DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

Takaoka Plant
Nippon Soda Co., Ltd.

No. 420, Mukaino-machi, Takaoka City,
Toyama Prefecture

March , 1948

To : Toyama Military Government Team

Thru : Toyama Prefecture

Subject : Report on the Renovation of the Sulphuric Acid Plant

The renovation of our sulphuric acid plant, which we have carried on since December of the last year, has been nearly finished and the operation of this plant has been started.

So, we report herein the outline of the renovation.

1. Time of stoppage and start of the operation.

Stoppage : Dec. 10 1947

Start : Mar. 23 1948

2. Movement of machineries as the result of the renovation

(1) Reparation machineries which have been moved out of the sulphuric acid plant.

Name of machinery	No. on List	Inventory No.
Roll crusher	1	-
Bucket Elevator	2	-
Acid cooling tank	14	IA5- 4
"	14	IA5- 5
Acid circulating tank	15	IA5-10
Dilution tank	26	-
"	27	IA5-28
Measuring tank	51	-
As store tank	52	-

These machineries are custodied in the appointed warehouse.

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(2) Reparation machinery which has been dismantled accepting your permission

Name of machinery	No. on List	Inventory No.
Exhaust acid tank	19	-

(3) Reparation machineries which have been changed their use to measuring tank

Name of machineries	No. on List	Inventory No.
Receiver	37	IA5-30
"	38	IA5-32

For distinguishing these measuring tanks from receivers in the past, these measuring tanks are given the new number " 54 " on the List.

(4) Reparation machineries of which situation have been changed.

Name of machinery	No	No. on List	Inventory No.
Dust settling vessel	2	18	-

(5) Machineries which have been established newly at this renovation.

Name of machinery	Size	Number	No. on List
a. Transformer	Single phase 200 KVA, 60C	1	53
b. Electric preheater	400x500x6,000m/m 200KW	1	54
c. Measuring tank	1,500øx3,600m/m	1	55
d. Acid cooling tank	1,115øx3,050 m/m	2	14
e. Gas drying tower	1,400øx6,700 m/m	1	20
f. Acid cooler	70x4,000m/mx14	1	22
g. Acid circulating tank	1,430øx1,300 m/m	1	25
h. Turbin pump	Leaden, 2"	1	23
i. Motor	3HP	1	45

Note : The machineries, a,b and c, are given new numbers on the List for convenience sake, but the machineries, d, e, f, g, h, and i, are given the same numbers respectively on the List, because they are used respectively for the same purpose as the machineries in the past. Details of size of these machineries are showed on attached blue prints.

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3. Renovation work which remain uncompleted.

Renovation works which remain uncompleted mainly owing to the shortage of materials, are repair of roof and institution of one set of gas drying tower, but uncompleteness of these works are not indispensable for the operation of the sulphuric acid plant in the first place. We will execute our best effort for completing them as soon as possible.

4. Changes of arrangement of machineries.

See attached blue prints.

I certify that this report is true.

Signed Tadayoshi Toda

Superintendent

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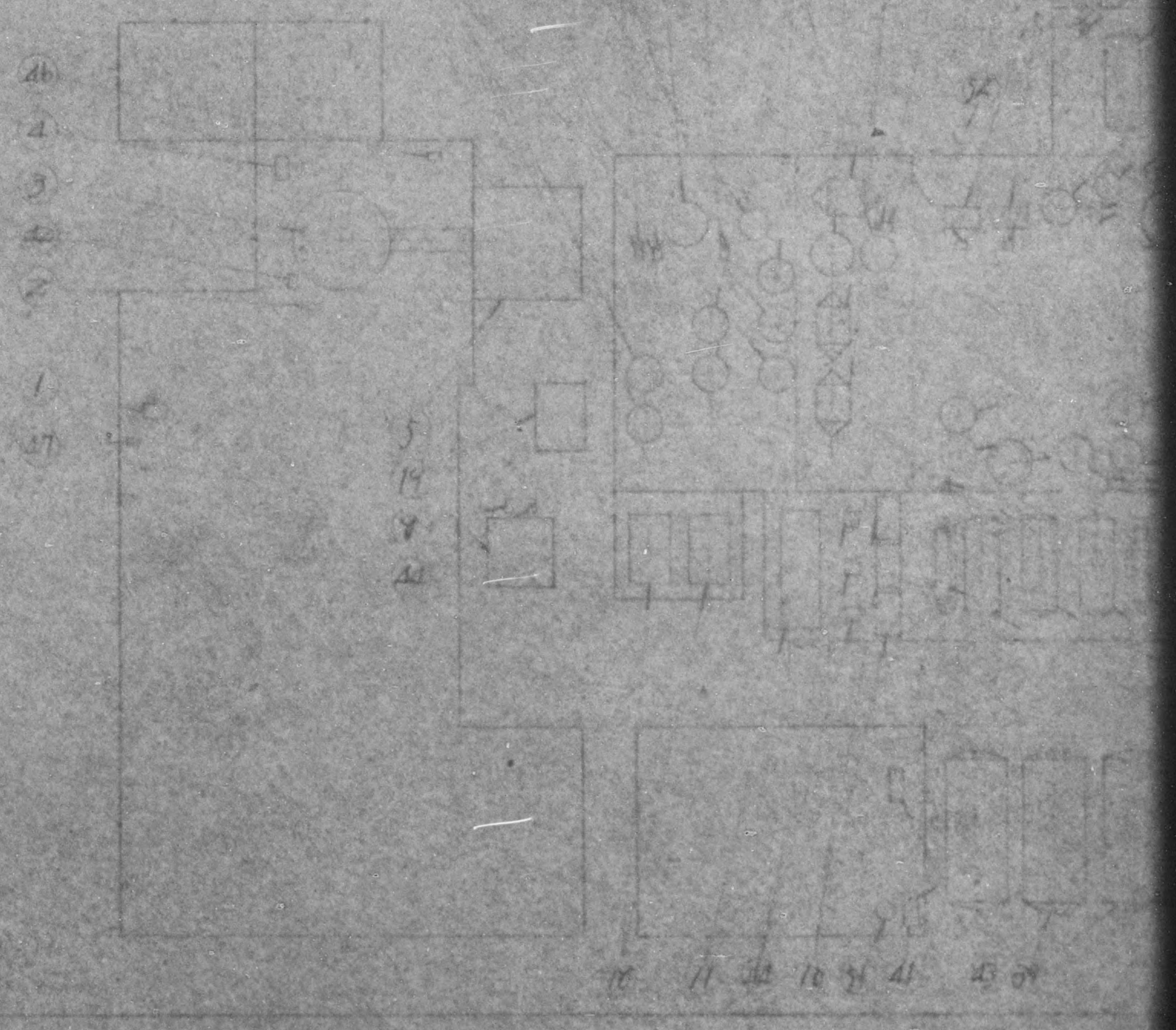
Old

Sulfuric Acid Equipment



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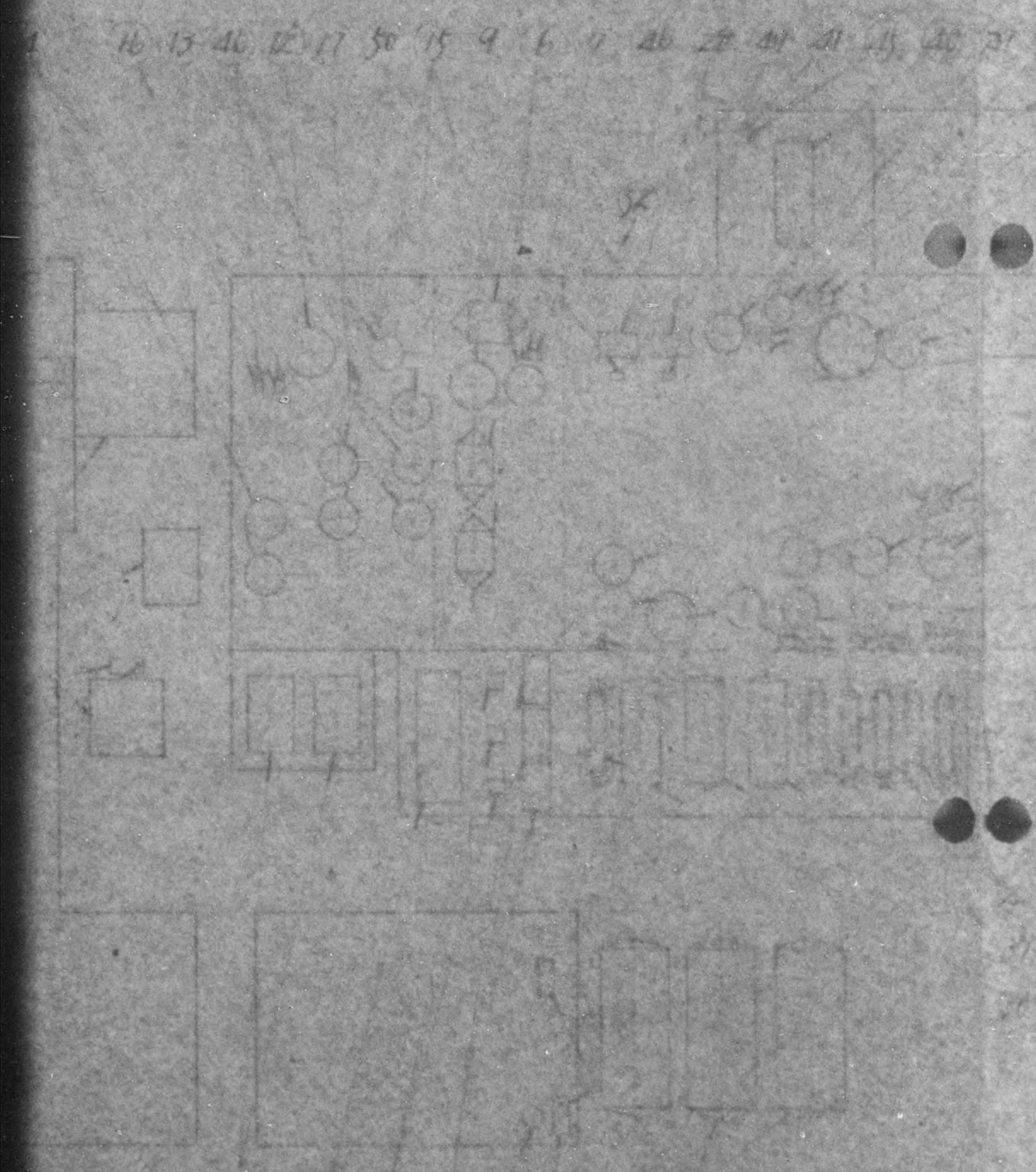
Sulfuric Acid Equipment



1 Roll Crusher
2 Bucket Elevator
3 Furnace
4 Blower
5 Cottrell Dust Catcher
6
7 Turbin Pump
8. "
9 Washing Tower No 3
10 Electric Rectifier
11 Switch for Cottrell
12 Washing Tower No 1
13 " " No 2
14 Acid Cooling Tank
15 Acid Circulating Tank
16 Turbin Pump
17 " "
18 Dust Settling Vessel
19 Exhaust Acid Tank
20 Gas Drying Tower
21 Absorptum Tower
22 Acid Cooler
23 Turbin Pump
24 " "
25 Acid Circulating Tank

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1	Roll Crusher	1	26	Dilution Tank	1
2	Bucket Elevator	2	27	"	1
3	Furnace	3	28	Turbo Blower	2
4	Blower	1	29	Gas Filter	1
5	Cottrell Dust Catcher	1	30	Heat exchanger	1
6	"	3	31	Converter	1
7	Turbin Pump	1	32	Air Cooler	1
8	"	1	33	Preheater	1
9	Washing Tower No 3	1	34	Exhaust Fan	1
10	Electric Re Heater	3	35	Roots Blower	1
11	Switch for Cottrell	1	36	Pyrometer	1
12	Washing Tower No 1	1	37	Rheostat	3
13	" " No 2	1	38	"	3
14	Acid Cooling Tank	4	39	Storage Tank	3
15	Acid Circulating Tank	4	40	"	1
16	Turbin Pump	2	41	Turbin Pump	2
17	" "	2	42	Balance	1
18	Dust Settling Vessel	2	43	"	
19	Exhaust Acid Tank	2	44	Motor	5
20	Gas Drying Tower	1	45	"	7
21	Absorption Tower	3	46	"	3
22	Acid Cooler	6	47	"	1
23	Turbin Pump	6	48	"	
24	" "	1	49	"	1
25	Acid Circulating Tank	1	50	Measuring Tank	1
			51	Storage Tank	1

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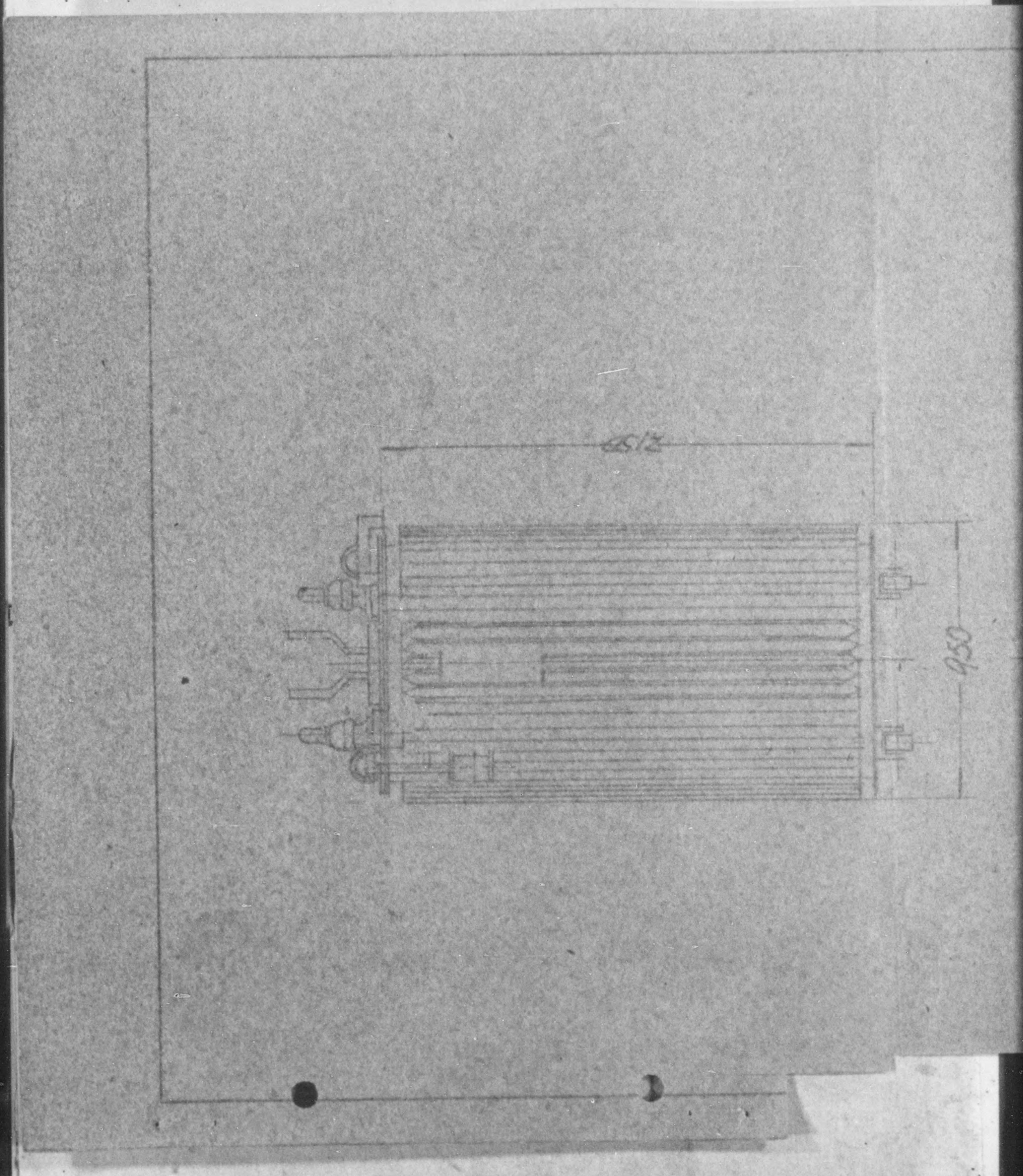

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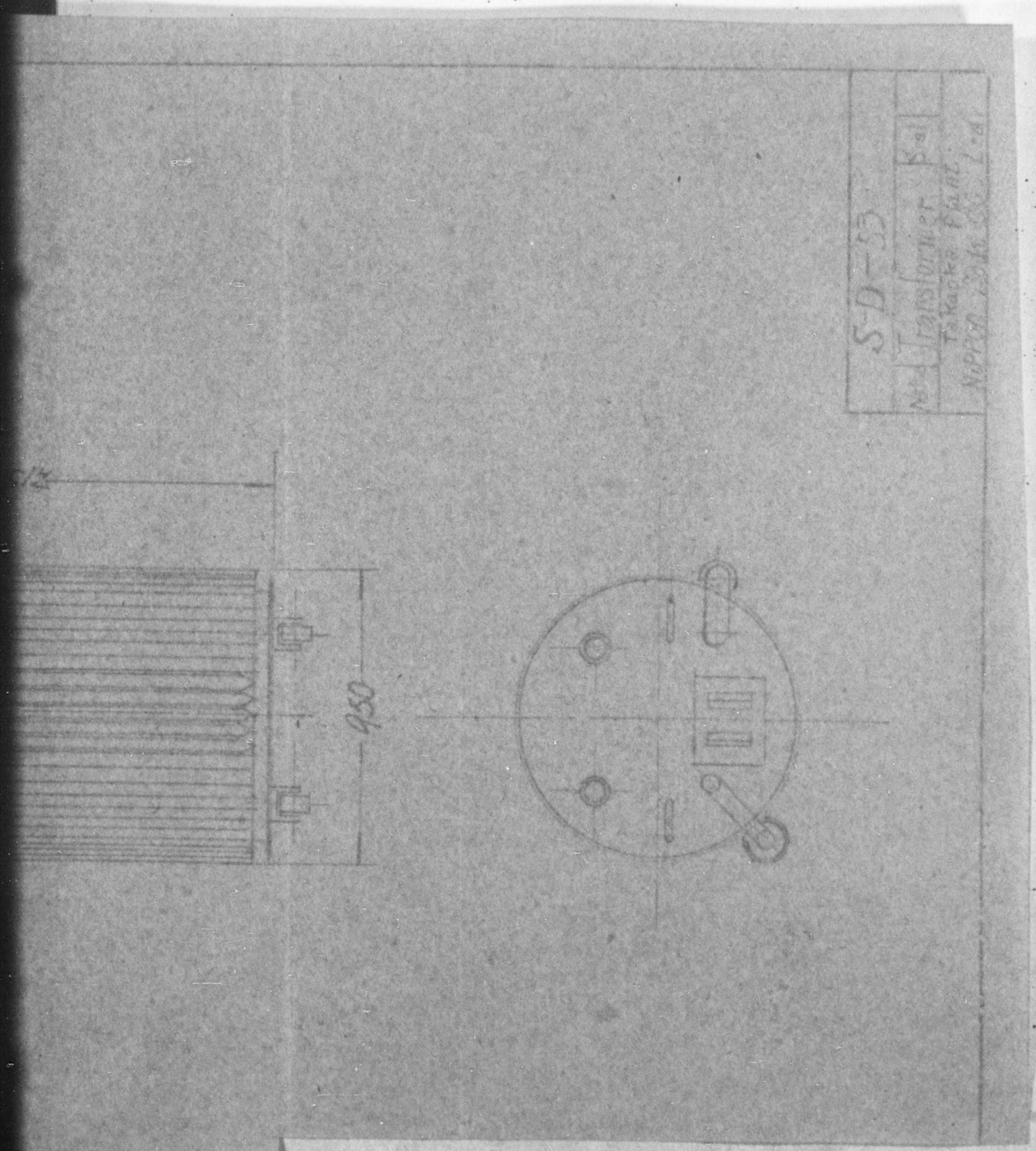

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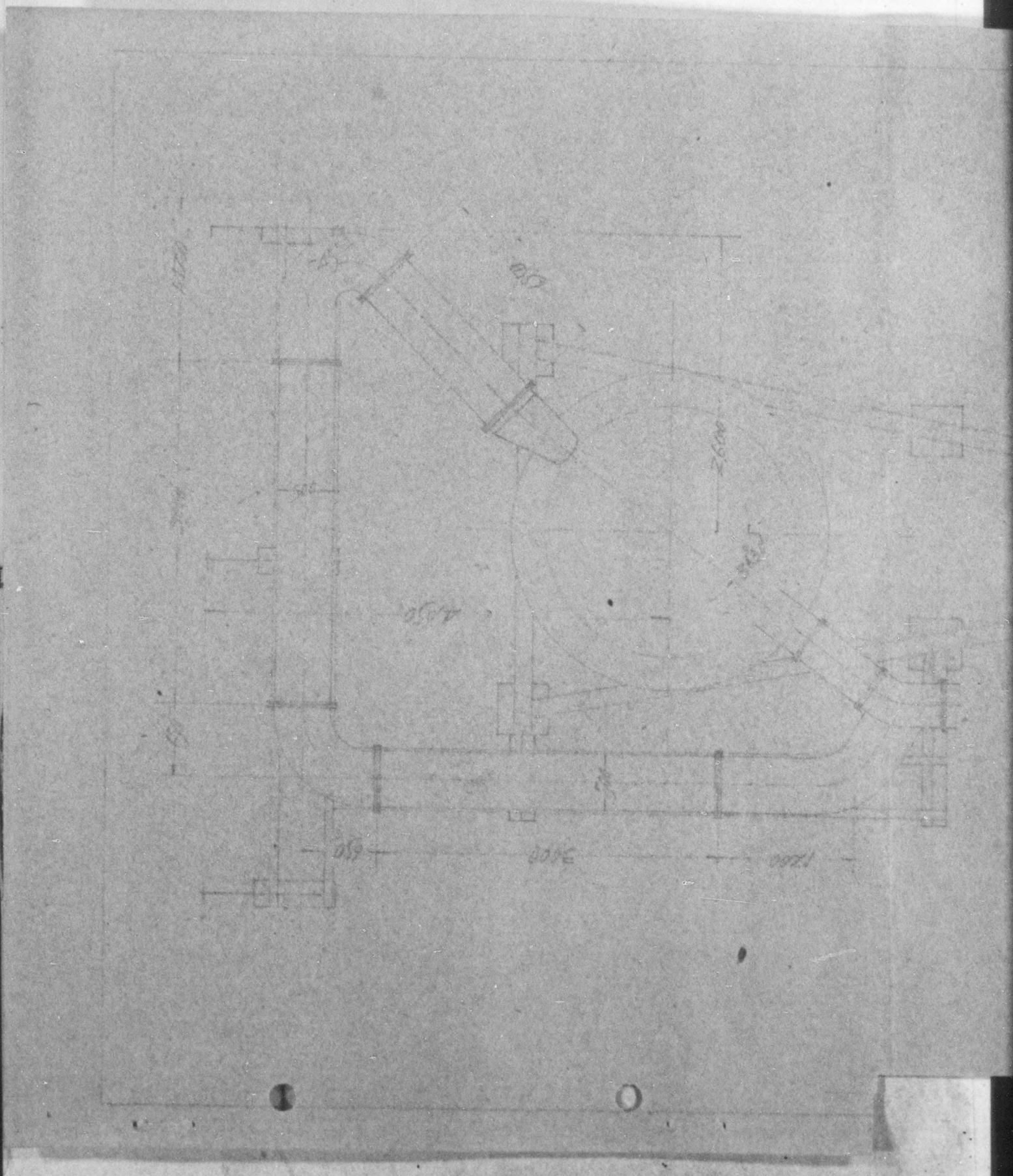

