GENERAL ELECTRIC COMPANY

SUPPLIES

Supply Department
Schenectady, N. Y.
April, 1904

WIRE AND CABLE

Notes — Continued

Third — Type of insulation — weatherproof, rubber, paper, varnished cambric, asbestos, etc.

Fourth — The normal working pressure of the circuit.

Fifth — Purpose for which the cable is to be used, i. e., underground, overhead, station wiring, extra flexible, special wire, etc.

Unless otherwise stated, prices quoted do not include delivery.

Standard rubber-covered wire and cable are made in two grades, one having white core and the other red core insulation.

White core insulation is guaranteed to contain 30% of fine Para rubber. This rubber compound is suitable for use under the most severe conditions which any rubber insulation is capable of standing, and is recommended for underground, submarine, mine and tropical use and for use in ship wiring and in central station work for all potentials.

Red core insulation contains the same percentage of rubber, but of a cheaper grade, and will meet all tests prescribed by National Electric Code. It is intended for house wiring and for general use on potentials not exceeding 5000 volts.

For underground and submarine work we recommend that cables be not worked at more than one-half the pressure with which they are tested. If wires or cables are run on insulators in dry places they may be safely worked at test pressure.

Special wire and cable for government use are manufactured by the General Electric Company in all styles and sizes in accordance with government specifications. Prices will be furnished on application.

Finishes

The standard finish carried in stock is black weatherproof braid. The following special finishes are furnished to order:

White underwriters' braid.

Plain lead jacket.

Lead jacketed cable protected by double wrap of asphalted jute. (C. L. A.)

Lead jacket protected by double wrap of asphalted jute, armor or flat steel, taped and outside finish of asphalted jute. (C. L. A. I.)

Also cable wire, armored over the lead, or directly over the rubber, as circumstances render desirable, for submarine use.

All wire used in the manufacture of rubber insulated wire and cable is heavily and evenly tinned.

In addition to the ordinary galvanometer tests, the wire and cable are tested with an alternating potential for thirty minutes, as specified in the various tests. The working of cable at potentials exceeding one-half their specified test pressure for thirty minutes is not recommended.

Special rubber-covered wire and cable with lead jackets will be covered with the following thicknesses of lead unless otherwise specified:

Outside diameter of cable (inside diameter of lead pipe).

Up to and including .500″	$\frac{1}{64}$″
.501″ to .750″, inclusive	$\frac{1}{16}$″
.751″ to 1.250″, inclusive	$\frac{3}{64}$″
1.251″ to 1.5″, inclusive	$\frac{3}{32}$″
Larger than 1.501″	$\frac{1}{8}$″

WIRE AND CABLE

Comparative Gauge Table

Table of wire gauges showing the comparative ratings of the Brown & Sharpe or American (B.&S.), the Birmingham (B.W.G.), and the British Standard (S.W.G.) wire gauges.

Gauge Numbers			Diameter in Inches			Gauge Numbers			Diameter in Inches		
B.&S.	B.W.G.	S.W.G.	B.&S.	B.W.G.	S.W.G.	B.&S.	B.W.G.	S.W.G.	B.&S.	B.W.G.	S.W.G.
0000	0000	000000	.4600	.454	.464	19	20	20	.0359	.035	.036
	000	00000		.425	.432	20	21	21	.0320	.032	.032
000		0000	.4096		.400	21	22	22	.0285	.028	.028
00	00	000	.3648	.380	.372	22	23	23	.0253	.025	.024
	0	00		.340	.348	23	24	24	.0226	.022	.022
0		0	.3249		.324	24	25	25	.0201	.020	.020
	1	1		.300	.300	25	26	26	.0179	.018	.018
1	2	2	.2893	.284	.276	26	27	27	.0159	.016	.0164
2	3	3	.2576	.259	.252	27	28	28	.0142	.014	.0148
3	4	4	.2294	.238	.232		29	29		.013	.0136
	5			.220	.212	28	30	30	.0126	.012	.0124
4	6		.2043	.203	.192	29		31	.0113		.0116
5	7		.1819	.180	.176			32			.0108
6	8	8	.1620	.165	.160	30	31	33	.0100	.010	.0100
7	9	9	.1443	.148	.144	31	32	34	.0089	.009	.0092
8	10	10	.1285	.134	.128	32	33	35	.0080	.008	.0084
9	11	11	.1144	.120	.116	33	34	36	.0071	.007	.0076
10	12	12	.1019	.109	.104			37			.0068
11	13	13	.0907	.095	.092	34		38	.0063		.0060
12	14	14	.0808	.083	.080	35		39	.0056		.0052
13	15	15	.0720	.072	.072	36	35	40	.0050	.005	.0048
14	16	16	.0641	.065	.064	37		41	.0045		.0044
15	17	17	.0571	.058	.056	38	36	42	.0040	.004	.0040
16	18	18	.0508	.049	.048	39		43	.0035		.0036
17	19		.0453	.042				44			.0032
18		19	.0403		.040	40		45	.0031		.0028

