Encl. 49 10th Cong.

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RECEIVED
NOV 9 1885
LIGHT HOUSE BOARD

DESCRIPTION

OF

LIGHT-HOUSE TOWER, BUILDINGS, AND PREMISES

AT

Cleveland Breakwater Light-station, O.

November 7th, 1885.

Encl. 11 Nov. '85

Adj. Nov 9.

NAME AND POSITION OF THE LIGHT-HOUSE AND LIGHT-STATION. Cleveland Breakwater, (East end) Ohio.

On crib standing 24 feet south of the east end of the breakwater, Cleveland harbor, Ohio.

By whom described. Captain Chas. E. L. B. Davis.
Corps of Engineers, Engr. 10th. L. H. District

Date of description, Novbr 4th, 1885

Distinguishing character of light or lights. 4th. order, illuminates the entire horizon, showing alternate red and white flashes at intervals of 10 seconds.

Latitude of tower. 41° 30' (26") North. } Authority. U.S. Lake
Longitude of tower. 81° 42' (56") West. } Survey Charts.

PREMISES—A DETAILED DESCRIPTION OF, EMBRACING—

Area of the entire site. 40'×40' crib, interior of superstructure composed of concrete.

Character of surface soil.

Distance of tower from nearest high-water mark.

Inclosures to premises. Pier railing.

Wharf or landing on premises. Crib answers for landing.

Road to landing or wharf, character of, and distance from tower.

Means by which the light-station may be reached. by tug or row-boat from shore.

Distance to the nearest public road, railroad station, or steamboat landing, and to which ½ mile to public road and ¾ mile to railroad station.

Tower or other means used for supporting the lantern and apparatus. Iron tower

Number of separate lights. One

When first built or established. 1885

When last thoroughly rebuilt, repaired, or renovated.

Condition at this date. New

Shape of tower in plan. Octagonal

Height of tower from base to ~~cowl of lantern.~~ focal plane 26' 9"

Height of focal plane of lantern above the mean sea or lake level. 35' 9"

Back ground of the light-house, upon which it is projected as seen from the sea or lake. City of Cleveland. O.

Color of tower. Dark brown, lantern and gallery railing black.

Color of tower, how produced. Oil paint.

Tower—connected with keepers' dwelling, and how, or detached.

Object; sea coast, lake coast, bay, harbor, channel, or range; for general or local navigating purposes. Harbor Light.

Materials of which the tower it built. Iron, lined with wood.

General description, embracing—

Thickness of walls at base. Metal thickness 1/4"

Thickness of walls at parapet. " " 5/8"

Diameter of tower at base. 13' 10 1/2"

Diameter of tower at parapet. 8' 8"

Kind of stairway and steps. Iron: between first and second story spiral, from 2d story to lantern deck an iron ladder.

Number of landings of stairway. 1.

Size of glass for glazing tower windows. 12 3/4" × 14", and 13 1/2" diameter.

Number of windows in tower, and size of sash. 3 square sashes 28 1/2" × 14 3/4", 4 circular 14/8" diam.

Number of doors. One entrance door, one trap door to base, both iron.

Kind of foundation and depth below the surface. A crib 40×40 filled with stone to within 2 feet of mean water level, from which rises a concrete superstructure 9 ft. above water level.

Character of soil at and surrounding the light-house.

Soil susceptible of being protected by grass, shrubbery, or trees.

Miscellaneous remarks upon tower and site.

The crib proper is 40 feet square, 36 feet high, and 9 feet above low water mark. The tower and boat-house stand on a mass of concrete formed inside of the crib 38 feet square and 11 feet deep, this concrete rests upon the loose stones with which the crib is filled within two feet of mean water level. An oil cellar 8' diameter, octagonal in shape, was built in concrete foundation and just under tower.

A 3 1/2" iron pipe leads from floor in cellar through crib and drains into lake.

A fog-bell is suspended from a bracket attached to the north side of the tower which is struck at intervals of ten seconds.

LANTERN AND LANTERN FIXTURES.

Order or class of lantern. 6th. order

Diameter. Exterior ~~4'1½"~~ 4' 1½", interior 3' 6½".

