In pumping X-light tubes the absence of leaks should be ensured before the electrical treatment of the terminals begins.

In pumping X-light tubes the amount of electrical energy to be afterward used with the tube should be known, the terminals being treated to bear that amount.

In using X-light the source should be in a non-radiable tube box from which no X-light can escape except the smallest beam which will serve the purpose.

In using X-light it should not strike the observer.

In using X-light selective filters should be employed to strain out undesirable radiations.

In using X-light, the fluorescent screen should be covered on the side toward the observer with a plate of heavy lead glass as a protection from the X-light.

In using X-light with a cryptoscope, the walls of the instrument should be non-radiable to prevent the entrance of X-light except in the direct beam.

In using X-light with a fluorescent screen, whether open or enclosed in a cryptoscope, the surface of the screen should be held normal to the central ray of X-light employed.

In making photographs by X-light, only the beam arising from the radiant area of the target should be allowed to strike the photographic plate.

In making photographs by X-light, the central ray of the beam of X-light employed should strike the photographic plate normal to its surface.

In making photographs by X-light, the place where the central ray of the beam employed strikes the plate should be automatically recorded on the negative.

In making photographs by X-light, the position and distance of the source of X-light should be automatically recorded on the negative.

In making photographs by X-light, the object being photographed should be enveloped in a non-radiable covering which will admit only the X-light in the direct beam employed.

In using X-light in medicine, the examination room should be fumigated every night.

In using X-light in medicine, the apparatus should be sterile.

In using X-light in medicine, none should strike the patient except the smallest beam which will cover the area to be examined, photographed or treated.

In using X-light in diagnosis, to avoid undue exposure of the patient, the X-light should be produced in surges, each of the shortest possible duration, with as long periods between as are compatible with a light apparently steady, advantage being taken of the persistence of vision and of luminescence. The more luminescent the salt of the fluorescent screen the shorter the surges may and should be, with moving organs like the heart and lungs.

In using X-light in medicine, the physician should be able to make all the adjustments of the light without removing his eyes from the images on the fluorescent screen.

In using X-light in medicine, the physician should be able to orient himself in relation to the patient and the source of X-light at all times during an examination without removing his eyes from the image on the fluorescent screen.

In using X-light in therapeutics, its waves should be such as are most absorbed by the diseased tissues.

In using X-light in therapeutics, the waves should be as long as can be employed without injury to the overlying tissues.

In using X-light in therapeutics, the distance of its source from the surface of the body through which the X-light enters should vary directly with the distances of the diseased tissue below that of the surface.

In using X-light in therapeutics, the distance of the diseased tissues below the surface of the body through which the X-light enters should determine the form of vacuum tube to be employed.

In using X-light in therapeutics, the nearer the diseased tissue is to the surface of the body through which the X-light enters, the nearer the source of X-light should be to the nearest wall of the vacuum tube.

In using X-light in treating diseases of the outer surface of the body, the X-light tube should be in a portable non-radiable case from which no X-light can escape except toward the diseased tissues, the tube box being provided with a handle to allow the tube to be moved over the diseased area.

In using X-light in treating diseases of the outer surface of the body, the source of X-light should be at the wall of the vacuum tube.

In using X-light in treating diseases of the outer surface of the body, the area to be treated should determine the area of the tube wall from which X-light should originate.

In using X-light in treating diseases of the outer surface of the body where the vacuum tube is brought in contact with the skin, the area of the wall of the tube from which X-light arises should be cooled. In using radioactivity, the source of the energy should be in a case from which no radioactivity can escape except in the required direction.

In using radioactivity, the investigator should be protected from the energy.

In using radioactivity in medicine, the beam of energy striking the patient should be the smallest which will cover the area to be examined, photographed or treated.

In using radioactivity in medicine, the distance of the source of energy from the surface of the body through which the energy must pass should vary directly with the distance of the diseased tissue below that surface; the nearer the disease to the surface the nearer the source of energy should be to the surface.

NOTE 173.—FIG. 2.—COOLED TARGET TUBE.

NOTE CLXXVII—A GROUPING OF SOME OF THE AXIOMS MENTIONED.

In an X-light tube the space enclosed by the glass walls should vary directly with the rate of using electrical energy in the tube.

In an X-light tube the size of the cathode should vary directly with the rate of discharging electricity from its face, and with the size of the surges.

In an X-light tube the target should be cooled when it is struck by a powerful cathode discharge.

In an X-light tube the target should be placed at the focus of the cathode discharge.

In an X-light tube the distance between the cathode and the target should be capable of variation, or there should be an automatic regulator.

In pumping X-light tubes the X-light should not strike the observer.

In pumping X-light tubes they should be enclosed in a non-radiable oven.

In pumping X-light tubes water vapor should be excluded from the pump.

In pumping X-light tubes mercury should be kept out of the tube.

In pumping X-light tubes the removal of the gases is but a part of the work, the value of the tube depending also on the electrical treatment of the terminals.

In pumping X-light tubes they should be hot, and the pump should be warm.

In pumping X-light tubes the necessary amount of gas should be removed from the glass and the interior of the tube before they are electrically taken from the terminals.