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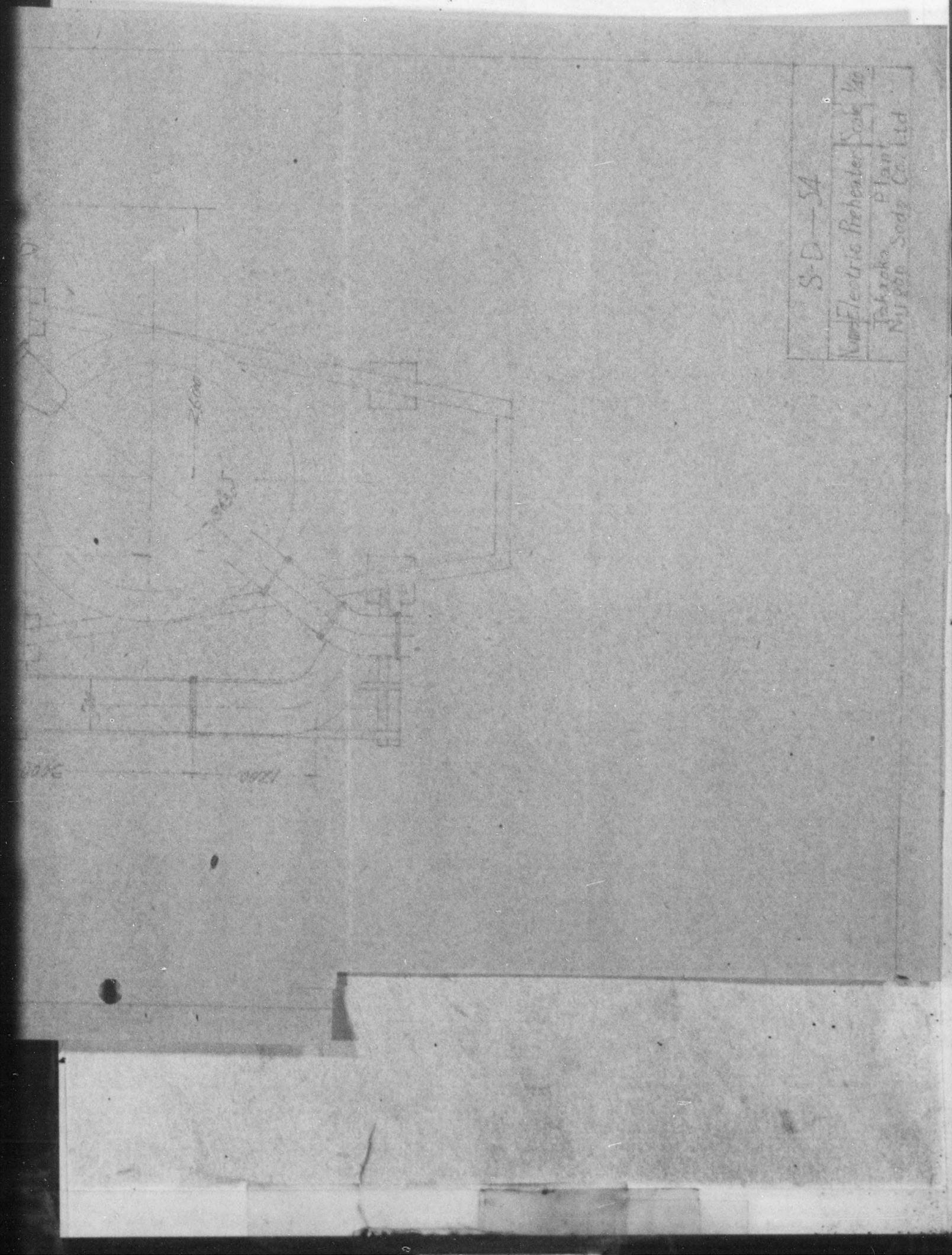

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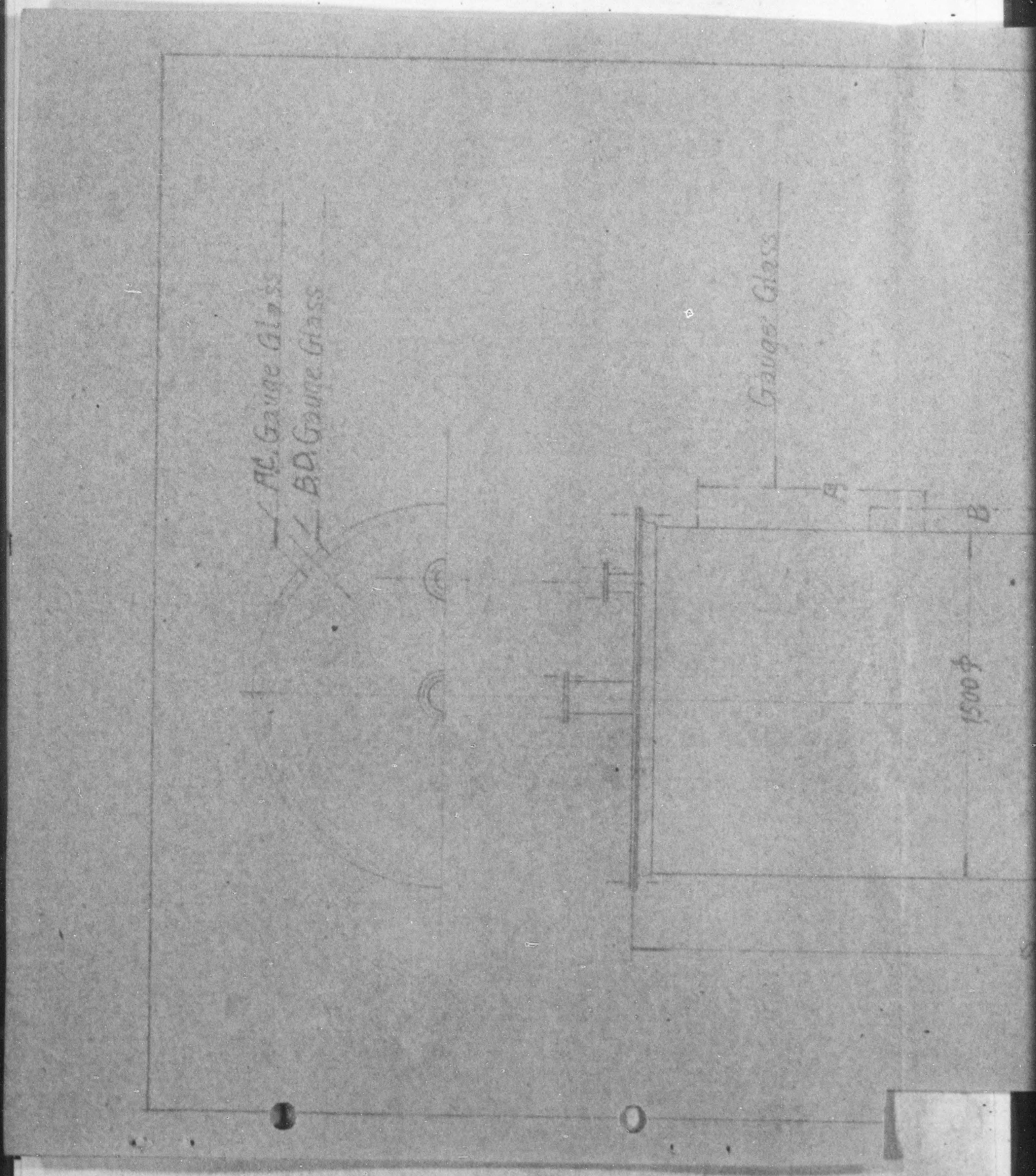

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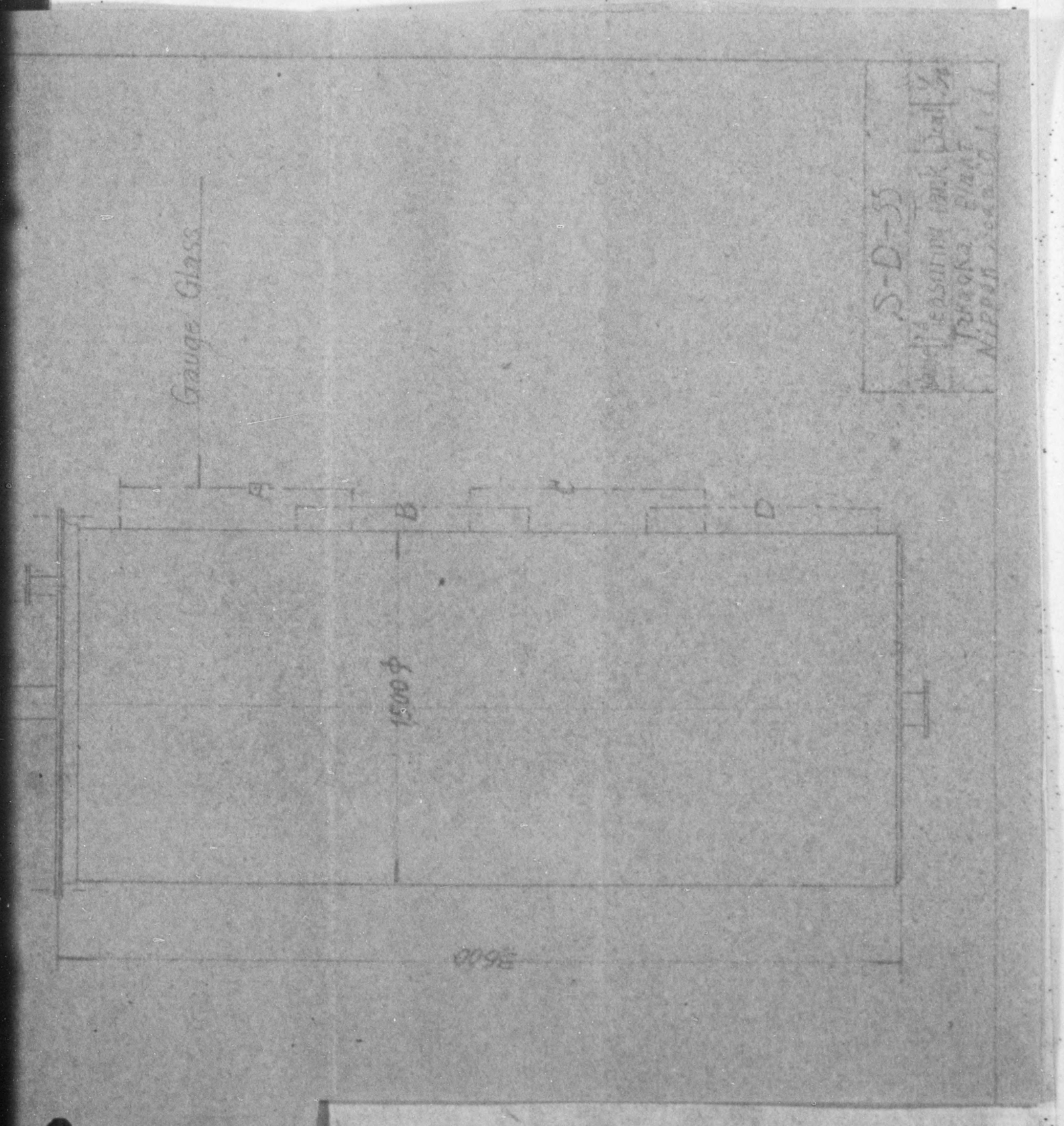

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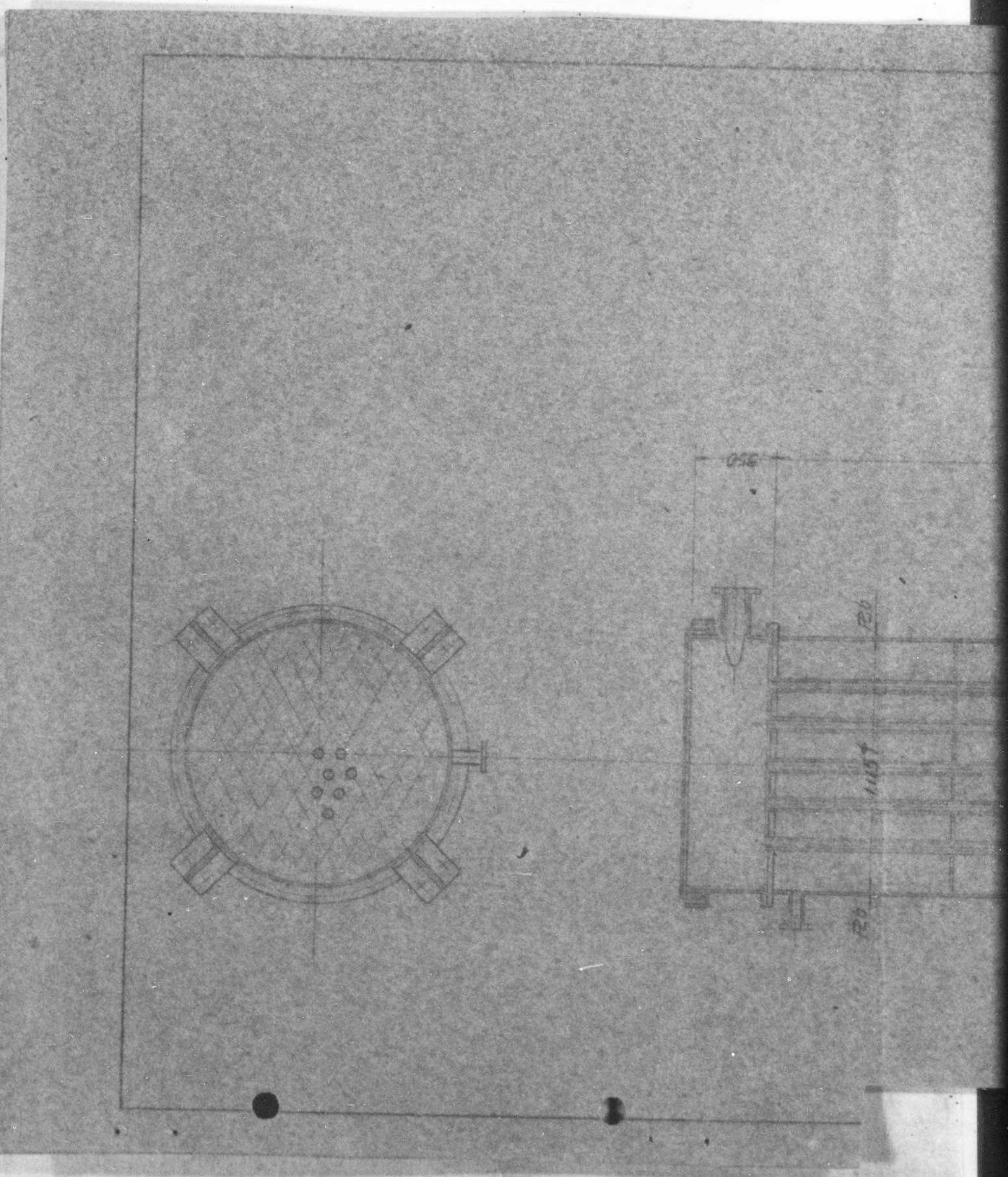

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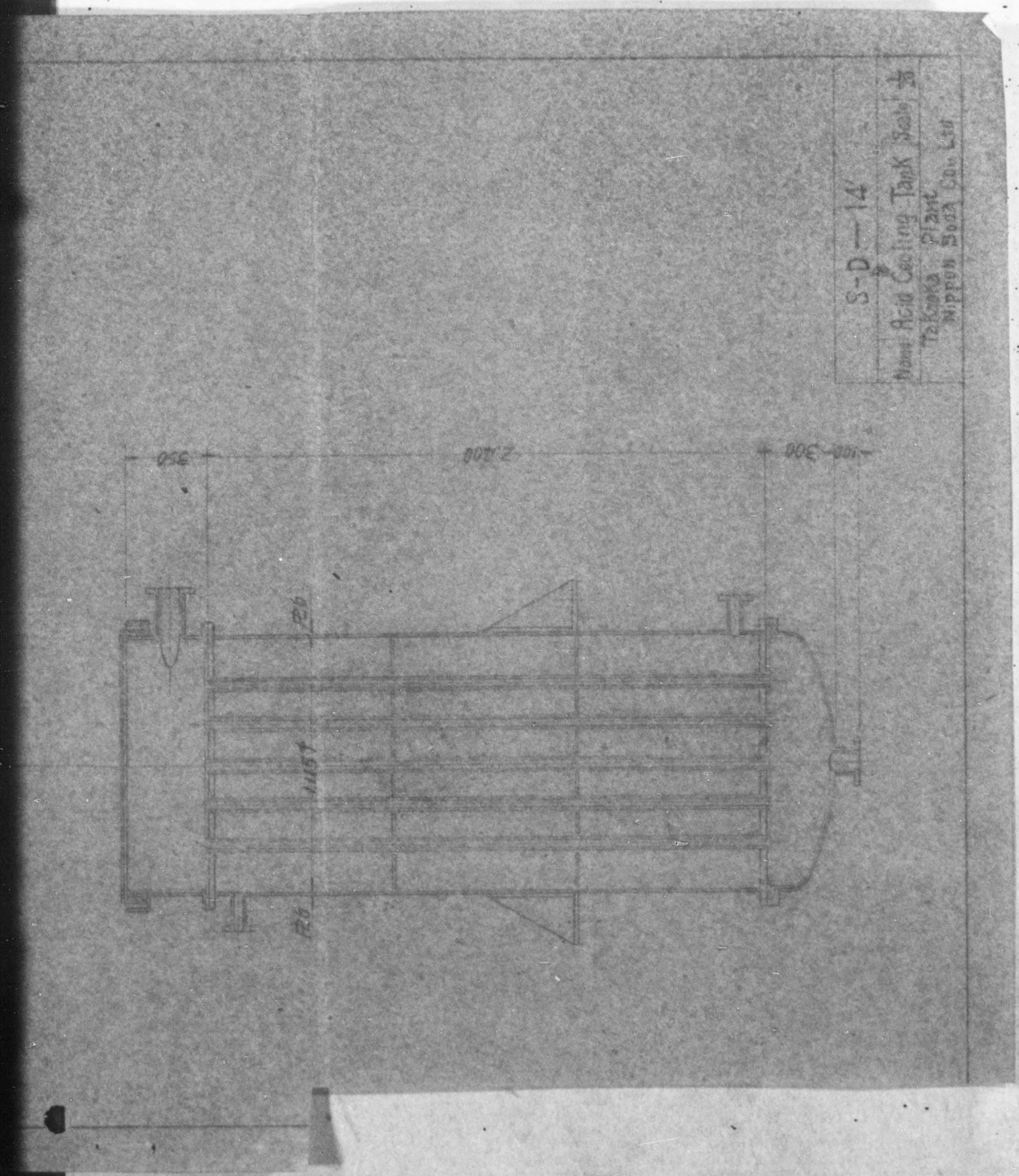

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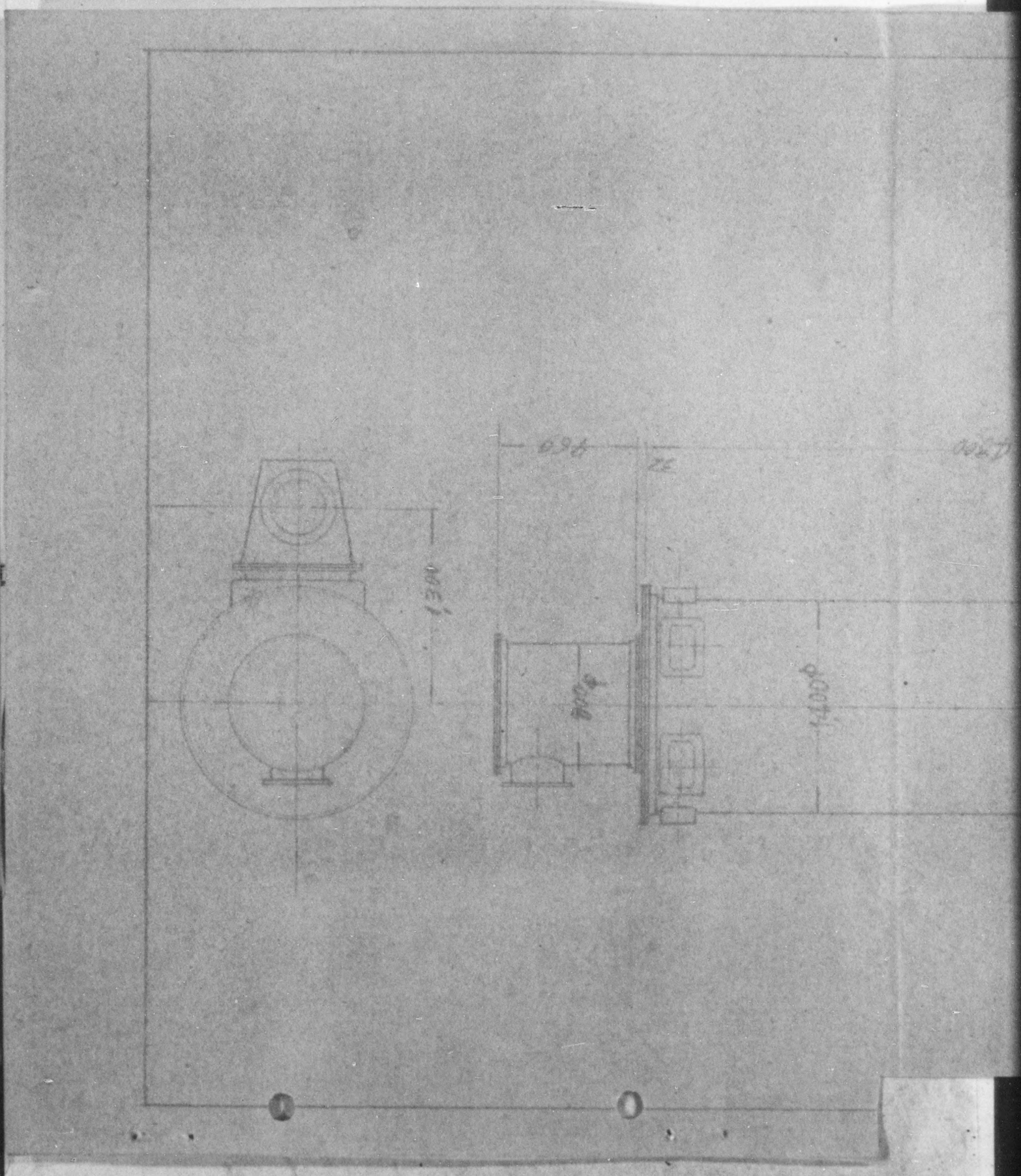

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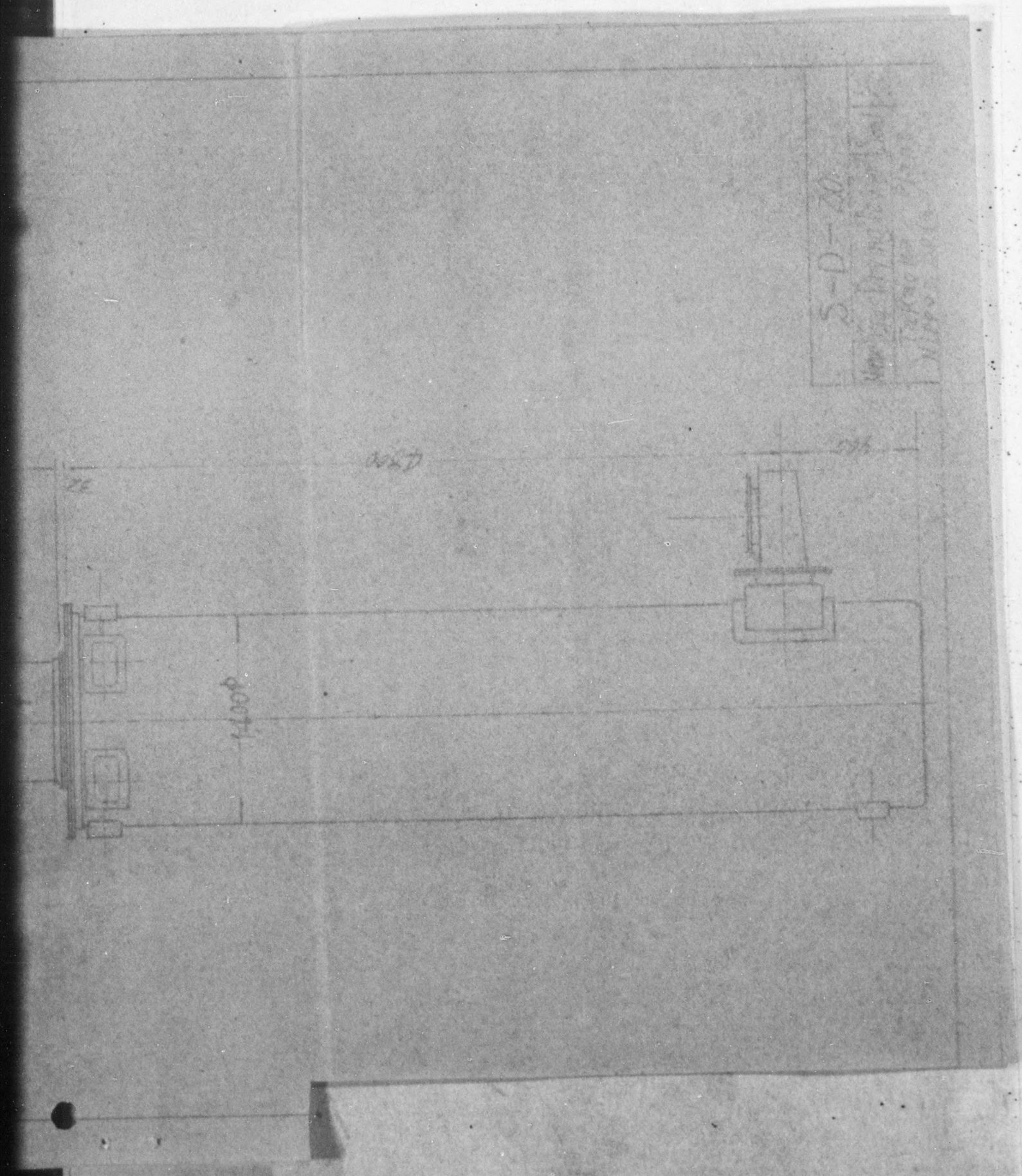

