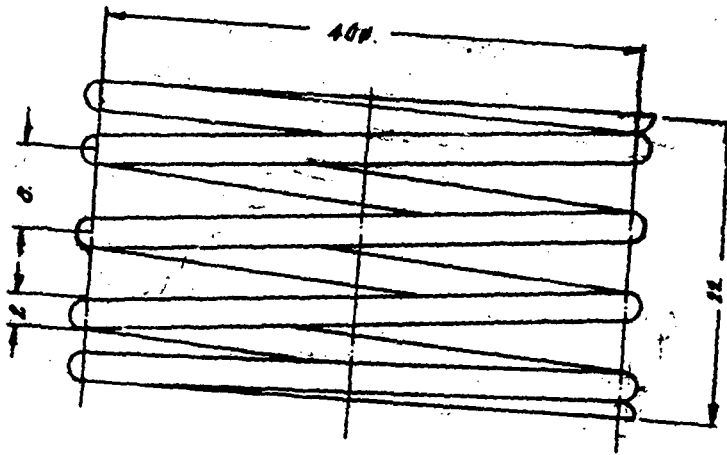
<b>TYPE</b>	<b>ACCELERATED RURAL DEVELOPMENT OFFICE</b>		
<b>DRAWING NO.</b>	<b>03 - 26</b>	<b>PART NO.</b>	<b>18 - 6</b>
<b>PART NAME</b>	<b>POPPET VALVE</b>	<b>MATERIAL</b>	<b>BRASS</b>
<b>SCALE</b>	<b>1 : 1</b>	<b>DRAWN BY</b>	



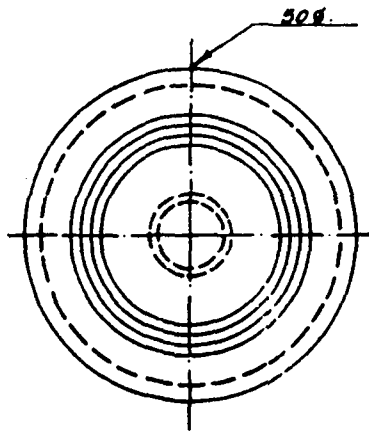
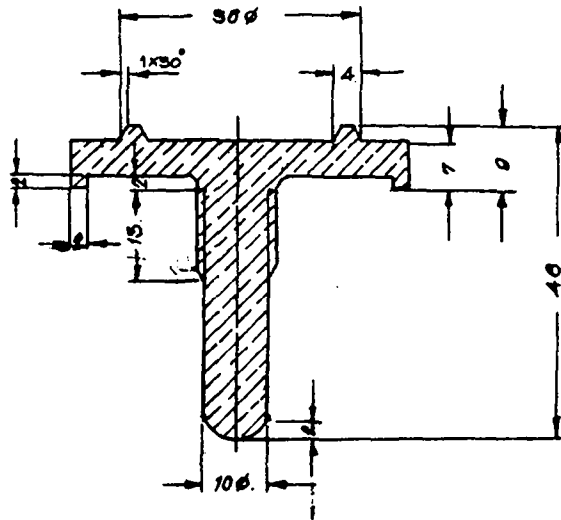
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 27	PART NO.	18 - 7
PART NAME	PISTON LOCK	MATERIAL	BRASS
SCALE	1 : 1	DRAWN BY	



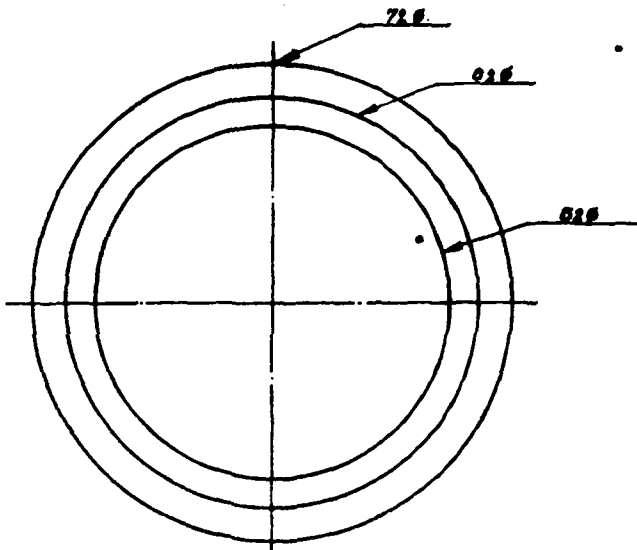
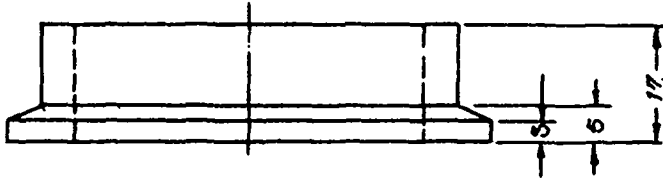
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 28	PART NO.	18 -18
PART NAME	SPRING COVER	MATERIAL	BRASS
SCALE	1 : 1	DRAWN BY	



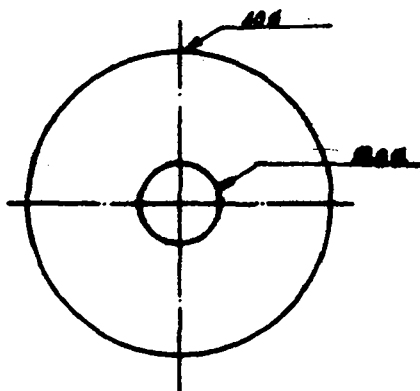
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 29	PART NO.	18 - 9
PART NAME	SPRING	MATERIAL	BRASS
SCALE	2 : 1	DRAWN BY	



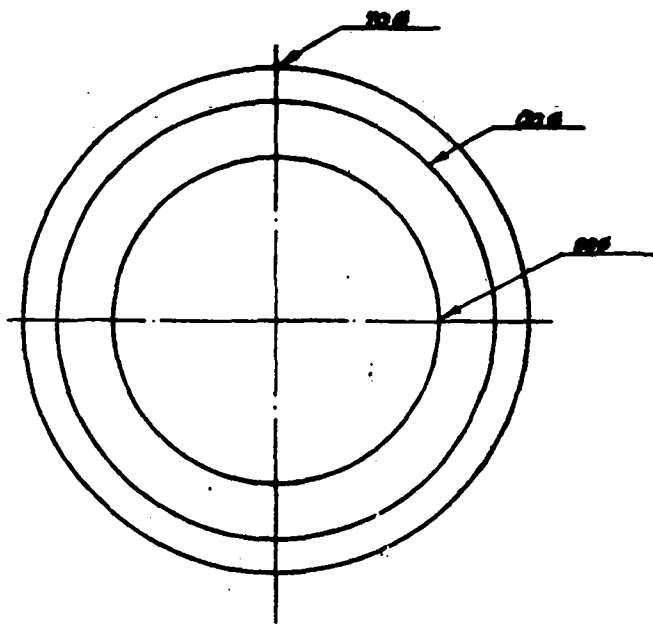
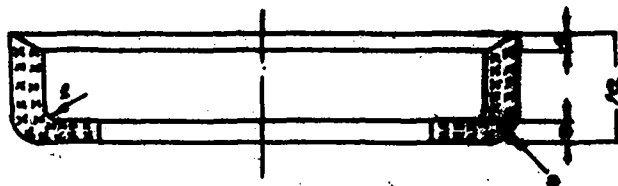
TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 30	PART NO.	18 - 10
PART NAME	POPPET VALVE (DOWN)		
SCALE	1 : 1	MATERIAL	BRASS



TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 31	PART NO.	18 - 11
PART NAME	PISTON LOCK	MATERL.L	BRASS
SCALE	1 : 1	DRAWN BY	

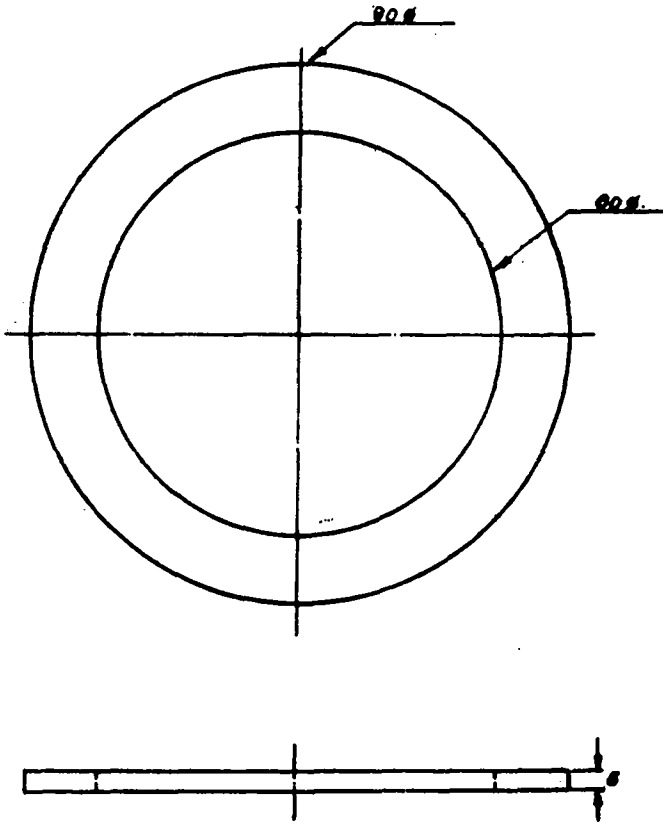


TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 32	PART NO.	18 - 12
PART NAME	SEAL (BUSER)	MATERIAL	-
SCALE	1 : 1	DRAWN BY	

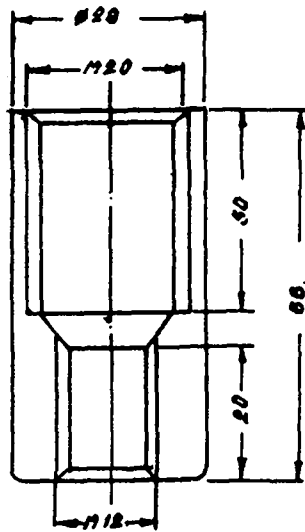


TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 33	PART NO.	18 - 13
PART NAME	PISTON SEAL	MATERIAL	-
SCALE	1 : 1	DRAWN BY	





TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 34	PART NO.	18 - 14
PART NAME	GASKET	MATERIAL	LEATHER
SCALE	1 : 1	DRAWN BY	



TYPE	ACCELERATED RURAL DEVELOPMENT OFFICE		
DRAWING NO.	03 - 35	PART NO.	26
PART NAME	REDUCE JOINT	MATERIAL	
SCALE	1 : 1	DRAWN BY	