Common Fractions and Their Decimal Equivalents

Fraction	Decimal	Fraction	Decimal	Fraction	Decimal	Fraction	Decimal
$\frac{1}{64}$	.0156	$\frac{33}{64}$	.5156	$\frac{17}{64}$	.2656	$\frac{49}{64}$	.7656
$\frac{1}{32}$	.0313	$\frac{17}{32}$	.5313	$\frac{9}{32}$	.2813	$\frac{25}{32}$	.7813
$\frac{3}{64}$	.0469	$\frac{35}{64}$	.5469	$\frac{19}{64}$	.2969	$\frac{51}{64}$	.7969
$\frac{1}{16}$	.0625	$\frac{9}{16}$	.5625	$\frac{5}{16}$	.3125	$\frac{13}{16}$	.8125
$\frac{5}{64}$	.0781	$\frac{37}{64}$	.5781	$\frac{21}{64}$	.3281	$\frac{53}{64}$	.8281
$\frac{3}{32}$	.0938	$\frac{19}{32}$	.5938	$\frac{11}{32}$	.3438	$\frac{27}{32}$	.8438
$\frac{7}{64}$	.1094	$\frac{39}{64}$	.6094	$\frac{23}{64}$	.3594	$\frac{55}{64}$	.8594
$\frac{1}{8}$	.1250	$\frac{5}{8}$	.6250	$\frac{3}{8}$	.3750	$\frac{7}{8}$	.8750
$\frac{9}{64}$	.1406	$\frac{41}{64}$	.6406	$\frac{25}{64}$	.3906	$\frac{57}{64}$	.8906
$\frac{5}{32}$	.1563	$\frac{21}{32}$	.6563	$\frac{13}{32}$	.4063	$\frac{29}{32}$	.9063
$\frac{11}{64}$	.1719	$\frac{43}{64}$	.6719	$\frac{27}{64}$	.4219	$\frac{59}{64}$	.9219
$\frac{3}{16}$	.1875	$\frac{11}{16}$	.6875	$\frac{7}{16}$	.4375	$\frac{15}{16}$	.9375
$\frac{13}{64}$	.2031	$\frac{45}{64}$	.7031	$\frac{29}{64}$	.4531	$\frac{61}{64}$	.9531
$\frac{7}{32}$	.2188	$\frac{23}{32}$	.7188	$\frac{15}{32}$	.4688	$\frac{31}{32}$	.9688
$\frac{15}{64}$	.2344	$\frac{47}{64}$	.7344	$\frac{31}{64}$	.4844	$\frac{63}{64}$	.9844
$\frac{1}{4}$	.2500	$\frac{3}{4}$	.7500	$\frac{1}{2}$	.5000	1	1.0000

GENERAL ELECTRIC CATALOGUE

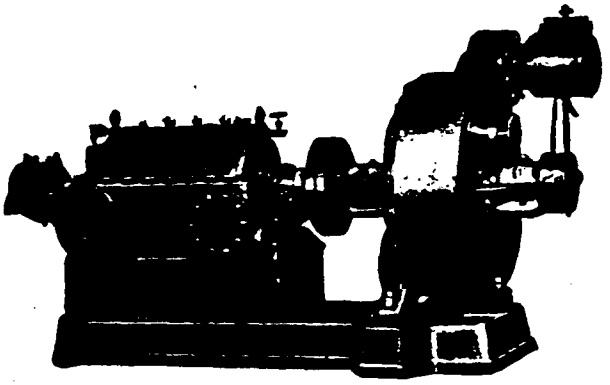
GENERAL ELECTRIC COMPANY

SCHENECTADY, N. Y.