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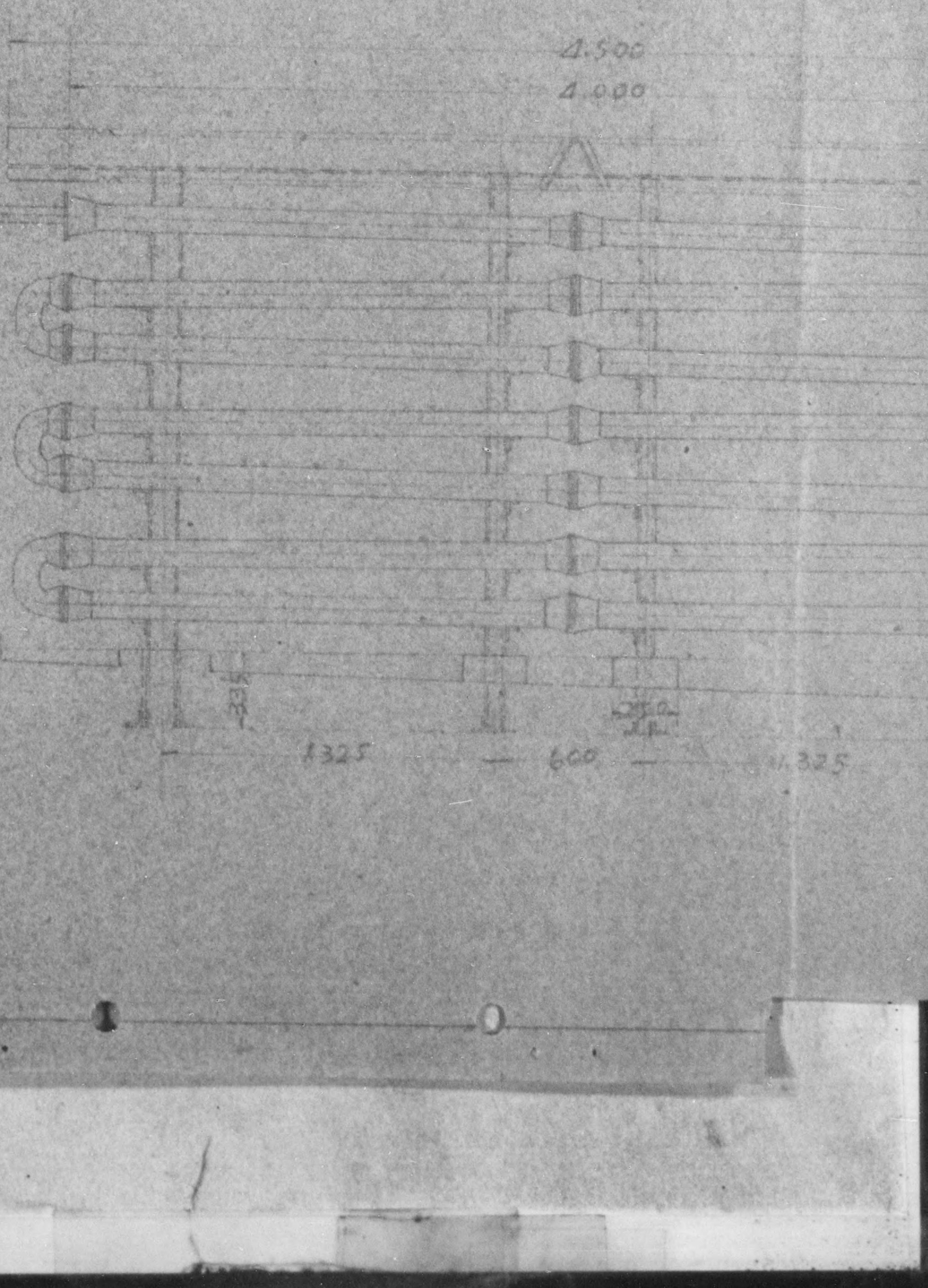

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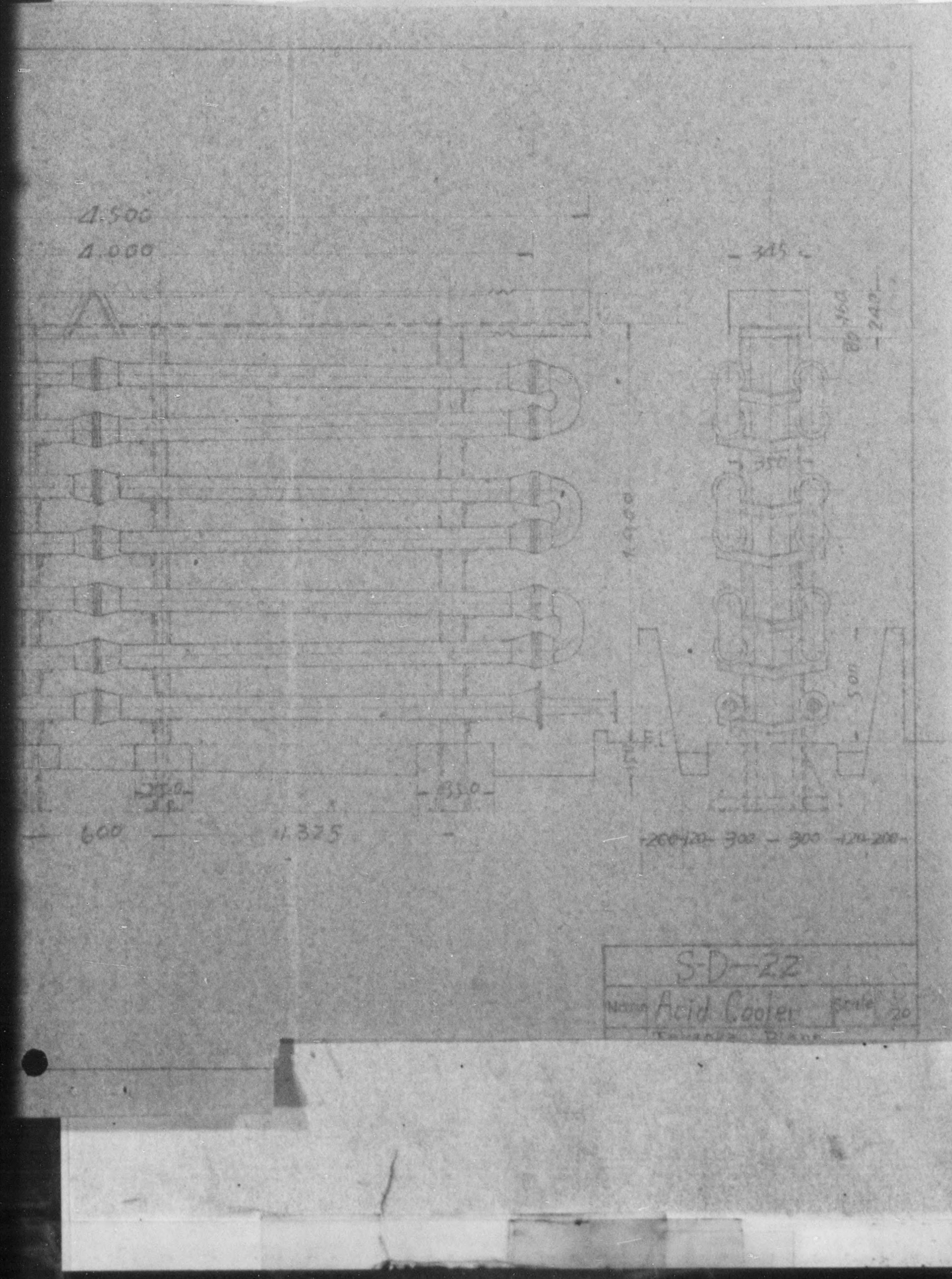

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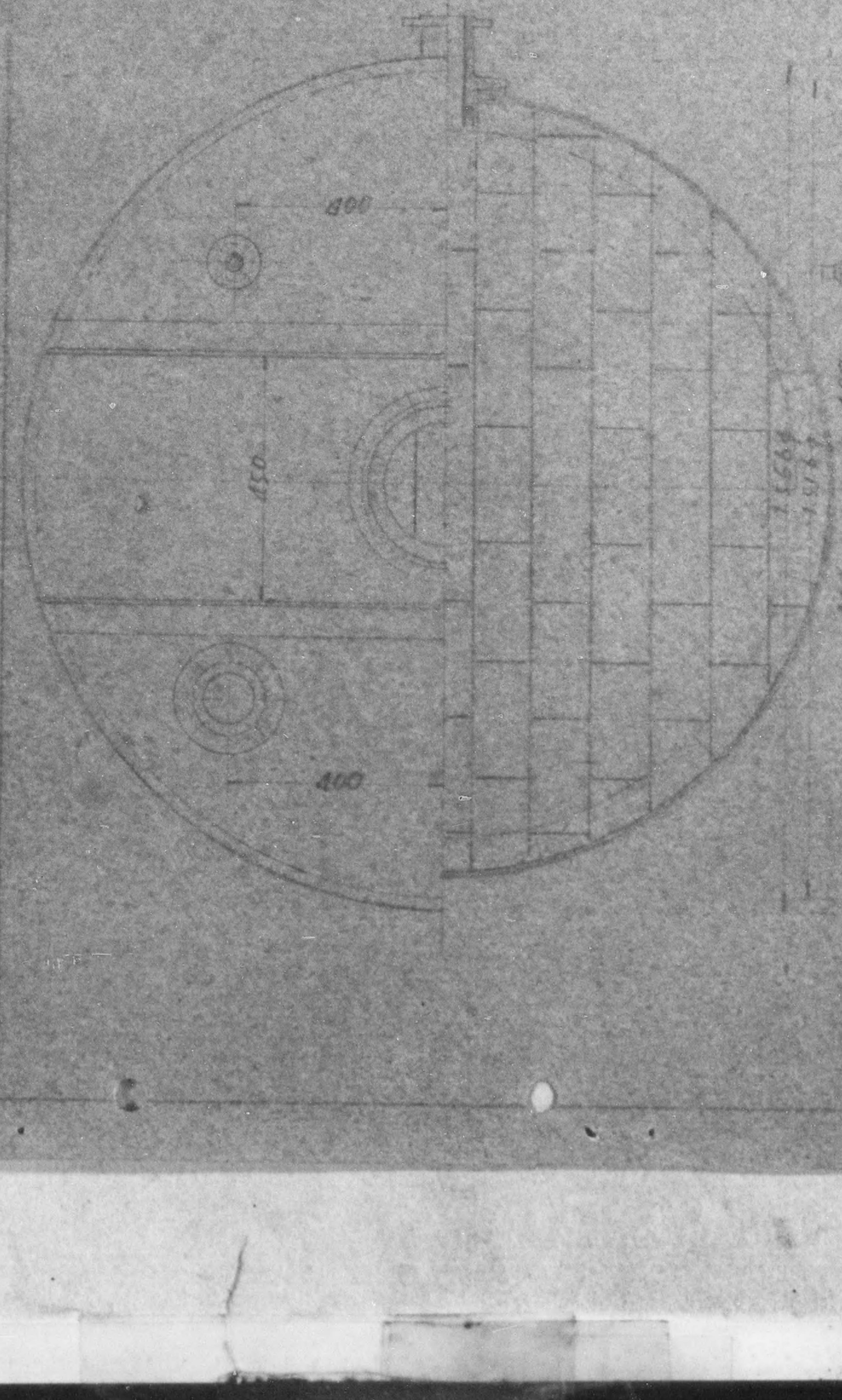

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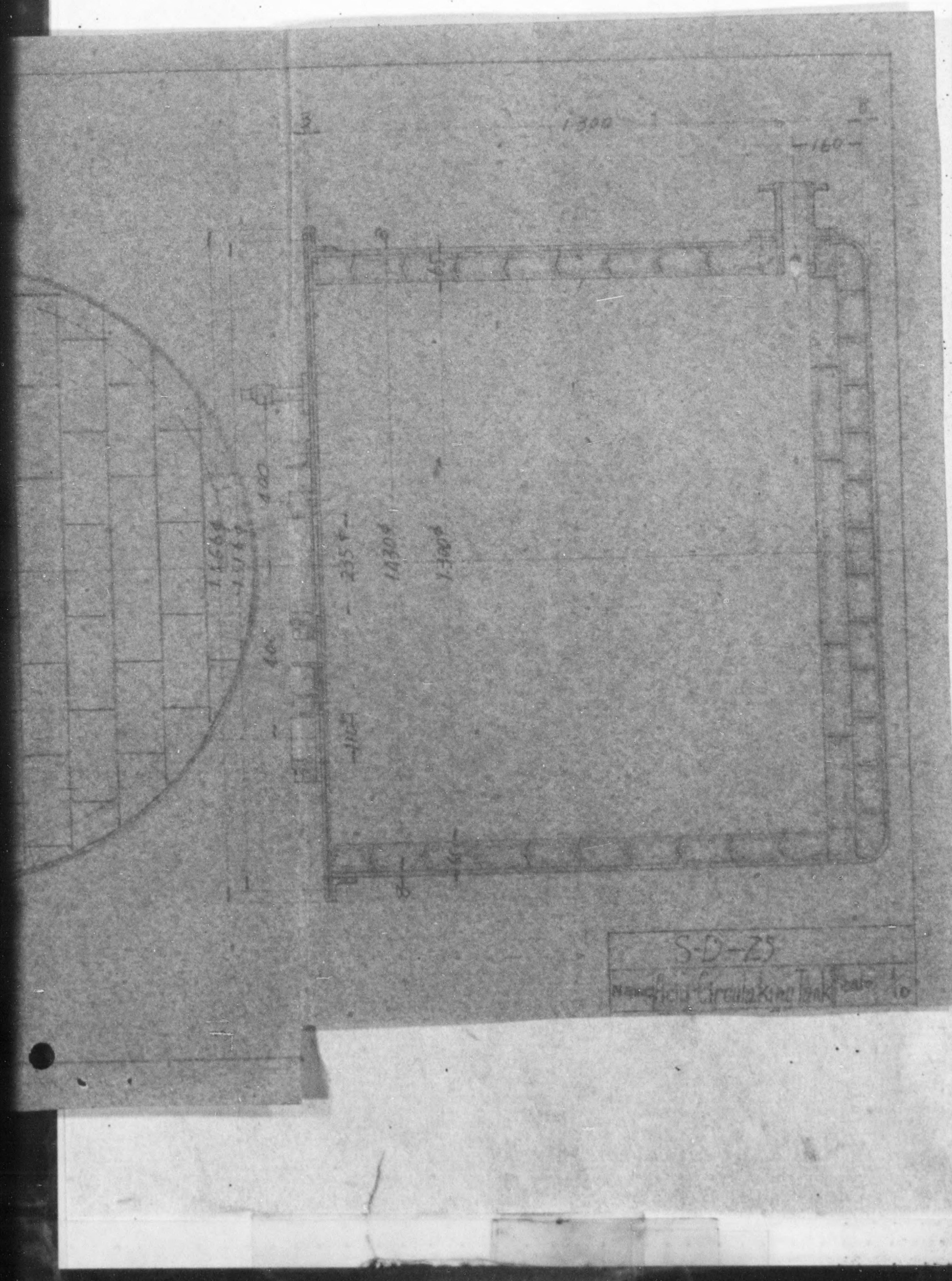

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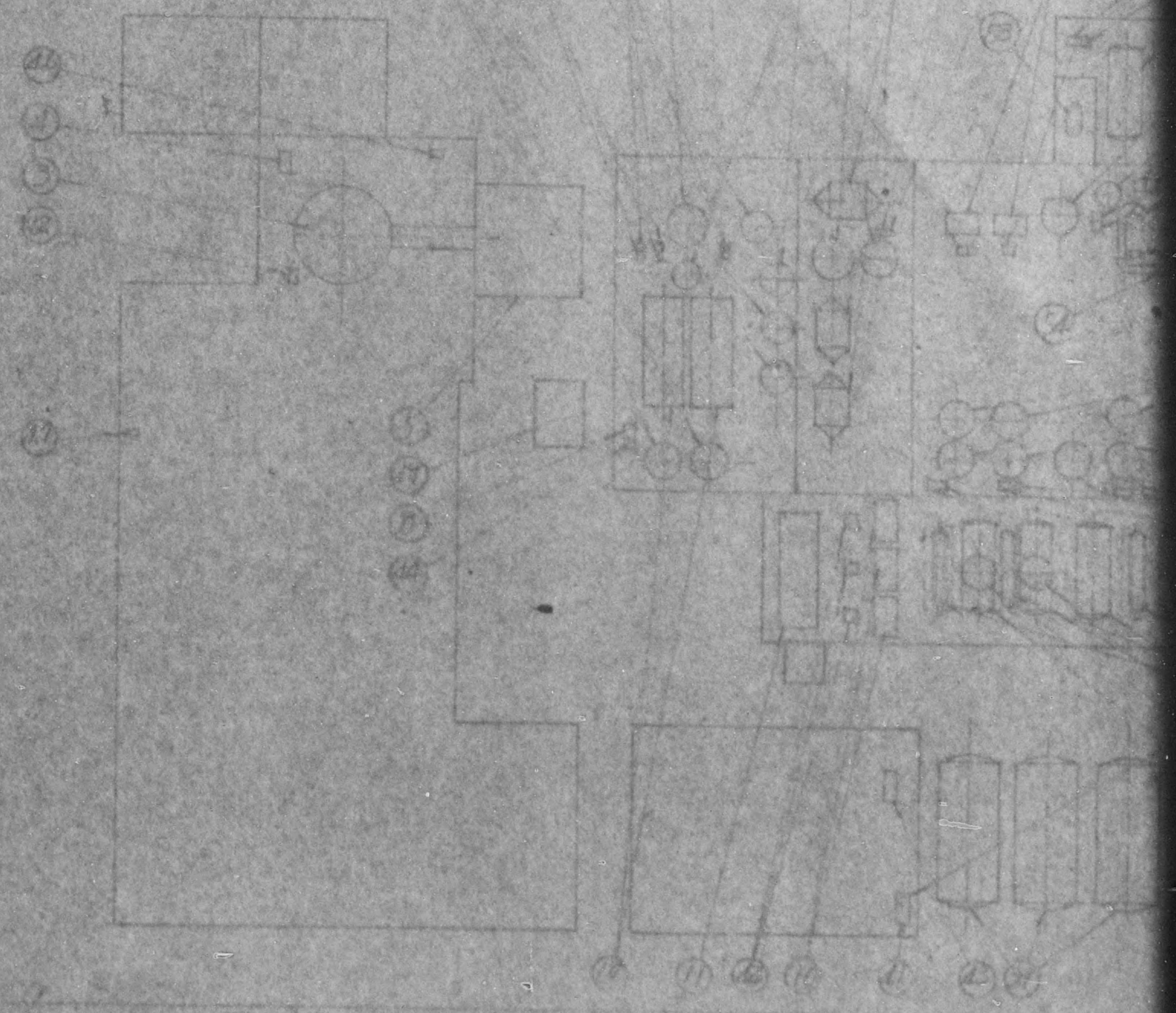
New Sulfuric Acid Equipment



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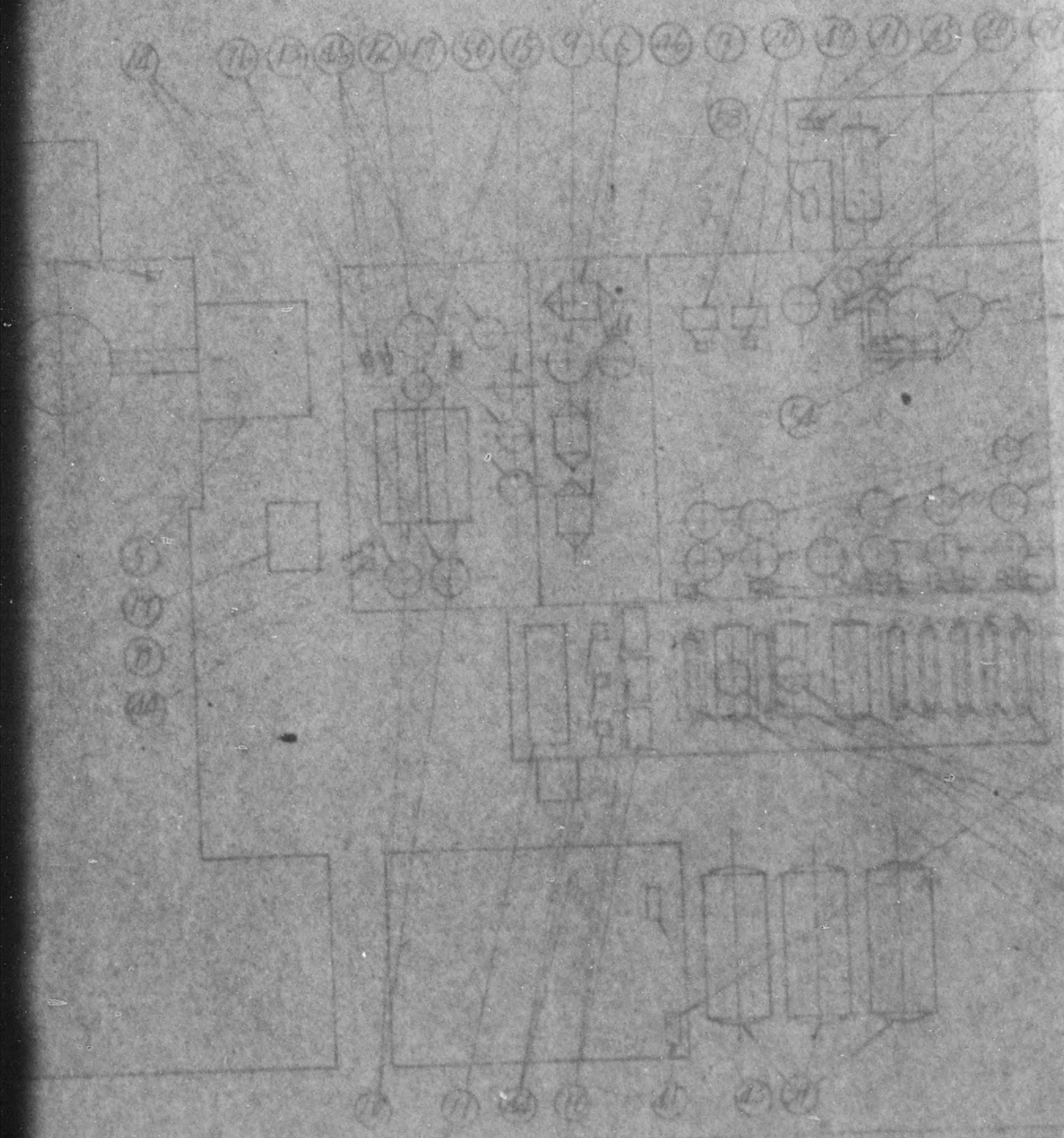
New Sulfuric Acid Equipment



1 Roll Crusher
2 Bucket Elevator
3 Furnace
4 Blower
5 Cottrell Dust Col
6 Cottrell Catcher
7 Turbin Pump
8
9 Washing Tower
10 Cooler, Acid
11 Switch for Cott
12 Washing Tower
13
14 Acid Cooling Tow
15 Acid Circulating
16 Turbin-Pump
17
18 Dust Settling
19 Exhaust Acid
20 Ore Drying Fur
21 Absorption Towe
22 Acid Cooler
23 Turbin Pump
24
25 Acid Circulating
Dilution Tank
Measuring Tank

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1	Roll Crusher	1	28	Turbo Blower	2
2	Bucket Elevator	1	29	Gas Filter	1
3	Furnace	1	30	Heat Exchanger	1
4	Blower	1	31	Converter	1
5	Cottrell Dust Catcher	1	32	Air Cooler	1
6	Cottrell Catcher	3	33	Preheater	1
7	Turbine Pump	1	34	Exhaust Fan	1
8		1	35	Roots Blower	1
9	Washing Tower No 3	1	36	Pirometer	1
10	Electric Rectifier	3	37	Rectifier	2
11	Switch for Cottrell	3	38		1
12	Washing Tower No 1	1	39	Storage Tank	3
13	" " No 2	1	40		1
14	Acid Cooling Tank	4	41	Turbine Pump	2
15	Acid Circulating Tank	3	42	Balance	1
16	Turbine Pump	2	43		1
17		2	44	Motor	5
18	Dust Settling Vessel	2	45		10
19	Exhaust Acid Tank	1	46		5
20	Gas Drying Towers	2	47		1
21	Absorption Towers	3	48		1
22	Acid Coolers	7	49		1
23	Turbine Pump	7	50		1
24		1	51	Measuring Tank	1
25	Acid Circulating Tank	5	52	As Storage Tank	1
26	Dilution Tank	1	53	Transformer	1
27	" "	1	54	Electric Preheater	1
28	Measuring Tank	2	55	Measuring Tank	1

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

Application to move Machinery

December 13 , 1947

1. Name of Plant requesting Movement :

Takaoka Plant, Nippon Soda Co., Ltd.

2. Address of Plant :

No. 420, Mukaino-machi, Takaoka City, Toyama Pref.

3. Machinery to be moved :

a. Name, size and number of machinery :

Name	Size	Number
Transformer	400 KVA 3000V/40V - 70V	1

b. Where now located :

The electrode unit of our plant.

c. Owned by whom :

Takaoka Plant, Nippon Soda Co., Ltd.

d. Where it will be moved to :

The electric room of our caustic soda unit.