**PART II**

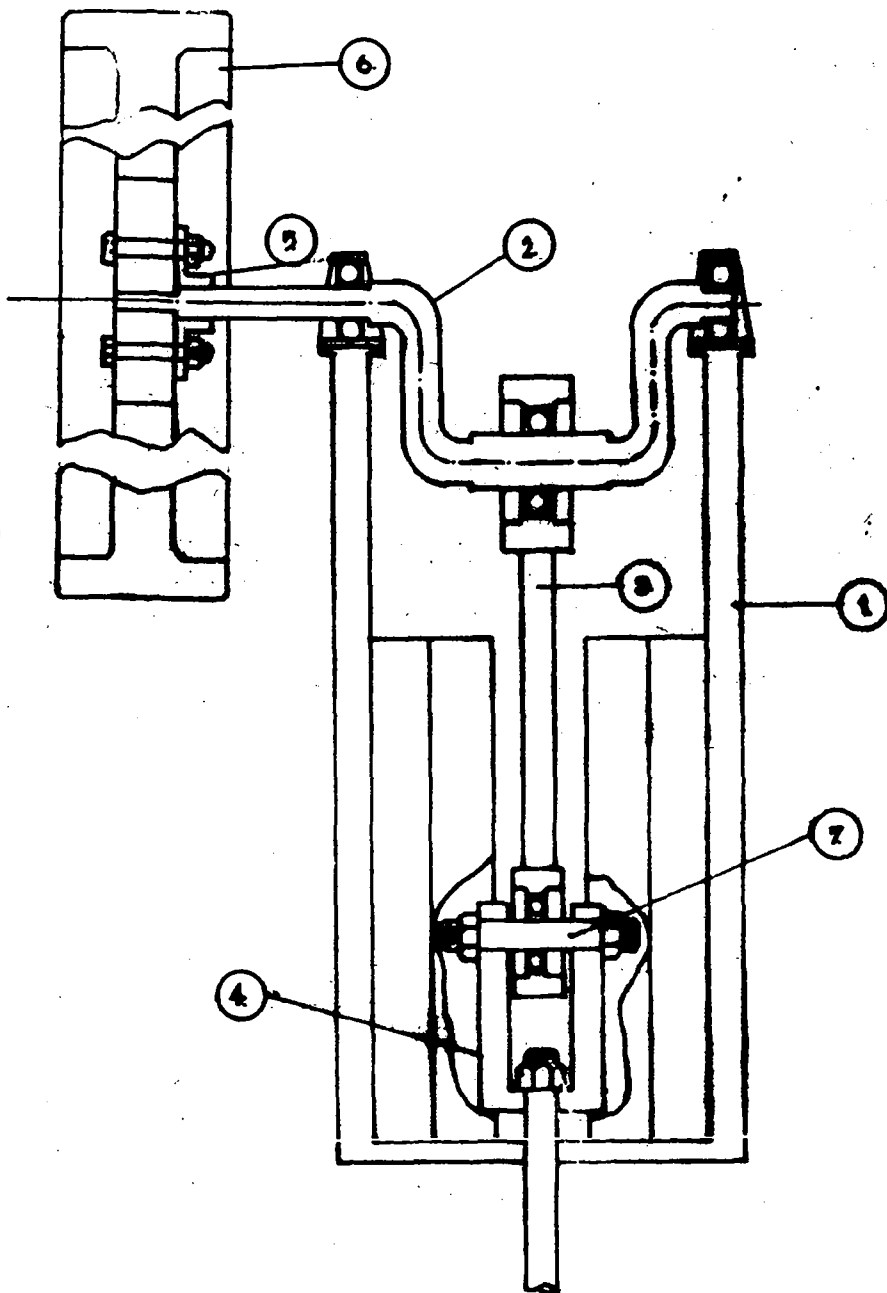


TYPE OF HAND PUMP  
EQUIPMENT CONTROL DIVISION

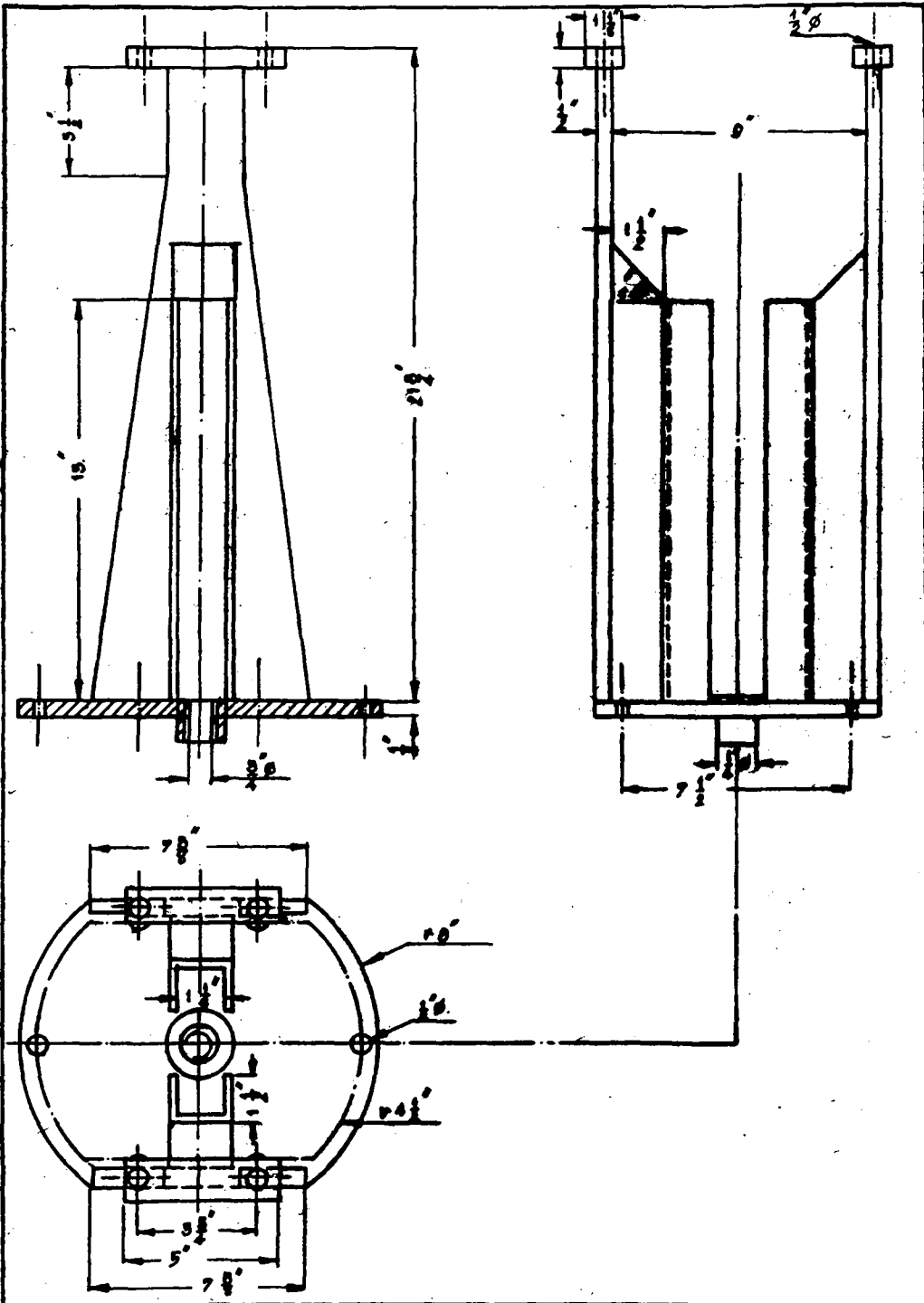
PART NO.	PART NAME	QUAN.	MATERIAL	DRAWING NO.
1.	Pump body frame	1	Cast iron	04-02
2.	Crank shaft	1	Steel	04-03
3.	Connecting rod	1	Steel	04-04
4.	U - joint	1	Steel	04-05
5.	Flywheel hub	1	Cast iron	04-06
6.	Flywheel	1	Cast iron	04-07
7.	U - joint pin	1	Steel	04-08
8.	U - joint bearing	1	Brass	04-09
9.	Top connecting rod	1	Steel	04-10
10.	Stuffing box plate	1	Cast iron	04-11
11.	Pump base	1	Cast iron	04-12
12.	Packing nut	1	Brass	04-13
13.	Spring	1	Standard	04-14
14.	Roller	2	Steel	04-15
15.	Bush	2	Steel	04-16
16.	Bush	4	Steel	04-17
17.	Stud	2	Steel	04-18
18.	Stud	1	Steel	04-19
19.	Cover	1	Cast iron	04-20
20.	Pipe	1	Galv. steel	04-21
21-1.	Cylinder	1	P.V.C.	04-22
21-2.	Low cap	1	Brass	04-23
21-3.	Top cap	1	Brass	04-24
21-4.	Connecting rod	1	Steel	04-25
21-5.	Plunger	1	Brass	04-26
21-6.	Poppet valve	1	Brass	04-27
21-7.	Piston lock	1	Brass	04-28
21-8.	Spring cover	1	Brass	04-29
21-9.	Spring	1	Brass	04-30
21-10.	Poppet valve (down)	1	Brass	04-31

**TYPE OF HAND PUMP**  
**EQUIPMENT CONTROL DIVISION**

<b>PART NO.</b>	<b>PART NAME</b>	<b>QUAN.</b>	<b>MATERIAL</b>	<b>DRAWING NO.</b>
21-11.	Piston lock	1	Brass	04-32
21-12.	Seal (busher)	1	Leather	04-33
21-13.	Piston seal	1	Leather	04-34
21-14.	Gasket	1	Leather	04-35
21-15.	Reduce joint	1	Steel	04-36

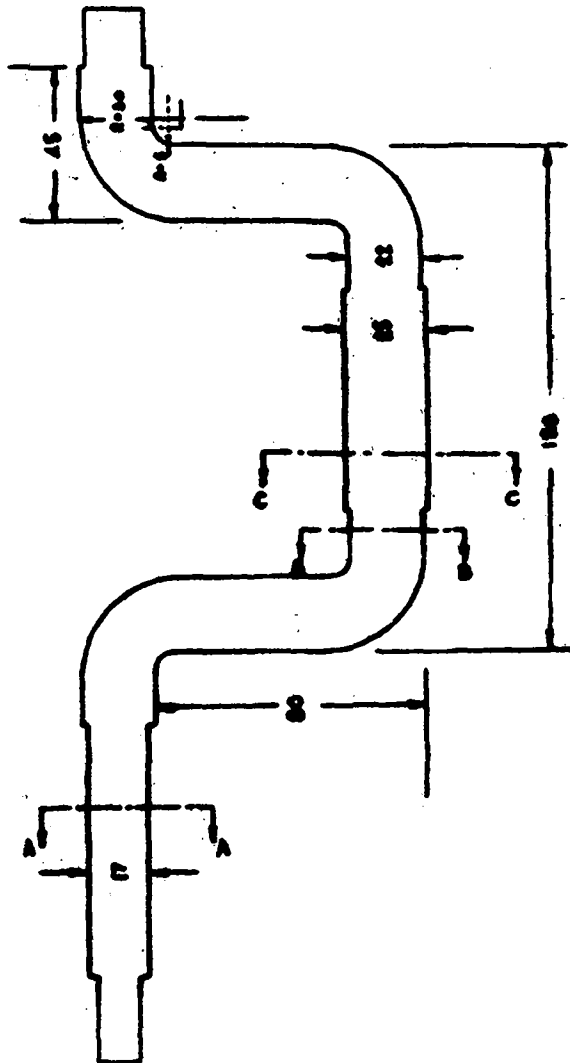


TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 01	PART NO.	-
PART NAME	PUMP ASSEMBLY	MATERIAL	-
SCALE	1 : 4	DRAWN BY	