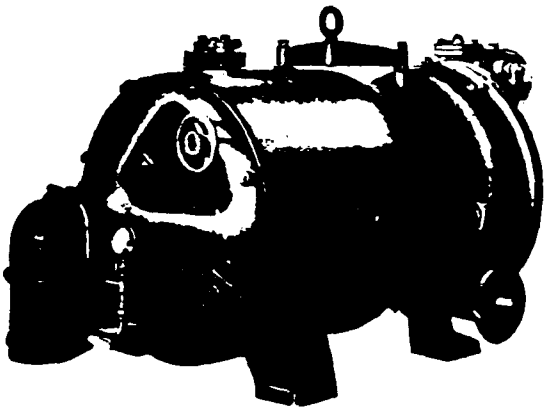
Catalogue 6001 A

TURBINES

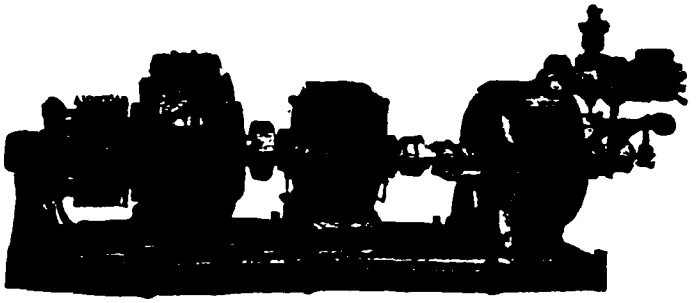
The General Electric Company manufactures steam turbines in a range of sizes and types to meet any requirement.



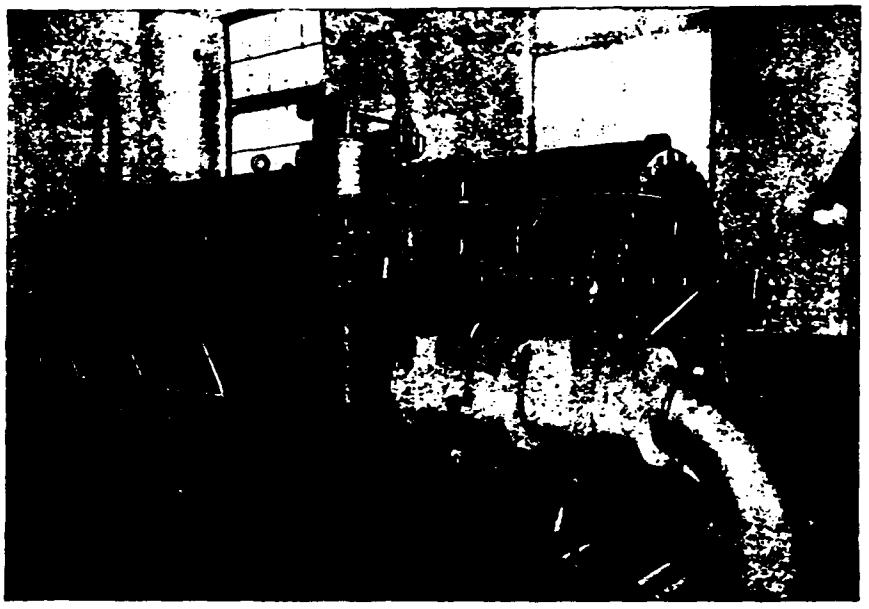
This simple and strong turbine is suitable for any mechanical drive. Range of standard sizes, 10 to 400 h.p.



Direct-current generators in sizes from 10 to 35 kw. are direct connected to turbines.