Number of sides in plan. 8

Height glazed. 36½"

Number of plates in height. 1

Number of plates in each side. 1

Thickness of plates. 5/16"

Size of the different plates. all 36½" × 34"

Number of storm panes of glass. 3 - 31¼" × 36¼"

Unglazed side of lantern in plates or degrees of arc. None.

Materials of which the lantern is constructed. Iron and brass.

Dome. Copper roof on iron rafters.

Cowl. Lined with zinc

Lightning-conductor spindle. Copper, platinum point.

Lightning conductor, of what material; how attached to spindle; how led, and how far below the surface of dry earth, or otherwise, as the case may be. Runs from foot of steps of beacon to water; south side of crib.

Balustrade and outside gallery. Wrought iron.

Lantern doors and how fitted. Cast-iron double door, on wrought iron hinges, provided with brass lock.

Floor of lantern—of what materials. Iron, checkered.

Watch-room door leading into the lantern, and how fitted. None.

VENTILATORS.

In parapet, wall, or lower part of lantern. 4 Ventilators in parapet, of cast-iron, with brass revolving disks.

Lantern ladders for cleaning plate glass outside.

Curtain hooks inside of lantern—how fitted. Iron, screwed into lantern posts.

WATCH ROOM.

How fitted. The first floor serves as watchroom and is fitted with a bunk, cupboard and necessary wall hooks.

Bell wires, or speaking tubes, for calling relief keepers.

ILLUMINATING APPARATUS, &c.

Order and characteristic distinction of apparatus. 4th. order lens - Flashing Red and white, 10"- 10", 360.

If movable; time of revolution, and intervals between and duration of flashes. ~~10"~~ Time of revolution one minute - duration of flashes 10 seconds.

If fixed, or fixed varied by flashes; arc of fixed part in degrees, and between what points of the compass seen.

Entire horizon Flashing 10". The whole apparatus revolves.

Number of panels in the lens apparatus. Six-

Number of prisms of each panel *above* the dioptric drum or central belt of the lens. Six.

Number of prisms of each panel *below* the dioptric drum or central belt of the lens. three.

Pedestal. Cast-iron-

Service table. Cast-iron

Tube leading through the center of the upper metal ring of the lens into the cowl, to carry off the gases of combustion and to assist in producing a proper draught in the lantern—of what material, diameter, and how fitted and connected with damper tube when in place. Copper hood 30 inches at base-

If revolving, revolving machinery. Revolving machinery made by Stevens & Co of Boston Mass.

Revolving cord or chain—how led. Over one roller and one pulley and through two floors.

Length of drop tube. 18 feet

Length of time revolving machinery will run after being wound up. 3 hours

How machinery is protected. By brass case.

How regulated; describe. By fly governor

How the flashes are produced: By the whole apparatus revolving; by the central belts only revolving; by vertical elements-panels revolving outside of fixed lens, and, if so, the number of such panels, or how.

By the whole apparatus revolving.

IF COLORED LIGHT.

How is the color produced? Describe. By red screens in brass frames.

LAMPS AND BURNERS,

Description of lamp in use and number of wicks to burner. Hains- one inch.

Number of spare lamps at the station. Two.

Number of spare-lamp burners at the station. Burners attached to Lamps.

TOOLS, IMPLEMENTS, AND ACCESSORIES.

Lantern curtains. 8.

Lens covers. 2

Damper tube and key. —

Spare damper and key. —

Carillon, or alarm bell, for overflow lamp. —

Time marker for revolving light.

Gauge (250-gram measure) for regulating the overflow of oil through burner.

Spare lamp ready for use.

Rod lamp ready for use.

Curtain-hanger for putting up and taking down lantern curtains.

Heater, (if required.)

Spare-lamp cover.

Lamp stand.

Mechanical lamp cords or chains.

Revolving machinery cords or chains.

Revolving machinery weights.

Clutch for resting weight on.

Spare fly or governor.

Gauge for oil cistern of lamp.

Feather brushes.

Linen towels.

Sponges.

Chamois skins.

Scissors.