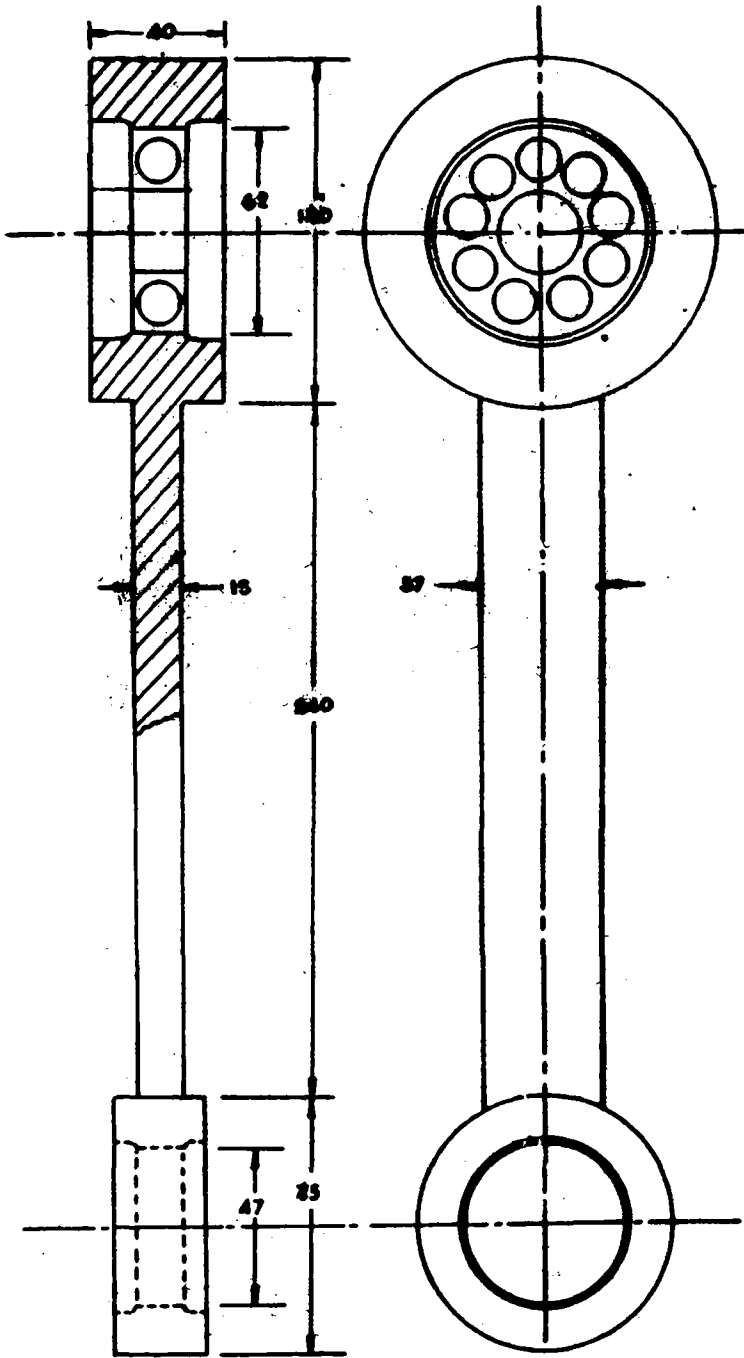


TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 02	PART NO.	1
PART NAME	PUMP BODY FRAME		
SCALE	1 : 5	MATERIAL	STEEL

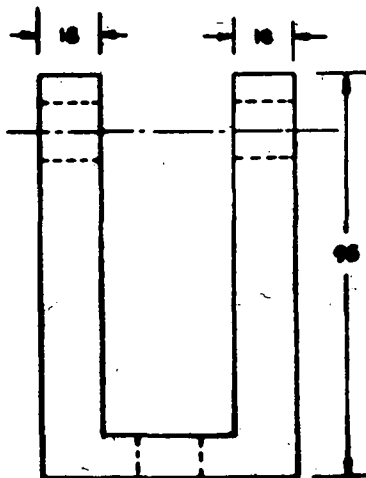
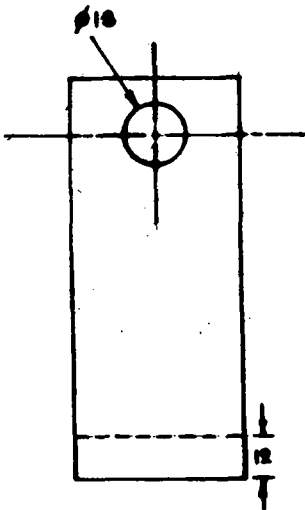
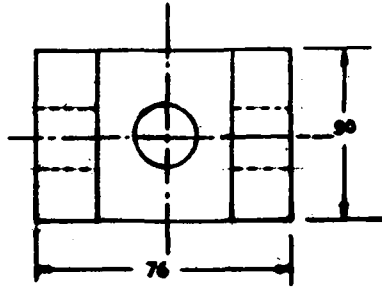




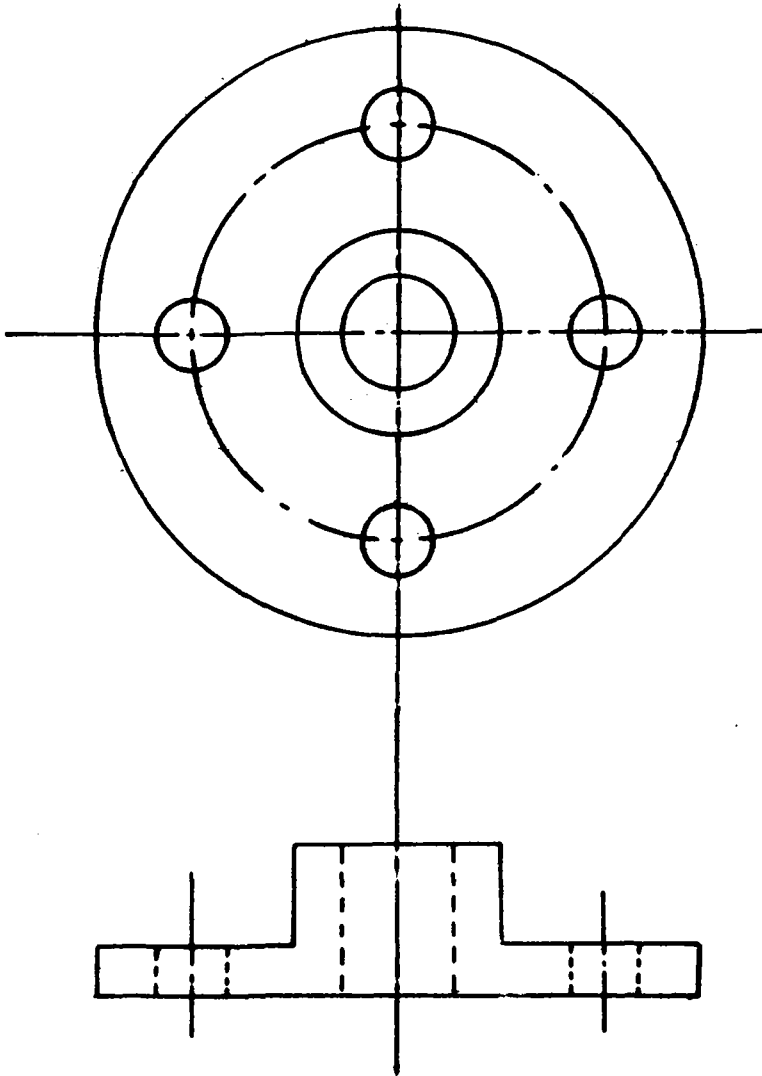
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 03	PART NO.	2
PART NAME	CRANK SHAFT	MATERIAL	STEEL
SCALE	1 : 2	DRAWN BY	



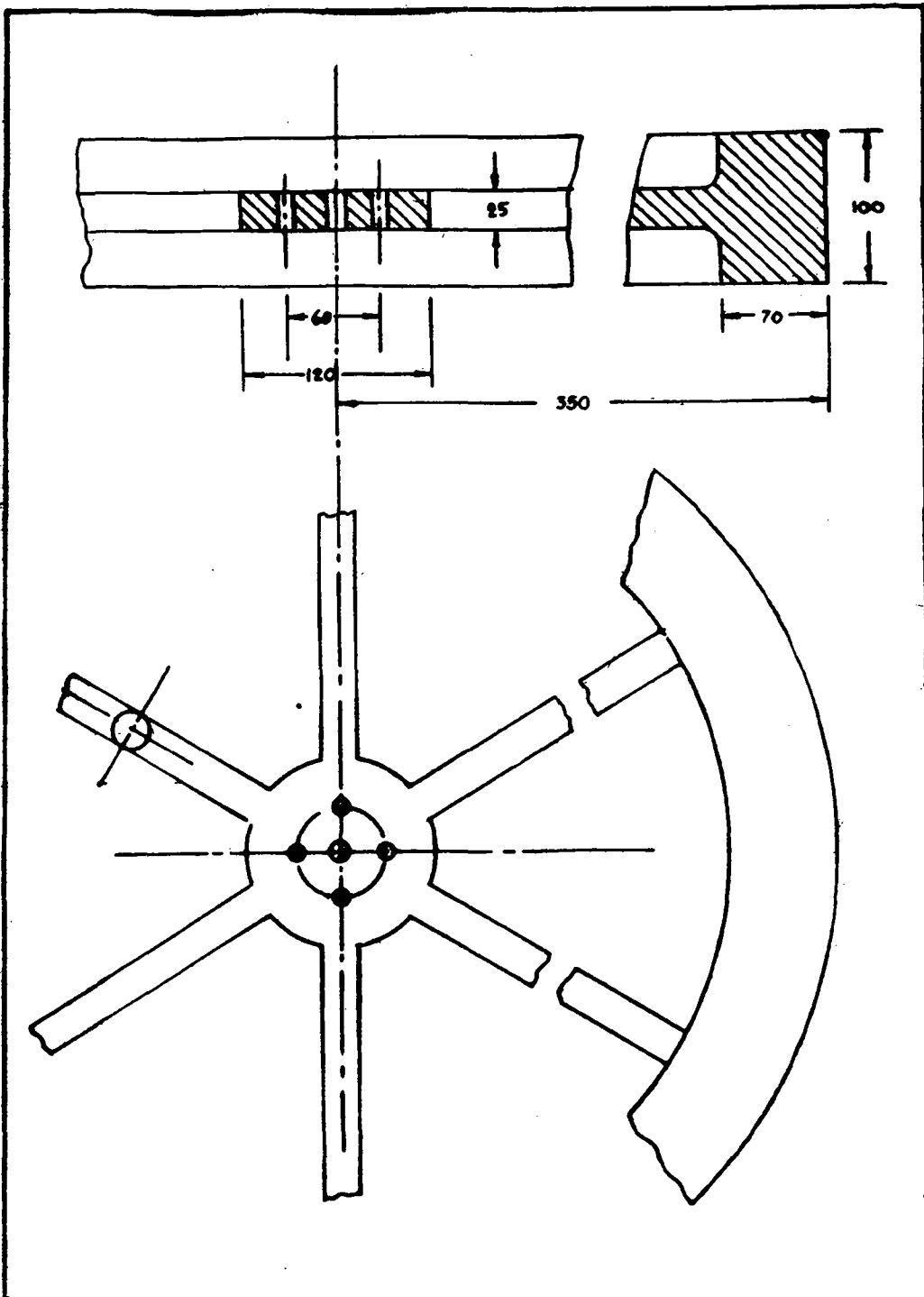
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 04	PART NO.º	3
PART NAME	CONNECTING ROD		
SCALE	1 : 2	MATERIAL	STEEL