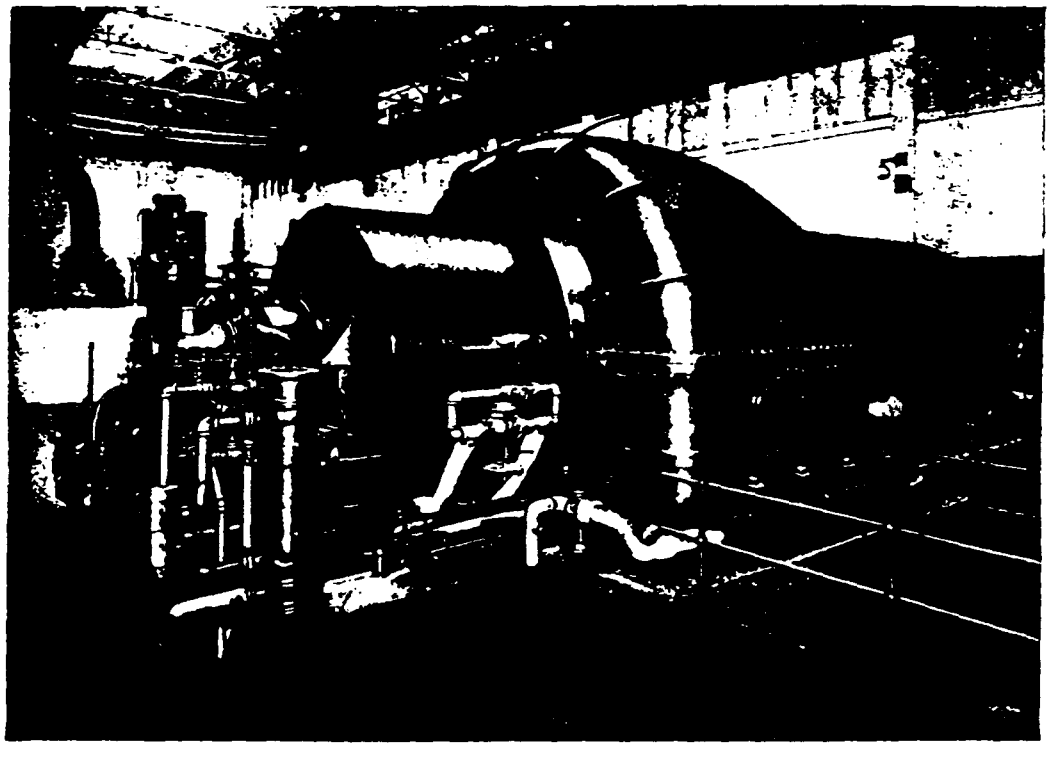
The larger direct-current generators, 100 to 1500 kw., and 25-cycle alternators below 5000 kw. capacity are driven through speed reduction gearing.



The 60-cycle alternators in sizes from 100 to 6000 kw. are direct connected to 3600-r.p.m. turbines.

TURBINES

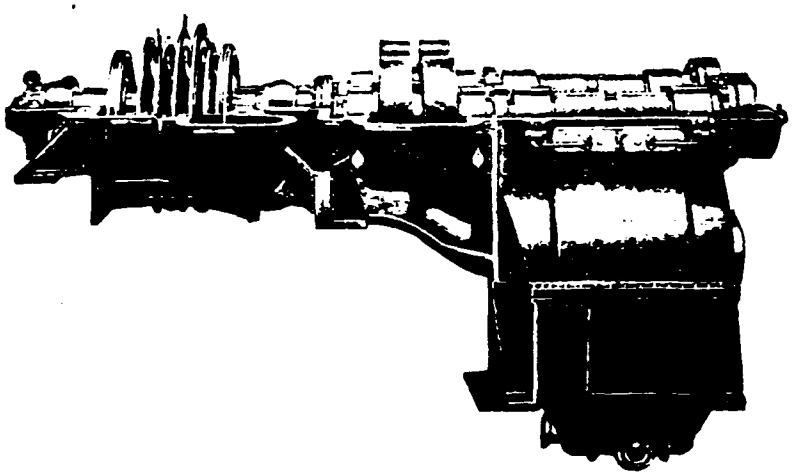
60-cycle and 25-cycle alternators of 7500 to 35,000 kw. capacity are direct-connected to 1800- and 1500-r. turbines, respectively.



The largest single turbine-generator set in the world is rated 45,000 kw. The speed is 1200 r.p.m.