Chimney-lifters.

Coupling-plyers.

Service basket and implements.

Cleaning materials.

Keeper's aprons, &c., (see list.)

CLOSETS IN TOWER.

How fitted and used. Cupboard.

OIL ROOM OR CELLAR.

Describe where placed and how fitted. Cellar under tower 8' in diameter, 6'10" deep: depth of cellar in Concrete foundation 4½', and 2'4" being base of tower above Concrete foundation. Steps leading into cellar from trap door of 1st floor of tower. Three 5" ventilators are cut in base of tower, holes provided with ship dead-lights.

Regulation 100-gallon oil butts—number.

Regulation 50-gallon oil butts—number.

gallon oil cans—number.

Oil butts—how placed. Cans are placed upon 3 shelves 14" apart, depth of shelves 12"

CLOSETS AND STORE-ROOMS.

Where placed, how fitted and used. 1st floor, fitted with shelves.

Damp or dry, suited or unsuited to the purposes for which they were designed. dry.

FOG SIGNAL.

Describe in detail, embracing—

Kind and character of instrument. Stevens apparatus - Clock-work.

Characteristic distinction. Single blow every 10 seconds - will run 2 hrs.

The bell and striking apparatus were transfered from Cleveland west Beacon. The apparatus was originally intended for south end of Buffalo Breakwater.

Location, with reference to the light-house, to a particular danger or channel, or to the special object for establishing it. The fog-bell is supported by brackets attached to the tower just above 2nd story and is used for the same purpose as the beacon to mark the East end of the breakwater and harbor entrance.

Distance from the light-house.

Water supply for it.

How it is reached from the light-house.

Kind and size of fog-signal building or buildings. none

DWELLINGS FOR KEEPERS.

Location, with reference to the light-house tower.

Materials of which built.

Number of rooms in each dwelling.

Number of keepers and assistants to each dwelling.

Out-houses.

Paths or walks on the premises.

Area of premises enclosed, and how.

Area of garden.

Area in timber or shrubbery.

Area susceptible of profitable cultivation.

Area cultivated or prepared for cultivation.

Character of adjacent surrounding country—soil sandy, clay, marsh, swamp, wood, fast ground, or shifting sands.

Distance to the nearest post office. 1 mile.

Distance to the nearest village or town. 1/2 mile from City of Cleveland

Facilities for reaching the light-station by public conveyance. by boat from shore

Facilities for reaching the light-station by private conveyance from the nearest village, town, railroad station, or steamboat landing, and the distance.

WATER FOR DRINKING AND DOMESTIC USES GENERALLY.

How procured. from lake with bucket.

Quality.

Quantity ample or not for the station at all seasons of the year.

Liable or not to be injured by the inroads of storm tides and seas.

If rain water in tanks or cisterns, what precautions have been taken to insure its purity.

Capacity of tanks or cisterns and where placed.

Tanks or cisterns—of what materials made.

If from a well, describe and give depth.

Diameter.

Lined or not.

Water obtained by pump or bucket.

Distance from keeper's dwelling.

HEALTH OF THE LIGHT-STATION AND VICINITY.

General opinion in regard to the healthiness or unhealthiness of the light-station and vicinity.

Diseases—what are most prevalent at the station and in the vicinity.

Do they prevail at particular seasons of the year or not?

Are there any local causes, such as swamps, marshes, &c., in the immediate vicinity of the light-house which are likely to be the cause of these diseases?

Would draining or other artificial means employed on the light-house premises be likely to improve the sanitary condition of the light-station?

LANDING WHARF, BOAT-HOUSE, AND ROAD TO THE LIGHT-HOUSE.

Describe. The crib proper answers for landing.

A boat house 10×28½' is placed on west side of crib, beginning on north corner thence running southward 28½ feet, the boat house is provided with a Strachan Boat Launching apparatus. It is furnished with a privy.

MISCELLANEOUS REMARKS UPON THE GENERAL CHARACTER AND CONDITION OF THE PREMISES, TOWERS, BUILDINGS, AND ILLUMINATING APPARATUS AT THE DATE NAMED ABOVE.