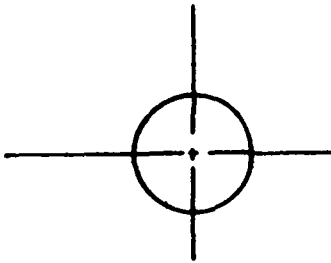
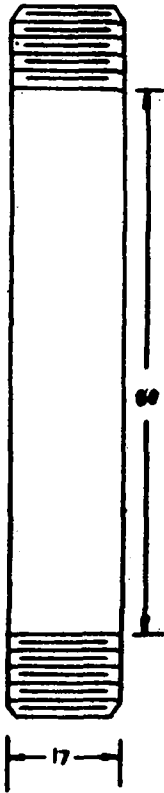
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 05	PART NO.	4
PART NAME	U - JOINT	MATERIAL	STEEL
SCALE	1 : 2	DRAWN BY	



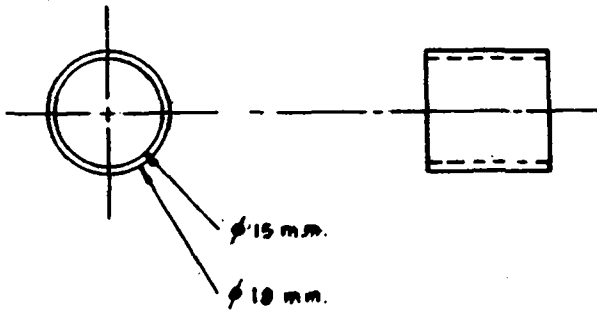
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 06	PART NO.	5
PART NAME	FLYWHEEL HUB	MATERIAL	CAST IRON
SCALE	1 : 1	DRAWN BY	



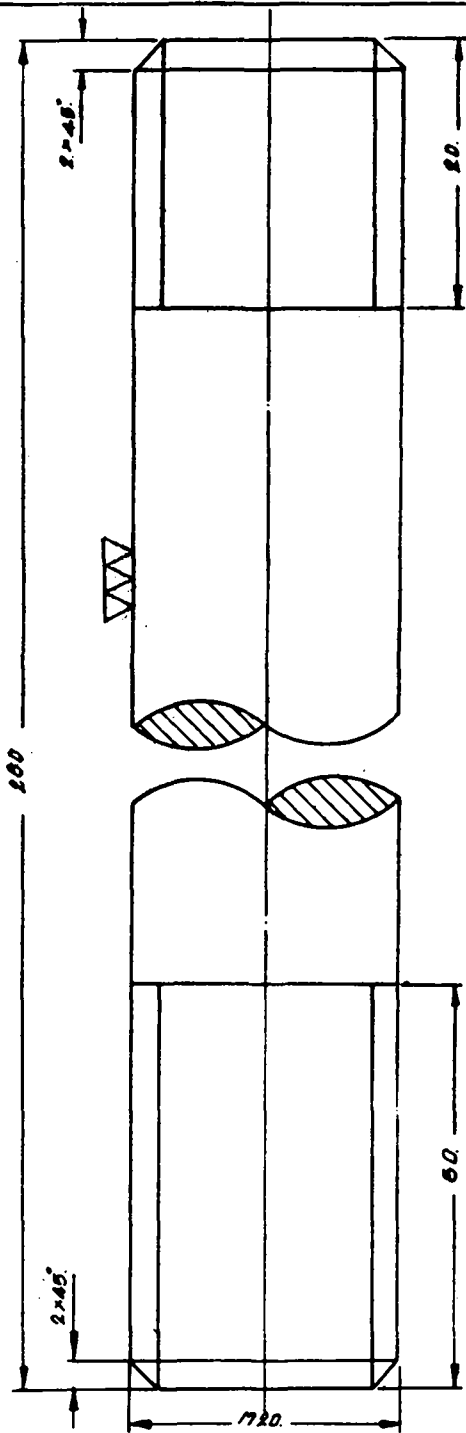
<b>TYPE</b>	<b>EQUIPMENT CONTROL DIVISION</b>		
<b>DRAWING NO.</b>	<b>04 - 07</b>	<b>PART NO.</b>	<b>6</b>
<b>PART NAME</b>	<b>FLYWHEEL</b>	<b>MATERIAL</b>	<b>CAST IRON</b>
<b>SCALE</b>	<b>1 : 4</b>	<b>DRAWN BY</b>	



TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 08	PART NO.	7
PART NAME	U - JOINT PIN	MATERIAL	STEEL
SCALE	1 : 1	DRAWN BY	



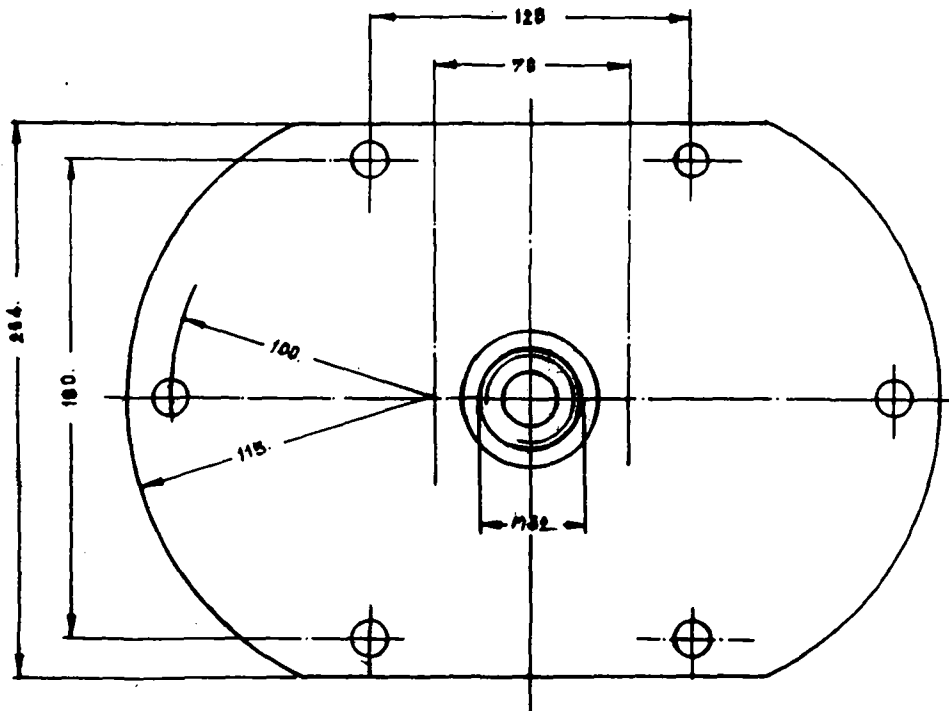
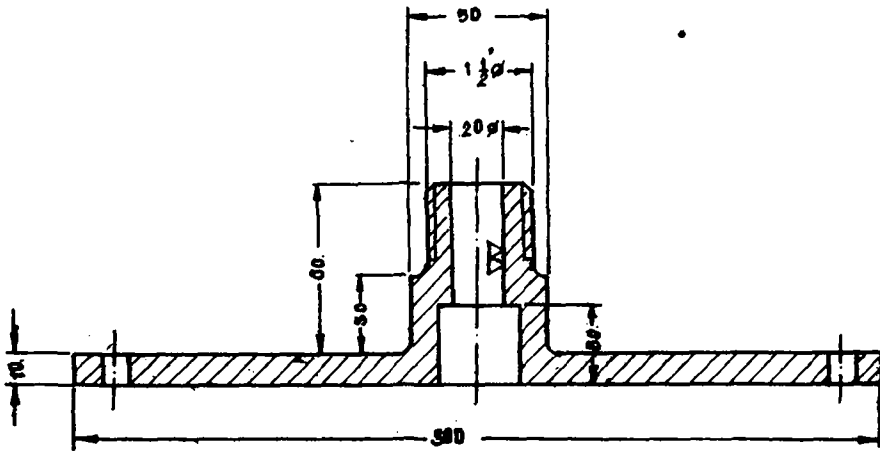
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 09	PART NO.	8
PART NAME	U - JOINT BEARING		
SCALE	1 : 1	MATERIAL	BRASS