SHIP PROPULSION

TURBINES

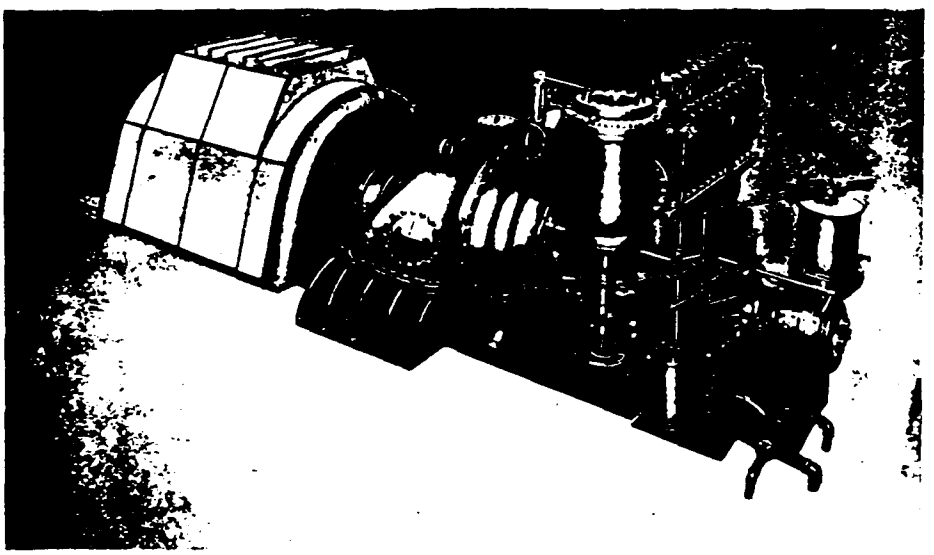


This Company is the pioneer in the development of the high speed turbine with double reduction gears for merchant ship propulsion. The S. S. *Pacific* with such an equipment went in service December, 1915, and has been in continuous, successful service since that time.

More than three hundred high speed turbines and double reduction gears of our manufacture have been installed in merchant ships, with horse powers ranging from 1800 to 6000 per propeller shaft.

We are prepared to design and manufacture equipments of any size, for which a complete study of service conditions proves this type of drive superior.

Quotations will be given on gears only for connection to turbines of other manufacture or for replacement of obsolete material.



The United States Navy after careful study and analysis of actual operating data on electric propelled vessels, has decided to equip all future capital ships with turbine electric drive. There is no better proof of the reliability, economy and flexibility of this form of propulsion.

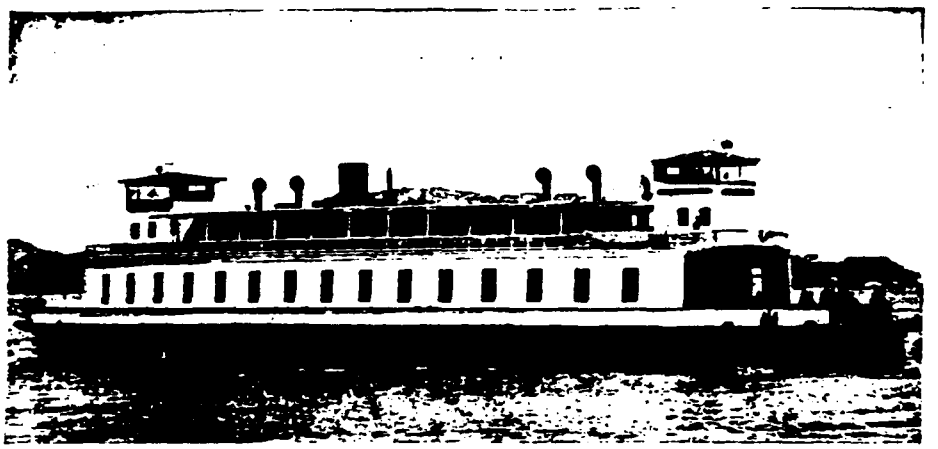
With electric drive the turbine can be constructed in its simplest form. The simplicity and reliability of the electric motors and generators are too well known to need any comment.

For merchant and passenger vessels, continuity of service or reliability is the dominating feature. Indicative of this claim made for turbine electric drive is the experience gained with the *Jupiter* which has been in continuous operation since 1913; also on the first electric drive cargo ship *Eclipse* which recently completed a trip requiring more than six months around the world. She averaged 10.3 knots for a total of 29,793 miles making twenty ports without a stop at sea.

This Company will gladly make a complete analysis of your problem and is in a position to furnish turbine electric drive in any horse power.