4. Reason for request :

In winter season, pipes, through which chlorine gas is sent to various chlorine recovery equipments have to be subsidized by heat, because the passage of the gas in the pipe becomes to difficult by congelation of moisture in the gas. For this purpose, we wish to use this transformer temporarily as a heat source during this winter season. This machinery has not been ear-marked for reparation.

I certify the information in this application is true and correct.

Signed Tadayoshi Toda
TADAYOSHI TODA
Superintendent

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Application to move Machinery

December 13 , 1947

1. Name of Plant requesting Movement :

Takaoka Plant, Nippon Soda Co., Ltd.

2. Address of Plant :

No. 420, Mukaino-machi, Takaoka City, Toyama Pref.

3. Machinery to be moved :

a. Name, size and number of machinery :

Name	Size	Number
Transformer	400 KVA 3300V/40V - 70V	1

b. Where now located :

The electrode unit of our plant.

c. Owned by whom :

Takaoka Plant, Nippon Soda Co., Ltd.

d. Where it will be moved to :

The electric room of our caustic soda unit.

4. Reason for request :

In winter season, pipes, through which chlorine gas is sent to various chlorine recovery equipments have to be subsidized by heat, because the passage of the gas in the pipe becomes to difficult by congelation of moisture in the gas. For this purpose, we wish to use this transformer temporarily as a heat source during this winter season. This machinery has not been ear-marked for reparation.

I certify the information in this application is true and correct.

Signed Tadayoshi Toda

TADAYOSHI TODA
Superintendent

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5. Recommendation by the Reparation Section of Toyama Ken.
Movement of machinery requested in this application is
(approved) (~~disapproved~~) for the following reason :

This machinery ---- under the heading No. 3 ---- has not been ear-marked for reparation.

Signed Jintaro Ishiguro

6. Permission (is) (~~is not~~) hereby granted to move machinery as requested in this application.

Signed F S B

Authorized to granted permission for movement of machinery.

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

Takaoka Plant,
Nippon Soda Co., Ltd.

No. 420, Mukaino-machi, Takaoka City,
Toyama Prefecture.

26 September , 1947

To : The Toyama Military Government Team

Subject : Application for dismantling of the designated machinery for reparation

1. Name of Plant :

Takaoka Plant, Nippon Soda Co., Ltd.

2. Location of Plant :

No. 420, Mukaino-machi, Takaoka City, Toyama Pref.

3. Name of Machinery :

Inventory No.	List No.	Name	Size	Number
Not inventoried	19	Exhaust acid tank	3000X1500 X1500 m/m	1

4. Reason for dismantling :

In our sulphuric acid plant, there are two exhaust acid tank in which exhaust acid used for gas cleaning is stored. The one is a underground type and the other is a semi-underground type, and both tanks are outdoors.
The latter, applied for dismantling herein, has timber frame and is lined with lead plate. And this tank has much danger of breakdown at present owing to long corrosion since its construction. And then the tank

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has not been used since 1943 and it is enough to operate our sulphuric acid plant with only the other tank. Therefore, we think, it is not necessary to repair the tank at much expense. So, in order to prevent accidents, we hope to dismantle it previously before its breakdown.

Signed Tadayoshi Endo
Superintendent

5. Permission (is) (is not) hereby granted to dismantle machinery as requested in this application.

signed T S A
Authorized to grante permission for dismatling machinery

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

Application to move Machinery

September 2 , 1947

1. Name of Plant requesting movement.

   Takaoka Plant, Nippon Soda Co., Ltd.

2. Address of Plant.

   No. 420, Nukaino-machi, Takaoka City, Toyama Prefecture.

3. Machinery to be moved.

   These machineries are owned by Takaoka Plant and will be removed to the caustic soda unit in Takaoka Plant.

Name of Machinery	Size and Capacity	Number	Where now located
a. Winch	1 ton, with 7.5HP motor	1	In our Paste Plant
b. Electric heater	30 KW	1	Home-made
c. Porcelain fan	4"ø, 2m³/min, 53 m/m W.G. with 3 HP motor	1	In our warehouse
d. Turbin pump	2"ø, 0.15 m³/min with 3 HP motor	2	"
e. Water resister	2,300ø X 1,900 m/m	1	In our Saccharine Plant
f. Centrifugal pump	2"ø, 0.2 m³/min with 7.5HP motor	1	In our warehouse

4. Reason for request.

a. Winch

Common salt is transported with small truck from its warehouse. For the shortage of labourer, we will use winch to draw trucks in salt solution room.

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b. Electric heater

Soda ash which is used for purification of salt solution is heated by steam. Instead of steam, electric heat is used for dissolving soda ash for trial on the point of heat efficiency in salt solution room.

c. Porcelain fan

It will be used in electrolytic room for sending chlorine gas to increase efficiency at hydrochloric acid unit.

d. Turbin pump

Turbin pump of 3"ø in diameter is used now for sending remained salt solution to salt dissolving room, but it is too large for present operation. Therefore we hope to use turbin pump of 2"ø diameter temporarilly in electrolytic room.

e. Water resister

A small number of electrolytic cells will be operated occasionally. Therefore in order to decrease the fixed voltage of converter to the proper voltage with which cells are operated, water resister is necessary between convertor and electrolytic cell.

f. Centrifugal pump

In order to remove water from the pitt this pump will be used in the evaporating room

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The machineries above mentioned have not been ear-marked for reparation.

I certify the information in this application is true and correct.

Signed Takayoshi Toda
TAKAYOSHI TODA
Superintendent

5. Recommendation by the Reparation Section of Toyama-Ken.

Movement of machineries requested in this application is (approved) (~~disapproved~~) for the following reason :

The machineries ----- under the heading No. 3 --- have not been ear-marked for reparation.

Signed J Ishiguro

6. Permission (is) (~~is not~~) hereby granted to move machineries as requested in this application.

Signed Capt. Virgil L Caudell AC.
Authorized to grant permission for movement of machinery

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

Application to move Machinery

September 2 , 1947

1. Name of Plant requesting movement

Takaoka Plant, Nippon Soda Co., Ltd.

2. Address of Plant.

No. 420, Mukaino-machi, Takaoka City, Toyama Prefecture.

3. Machinery to be moved

Name of machinery	Size and capacity	Number	Where now located
a. Acid cooler	400ØX1,800m/m	1	In our liquid chlorine unit
b. Acid separator	300ØX500m/mX3	1	"

These machineries are installed in liquefying room now, and we hope to move them to gas drying room.

4. Reason for request.

We have nash pump of V.P. 180 to which these machineries are attached. But the nash pump is so large in capacity that it is very hard to operate it under such condition as we are now operating with small number of electrolytic cells. So we hope to use nash pump of V.P. 50 temporarilly. As to this, we will submit an application. These machineries will be attached to the nash pump newly established in gas drying room. Namely, they will be moved from liquefying room to gas drying room in liquid chlorine unit.

I certify the information in this application is true and correct.

Signed Tadayoshi Toda.
TADAYOSHI TODA

Superintendent

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

5. Recommendation by the Reparation Section of Toyama-Ken.

Movement of machineries requested in this application is (approved) (~~disapproved~~) for the following reason :

These machineries ----- under the heading No. 3 ----- are only moved their installed place in same reparated liquid chlorine unit.

Signed J. Ishiguro

6. Permission (is) (~~is not~~) hereby granted to move machineries as requested in this application.

Signed VC.

Authorized to granted permission for movement of machinery

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

Application to move Machinery

September 2 , 1947

1. Name of Plant requesting movement.

Takaoka Plant, Nippon Soda Co., Ltd.

2. Address of Plant

No. 420, Mukaino-machi, Takaoka City, Toyama Prefecture.

3. Machinery to be moved.

	Name of machinery	Size and capacity	Number	Where now located
a.	Blower	Pocelain 4"ø with 5 HP motor	1	In our warehouse
b.	Nash pump	V.P. 50, 1 m^3/min with 10 HP motor	2	"
c.	Precooler	500 ø X 2,000 m/m	1	In our tetra-chloride unit
d.	Turbin pump	4"ø ,1 m^3/min with 10 HP motor	1	In our warehouse
e.	Spring balance	Platform type 150 kg	1	"

These machineries are owned by Takaoka Plant and will be installed newly in our liquid chlorine unit of caustic soda plant.

4. Reason for request

a. Blower

At suspension of liquid chlorine unit, chlorine gas was sent to bleaching powder unit by exchanging with valve hitherto. But as bleaching powder unit is stopped now, chlorine gas shall be sent to the absorption tower which is included in liquid chlorine unit. For this purpose, this blower will be used.

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b. Nash pump

We have nash pump of V.P. 180 which is included in reparation. But the nash pump is so large in capacity that it is very hard to operate it under such condition as we are now operating with small number of electrolytic cells. So we hope to use nash pump of V.P. 50 temporarilly in the gas drying room.

c. Precooler

This will be used for the above mentioned nash pump.

d. Turbin pump

Owing to the shortage of cooling water which is used for condenser, we hope to use temporarilly this pump that water may be charged to condenser sufficiently.

e. Spring balance

We have one balance for weighting chlorine cylinder at bottling. And as one more balance is necessray, we hope to move it from our warehouse.

The above mentioned machineries have not been ear-marked for reparation.

I certify the information in this application is true and correct.

Signed Tadayoshi Toda
TADAYOSHI TODA
Superintendent

5. Recommendation by the Reparation Section of Toyama-Kan

Movement of machinery requested in this application is (approved) (~~disapproved~~) for the following reason :

These machineries --- under the heading No. 3 --- have not been ear-marked for reparation.

Signed J. Sakiguchi

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6. Permission (is) (~~is not~~) hereby granted to move machineries as requested in this application.

Signed _____

Authorized to granted permission for movement of machinery

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

file

Application to move Machinery

August 7th , 1947

1. Name of Plant requesting Movement.

Toyama Seiko Plant , Nippon Soda Co., Ltd.

2. Address of Plant

No. 50, Shimoshin, Toyama City, Toyama Prefecture.

3. Machinery to be moved.

Name of machinery and size	Number	Where now located	Owned by whom	Where it will be moved to
Transformer Single phase 1000 KVA 3,300V-110V-90V-70V	2	Takaoka Plant, Nippon Soda Co., Ltd. No. 420, Mukaino-machi, Takaoka City.	Nippon Soda Co., Ltd.	Toyama Seiko Plant, Nippon Soda Co., Ltd.

4. Reason for request.

a) Exactly what will be made with the machinery ?

It will be used for the open furnace that is a melting equipment to make the pip iron from the lower grade iron scraps which can hardly be used at present.

b) Date this company intends to move machinery.

August 20th , 1947

5. a) What was the company founded to produce ?

This company has founded to produce the common and special steels.

b) Total number of the machineries of the Factory.

Heroult electric furnace with transformer	5
Electric open furnace with transformer	1
Steam hammers with boiler	2
Hydraulic presser	3
Machine tools	52
Heat treatment furnaces	6
Total	69

c) The above mentioned machines have not been ear-marked for reparation.

I certify this information herein is true.

Signed Tadao Ishikawa

Title Superintendent

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

6. Recommendation of Reparation Section of Toyama-Ken.

Movement of machinery requested in this application is (Approved) (~~Disapproved~~) for the following reasons:

These machines under the heading of No 3 have not been ear-marked for reparation.

Signed Hyoei Kawaguchi

7. Permission (is) (~~is not~~) hereby granted to move machinery as requested in this application.

Signed Virgil Cordell
Capt USN

Authorized to grant permission for movement of machinery

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

Co file

HEADQUARTERS
TOYAMA MILITARY GOVERNMENT TEAM
APO 713

16 June 1947

SUBJECT: Partial Exemption from Reparations
Takaoka Plant, Nippon Soda Co.

TO : Supreme Commander for the Allied Powers, APO 500

THRU : Military Government Channels

1. Transmitted herewith application, for partial exemption from reparations submitted by subject company with supporting papers.

2. No report has been received on a similar application submitted thru this headquarters in September 1946.

3. The request of the company seems to be well founded and worthy of careful consideration.

4. This headquarters recommends granting the request for these reasons:

a. The products produced by this company are vital to the Japanese civilian economy.

b. It is our opinion that much of the equipment if dismantled and removed would hardly be suitable for subsequent use.

FOR THE COMMANDING OFFICER:

/s/t/ KENNETH R. SPEAS
Captain, FA
Adjutant

Incl: 13 (Quintuplicate)
1. Statement of Governor
2. Statement Nagoya Commerce & Industry Bureau
3. Application for Exemption
4. Lists of Machinery and Equipment
5. Blue print - Layout Takaoka Plant Nippon Soda Co.
6. Bule print - Sulfuric Acid Equipment
7. Blue print - Salt Solution Equipment
8. Blue print - Electrolysis Equipment
9. Blue print - Evaporating Equipment
10. Blue print - Evaporating Equipment (cont'd)
11. Blue print - Electric Equipment
12. Blue print - Hydorcholoric Acid Equipment
13. Supplemental Petition - Plant Superintendent

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BASIC: Ltr, Hq, Toyama Mil Govt Team, subj: "Partial Exemption from Reparations Takaoka Plant, Nippon Soda Co.," dtd 16 Jun 47

2. The above reference letters consisted of applications of the Nippon Soda K.K., Takaoka Plant (42-10 Soda; 42-14 Sulph Acid) for removal from the reparations list. As of this date, no answer has been received.

3. Inclosure 1 hereto consists of a new application from subject company for exclusion of certain portions of both the sulphuric acid and caustic soda unit from reparations claim. Each unit has been inventoried in accordance with current inventory instructions issued by higher headquarters. The basis of this application is the need in Japan for penicillin, which the plant is in a position to produce. As quoted in paragraph 4, reference 1b, above, the public health officer of the Toyama Military Government Team has expressed the opinion that provided this plant is exempted from reparations, the technical staff of the Takaoka Plant is competent to supervise mass production of penicillin. The importance of the productive capacity of caustic soda, sulphuric acid, chlorosulfonic acid, and other essential drugs, is also stressed. Inasmuch as selection of chemical plants for reparations is based on the desire of the Supreme Commander to reduce productive capacity in Japan to predetermined levels, the inclosed application is forwarded to your headquarters without recommendation.

FOR THE COMMANDING GENERAL:

13 Incls:
1 copy ea w/d

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

BASIC: Ltr, Hq Toyama Mil Govt Team, Subj: "Partial Exemption from Reparations Takaoka Plant, Nippon Soda Co.", dtd 16 Jun 47

1st Ind

Hq Tokai-Hokuriku Mil Govt Region, APO 710, 19 Jun 47

TO: CG, I Corps, APO 301
ATTN: Mil Govt Section

Information has not been made available regarding criteria for selection of chemical plants presently designated for reparations. Therefore, this petition is forwarded without recommendations.

FOR THE COMMANDING OFFICER:

/s/t/ FRANK M. WILKINS
Maj, FA
Adjutant

13 Incls:
n/c (3 copies)
1cc w/d

AG 004 - BA 2nd Ind FHN/jyn

Hq I Corps, APO 301, 23 JUN 1947

TO: CG, Eighth Army, APO 343

1. References:

a. Letter, Toyama Military Government Team, subject: "Exclusion from Reparations," dated 27 September 1946, and 2nd indorsement thereto, this headquarters to your headquarters, dated 15 October 1946.

b. Letter, Toyama Military Government Team, subject: "Exclusion of Reparations Machinery," dated 28 April 1947, and our second indorsement thereto to your headquarters, dated 20 May 1947.

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TOYAMA LIAISON OFFICE

June 14 , 1947

To : The Commanding General of the 8th Army U. S.

Thru : The Toyama Military Government Team

Subject : Petition for the exemption of equipments designated for reparation

Though the Takaoka Plant of the Nippon Soda Co., Ltd., located at No. 420, Mukaino-machi, Takaoka City, Toyama Prefecture, submitted the petition for the exemption of designated equipments from reparation program, the Plant has submitted again the petition for the said subject.

I present to you my postscripts on this petition and hope your special consideration and your kind assistance for this subject.

1. The Plant was founded in 1934 with the object of manufacturing industrial chemicals, medicines and dyestuffs. At present the Plant is mainly manufacturing medicines of the sulphanilamide group from chlorosulfonic acid which is also manufacturing in the Plant and the Plant is one of the principal plants in quality and in quantity of products of this group.

2. In Nov. 30, 1946, the Plant received the information from the Toyama Military Government Team that the Plant might continue the operation of the caustic soda unit until further notice, which is indespensable not only for manufactnring chlorosulfonic acid but also for manufacturing medicines of the sulphanilamide group

3. Medicines of the sulphanilamide group are indespensable for the maintenance of the people's health of Japan at present and in future. So, I think, the production of chlorosulfonic acid, raw material of medicines of the sulphanilamide group, has to be secured in Japan.

4. In Japan, the production of medicines have been slower in development and smaller in scale when compared to the growth of other industries. So, the nation is in a position where vigorous efforts have to be exerted to increase the production of medicines.

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5. The Plant is one of the leading plants in the nation for the production of medicines of the sulphanilamide group. The Plant was ordered to manufacture chlorosulfonic acid by the Department of Commerce and Industry and to manufactnre sulfaminen sulfaguanidine and acetosulfamine by the Department of Welfare.

6. Patent medicines of Toyama Prefecture have been noted for home use not only in Japan but also in countries of Far East. At present patent medicines of this prefecture are charged with weighty mission for the maintenance of the public health in mountain solitudes of Japan. On the other hand, the export of these patent medicines for countries of Far East is planning. The Plant, with its important products as sulfamine, is most advantageously located for manufacturers of these patent medicines as the supplier of raw materials.

From the view-point of the importance of the Plant as above mentioned, I hope again your generous consideration and your kind assistance for the exemption of equipments from reparation program.

Signed Tetsuji Tachi
TETSUJI TACHI

Governor of
Toyama Prefecture

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NAGOYA COMMERCE AND INDUSTRY BUREAU
Nagoya, May 30, 1947

To: The Commanding General of the 8th Army, U. S.
Thru: The Commanding Officer of the Toyama Military Government Team.
Re: Petition for exemption of equipments designated for reparation.

1. Takaoka Plant of Nippon Soda was designated for reparation in caustic soda and sulphuric acid units on 24 August 1946 and has continued proper maintenance since that time.

2. The said plant was established for the purpose of manufacturing industrial chemicals, medicines and dyestaffs and has reconverted to its original work since the termination of the war and is at present manufacturing urgently needed for Japan, namely its products, medicines of the sulphanilamide group, are urgent necessities for the maintenance of public health in Japan.

3. The Nagoya Commerce and Industry Bureau, from the standpoint of the above mentioned facts, feels as explained in annex in regards to the application for exemption submitted by the company previously and therefore requests your special consiidration on this matter.

NAGOYA COMMERCE AND INDUSTRY BUREAU

.....
S. Kato
Director

Encl 2.

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Annex

OPINION

1. The caustic soda unit and the sulfuric acid unit of the Takaoka Plant of the Nippon Soda Co., Ltd. was designated for reparation on 24th August, 1946.

2. The plant was founded in October, 1934 primarily with the object of manufacturing industrial chemicals, medicines and dyestuffs. After surrenders, the plant has been operated with the original object and at present they are manufacturing compounds of the sulphanilamide group from chlorosulfonic acid. And among manufacturers of this group, the plant is one of the leading manufacturers, both in quality and quantity of products.

3. For manufacturing chlorosulfonic acid, these units, for manufacturing caustic soda, hydrochloric acid and fuming sulfuric acid are necessary. Namely, with hydrogen gas and chlorine gas, both by-products in the process of manufacturing caustic soda by electrolysis of salt (caustic soda unit), hydrogen chloride gas is manufactured (hydrochloric acid unit). And, by reaction of this gas with the sulfuric gas contained in fuming sulfuric acid (sulfuric acid unit), chlorosulfonic acid is manufactured.

4. Medicines of the sulphanilamide group are indispensable for the maintenance of the people's health of Japan at present and in the future. Consequently, the production of chloro-sulfonic acid has to be secured in Japan. We therefore hope

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that such capacity of the above-mentioned units that are necessary for manufacturing chlorosulfonic acid, are exempted from the reparation program.

5. The capacity herein petitioned to be exempted is smaller than the capacity begged to be exempted by the plant. This is because we took into consideration the balance of the productive capacity of caustic soda and sulfuric acid, with chlorosulfonic acid as our objective as explained above.

Details of the capacity that we desire to be exempted and the reasons for this petition are as follows.

A. Capacity desired to be exempted.

(1) Sulfuric acid unit Contact (Lurgi) system

Designed capacity	300 tons/month	
Capacity desired to be exempted (Designed capacity)	300 tons/month	

(2) Caustic soda unit Electrolysis (Mercury) system

Designed capacity	540 tons/month	146 cells
Capacity desired to be exempted (Actual capacity)	135 tons/month	40 cells

(3) Hydrochloric acid unit Synthesis system

Designed capacity	600 tons/month	8 synthesis tubes
Capacity desired to be exempted (Designed capacity)	375 tons/month	5 synthesis tubes

B. Reasons for the petition

(1) Importance of medicines and position of the plant.

The Japanese people have not been considering the

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maintenance of public health as a matter of paramount importance, and the production of medicines have therefore been slower in development and smaller in scale when compared to the growth of other industries. In recent time, however, with the development of chemical treatment, the importance of medicines of the sulphanilamide group has been widely recognized and public demands for these medicines have been growing rapidly. Unfortunately, the present production is so insufficient that the nation is in a position where vigorous efforts have to be exerted to increase the production.

The Takaoka Plant is one of the leading plants in the nation for the production of these medicines. This plant was ordered to manufacture chlorosulfonic acid by the Department of Commerce and Industry and manufacture sulfamine, sulfaguanidine, sulfaethylthiazole and acetosulfamine by the Department of Welfare. Given below for reference is the capacity for the principal products of this plant. The figures were compiled by the Bureau of Chemicals of the Department of Commerce and Industry for October of last year.

Name of capacity	Actual capacity of the Plant	Total actual capacity in Japan	%
Chlorosulfonic acid	70,000 Kg	515,000 Kg	13.6 %
Sulfamine	4,500 "	47,730 "	9,4 %
Sulfaguanidine	2,000 "	10[illegible]300 "	19.4 "
Saccharine	1,000 "	29,700 "	3,4 "

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(2) Characteristics of the plant

(a) As shown in the following flow-sheet, the Takaoka plant has well co-ordinated units of equipments for the production of chlorosulfonic acid which is the material for making medicines of the sulphanilamide group and is a leading plant in Japan for manufacturing chlorosulfonic acid,

- Caustic soda

Common salt --- Chlorine gas -

- Hydrogenchloride gas-

- Hydrogen gas -

- Chlorosul-

- Sulfuric gas - fonic acid

Pyrite --- Fuming sulfuric acid ---

- Sulfuric acid

(b) The plant manufactured medicines of the sulphanilamide group from the early time, and had the excellent technique for their productioh for the early days. It has thus become one of the principal plants in quality and in quantity of products of this group. The excellence of the technique of this plant is also evident from the fact that the excellence of its saccharine, which is made practically by the same technique as is required for manufacturing medicines of the sulphanilamide group, is generally recognized by the public.

(c) As mentioned in paragraph (a) of (2), sulfuric gas, contained in fuming sulfuric acid, is used for manufacturing chlorosulfonic acid. About 70 % of the sulfuric acid thus used is recovered in theform of concentrated sulfuric acid (corresponding to 70% by weight of the fuming sulfuric acid)

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which can be sent to the neighbouring Toyama Plant of Nissan Kagaku Co. as raw material for ammonium sulphate. The sulfuric acid unit of this plant is therefore utilized to full extent.

(d) From the geographical view-point, this is the only plant that can manufacture saccharine in the entire Tokai and Hokuriku District. The Toyama Prefecture has been traditionaly noted for the manufacture of medicines for home use. This has been one of the chief industries of the prefecture for centuries and there are numerous manufacturers of such medicines, large and small, within the prefecture. The plant, with its impoetant products as sulfamine, is most advantageously located for these manufacturers.

(3) Chlorosulfonic acid

For manufacturi ng medicines of the sulphanilamide group, chlorosulfonic acid is indespensable as raw material. Even if all the plants which are free the reparation progrem at present, could be operated perfectly, the output of this acid would be about 20% of the present, in our rough estimation.

Futhermore, it is very difficult to transport or store this acid. Especially because the purity of this acid would be lowered by storage, it would be more reasonable and efficient for this acid to be consumed directly by the manufacture of this acid.

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(4) Sulfuric acid

When sulfuric acid unit removed in accordance with the reparation program, the output of fuming sulfuric acid in the Tokai and Hokuriku District would decrease extremely. Moreover, in the Hokuriku District this acid would freeze in the winter and it would be exceedingly difficult to have it transported. For these reasons, it is necessary for the plant to continue its production of chlorosulfonic acid without interruption by allowing the sulfuric acid equipments to remain in the plant. Furthermore as these equipment were erected 11 years ago. They are getting old and decrepit.

Its actual capacity at present is therefore only 8 tons per day though its desifned capacity is 10 tons. We imagine that it would be impossible to have these old equipments transported and reconstructed elsewhere.