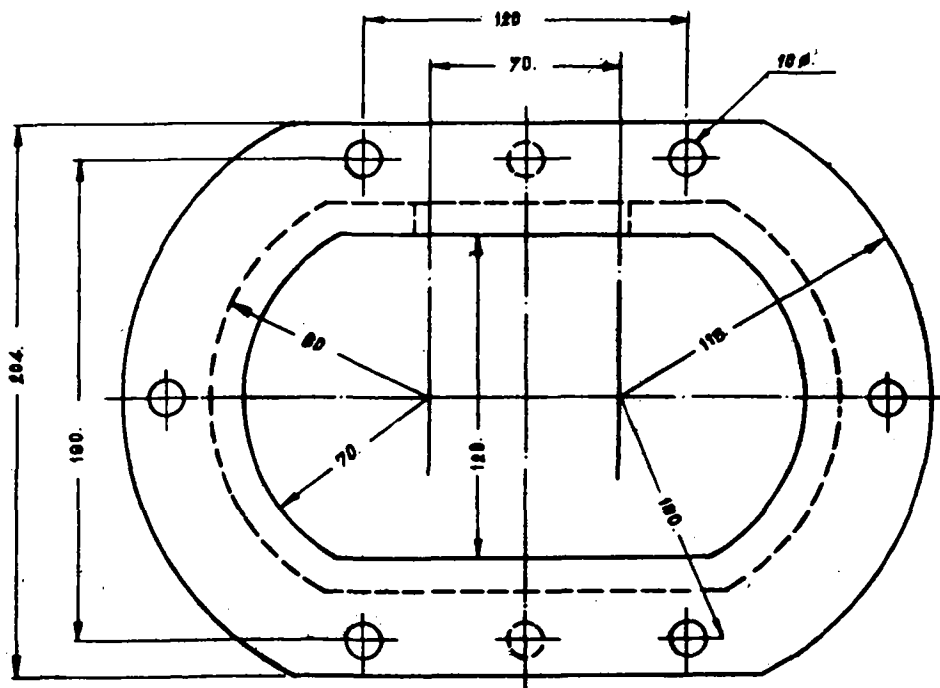
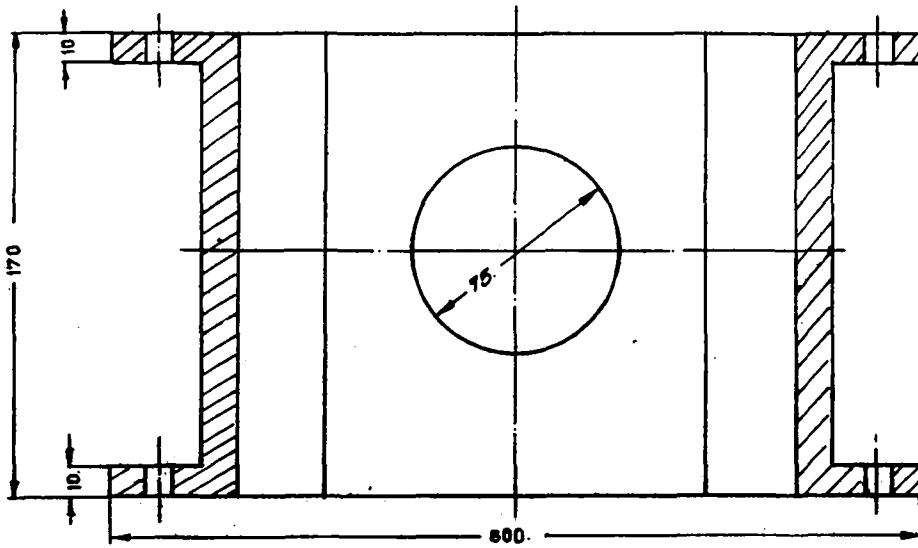
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 10	PART NO.	9
PART NAME	TOP CONNECTING ROD		
SCALE	2 : 1	MATERIAL	STEEL



▽(▽▽)

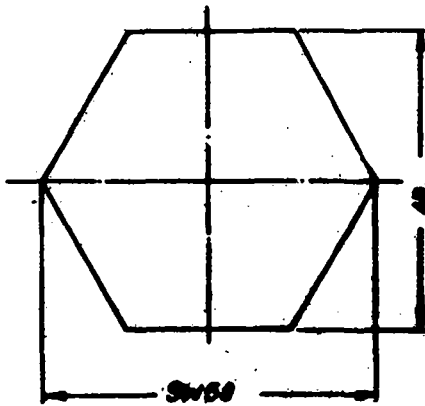
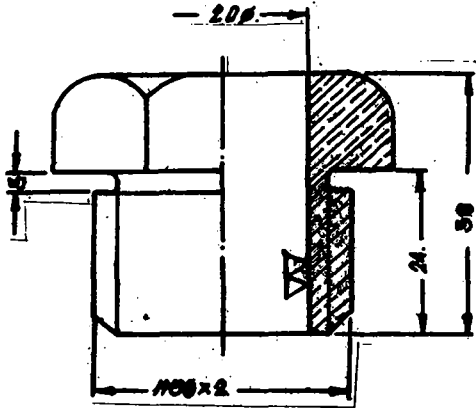


TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 11	PART NO.	10
PART NAME	STUFFING BOX PLATE		
SCALE	1 : 2.5	MATERIAL	CAST IRON

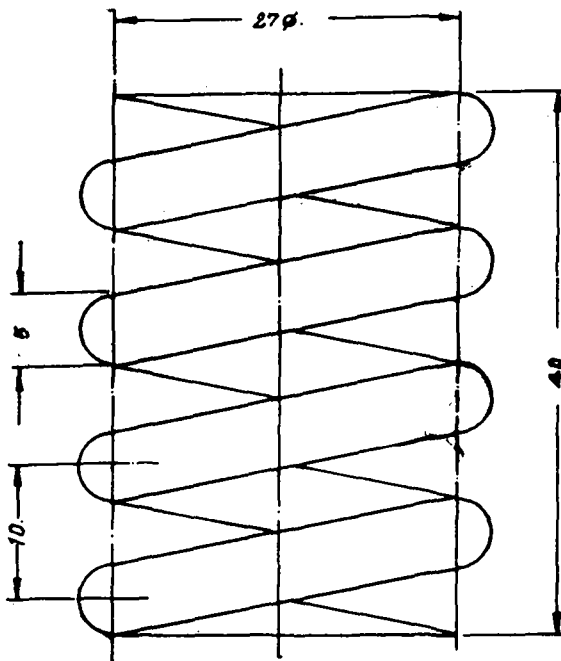


TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 12	PART NO.	11
PART NAME	PUMP BASE	MATERIAL	CAST IRON
SCALE	1 : 2.5	DRAWN BY	

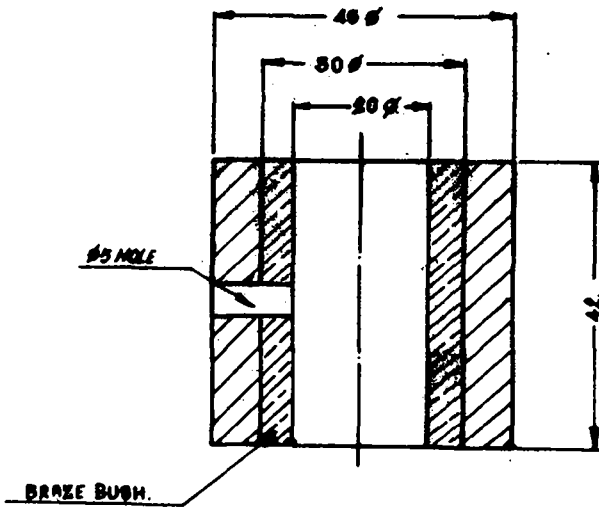
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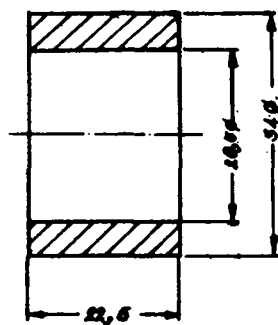
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 13	PART NO.	12
PART NAME	PACKING NUT	MATERIAL	BRASS
SCALE	1 : 1	DRAWN BY	



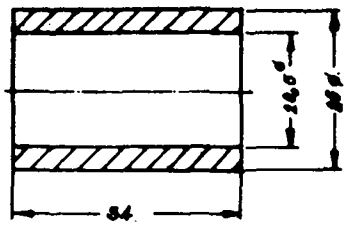
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 14	PART NO.	13
PART NAME	SPRING	MATERIAL	STANDARD
SCALE	3 : 1	DRAWN BY	



TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 15	PART NO.	14
PART NAME	ROLLER	MATERIAL	STEEL
SCALE	1 : 1	DRAWN BY	

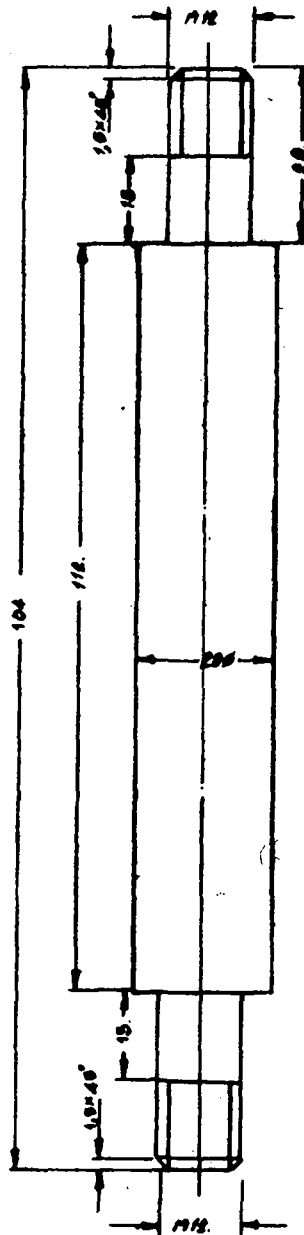


TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 16	PART NO.	15
PART NAME	BUSH	MATERIAL	STEEL
SCALE	1 : 1	DRAWN BY	



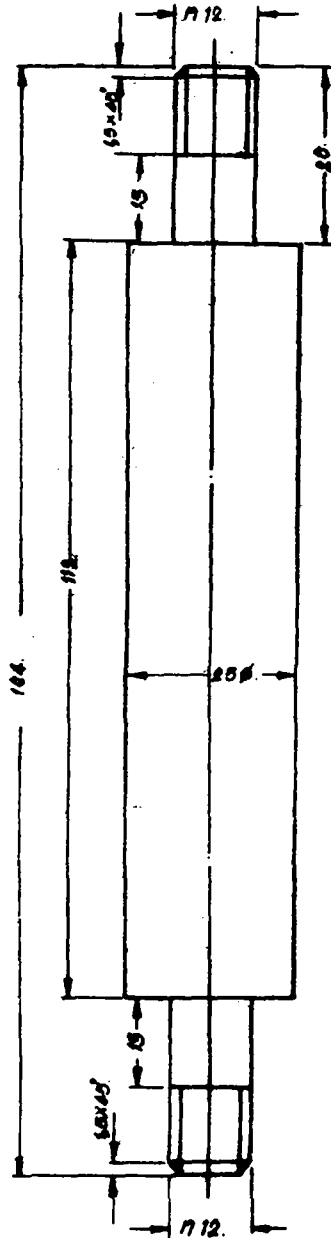
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TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 17	PART NO.	16
PART NAME	BUSH	MATERIAL	STEEL
SCALE	1 : 1	DRAWN BY	



