lying at depots, or at anchor near the same, no colors shall be shown, except as mentioned below. On Sundays and national holidays colors shall always be shown, unless the weather be such as to prevent. Whenever an officer of the Light-House Establishment or a member of the Light-House Board is afloat in a vessel of the Light-House Establishment, the light-house flag shall be shown at the mainmast head. No other flags shall be shown by vessels of the Light-House Establishment, except for the purpose of dressing ship upon proper occasions. When shown, colors shall be hoisted at 8 a. m. and hauled down at sunset. At such times all persons in the light-house service, who may be present, shall salute by facing the colors and removing their hats. Light-vessels shall display colors and light-house flag to all passing vessels of war and vessels of the Light-House Service.

Returns, etc.

122. The following-named returns shall be made by masters of light-vessels to the Inspector:

Monthly—
- Mooring reports.
- Fog-signal reports.
- Report of absences.
- Pay roll (to be sent in at least one week before the end of the month).

Quarterly—
- Expenditures of oil, etc.
- Muster roll.
- Abstract of passing vessels.

Annually—
- Description and inventory of vessels.

Whenever necessary—
- Shipping articles.
- Shipwreck reports.

CHAPTER III.

CARE OF LIGHTS AND THEIR APPURTENANCES.

Punctuality demanded.

123. Lights must be lighted punctually at sunset, and must be kept burning at full intensity until sunrise.

124. All preparations must be made early, that there may be no delay in lighting.

Morning duties.

125. When the light is extinguished in the morning the keeper must hang the lantern curtains and immediately begin to put the apparatus in order for relighting. While doing this the linen aprons provided for the keeper's use must be worn, that the lens may not suffer from contact with the wearing apparel. The illuminating apparatus must be carefully covered before the cleaning is begun.

Cleaning lens.

126. The lens and the glass of the lantern must be cleaned daily and always kept in the best possible condition. Before beginning to clean the lens it must be brushed with the feather brush to remove all dust. It must then be wiped with a soft linen cloth, and finally polished with buff-skin. If there is oil or grease on any part it must be taken off with a linen cloth, moistened with spirits of wine, and then polished with a buff-skin. *Under no circumstances must a skin which has been wet or damp be used, as this will scratch the lens.*

127. To prevent the frosting of the plate glass of lanterns, put a small quantity of glycerin on a linen cloth and rub it over the inner surface of the glass. One application when the lamp is lighted and another at midnight will generally be found sufficient to keep the glass clear during the night. To prevent frosting of the plate-glass of lanterns.

128. To clean reflectors, first dust them and then rub with a buff-skin, lightly dusted with rouge powder, kept in a small double bag of muslin; then rub lightly with another skin, and finally with a third, which should be passed over the reflector in a light, quick manner with a circular motion. Leakage of gas from the pipe of the stove used in the watch room should be carefully guarded against, as this gas will badly tarnish a reflector. Silver-plated reflectors are much more easily injured than glass, and require great care. Care of reflector.

129. To clean the chimneys they must, if soiled by smoke or oil, be rubbed with a rag or a small piece of soft wood dipped in oil, then wiped off and cleaned with whiting. If this does not remove discolorations they should be rubbed with a wet cloth and a little soda or common salt; but they must be washed in warm water afterwards, as any adhering salt will cause breakage. Care of chimneys.

130. Keepers are forbidden to use any other materials for cleaning or polishing purposes than those supplied by the Light-House Establishment. Material for cleaning and polishing.

131. Keepers are forbidden to clean the floors of the lanterns or the stairs and floors of towers with any material by which dust may be produced. All materials used must be damp, and be carefully removed before they are dry. All sweeping must be done with care, and chiefly with hand brushes. Dust to be avoided.

132. Utensils of all kinds must be kept in their proper places. While the light is burning, everything which does not belong in the lantern must be removed from it. Place for utensils.

133. The revolving clockwork must be kept carefully from dust; it must be oiled with clock oil whenever necessary, care being taken to remove any old and gummy oil before new oil is applied. All parts made of iron or steel must be rubbed with a cloth greased with tallow. *The use of salted grease is forbidden.* The foot of the fly shaft must be examined occasionally to see that it is not cutting or wearing. Clockwork.

134. The chariot or carriage upon which the lens revolves must be carefully wiped and the rollers kept properly oiled. If it is necessary to take off the rollers and clean them, this must be done with great care. The rollers must be removed one by one, and put back without changing the number of washers previously in use, as the carriage will turn irregularly if all the rollers are not exactly the same distance from the center. When there is any serious trouble with any part of the revolving clockwork or machinery the inspector and engineer must be at once informed, and a machinist will be sent to remedy the difficulty. Chariot.

135. When not in use, the weight must always be kept upon its rest, that the strain on the cord may be relieved. Weight.

136. Keepers must replace the broken glass of the lantern as quickly as possible. They must learn how to use the cutting diamond, so as to be able to cut the glass when necessary. When glass is cut, its edges should be ground level and smooth by rubbing it upon a cast-iron plate covered with sharp wet sand. In placing the glass, about one-twelfth of an inch play should be left all around between it and the iron frame. If it touches the iron, great risk of its being broken by the oscillation of the lantern in high winds will be incurred. Thin cleats of lead or soft wood must be used to rest the glass upon when in place. In joining two pieces of glass which rest one upon the other, the upper edge of the lower piece should be covered with putty about two-tenths of an inch in thickness; on this two small strips of lead To replace broken panes.

should be placed, upon which the upper plate should rest; the weight will press out any excess of putty, which excess should immediately be taken off with the glazing knife. The putty on the outside of the frame should be laid evenly and flush with the face of the sash. In replacing the outside slats of the sash, a small quantity of putty should be put over the head of each screw after it has been screwed home, as this will serve to keep the screw in place.