(6) Caustic soda unit

As shown in the foregoing floe-sheet, hydrogen chloride gas along with sulfuric gas is indispensable for manufacturing chlorosulfonic acid, To obtain this gas, the most reasonable and simple method is to make it by mixing hydrogen gas and chlorine gas, both of which are by-products in the process of electrolysis of salt. It is therefore most desirable to have the minimum capacity of this unit to remain as it is for manufacturing chlorosulfonic acid.

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Some quantity of caustic soda, which is manufactured by this unit, is used as material for manufacturing medicines of sulphanilamide group and the other can be used as raw material for manufacturing ammonium sulphate at the Toyama Plant of Nissan Kagaku Co.

C. Basic datas for capacity desired to be exempted.

The following list shows the plan of production of medicines of the sulphanilamide group and saccharine and the quantity of chlorosulfonic acid which is required for such production.

Name of products	Quantity of products per month	Quantity of chlorosulfonic acid required
Sulfamine	3 tons	22 tons
Sulfaguanidine	2 "	22 "
Sulfamethylthiazole	2 "	22 "
Chloramine	2 "	---
Acetosulfamine	0.3 "	2 "
Saccharine	3 "	25 "
Total		93 "

The quantity of raw materials required for manufacturing 93 tons of chlorosulfonic acid is as follows.

(1) Fuming sulfuric acid 298 tons

(2) Hydrogen chloride gas 52.6 "

For manufacturing 298 tons of fuming sulfuric acid, all sulfuric acid unit of the plant are necessary, and for

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obtaining 52.6 tons hydrogen chloride gas, 40 electrolysis cells in the caustic soda unit, and 5 synthesis tubes in the hydrochloric acid unit and other equipments corresponding to these equipments, are necessary.

D. Equipments and machineries desired to be exempted

(detail are shown on the attached list)

(1) Sulfuric acid unit Contact (Lurgi) system

All equipments and machineries for designed capacity, 300 tons per month, which corresponds to the existing roasting furnace.

(2) Caustic soda unit Electrolysis (Mercury) system

One set of rotary converter, one set evaporator and other incident equipments and machineries corresponding to 40 electrolysis cells.

(3) Hydrochloric acid unit Synthesis system

Equipments and machineries corresponding to 5 synthesis tubes.

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List of machineries and equipments of sulfuric acid unit

Name of machineries	Capacity and size	Number of existing	Number desired to be remained
1. Roll crusher	5"Øx8"	1	1
2. Bucket elevator	400m/mx800m/mx11m	1	1
3. Furnace	10 ton Pyrite/day	1	1
4. Blower	12"Ø	1	1
5. Cottrell dust catcher	4,700x4,877x8,300m/m	1	1
6. "	1,300x1,300x7,000m/m	3	3
7, Turbine pump	2"	1	1
8. "	1 1/2"	1	1
9. Washing tower No3	1,900Øx7,000m/m	1	1
10.Electric rectifier	5KVA 65,000V	3	3
11.Switch for cottrell		3	3
12.Washing tower No1	1,850Øx9,000m/m	1	1
13. " No2	1,150Øx9,000m/m	1	1
14.Acid cooling tank	1,400x1,400m/m	4	4
15.Acid circulating tank	"	4	4
16.Turbine pump	2" (ferro-silicon)	2	2
17. "	2"	2	2
18.Dust settling vessel	3,000x1,500x1,500m/m	2	2
19.Exhaust acid tank	"	2	2
20.Gas drying tower	1,400x5,500m/m	1	1
21.Absorption tower	"	3	3

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22.Acid cooler	3"x3,000m/mx18	6	6
23.Turbine pump	2"	6	6
24. "	2" (ferro-silicon)	1	1
25.Acid circulation tank	1,400Øx1,300m/m	4	4
26.Dilution tank	1,400Øx1,400m/m	1	1
27.Enamel tank	1,500Øx1,700m/m	1	1
28.Turbo blower	28m^3/m	2	2
29.Gas filter	Porcelain 1,500Øx600m/m	1	1
30.Heat exchanger	1,200Øx3,300m/m	1	1
31.Converter	2,200Øx3,000m/m	1	1
32,Air cooler	1,000Øx3,300m/m	1	1
33.Preheater	1,000Øx1,500m/m	1	1
34.Exhaust fan	8"Ø	1	1
35.Roots blower	4"Ø	1	1
36.Pyrometer	0-800°C	1	1
37.Receiver	10 ton	3	3
38. "	10 ton	2	2
39.Storage tank	80 ton	3	3
40. "	50 ton	1	1
41.Turbine pump	2"Ø	2	2
42.Balance	750 Kg	1	1
43. "	1 ton	1	1
51.Measuring tank	1,200Øx3,500m/m	1	1
52.AS store tank	1,800Øx1,100m/m	1	1

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List of machineries and equipments of caustic soda unit

(1) Salt solution equipment

	Name of machineries	Capacity and size	Number of existing	Number desired to be remained
1.	Settling tank	4500ØX4500m/m	3	3
2.	"	"	2	0
3.	"	5400ØX4500m/m	2	0
4.	"	3000ØX4500m/m	2	0
5.	"	3000ØX4750m/m	2	0
6.	"	4700ØX4500m/m	4	0
7.	Filter press	Iron, 28"X27 plate	4	2
8.	"	" , 27"X30 "	2	0
9.	Diaphragm pump	5 3/4"X12"	2	2
10.	"	5 1/4"X12"	2	0
11.	Dissolving tank	1800ØX2700m/m	2	1
12.	Bucket elevator	Lift 12 meter	1	1
13.	Cooling tank	3600ØX4500m/m	3	3
14.	Circulating tank	3040ØX3950m/m	1	1
15.	Centrifugal separator	Vertical type 23"	1	1
16.	Ammonia compressor	Horizontal 10"ØX20"	1	1
17.	Ammonia condenser	Vertical 34"X3'-4"	1	1
18.	Liq. Ammonia receiver	20"ØX6'	1	1
19.	Brine cooler	26"ØX12'	1	1

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20. Accumulater	14"ØX4'	1	1
21. Brine serge tank	1750X1750X1400m/m	1	1
22. Soda ash dissolving tank	1400X1730m/m	2	1
23. Absorption tower	Porcelain 750X1800m/m	1	1
24. Blower	Rotary type 50c.f./min	1	1
25. "	Porcelain 4"	1	1
26. Porcelain tank	1200ØX1850m/m	2	1
27. Balance	2 ton	1	1
28. Centrifugal pump	Porcelain 80m/m Ø	1	1
29. Turbin pump	Iron 3"	4	3
30. "	" National type 4"	4	3
31. Centrifugal pump	" 2"	1	1
32. "	" "	2	2
33. "	" 3"	1	1

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(2) Electrolysis equipment

Name of machineries	Capacity and size	Number of existing	Number desired to be remained
1. Electrolysis Cell	Mercury System 4,000A 740m/mX5,920m/m	146	40
2. Decomposition vessel	340X5,580X215m/m	146	40
3. Mercury pump	400m/mØX20x40	146	40
4. Electrical conductor	1/4"x4"	1	1
5. Head tank for water	1,300x3,100m/m	1	1
6. Centrifugal pump	2"	3	2
7. Heating tank for water	470Øx1,200m/m	2	1
8. Caustic soda solution tank	2,200Øx2,700m/m	2	2
9. "	1,900Øx3,000m/m	2	0
10. "	1,200Øx1,200m/m	1	1
11.Caustic soda receiving tank	2,400x1,220x1,140m/m	1	1
12. "	1,240x880x900m/m	1	0
13.Centrifugal pump	2"	2	0
14. "	3"	2	2
15.Storage tank for salt solution	4,500Øx4,500m/m	1	1
16.Head tank for salt solution	1,400Øx1,400m/m	1	1
17.Turbo blower	200m/mØ	3	2
18.Centrifugal pump	3"	5	2
19. "	4"	3	2
20.Trommel	1,050Øx2,730m/m	1	1

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21.Stirring washer	1,580øx840m/m	1	1
22. "	1,100øx420m/m	1	1
23.Vacuum pump	1/4"	1	1
24.Distillatory pot for mercury	10 l	1	1
37.Blower	6"	2	2

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

(3) Evaporeting equipment

Name of machineries	Capacity and size	Number of existing	Number desired to be remained
1. Vacuum evaporator	Bascket type Heating surface 90m^2	2	1
2. Barometric condenser	800Øx7,000m/m	1	1
3. Store tank for 50° Be caustic soda aqueous solution	2,700Øx3,000m/m	1	1
4. Concentrating pan	1,900Øx1,850m/m	2	2
5. Stoker	3 Hp 3ton/day	2	2
6. Blower	400m/m	1	1
9. Chimney	910Øx22.600m/m	1	1

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(4) Electric equipment

Name of machineries	Capacity and size	Number of existing	Number desired to be remained
1. Rotary converter	60 C 1500KW 4,000A	2	1
2. "	" 1200K" "	1	0
3. Switch board	3 phase 3,300V 500A	1	1
4. "	" " 300A	1	0
5. "	" " 600A	1	1
6. "	6 phase 2,000A	3	1
7. "	D.C 4,000A	3	1
8. Transformer	3 phase 1,700KVA 60C 3,300V-300V	2	1
9. "	3 phase 1,320KVA 60C 3,300V-234V	1	0
10. Induction voltage regulator	3 phase 220KVA 60C 3,300V-330V	1	1
11. Transformer	Single phase 200KVA 3,300V-220V-110V	3	3
12. Switch board	3 phase 3,300V 200A	1	1
13. "	" 200V 750A	1	1
14. "	" 3,300V 500A	1	0

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

List of machineries and equipments of

hydrochloric acid units

Name of machineries	Capacity and size	Number of existing	Number desired to be remained
1. Cock	65 m/m ø, porcelain	16	10
2. Burner jet	80 m/m ø, 35% acid 2.5T/D fused-silica	2	2
3. "	45 m/m ø, 35% acid 1 T/D fused-silica	1	1
4. Combustion tube	200 ø X 1,300 M/m fused-silica	24	15
5. Bend	200 ø, fused-silica	12	10
6. "	" , porcelain	4	0
7. "	" , fused-silica	5	5
8. "	" , porcelain	51	30
9. Absorption vessel	" , fused-silica	45	45
10. "	" , porcelain	27	0
11. Trap	" , fused-silica	3	1
12. "	" , porcelain	4	4
13. Tower section	" , "	5	2
14. "	" , fused-silica	11	8
15. Absorption tower	600 ø X 3,000 m/m porcelain	5	4
16. Receiver	500 L, porcelain	2	2
17. Measuring bottle	35% acid, porcelain	10	7
18. Assembling bottle	1,000 L, porcelain	1	1
19. Air compressor	6" X 6"	1	1

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20. Compressed air tank	1,000 ø X 1,500 m/m	1	1
21. Fan motor	150 m/m ø, 6 m^3/min	1	1
22. Exhauster	" , 40m^3/min	1	1
23. Pump	Turbin, 1½" ø, porcelain	1	1

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

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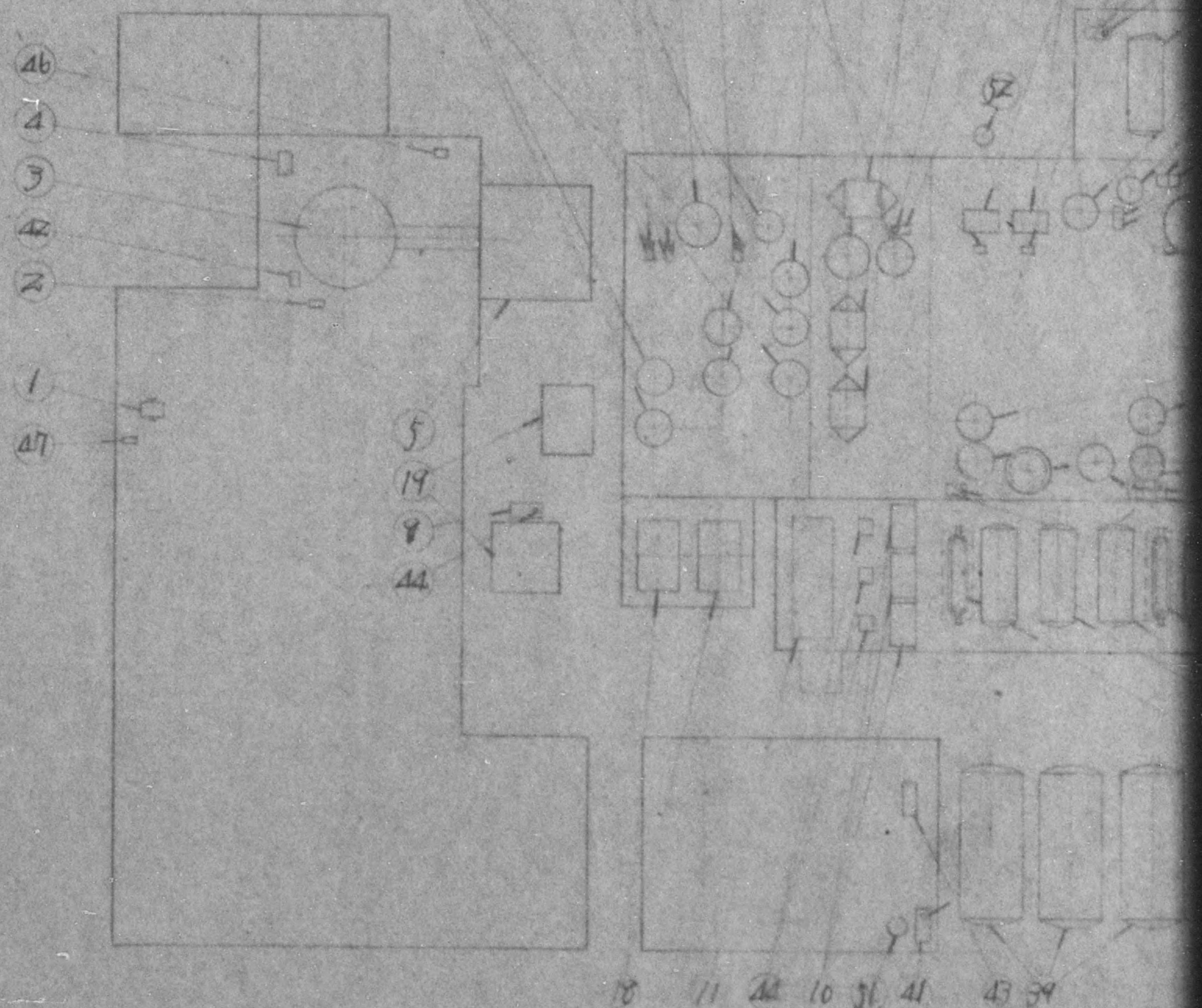
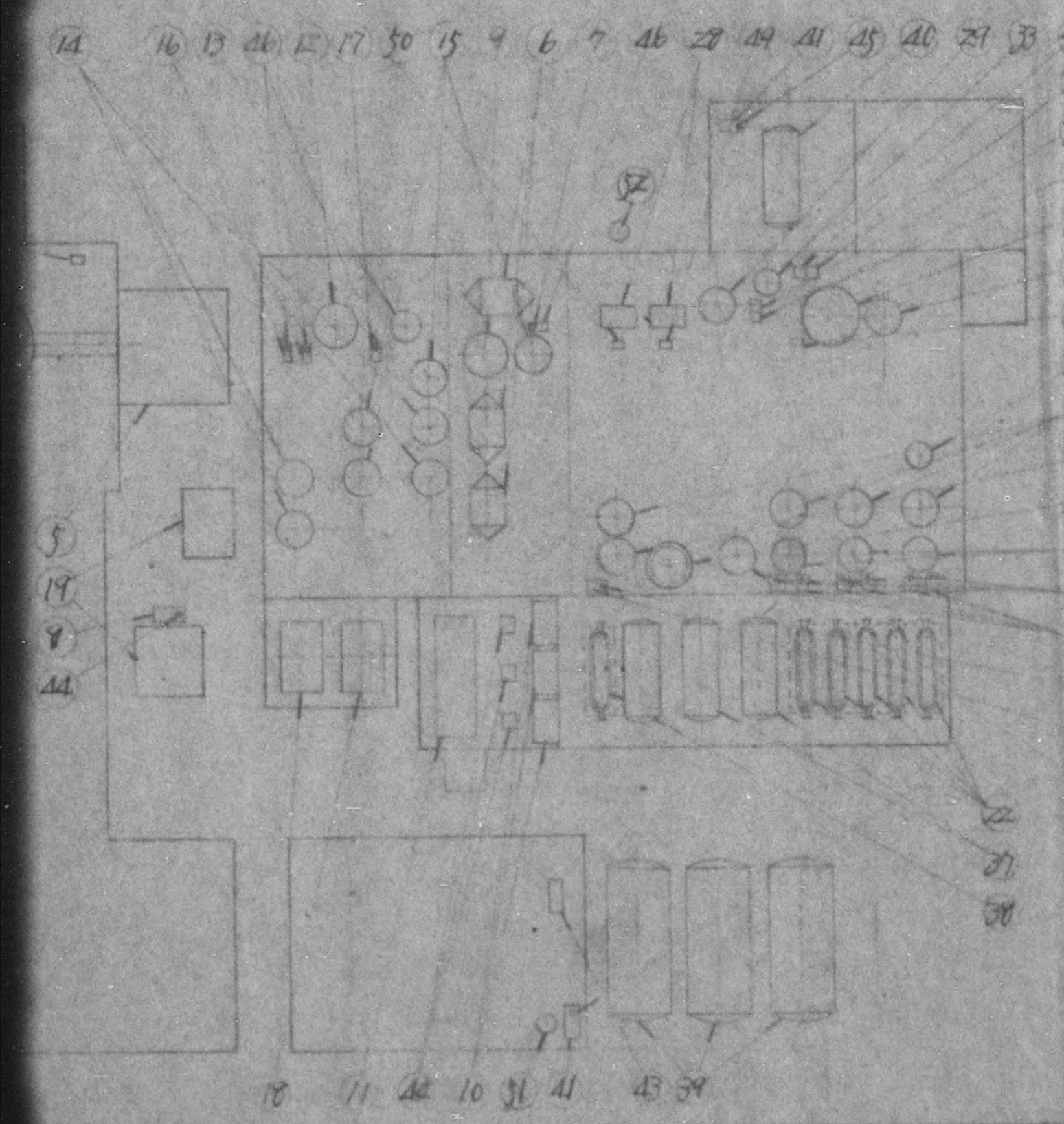
Sulfuric Acid Equipment



DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

Sulfuric Acid Equipment



1 Roll Crusher
2 Backet Elevator
3 Furnace
4 Blower
5 Cottrell Dust Catch
6 " "
7 Turbin Pump
8 " "
9 Washing Tower no. 3
10 Electric Rectiffer
11 Switch for Cottrell
12 Washing Tower no. 1
13 " " no. 2
14 Acid Cooling Tank
15 Acid Circulating T
16 Turbin Pump
17 " "
18 Dust Settling Ves
19 Exhaust Acid Tan
20 Gas Drying Tower
21 Absorption Tower
22 Acid Cooler
23 Turbin Pump
24 " "
25 Acid-Circulating

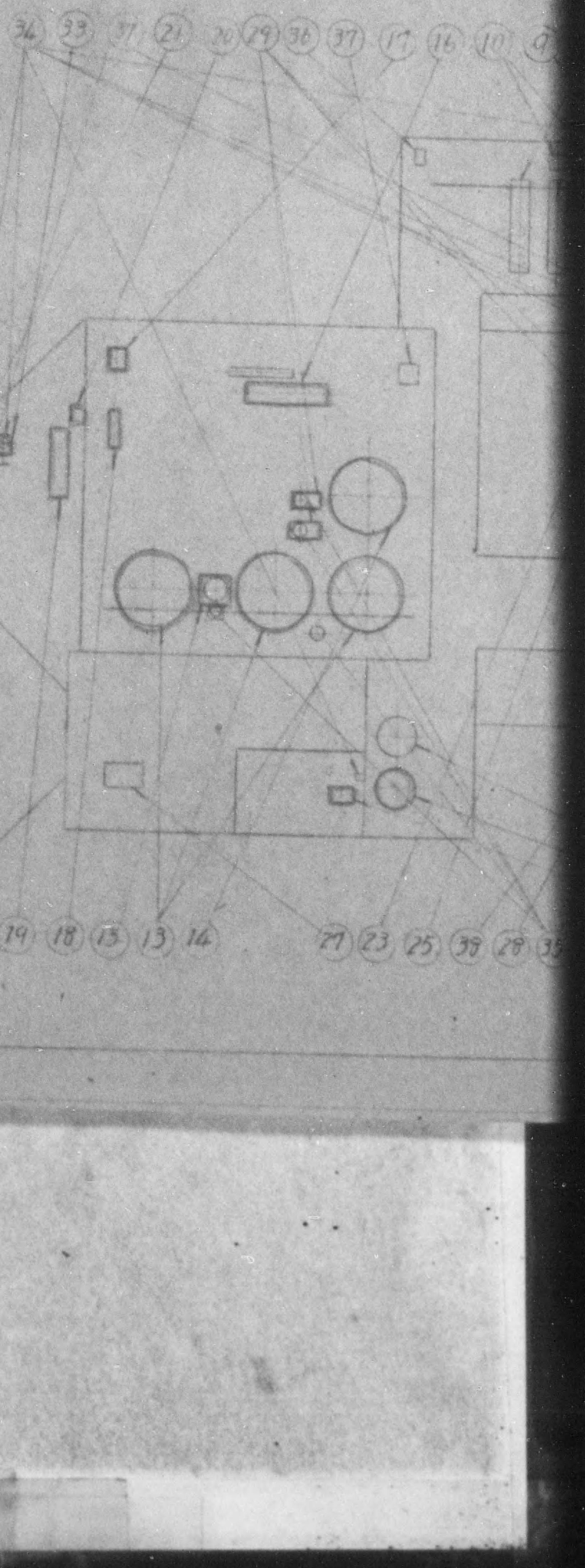
DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

1	Roll Crusher	1
2	Backet Elevator	2
3	Furnace	1
4	Blower	1
5	Cottrell Dust Catcher	1
6	" "	3
7	Turbin Pump	1
8	" "	1
9	Washing Tower No.3	1
10	Electric Rectiffer	3
11	Switch for Cottrell	1
12	Washing Tower No.1	1
13	" " No.2	1
14	Acid Cooling Tank	4
15	Acid Circulating Tank	4
16	Turbin Pump	2
17	" "	2
18	Dust Settling Vessel	2
19	Exhaust Acid Tank	2
20	Gas Drying Tower	1
21	Absorption Tower	3
22	Acid Cooler	6
23	Turbin Pump	6
24	" "	1
25	Acid-Circulaking Tank	4
26	Dilution Tank	1
27	" "	1
28	Turbo Blower	2
29	Gas Filter	1
30	Heat exchanger	1
31	Converter	1
32	Air Cooler	1
33	Preheater	1
34	Exhaust Fan	1
35	Roots Blower	1
36	Pyrometer	1
37	Receiver	3
38	"	2
39	Storage Tank	3
40	" "	1
41	Turbin Pump	2
42	Balance	1
43	"	1
44	Motor	5
45	"	9
46	"	5
47	"	1
48	"	1
49	"	1
50	"	1
51	Measuring Tank	1
52	Ac Store Tank	1