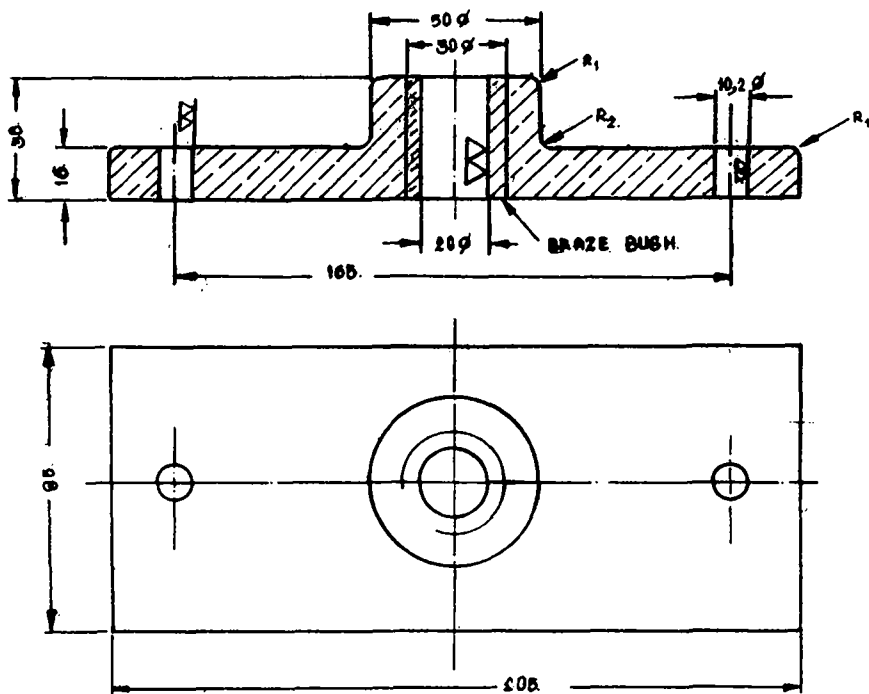
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 18	PART NO.	17
PART NAME	STUD	MATERIAL	STEEL
SCALE	1 : 1	DRAWN BY	



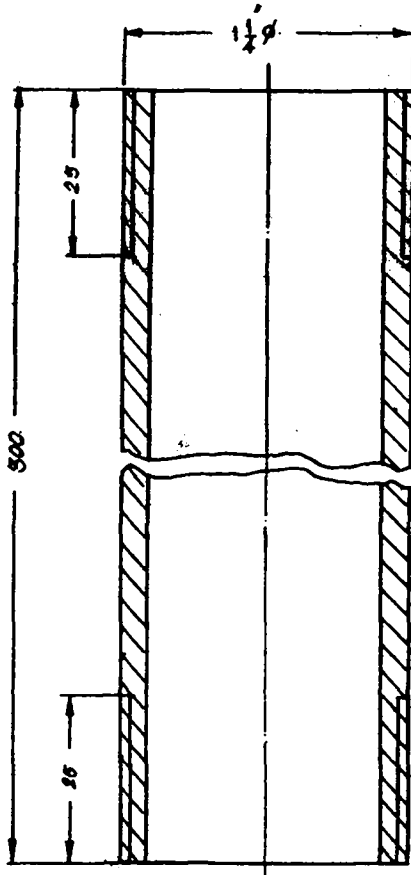


TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 19	PART NO.	18
PART NAME	STUD	MATERIAL	STEEL
SCALE	1 : 1	DRAWN BY	

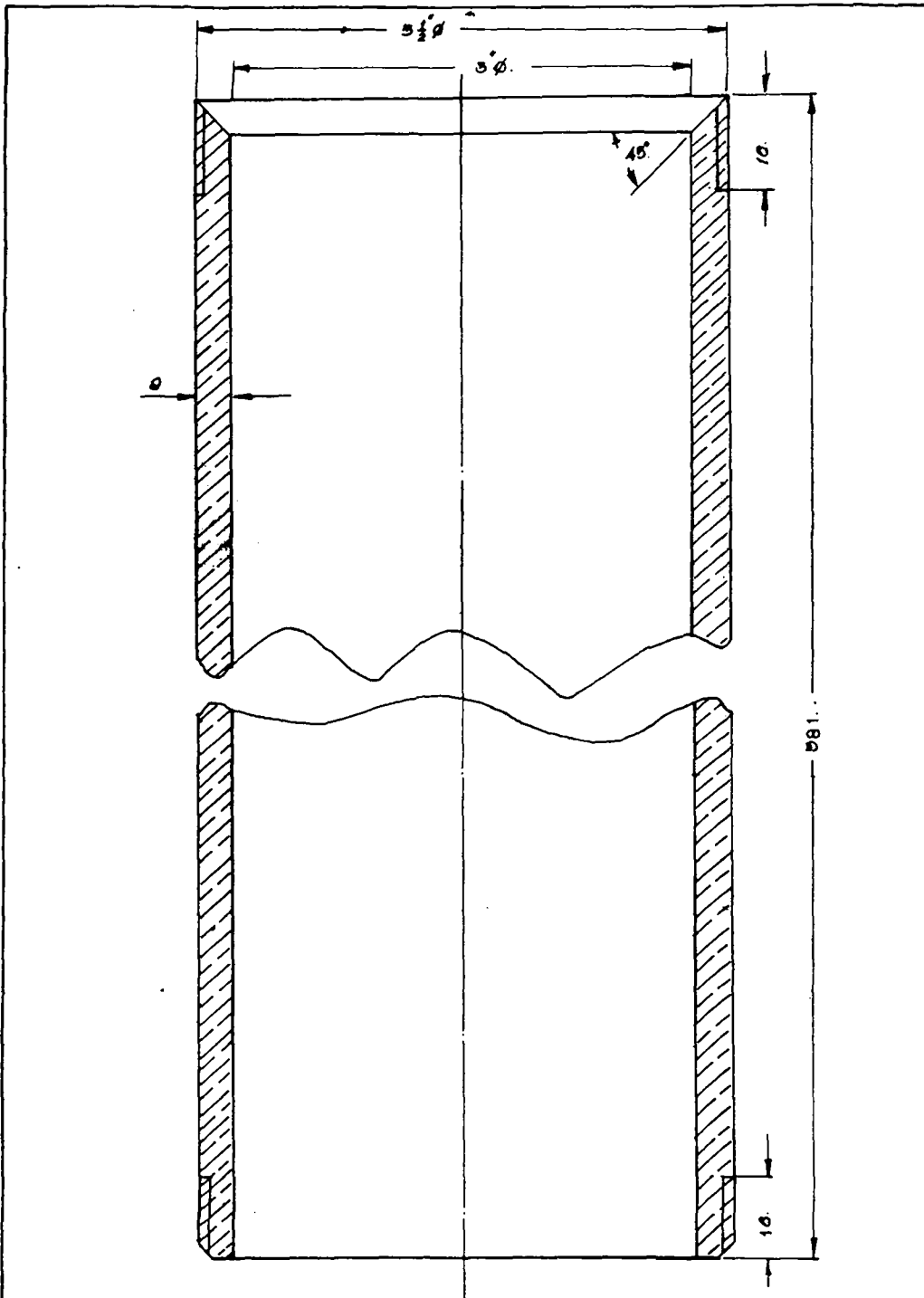
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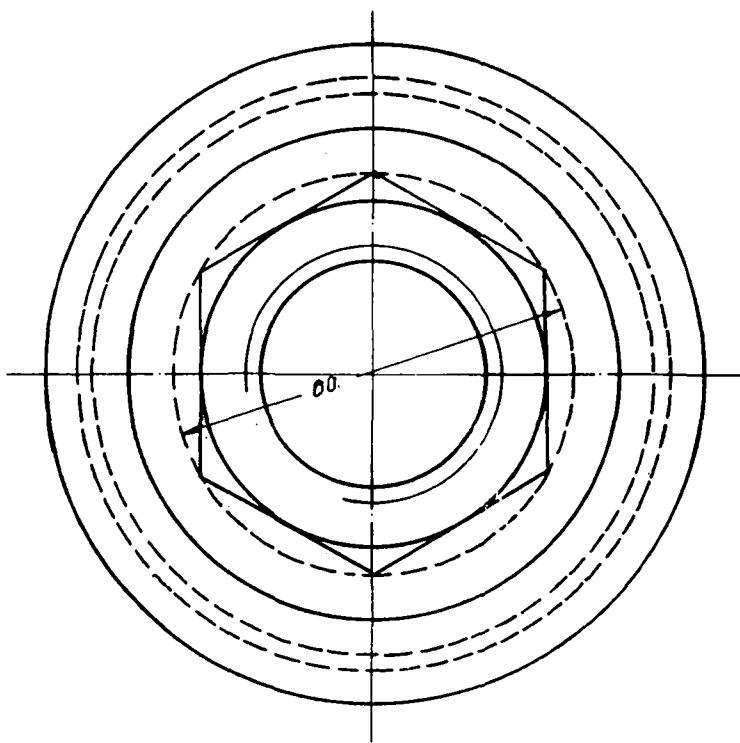
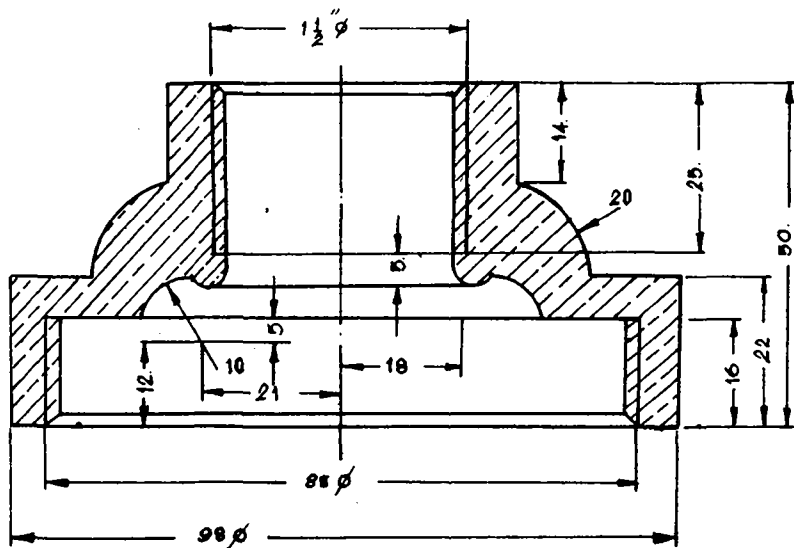
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 20	PART NO.	19
PART NAME	COVER	MATERIAL	CAST IRON
SCALE	1 : 2	DRAWN BY	