SHIP PROPULSION

DIESEL ENGINE-ELECTRIC DRIVE

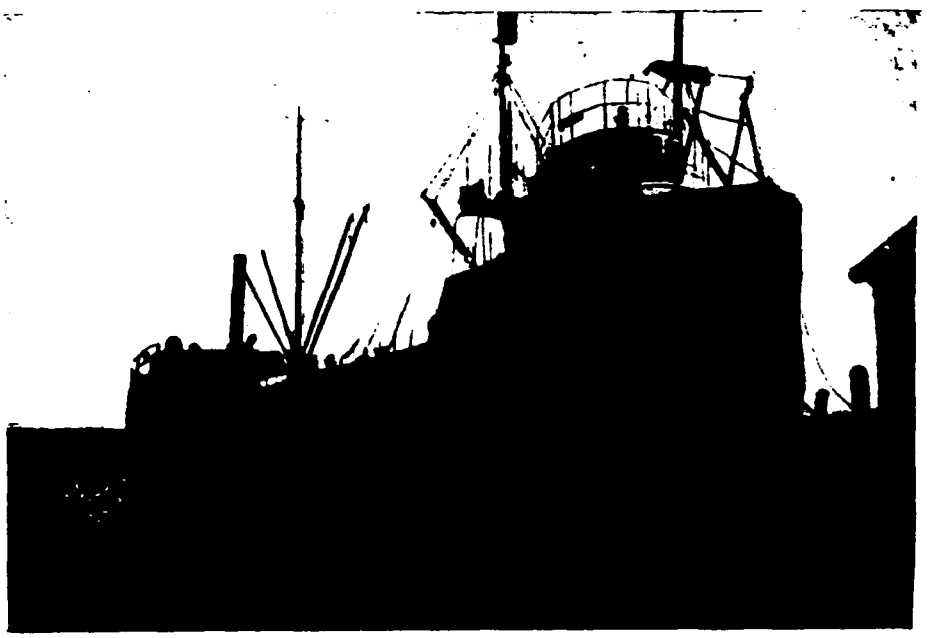


Golden Gate—First Diesel Engine Electric Drive Ferry Boat put in operation in the United States

An increasing interest is being manifested in Diesel engine electric propulsion cially for cargo boats, fire boats, fishing boats, ferries, tugs, barges and yachts. It is desired to invite attention .. .e fact that this Company is prepared to furnish properly designed electrical apparatus for propelling ships where the prime movers employed are either Diesel engines or other forms of internal combustion engines.

The following ships are equipped with Diesel engine-electric drive using General Electric Company's electrical apparatus:

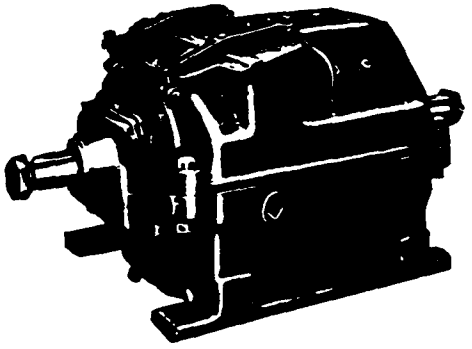
Mariner—500 SHP Fishing Trawler.
Fordonian—850 SHP Cargo Ship.
Golden Gate—1500 SHP Double Ended Ferry Boat.
Golden West—1500 SHP Double Ended Ferry Boat.
Standard Service—600 SHP Oil Tanker.



M. S. *Fordonian*—First Diesel Engine Electrically Driven General Cargo Ship in the United States

SHIP PROPULSION

MOTORS AND CONTROL FOR SHIPS' AUXILIARIES



Type COM-1810-A2 Marine Motor

The increased use of motor-ships and the economies brought about by keen competition have naturally led to extensive electrification of ships' auxiliaries.

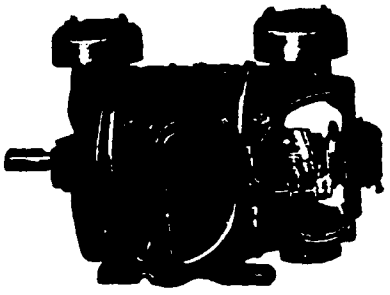
Realizing that marine service requires moisture-proof insulation, non-corrodible parts, bearings that will operate continuously at a tilt as well as waterproof construction for deck service, this Company offers Types COM and RCM motors with the necessary control, to meet these conditions.

Direct-current machinery is best adapted to the various services required on ships especially speed control for winches. This is, therefore, the only type that has been completely developed.

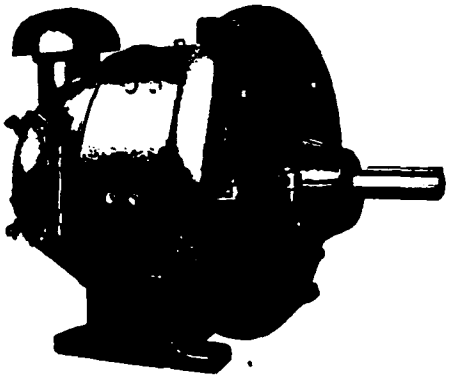
Where the motor is exposed to the weather the Type COM motor is offered in sizes from 2 h.p. to 100 h.p. inclusive. The ratings are the same as for the Type CO-1800 line of motors.