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

1	Settling Tank
2	
3	
4	
5	

Salt



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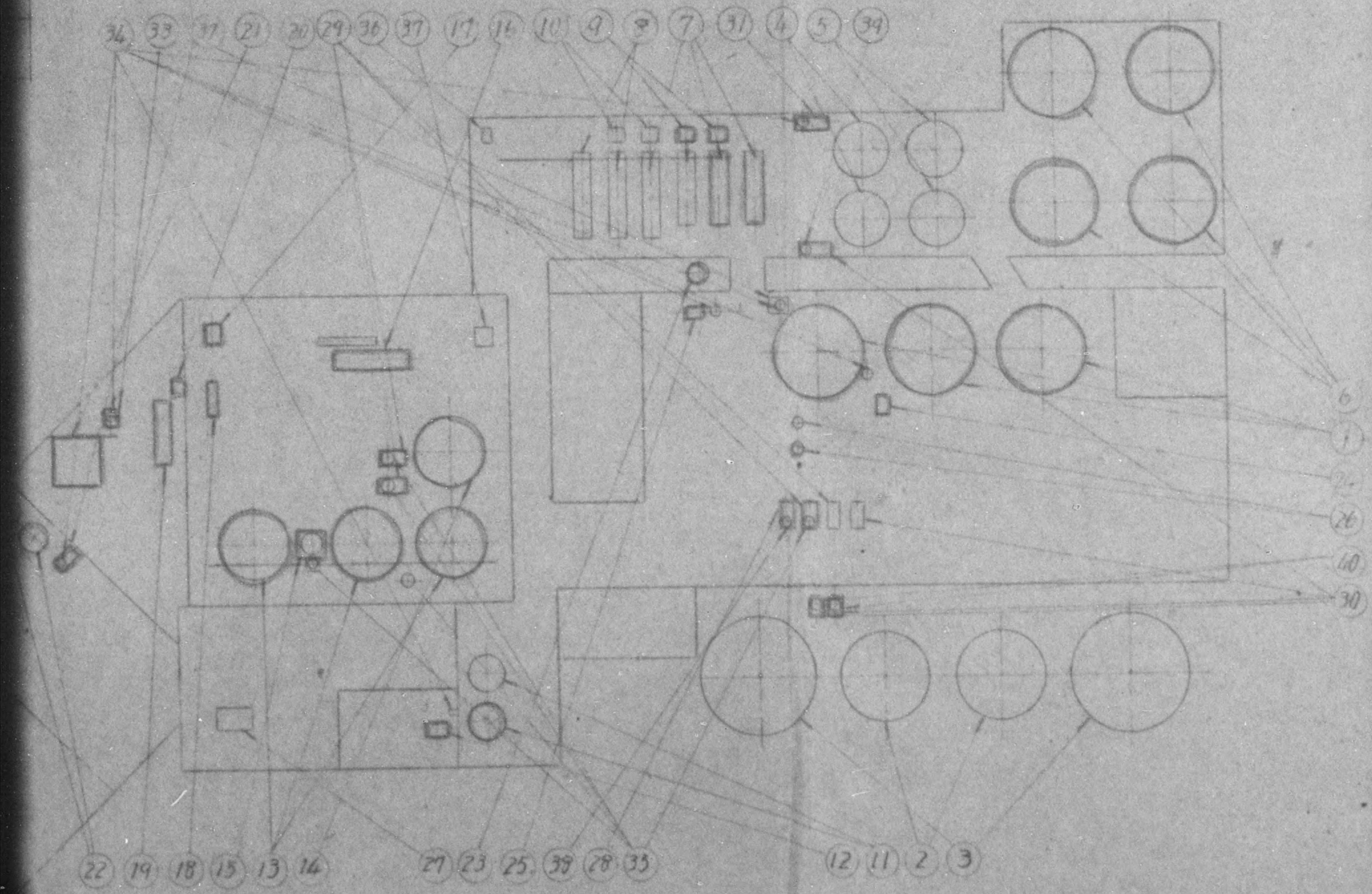
Salt Solution Equipment



DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

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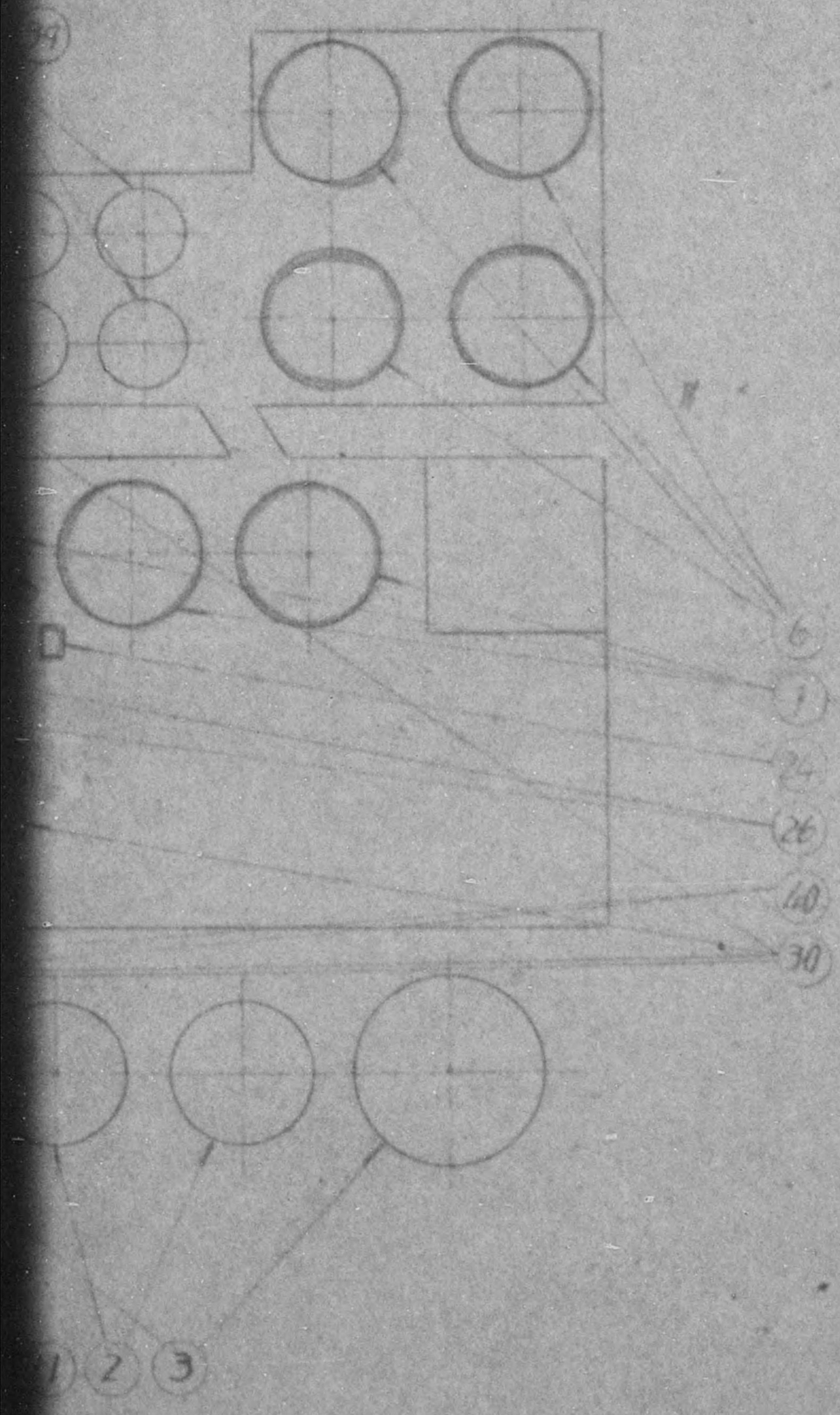

6	Settling Tank
7	Filterpress
8	"
9	Diaphragm Pump
10	"
11	Dissolving Tank
12	Bucket Elevater
13	Cooling Tank
14	Circulating Tank
15	Centrifugal separator
16	Ammonia Compressor
17	Ammonia Condenser
18	Liq Ammonia Receiver
19	Brine Cooler
20	Accumulator
21	Brine Surge Tank
22	Soda ash dissolving Tank
23	Absorption Tower
24	Blower
25	"
26	Porcelain Tank
27	Balance
28	Centrifugal Pump
29	Turbin Pump
30	"
31	Centrifugal Pump
32	"
33	"
34	Motor
35	"
36	"
37	"
38	"
39	"
40	"

Incl 1

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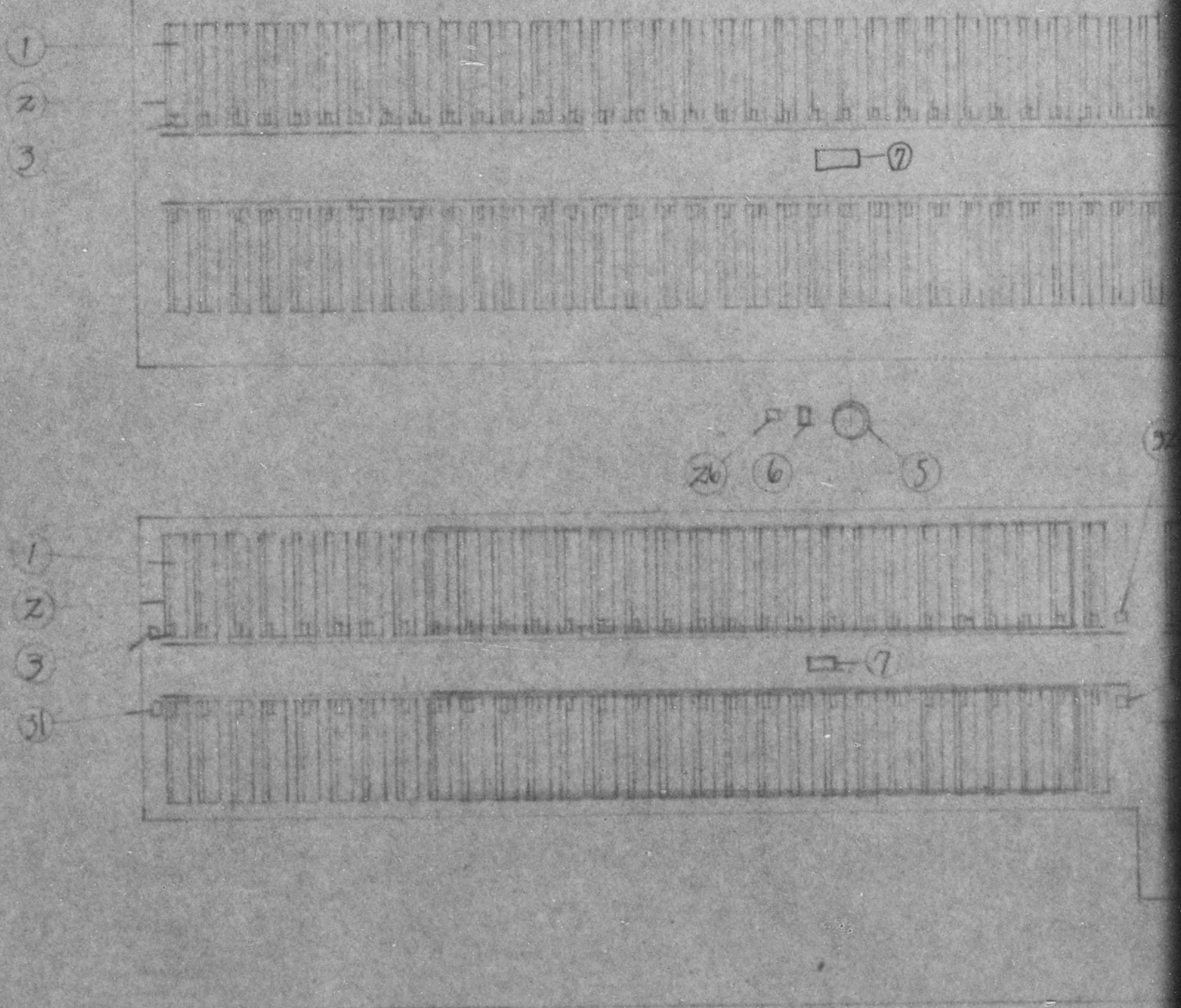
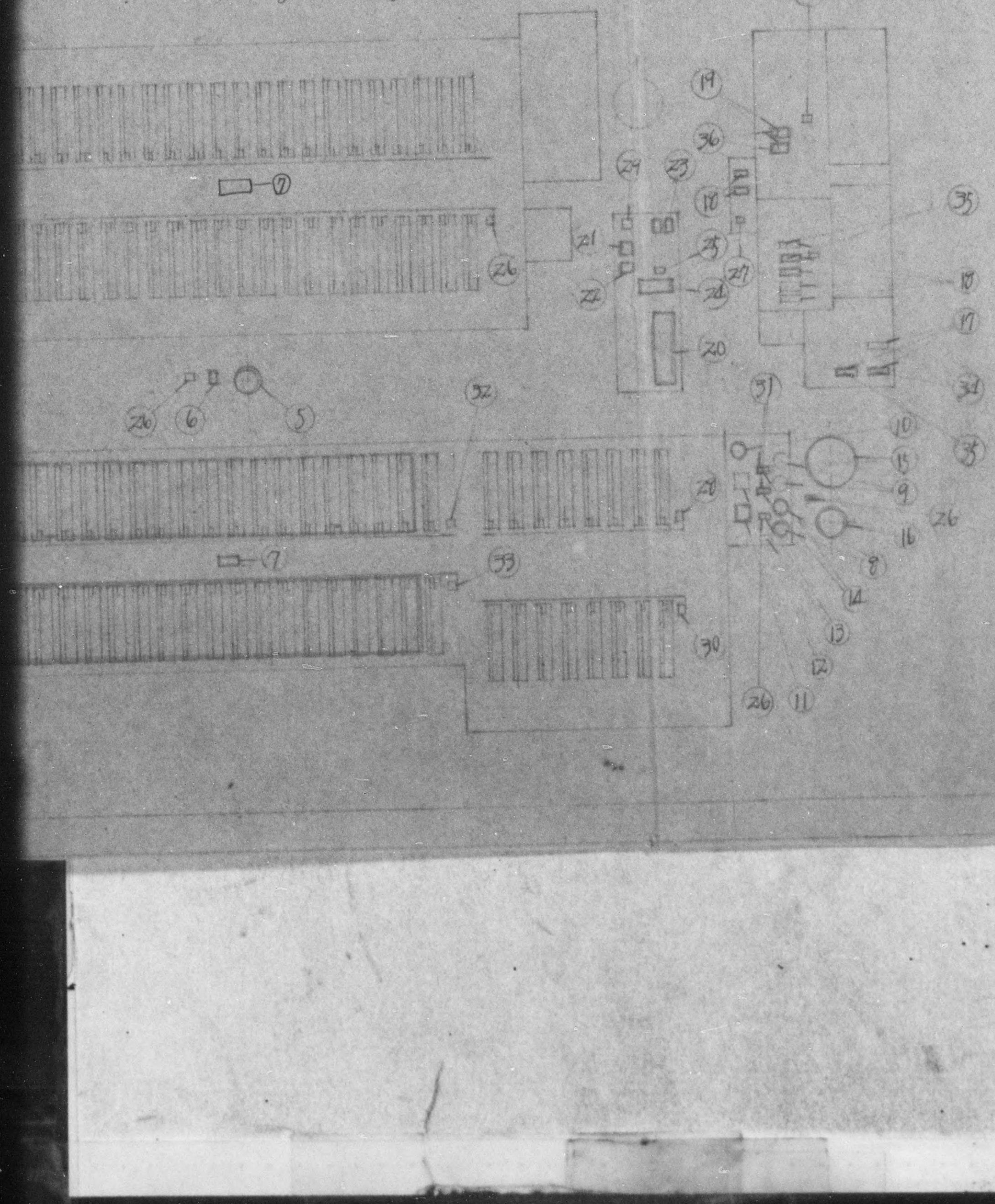
Electrolysis Equip



DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

Electrolysis Equipment



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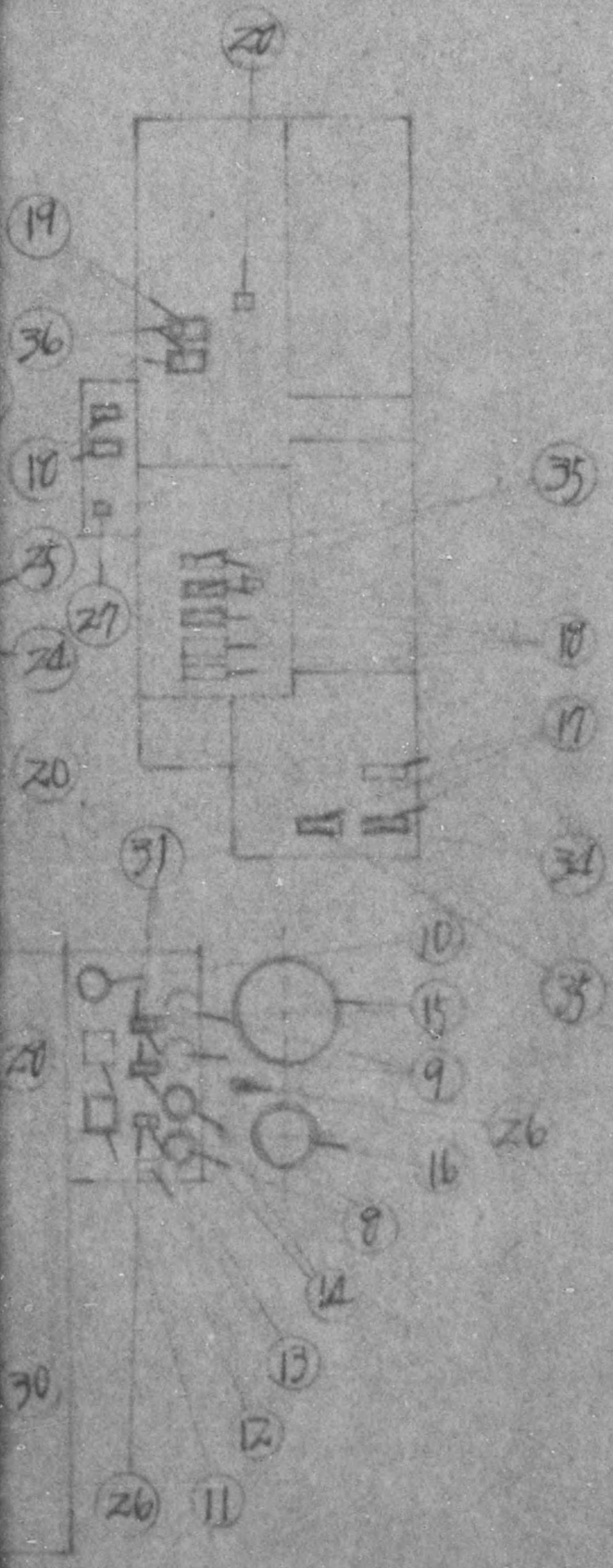

1	Electrolysis Cell	146
2	Decomposition Vessel	146
3	Mercury pump	146
4	Electrical Conductor	1
5	Head Tank for Water	1
6	Centrifugal pump	3
7	Heating Tank for Water	1
8	Caustic Soda Solution Tank	2
9	" "	2
10	" "	1
11	Caustic Soda receiving Tank	1
12	" "	1
13	Centrifugal pump	2
14	" "	2
15	Storage Tank for Salt solution	1
16	Head Tank for Salt solution	1
17	Jarto-Blower	3
18	Centrifugal pump	3
19	" "	3
20	Trommel	1
21	Stirring Washer	1
22	" "	1
23	Vacuum pump	1
24	distillatory Pot for mercury	1
25	Motor	4
26	"	9
27	"	1
28	"	2
29	"	1
30	"	1
31	"	4
32	"	1
33	"	1
34	"	1
35	"	3
36	"	2
		2

April 8

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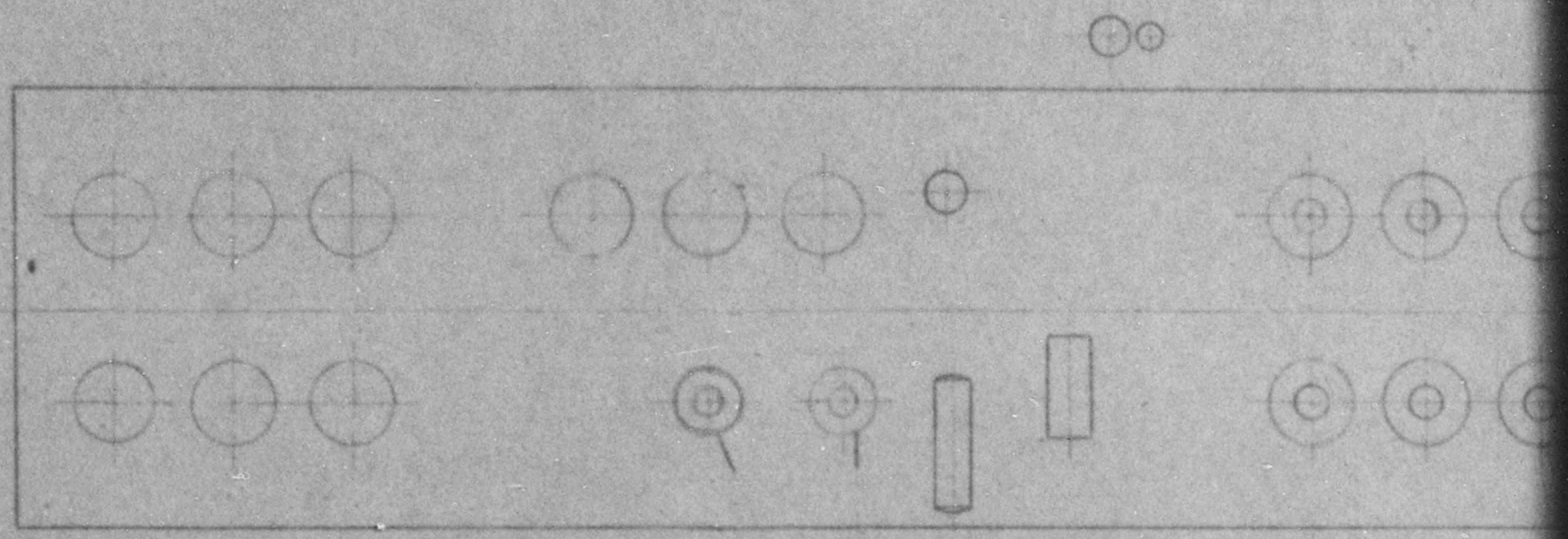
Evaporating Equi



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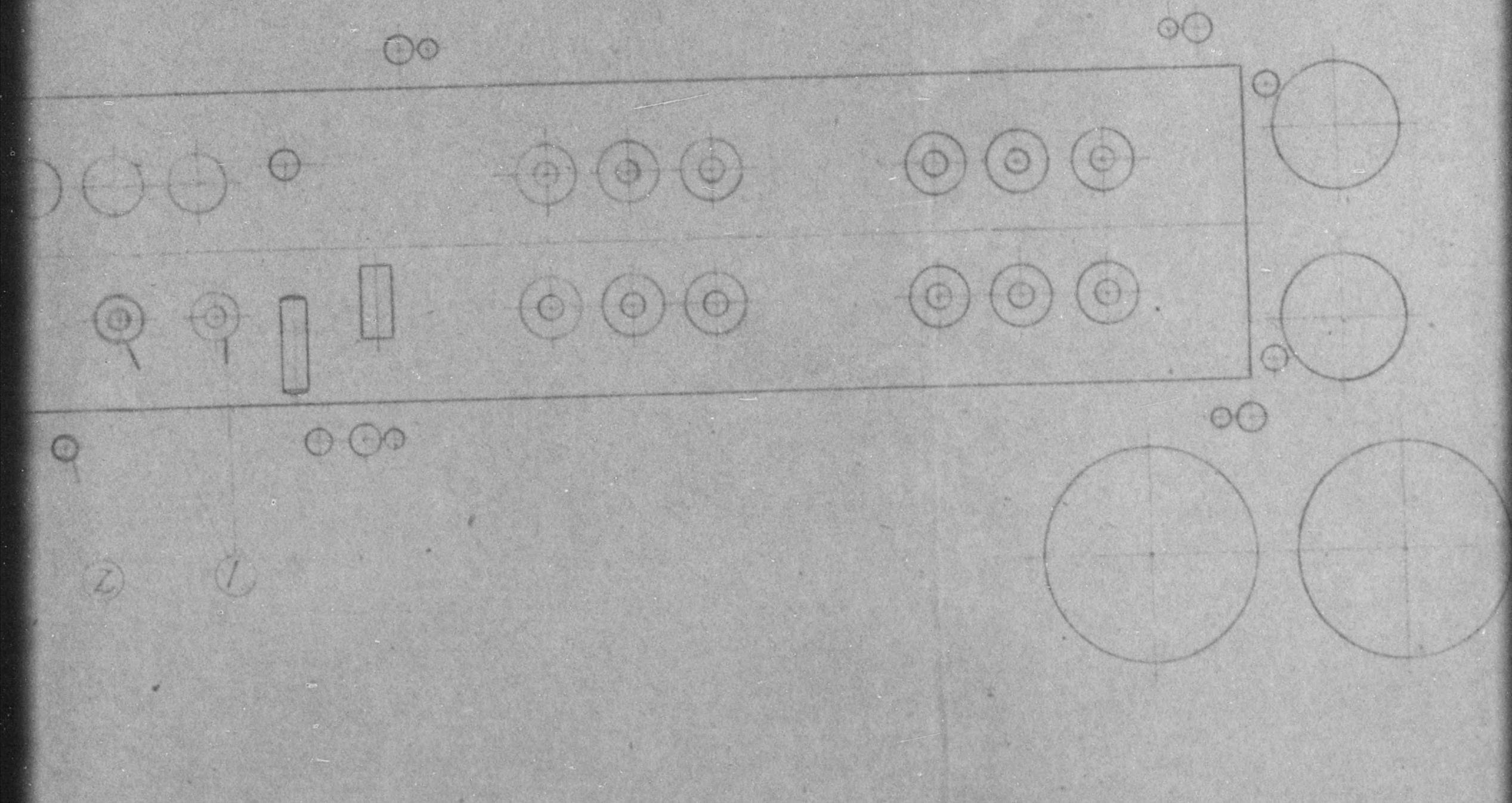
Evaporating Equipment