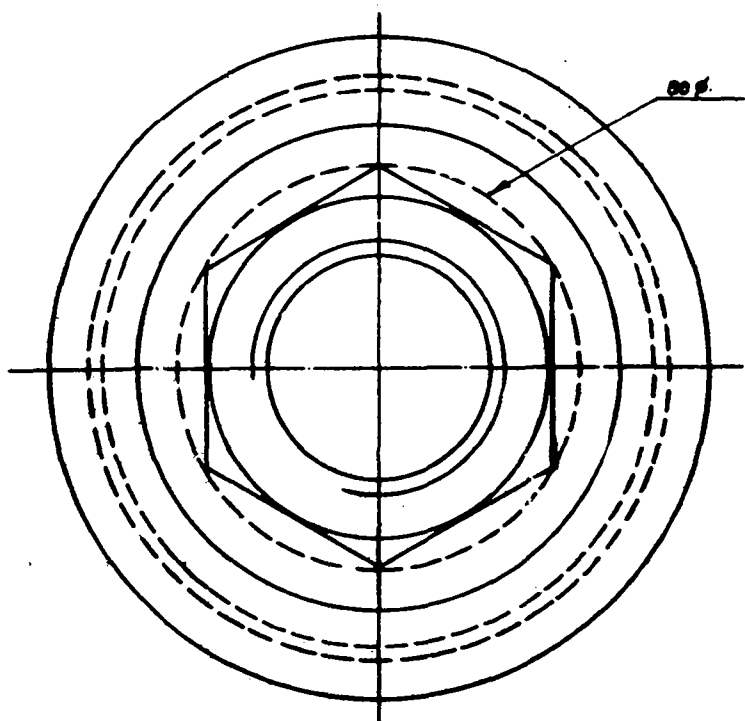
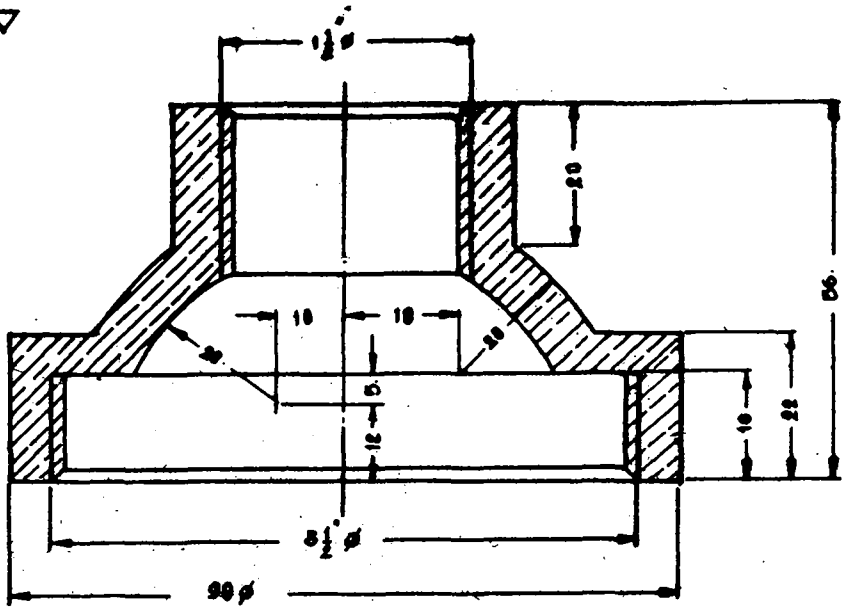
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 21	PART NO.	20
PART NAME	PIPE	MATERIAL	GULV. STEEL
SCALE	1 : 1	DRAWN BY	



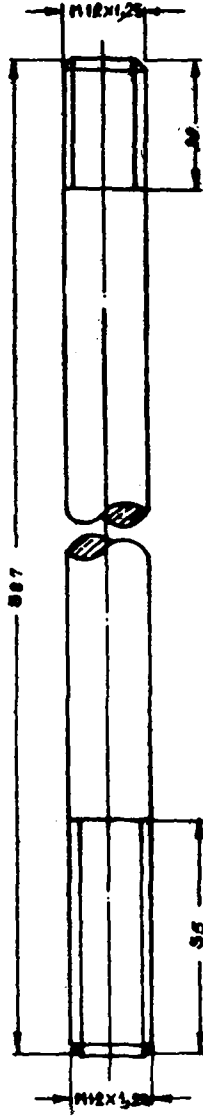
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 22	PART NO.	21 - 1
PART NAME	CYLINDER	MATERIAL	P.V.C.
SCALE	1 : 1	DRAWN BY	



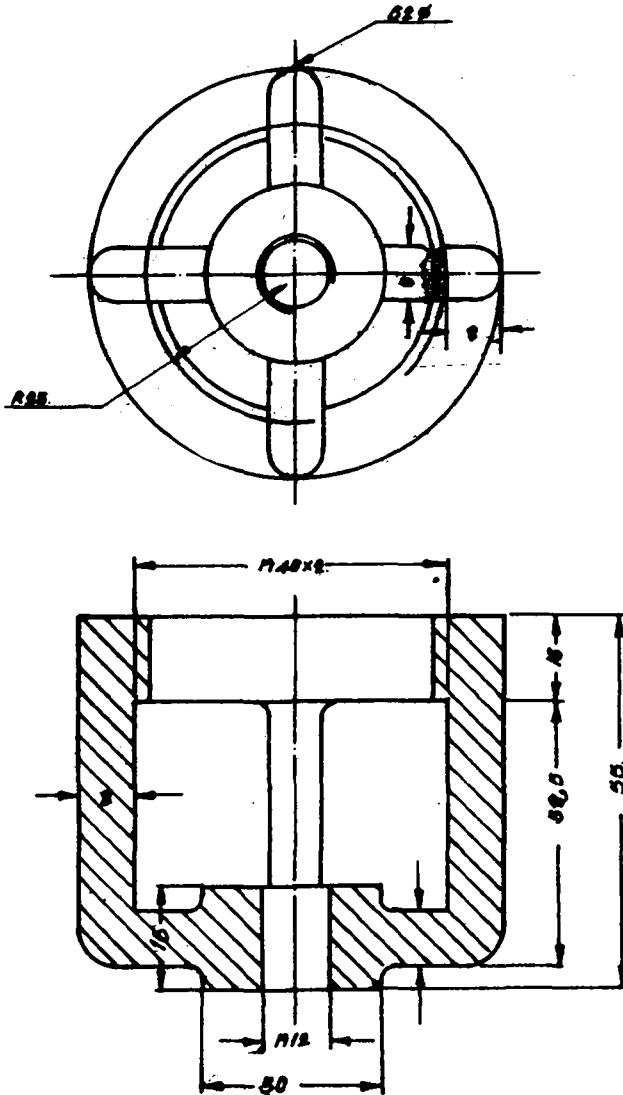
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 23	PART NO.	21 - 2
PART NAME	LOW CAP	MATERIAL	BRASS
SCALE	1 : 1	DRAWN BY	



TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 24	PART NO.	21 - 3
PART NAME	TOP CAP	MATERIAL	BRASS
SCALE	1 : 1	DRAWN BY	

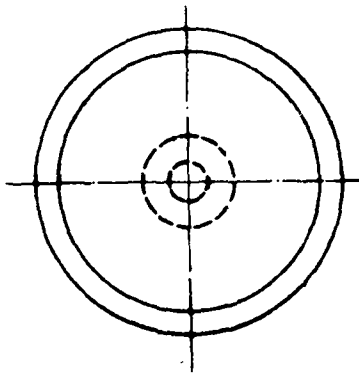
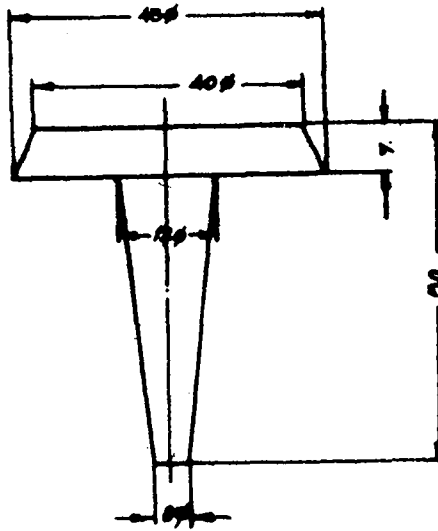


TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 25	PART NO.	21 - 4
PART NAME	CONNECTING ROD		
SCALE	1 : 1	MATERIAL	STEEL

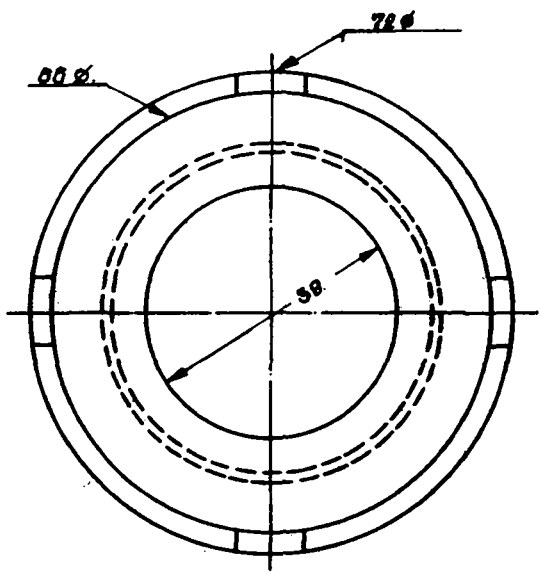
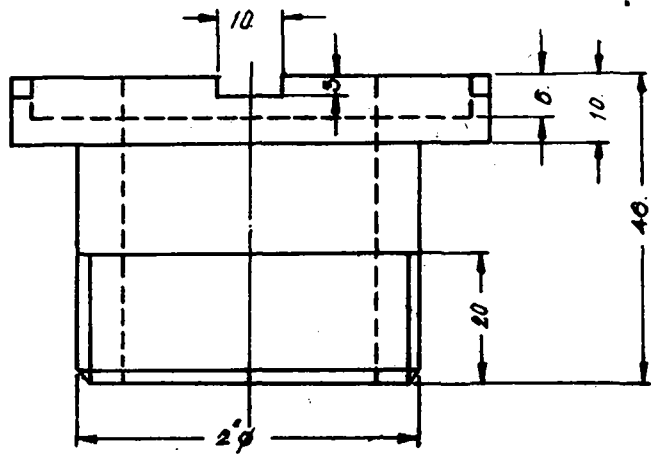


TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 26	PART NO.	21 - 5
PART NAME	PLUNGER	MATERIAL	BRASS
SCALE	1 : 1	DRAWN BY	

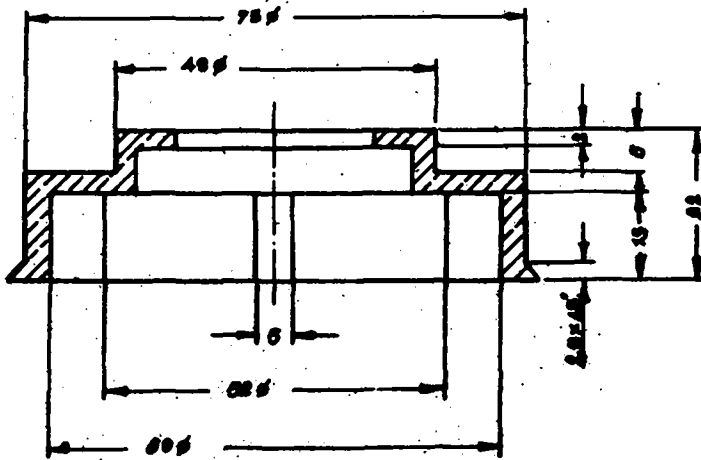
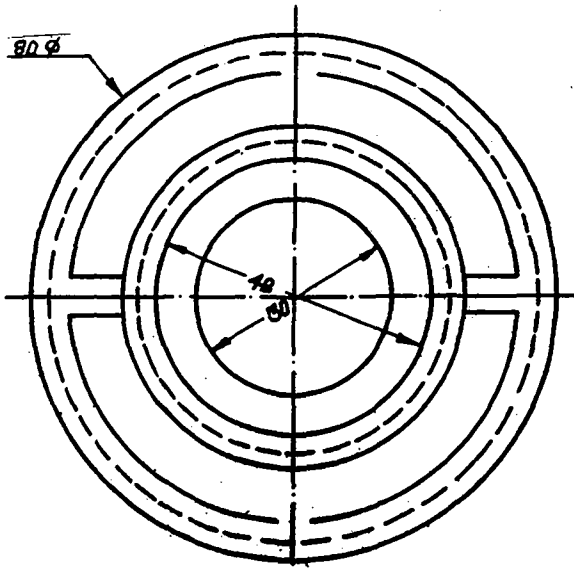