If the motor is for continuous duty and below deck the Type RCM motor is the one to use. This motor is enclosed self-ventilated and is built in sizes f 2 h.p. to 200 h.p. inclusive. The ratings are the same as for the correspond-ing frame of open Type RC motors

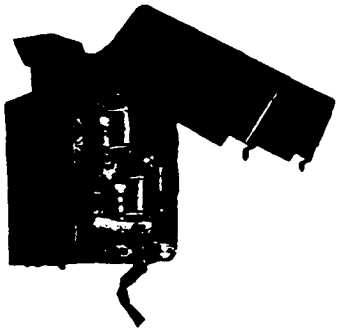
Water-proof drum controller s oid brakes and protective panels are built for use on deck with the Type COM motor and splash-proof control is furnished for the Type RCM below deck motor



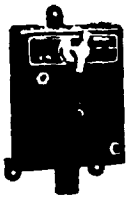
Type RCM-27 B-2-10 Compound Wound Motor



Type RCM-33 Enclosed Ventilated Marine D-c. Motor

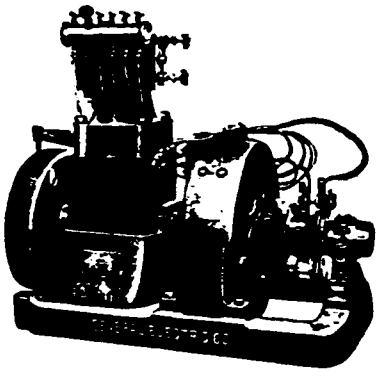


Control Panel for Type RCM Marine Motor

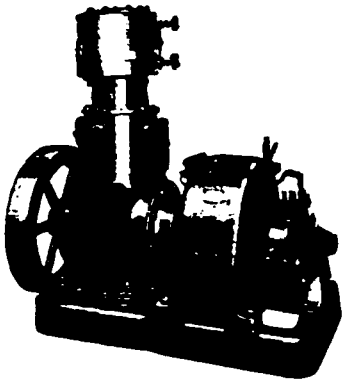


Type SY-60-A Watertight Master Switch

STEAM ENGINE-DRIVEN GENERATING SETS



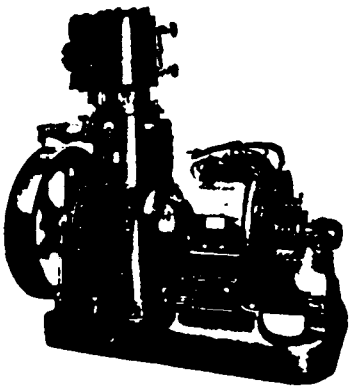
2½ to 5-kw. Single Cylinder, Gravity Lubrication Steam Engines, Direct Connected to Direct-current Multipolar Generators



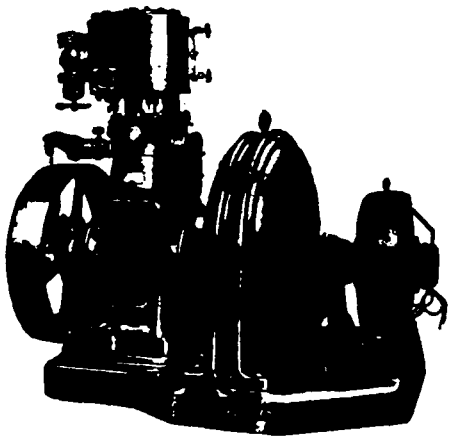
7 to 25-kw. Single Cylinder, Forced Lubrication Steam Engines, Direct Connected to Direct-current Multipolar Generators

These sets are made in sizes ranging from 2½ to 60 kw. especially to meet severe conditions of marine service. They are light, compact, durable sets of close regulation and quiet operation.

They are also well adapted and have been used extensively for both power and lighting purposes in isolated plants and as exciters for alternating current generators in central station work



30 to 60-kw. Single Cylinder, Forced Lubrication Steam Engines, Direct Connected to Direct-current Multipolar Generators



30 to 60-kw. Single Cylinder, Forced Lubrication Steam Engines, Direct Connected to Alternating-current Generators with Exciters

Isolated plants and central stations often require small alternating current units for the hours of light load. These sets operate successfully in parallel with other units, and can be furnished with or without direct connected exciters as illustrated, or with pulley on shaft extension for a belt driven exciter.