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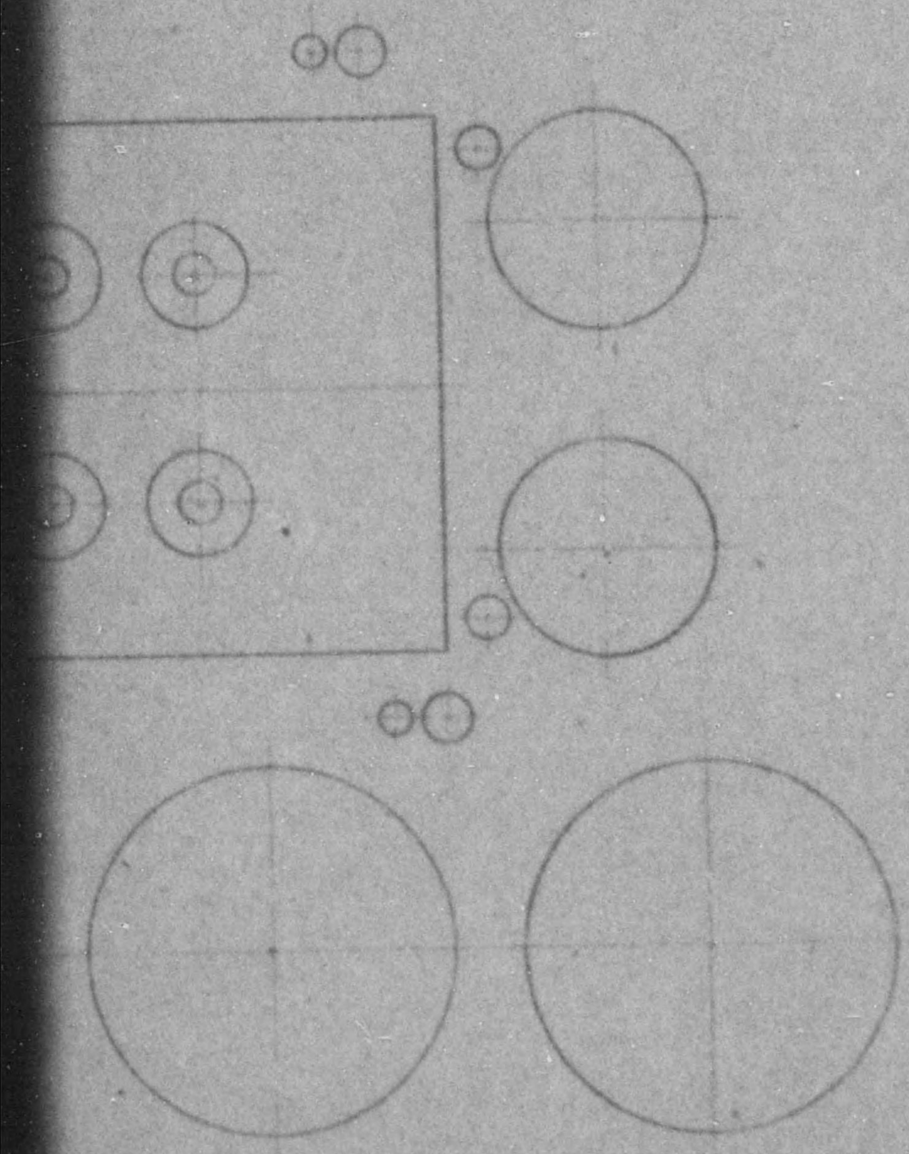
1 Vacuum Evaporator 2
2 Barometric Condenser 1



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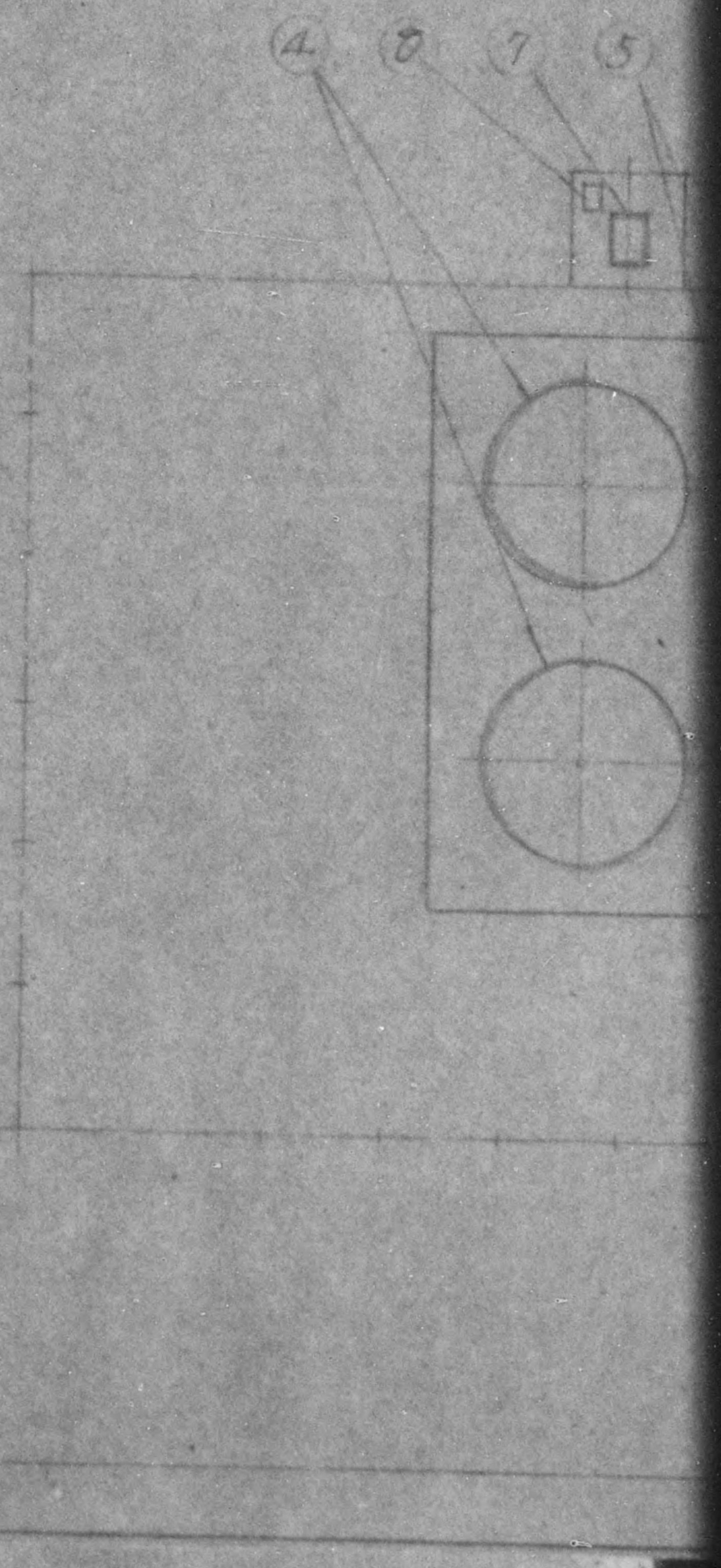
Evaporating Equip



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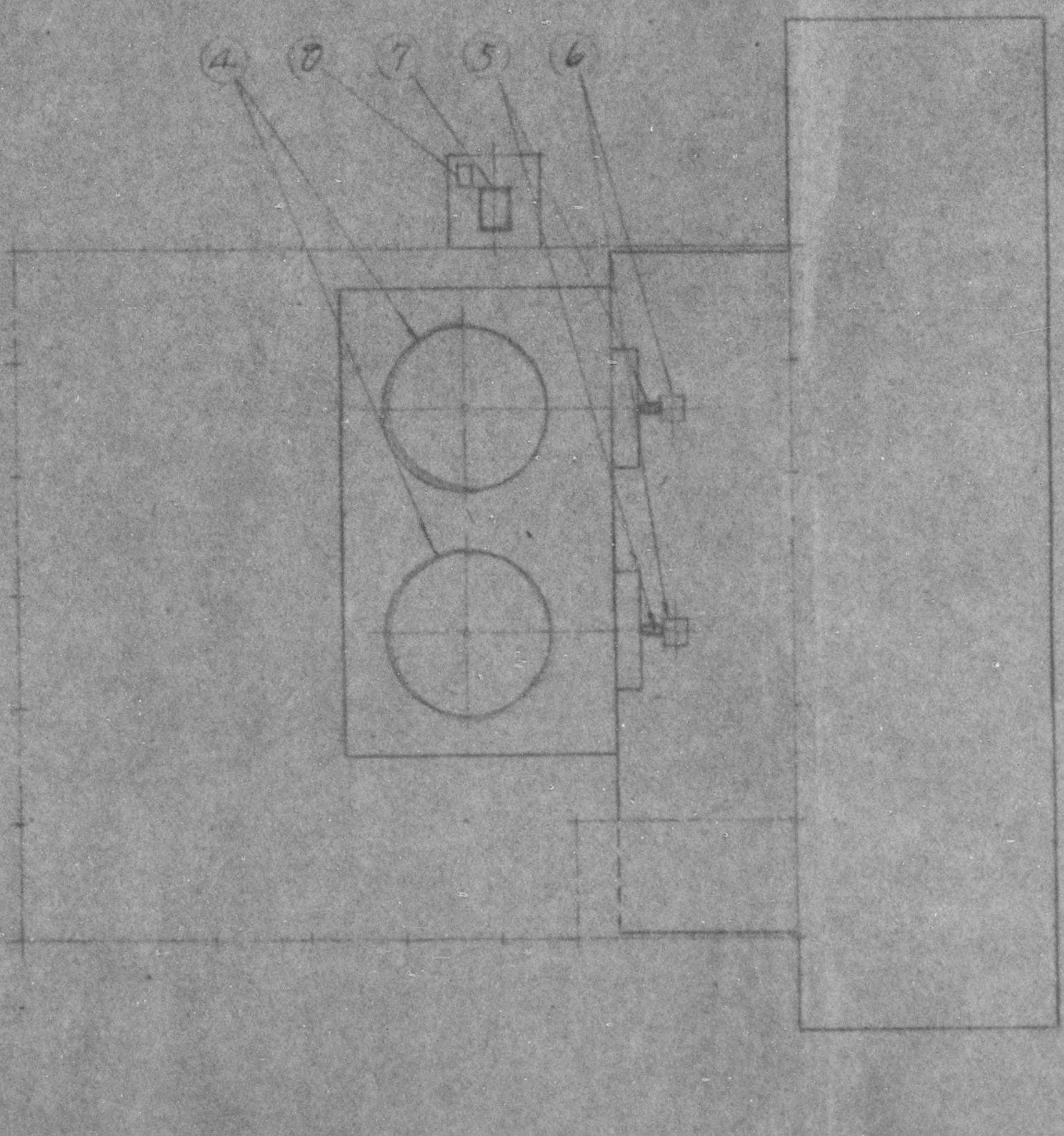
Evaporating Equipment



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3	Store Tank for 50° Bé Caustic Soda Aqueous Solution	1
4	Consentrating Pan	2
5	Stoker	2
6	Motor	2
7	Blower	1
8	Motor	1
9	Chimney	1

Print 2

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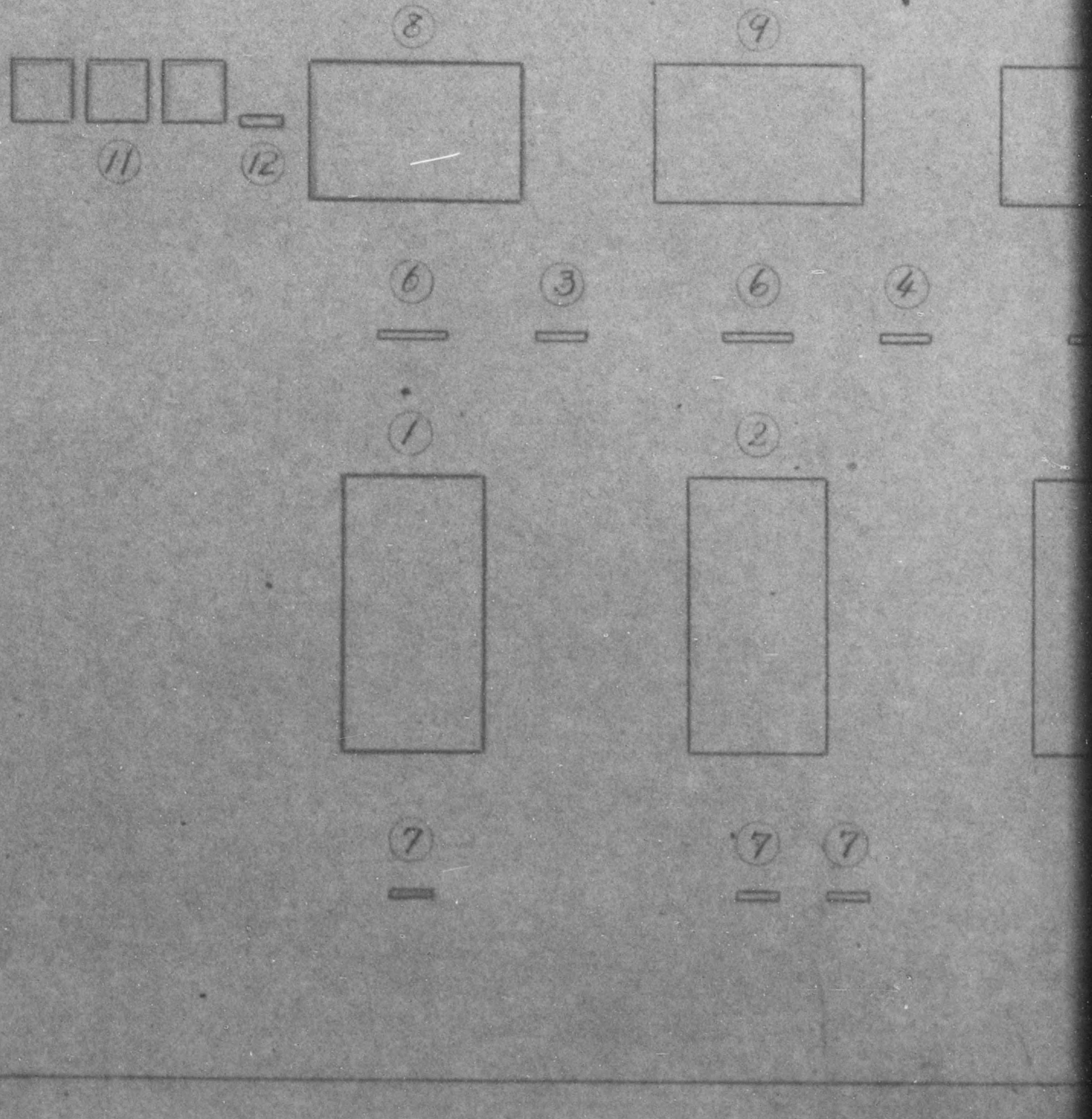
Electric Equip



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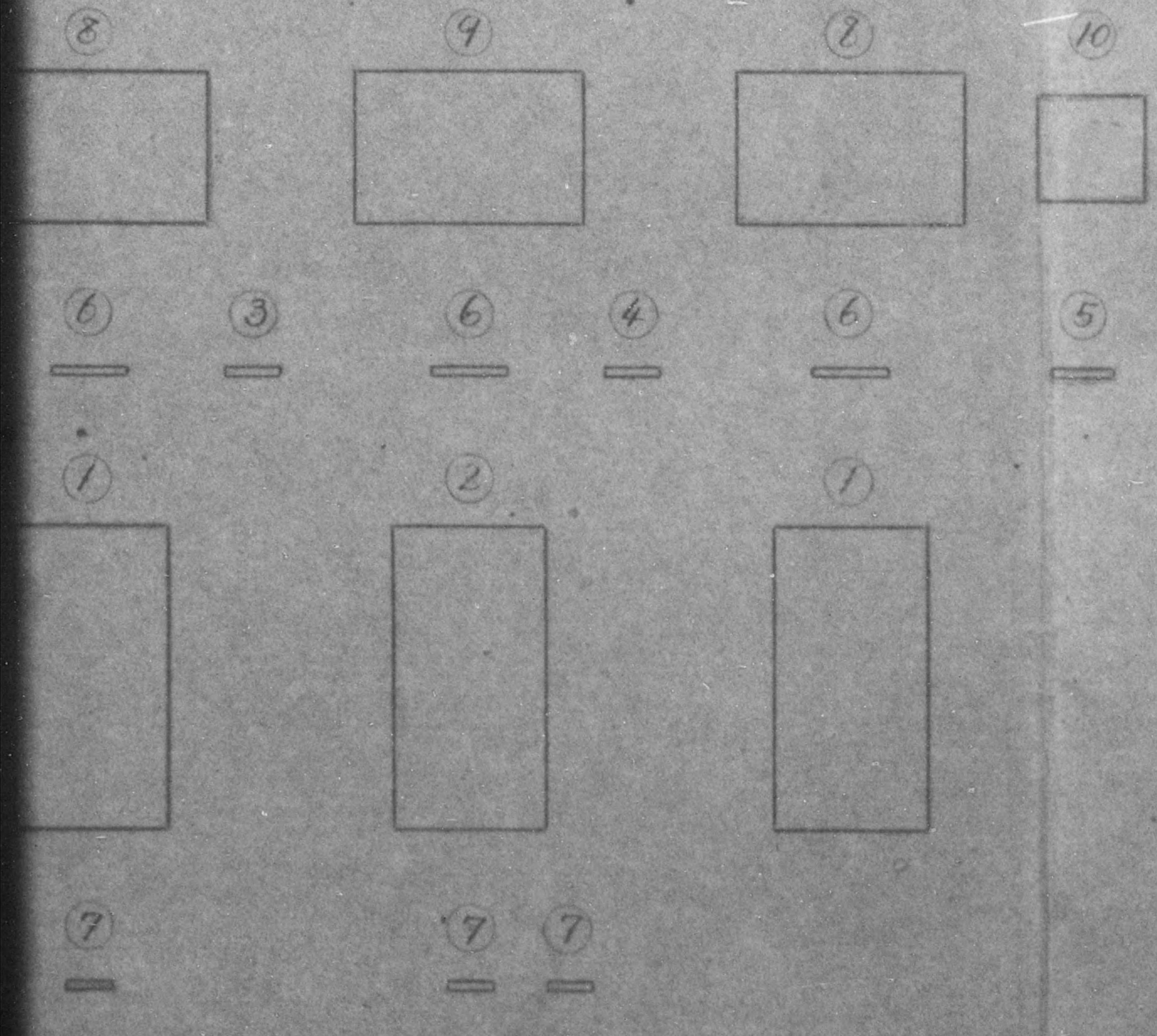
Electric Equipment



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1. Rotary Converter	2
2. "	1
3. Switch board	1
4. "	1
5. "	1
6. " for Converter	3
7. Switch board	3
8. Transformer	2
9 "	1
10. Induction voltage Regulator	1
11. Transformer	3
12. Switch board	1
13. "	1
14. "	1

(14) (13)

Inv 2

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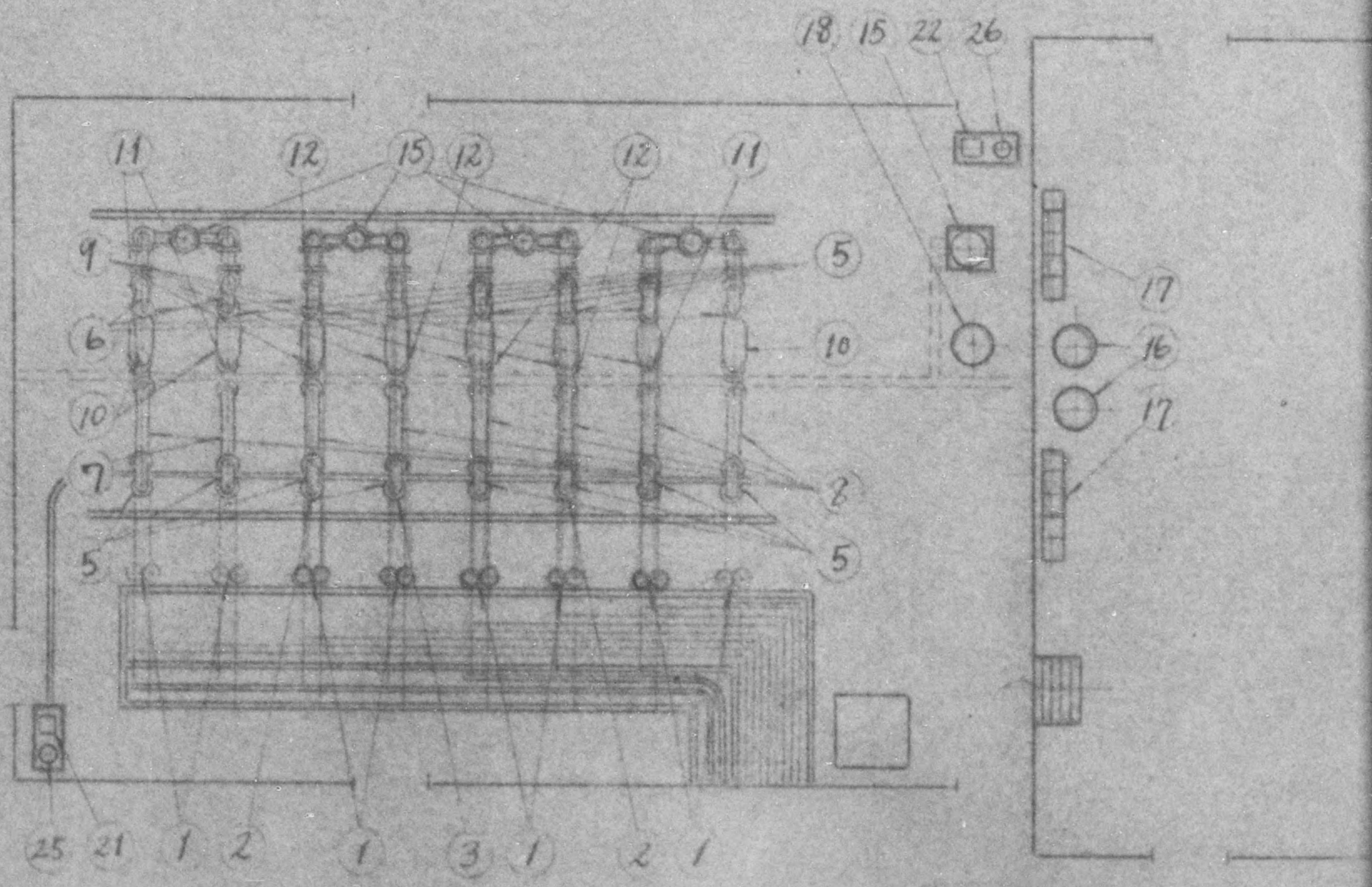
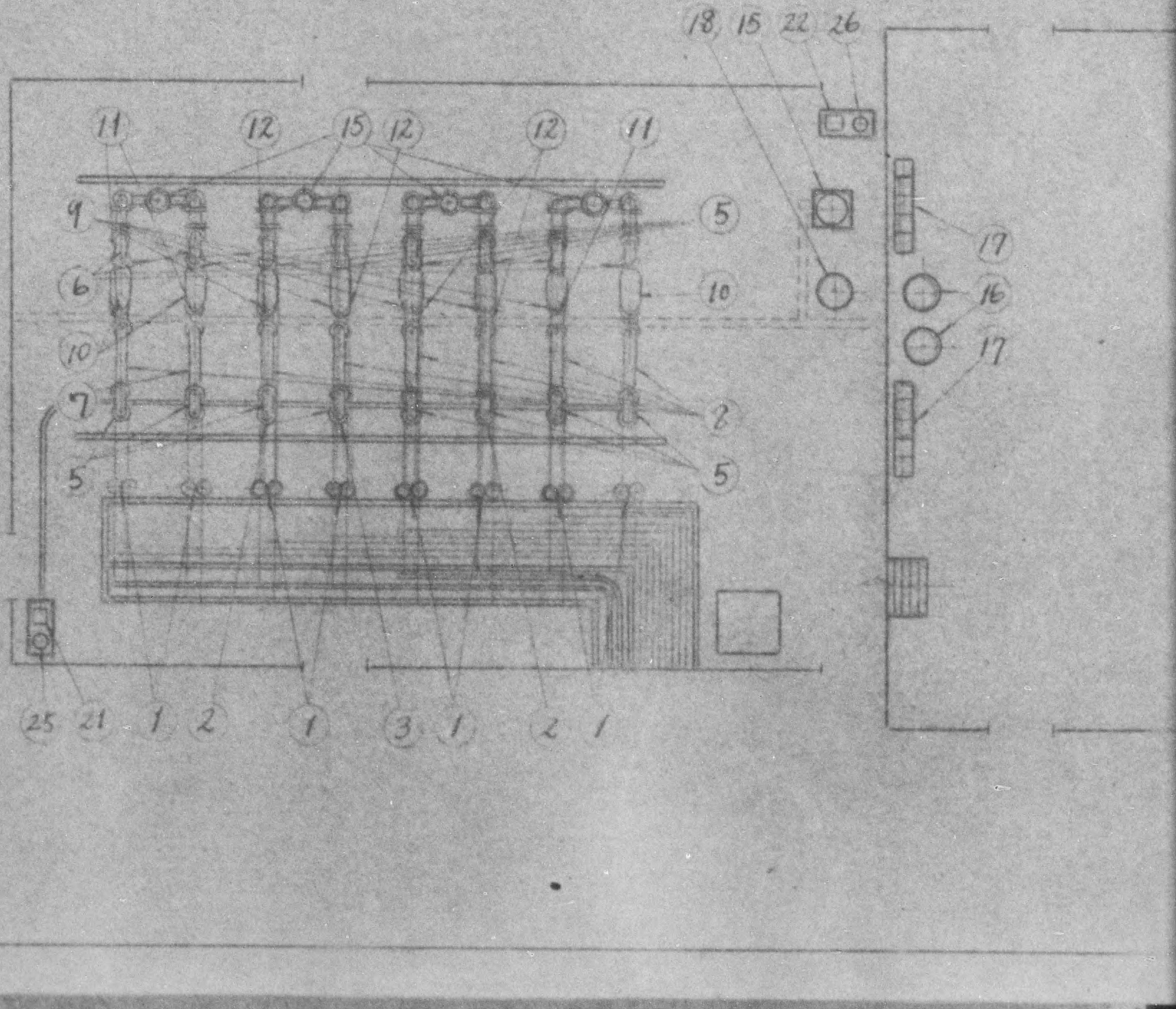
Hydrochloric Acid Equip