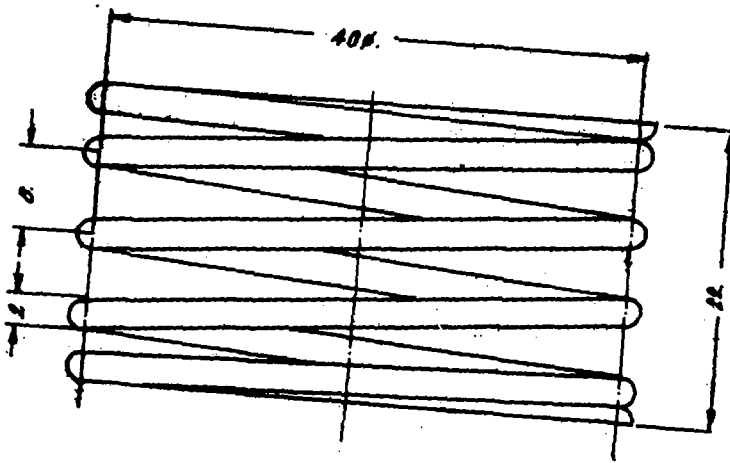
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 27	PART NO.	21 - 6
PART NAME	POPPET VALVE	MATERIAL	BRASS
SCALE	1 : 1	DRAWN BY	



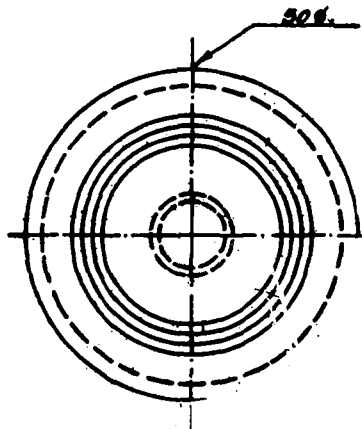
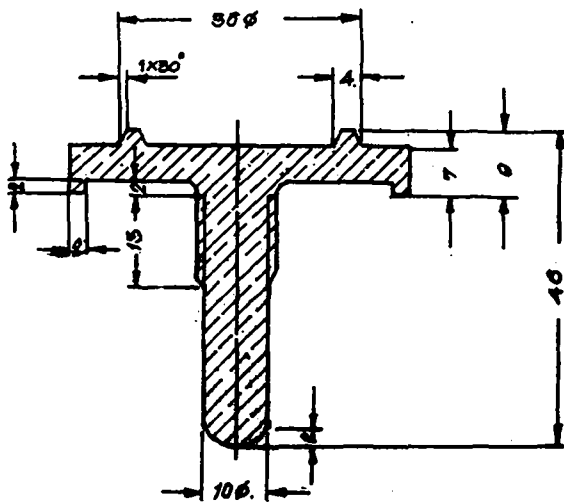
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 28	PART NO.	21 - 7
PART NAME	PISTON LOCK	MATERIAL	BRASS
SCALE	1 : 1	DRAWN BY	



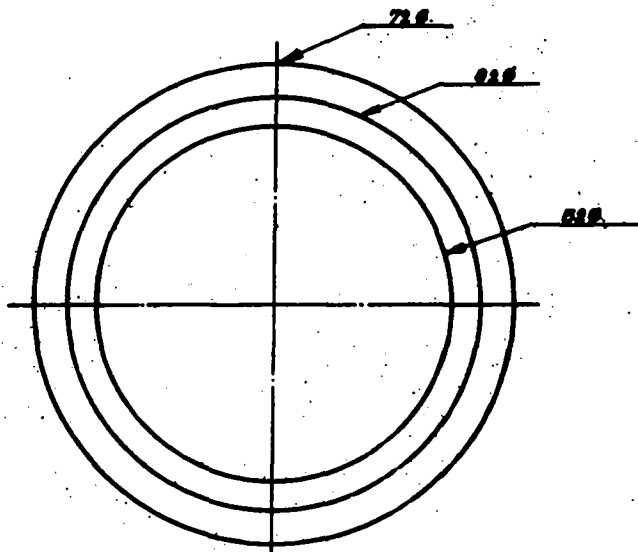
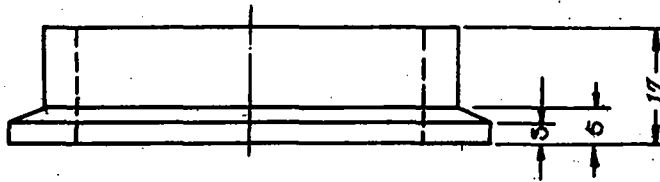
TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 29	PART NO.	21 - 8
PART NAME	SPRING COVER	MATERIAL	BRASS
SCALE	1 : 1	DRAWN BY	



TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 30	PART NO.	21 - 9
PART NAME	SPRING	MATERIAL	BRASS
SCALE	2 : 1	DRAWN BY	



TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 31	PART NO.	21 - 10
PART NAME	POPPET VALVE (DOWN )		
SCALE	1 : 1	MATERIAL	BRASS



TYPE

EQUIPMENT CONTROL DIVISION

DRAWING NO.

04 - 32

PART NO.

21 - 11

PART NAME

PISTON LOCK

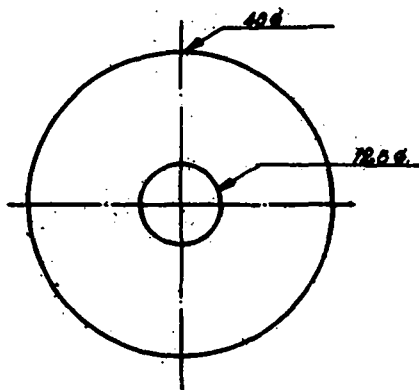
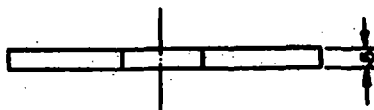
MATERIAL

BRASS

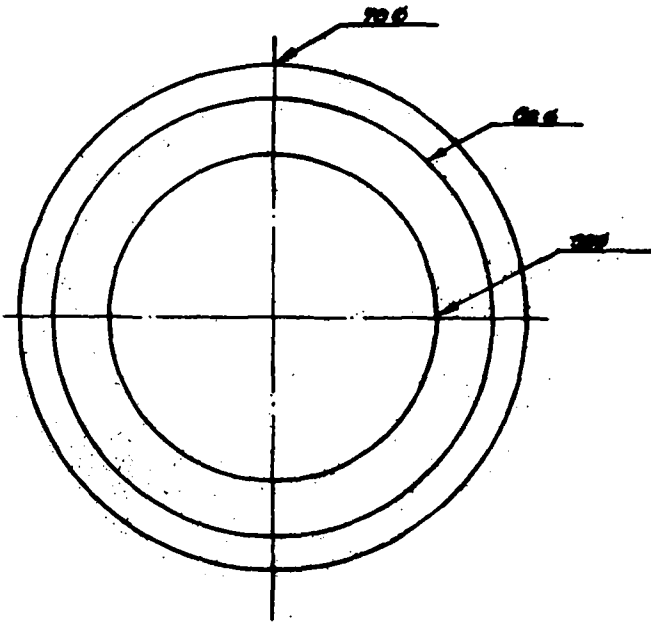
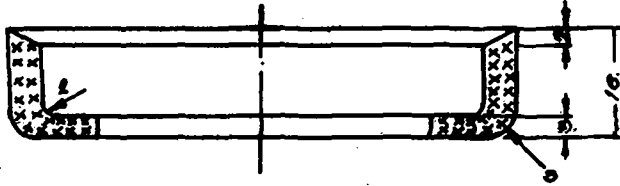
SCALE

1 : 1

DRAWN BY

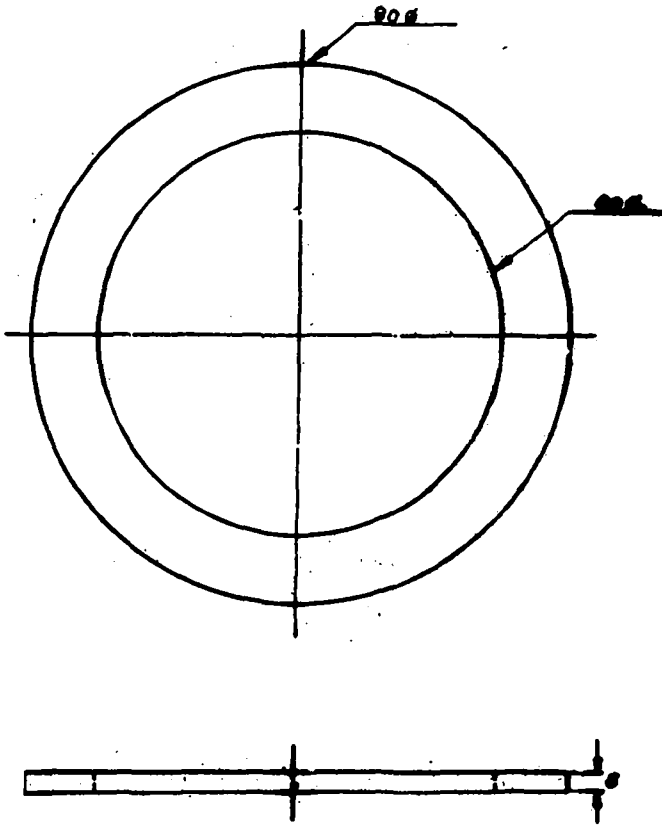


TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 33	PART NO.	21 - 12
PART NAME	SEAL (BUSER)	MATERIAL	
SCALE	1 : 1	DRAWN BY	



TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 34	PART NO.	21 - 13
PART NAME	PISTON SEAL	MATERIAL	-
SCALE	1 : 1	DRAWN BY	





TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 35	PART NO.	21 - 14
PART NAME	GASKET	MATERIAL	LEATHER
SCALE	1 : 1	DRAWN BY	



TYPE	EQUIPMENT CONTROL DIVISION		
DRAWING NO.	04 - 36	PART NO.	21 - 15
PART NAME	REDUCE JOINT	MATERIAL	
SCALE	1 : 1	DRAWN BY	