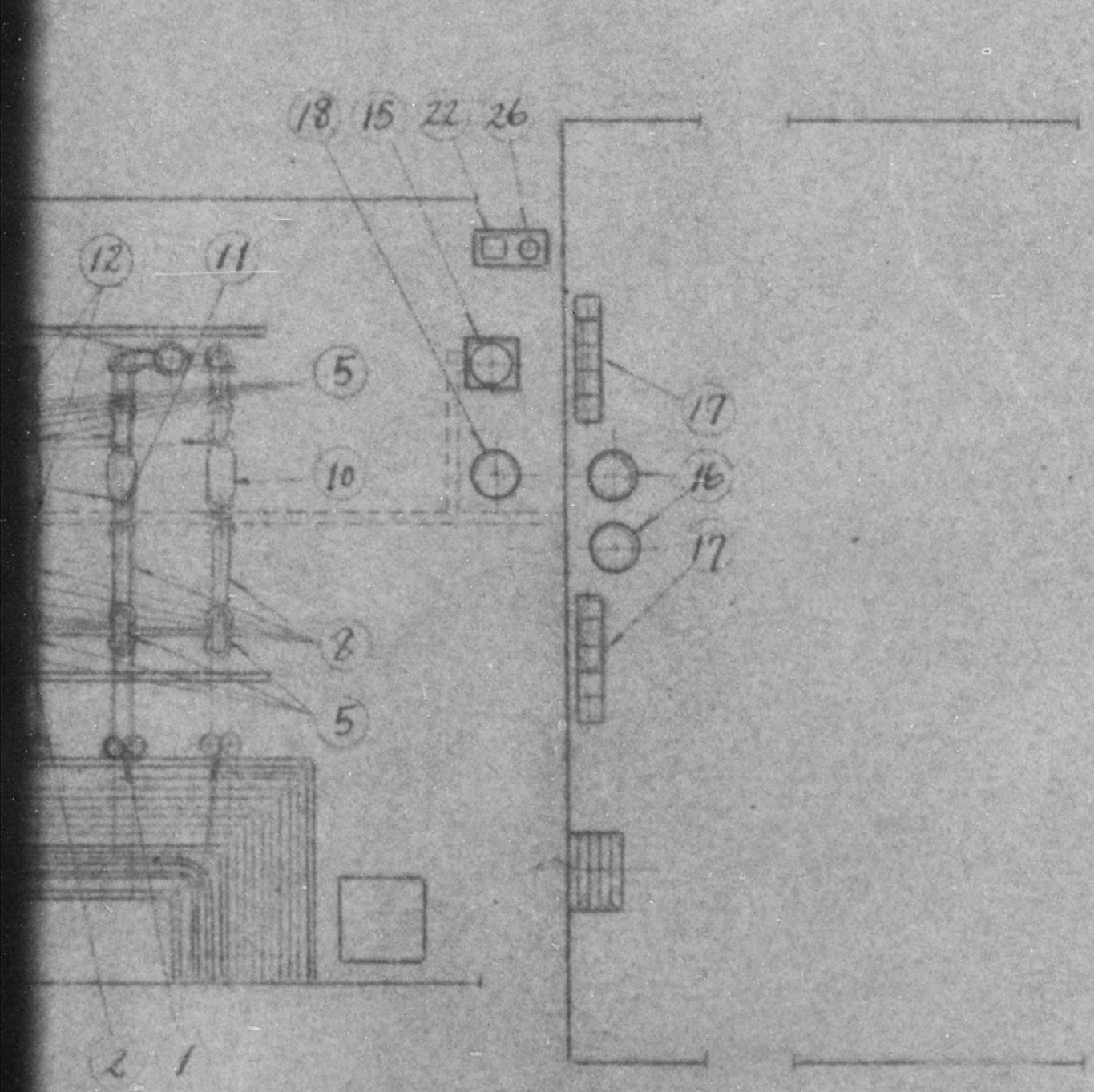
DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

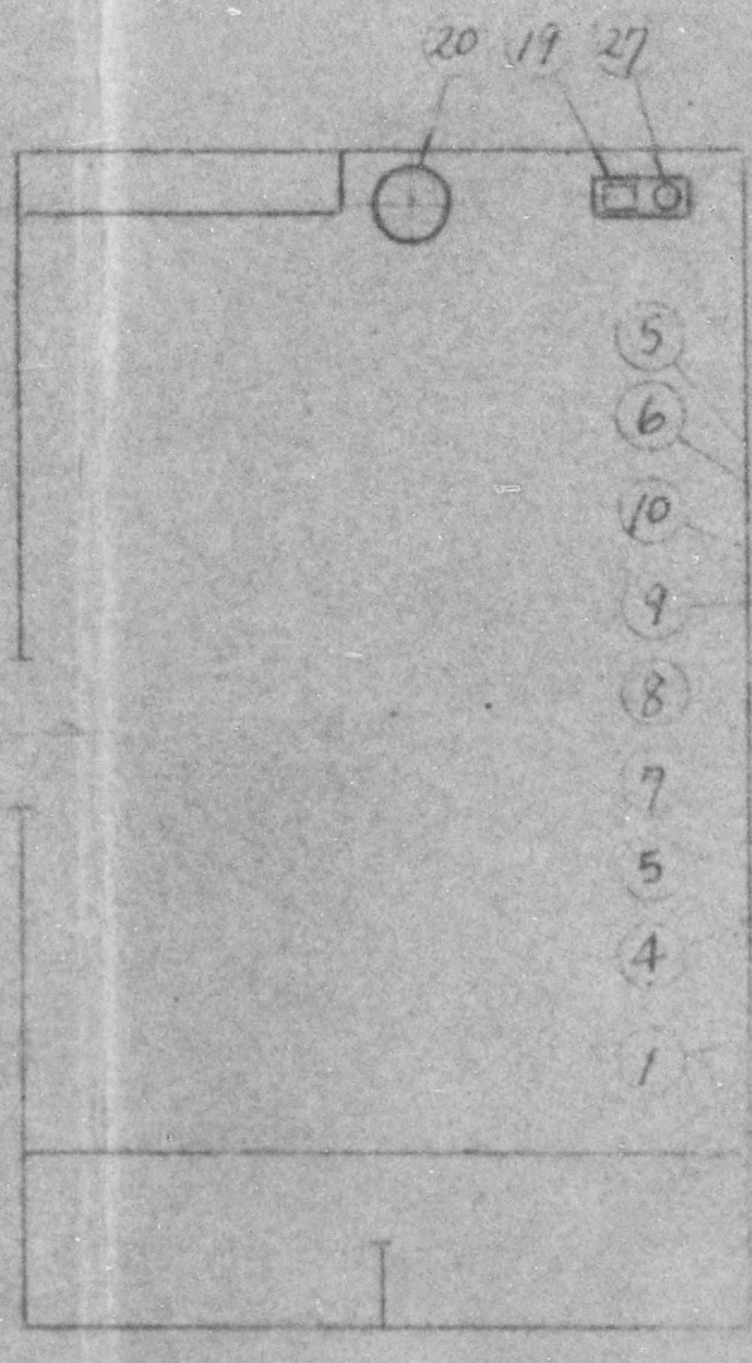
Hydrochloric Acid Equip



DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

Hydrochloric Acid Equipment





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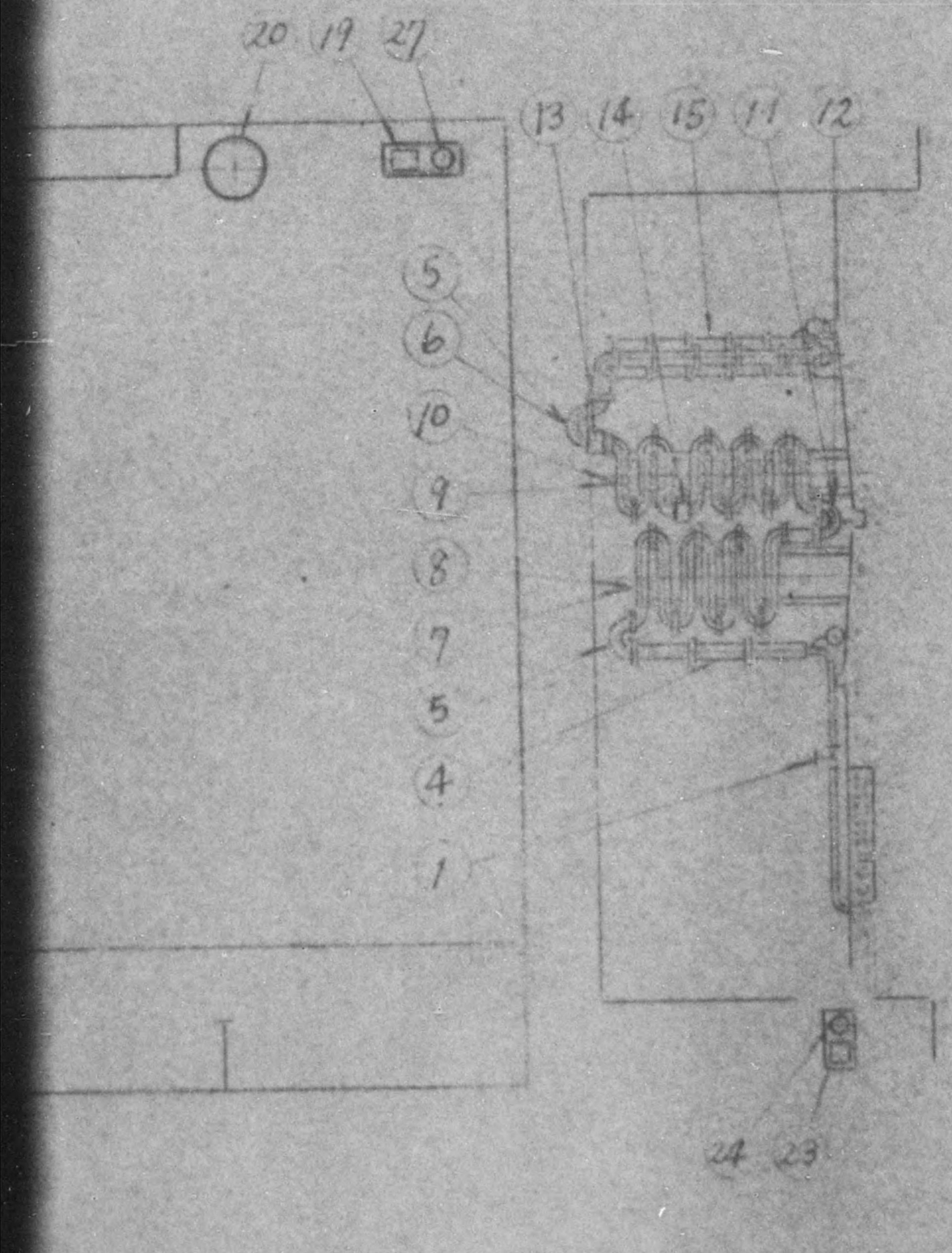

1. Cock
2. 3. Burner jet
4. Combustion tube
5. 6. Bend U type
7. 8. " S "
9. 10. Absorption vessel
11. 12. Trap
13. 14. Tower section
15. Absorption tower
16. Receiver
17. Measuring bottle
18. Assembling bottle
19. Air compressor
20. Compressed air tank
21. Fan
22. Exhauster
23. Pump
24. ~ 27. Motor

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

SUPPLEMENTAL PETITION
FOR
THE EXEMPTION OF EQUIPMENTS
DESIGNATED FOR REPARATIONS

To : The Commanding General of 8th Army, U. S.

Thru : The Toyama Military Government Team

Thru : Nagoya Commerce and Industry Bureau

May 25 , 1947

Takaoka Plant, Nippon Soda Co., Ltd.

No. 420, Makaino-machi, Takaoka City, Toyama Pref.

Incl 13

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

Though we submitted the application, in Sept., 1946, for the exemption of our sulfuric acid unit and a part of our caustic soda unit which were designated for reparations on Aug. 24, 1946 in accordance with the interim reparation program, we present herein the application for this subject supplementally and hope your generous consideration again.

1. Receiving the direction for clarification of designated caustic soda unit from the Toyama Military Government Team on Feb. 24, 1947, our bleaching powder unit, hydrochloric acid unit and liquid chlorine unit were also designated for reparations.

Though we alluded to the matters of these chloride products in the formerly submitted application, we hope to detail herein again about these matters.

We are planning the following production in the future.

Name of products	Quantity per month
35% hydrochloric acid	100 tons
Liquid chlorine	80 "
Bleaching powder	36 "
Chlorosulfonic acid	93 "

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(1) Bleaching powder unit

Bleaching powder is not only indespensable for manufacturing chloramine (disinfectant), of which production is planning in our plant, but also used for general industries and disinfection. In this unit, desired equipment to be remained, are these which are necessary for manufacturing 36 tons of bleaching powder per month.

(2) Hydrochloric acid unit

Chlorosulfonic acid, raw material for medicines of the sulphanilamide group, is manufactured from hydrogen chloride gas which is synthesized in this hydrochloric acid unit. Also, hydrochloric acid is indespensable for manufacturing medicines of the sulphanilamide group as raw material, and furthermore recently the demand for this acid has become greater in the field of general industries ----- especially in the field of the food stuff industry.

Equipments desired to be remained is as follows, of which total capacity is 325 tons per month.

a. Equipments which are indespensable for manufacturing 52.6 tons of hydrogen chloride gas as raw material for 93 tons of chlorosulfonic acid, and with which we can manufacture 225 tons of hydrochloric acid per month in such time when these equipments are used for manufacturing hydrochloric acid.

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b. Equipments which are necessary for manufacturing

100 tons of hydrochloric acid per month

(3) Liquid chlorine unit

Not only liquid chlorine is used for pulp industry and other general industries but also it is the most important chemical for disinfection of drinking water. Equipments desired to be remained are these which are necessary for manufacturing 80 tons of liquid chlorine per month.

2. Our plant is mainly manufacturing medicines of the sulphanilamide group which are indespensable for the maintenance of the public health. Equipments, which are desired to be exempted from reparations, are necessary for manufacturing these medicines. So, it is better to say that these equipments are a part of the medicine manufacturing unit as same as the caustic soda unit which is considered to be a part of the ammonium sulphate unit in fertilizer plants.

(1) The patent medicines of Toyama Prefecture noted for home use not only in Japan but also in countries of Far East, and at present is charged with weighty mission for the maintenance of the public health in mountain solitudes of Japan. But in the recent time, owing to the shortage of raw materials, this weighty mission cannot be fulfiled enough. For instance, in 1946 the demand for sulfamine for patent medicine production of Toyama Prefecture was 11,842 kg. but

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the quantity of sulfamine allocated to this production was only 51 kg. From this instance, we can understand easily that our plant is expected by manufacturers of patent medicines of Toyama Prefecture.

(2) Herein we present the output of medicines of the sulphanilamide group in our plant and expect your recognization for our efforts for the maintenance of the public health.

a. Sulfamine(Vital products for suppurative diseases such as gonorrhoea, tonsilitis, erysipelas, appendictis, boils etc.)

Month	Total quantity of country	Quantity of our plant	Percentage
Jan., 1947	6, 330 kg	1,002 kg	15.8
Feb., 1947	9,095 "	1,144 "	12.6
Mar., 1947	6,206 "	1,004 "	16.1
Total	21,631 "	3,150 "	14.6

b. Sulfaguanidine (Vital medicine for dysentery, diarrhoea, colities etc.)

Month	Total quantity of country	Quantity of our plant	Percentage
Jan., 1947	380 kg	---	0
Feb., 1947	796 "	80 kg	10.0
Mar., 1947	686 "	404 "	59.2
Total	1,862 "	484 "	26.1

Note: Quantities were compiled from the Yakuhin Nippo

(3) The demand for medicines of the sulphanilamide group ----- especially for sulfamine is increasing more and more.

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We hear, the demand for sulfamine for medical treatment is about 10 tons per month. But according to the report from the Welfare Ministry, mean output of sulfamine from Jan. to Mar. of this year is only 7,210 kg. So, more efforts for increasing the production of sulfamine are requested for the maintenance of the public health.

(4) We are researching on manufacturing such medicines as sulfamethyl diagine, sulfathiazol, ethyl aminobenzoate, aminopyrine and antipyrine and we think, the production of these medicines have to be carried on even by the conversion of a part of saccharine manufacturing equipments.

3. As soon as our plant was designated for reparation we organized the Reparation Department to execute faithfully our duties and responsiblities. On the other hand, in our plant there are about 1,100 employees and about 350 labors, and their faithfulness for their duties is bespoken by following facts ----- namely, they contributed to the public welfare by manufacturing liquid chlorine for disinfection of city water and by manufacturing sulfamine for the treatment of Japanese repatriated women from abroad surmounting all dificulties. Thus, we think, the gratification to send their life in our plant has to be blest on these faithful and serious persons.

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As above mentioned, we expect your recognization for the importance of medicines of the sulphanilamide group and necessity of chlorosulfonic acid for its production, and hope your kind assistance for this petition.

FOR TAKAOKA PLANT, NIPPON SODA CO.

Tadayoshi Toda

Superintendent

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

004 Rep.

HEADQUARTERS
[illegible]
APO 71

LM/sn

28 April 1947

SUBJECT: Exclusion of Reparations Machinery

TO : Supreme Commander for the Allied Powers, APO 500
ATTN: [illegible] Department
(Thru Channels)

1. The Takaoka Caustic Soda Plant of Nippon Soda had been placed under reparational custody and control in compliance with SCAPIN-1129, dated 13 August 1946.

2. Since June 1946 the Takaoka Plant has been conducting research work on the production of Penicillin, and has now succeeded in extracting "Penicillin Natrium," which contains 1,400,000 Oxford Units per gram.

3. The plant is now in the process of constructing a "pilot plant" and in the near future plans to build a larger plant for the production of Penicillin. The chief bottleneck for this new enterprise is the lack of certain proper equipment which cannot presently be obtained on the market.

4. However, certain equipment which could be utilized in the making of Penicillin (see appendix 2 of inclosure) is now lying idle in the "Liquid Chlorine Unit" of the Caustic Soda Plant, due to the great shortage of salt.

5. It is the proposal of Nippon Soda to remove the above-mentioned equipment from the confines of the "Liquid Chlorine Unit" area to another portion of the premises of the Takaoka Plant where the Penicillin Plant is to be built.

6. Taking into account the necessity for Penicillin in Japan and the present degree of success of the Penicillin experiments within the Takaoka Plant, this office recommends that the above plant be allowed to use the proposed equipment as planned and that the equipment listed in Annex 2 of Inclosure either be entirely removed from repartations, or that the removal date of the above equipment be delayed until such time that similar equipment may be purchased on the market.

FOR THE COMMANDING OFFICER:

/s/ Frank W. Etherington
/t/ FRANK W. ETHERINGTON
1st Lt., CE
Adjutant

1 Inclosure:
Five (5) Copies of Application for Exclusion

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

BASIC: Ltr, Hq Toyama Mil Govt Team, subj: "Exclusion of Reparations Machinery", dtd 28 Apr 47.

1st Ind GNM/ss

Hq Tokai-Hokuriku Mil Govt Region, APO 710, 5 May 47

TO: CG, I Corps, APO 301
(ATTN: Mil Govt Section)

Information has not been made available regarding criteria for selection of chemical plants presently designated for reparations. Therefore, this petition is forwarded without recommendations.

FOR THE COMMANDING OFFICER:

/s/ Frank M. Wilkins
/t/ FRANK M. WILKINS
Maj FA
Adjutant

1 Incl:
n/c
1cc w/d

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

Ref: Ltr, Hq Texas Mil Govt Team, subj: "Evaluation of Reparations Machinery", dtd 28 Apr 47

AG 00[illegible] - [illegible] 2nd Ind [illegible]/ca

Hq I Corps, APO 301, 20 MAY 1947,

TO: CO, 11[illegible]th Hosp, APO 23.

1. Reference: Letter, Texas Military Government Team to Commanding General, I Corps, subject: "Evaluation from Reparations," dated 27 September 1946, and 2nd Indorsement thereto, this headquarters to your headquarters, dated 15 October 1946.

2. Reference letter consisted of an application of the Nippon Coke & [illegible], Tokuyama Plant (40-20 mile) for removal from the reparations list.

3. Inclosure 2 hereto, consists of a new application from the Nippon Coke & [illegible] for evaluation of eighteen (18) units of chemical equipment and ordinary movable, located in the Shanghai area, from reparations claim. Each unit now available in connection with inventory and evaluation issued by higher headquarters.

4. The basis of this application is the need in Japan for the penicillin which the plant is in a position to produce. Reduction of medical plants for reparations is based on the desire of the Supreme Commander to reduce productive capacity in Japan to pre-determined levels. Captain Bailey, Public Health Officer, Texas Military Government Team, has advised the opinion that, provided this plant is completed from reparations, the technical staff of the Tokuma plant is competent to supervise mass production of penicillin.

FOR THE COMMANDING GENERAL:

1 Incl:
Ltr copy w/d

15525

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

59 - 10

HEADQUARTERS
TOYAMA MILITARY GOVERNMENT TEAM
APO 713

EM/sn

25 April 1947

SUBJECT: Exclusion of Reparations Machinery

TO : Supreme Commander for the Allied Powers, APO 500
ATTN: ESS Department
(Thru Channels)

1. The Takaoka Caustic Soda Plant of Nippon Soda had been placed under reparational custody and control in compliance with SCAPIN-1129, dated 13 August 1946.

2. Since June 1946 the Takaoka Plant has been conducting research work on the production of Penicillin, and has now succeeded in extracting "Penicillin Natrium," which contains 1,400,000 Oxford Units per gram.

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FOR THE COMMANDING OFFICER:

FRANK W. ATHERINGTON
1st Lt., CE
Adjutant

1 Inclosure:
Five (5) Copies of Application for Exclusion

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

(35) Nippon Soda 3-307

INVENTORY FORM FOR CAUSTIC SODA PLANTS

Date 18 April, 1947

Name of Company Nippon Soda CO., Ltd. Related SCAPIN No. 1129

Name of Plant Takaoka Plant Code No. 42 - 10

Address of Plant No. 420, Mukaino-machi, Takaoka City, Toyama Prefecture.

	Number Marked	
I. Chemical Manufacturing		140
A. Equipment		140
1. Electrolysis cells	97	
2. Evaporators for caustic	2	
3. All other equipment used for manufacturing caustic soda (except that listed below)	41	
II. Electrical Machinery and Apparatus		42
A. Electrical Rotating Equipment		24
1. Generators	0	
2. Motors	21	
3. Motor generators	0	
4. Frequency changers	0	
5. Converters and inverters	3	
6. Generator sets (direct coupled to fire mover)	0	
B. Primary Electric power Transmission and Distribution		18
1. Transformers	6	
2. Switches	12	

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 775 013

INVENTORY FORM FOR CAUSTIC SODA PLANTS

Date 18 April, 1947

Name of Company Nippon Soda Co., Ltd. Related SCAPIN No. 1129

Name of Plant Takaoka Plant Code No. 42 - 10

Address of Plant No. 420, Kukaino-machi, Takaoka City, Toyama Prefecture.

	Number Marked
III. General Purpose Industrial Machinery and Equipment	53
A. Engines, Turbines and Boilers	0
1. Steam engines	0
2. Steam turbines	0
3. Boilers, Power	0
4. Insternal combustion engines	0
B. Compressors and Pumps	53
1. Compressors and dry vacuum	10
2. Pumps	43

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 773 013

DETAILS OF THE MACHINERIES OF CAUSTIC SODA PLANT

FOR INVENTORY

Takaoka Plant, Nippon Soda Co., Ltd.

No. 420, Mukaino-machi, Takaoka City,
Toyama Prefecture.

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. 743013

Details of the number of the machineries for inventory

Item	Number Inventoried	Number not inventoried	Total
I Chemical Manufacturing			
A. Equipment			
1. Electrolytic cell	97 (194)	49 (99)	146 (293)
2. Evaporators for caustic soda	2 (1)	0	2 (1)
3. All other equipment used for manufacturing caustic soda	41 (4)	25 (0)	66 (4)
II Electrical Machinery and Apparatus			
A. Electrical roating equipment			
2. Motors	21 (0)	0	21 (0)
5. Converters and inverters	3 (1)	0	3 (1)
B. Primary Electric Power tranamission and Distribution			
1. Transformers	6 (0)	0	6 (0)
2. Switches	12 (0)	0	12 (0)