ble light, which, dashing about in every direction, fogs the plate or even makes images on it of objects on the opposite side from the body being photographed¹. No x-light should reach a plate except what comes through the patient being

FIG. 5. — X-LIGHT PLATE HOLDER.

photographed. A first requisite in an x-light plate holder is a means to achieve this; (2) the plate holder should bear the weight of a patient without risk to the plate, even though it is necessary for him to sit on it; (3) it should be thin

FIG. 6. — SUPPORT FOR PLATE HOLDER.

to avoid discomfort to the patient when he lies on it; (4) it should be moisture proof to protect the plate from perspiration. I have used for several years metal plate holders which meet these and other requirements. The latest and simplest

FIG. 7. — SECTION OF PLATE HOLDER.

plate holder is shown in the figures. Total thickness seven millimetres. It is in two pieces, a back of nonradiable, a front of radiable metal (aluminum) held together by steel clamps. A support for the holder was shown in Fig. 2 il-

¹ Electrical Review, April 11, 1900, note 94.

lustrating an x-light table in a former note.² Another support attached to the upright shown in Fig. 2 is illustrated in Fig. 6.

REMOVING THE IRRITATING GASES PRODUCED BY X-LIGHT GENERATORS.

A powerful x-light generator produces ozone and combinations of nitrogen and oxygen. These are irritating to the respiratory mucous membranes. A fan should be placed within the case of a static machine to drive the gases into the nearest chimney. A coil should have the spark gaps enclosed as shown in Note 112³, the gases being drawn by an aspirator into the waste water pipes.

Clinical Department.

A SPECIAL FORM OF PHLEGMON OF THE NECK.

BY F. P. EMERSON, M.D., BOSTON.

IN 1893, under the above title, in the *British Medical Journal*, Drs. Brousses and Brault published an article describing a suppurative process enclosed in a space of prismatic form, situated below the back part of the tongue, and bounded in front by the hyoglossal and thyrohyoid membranes and behind by the anterior surface of the lower and attached portion of the epiglottis. The upper boundary is formed by two membranous layers, one consisting of the lingual mucous membrane; the other and deeper layer of fibrous tissue. This cavity it is stated is divided into two lateral halves by a membranous septum, which seems to be an extension downwards of the median glosso-epiglottidian ligament. This enclosed and divided space, which is called by the authors the glosso-thyro-epiglottidian cavity, may, it is stated, become inflamed and thus give rise to diffused phlegmon of the neck.

Mrs. S., Roxbury, age sixty-four years, born in Bangor, Me. Father died age seventy-six, carcinoma of stomach; mother died in childbirth; five brothers died young; one sister died of carcinoma, and one now has it. Has had three children. Measles at ten years. Formerly subject to tonsillitis, but for the last ten years exempt and her general condition good. Last three months nervous and debilitated. Had been having sinking spells which she referred to her heart. During the last week has been having a naso-pharyngitis and tonsillitis. Dr. H. was called in December 29th and found her pulse irregular but not increased in frequency. Temperature 99°, and some dyspnea. On December 30th he was called at 6 A. M. Patient aphonic but no urgent dyspnea; at 9 A. M. dyspnea somewhat more pronounced, and by noon attended by cyanosis, anxious facies and great difficulty in deglutition. At this time I saw her in consultation and found the following condition.

² Boston Medical and Surgical Journal, March 21, 1901.

³ Electrical Review, December 26, 1900.

Examination.—Externally inspection shows the neck uniformly swollen down to the clavicle, presenting a three-lobed tumor separated by membranous septæ, full and resistant throughout. No cervical glands; no redness; sensitive to pressure and of a woody feel. Great difficulty in swallowing and breathing. Pulse normal and fair quality. Subjective feeling of depression and weakness increased by loss of sleep during the preceding two nights. Facies anxious. Laryngoscopy shows a general laryngitis, with the lumen uniformly encroached upon. The alignment of the vocal chords normal but covered by the ventricular bands. No edema or paralysis; no exudate. Tonsils and pharynx not now abnormal. Culture shows no bacilli of diphtheria. Epsom's salts had been administered. The dyspnea was not sufficiently urgent to require immediate action, and as the case had gone along for a week it seemed probable that twenty-four hours might show a beneficial change.

Ice poultices, alternating with unguentum resorcin, one drachm to the ounce of lanolin, was recommended; also cracked ice and a steam spray of campho menthol, with supportive treatment, was given.

On December 31st pus was seen to be exuding from the left side of the larynx. The discharge was gradual. The deglutition improved and convalescence was uneventful.

Medical Progress.

RECENT PROGRESS IN NEUROLOGY.

BY PHILIP COOMBS KNAPP, A.M., M.D., BOSTON.

(Concluded from No. 16, p. 380.)

INJURY OF THE SPINAL CORD.

HARTMANN⁷ has made an elaborate clinical and pathological study of 8 cases of injury of the spinal cord. He recognizes a true commotio spinalis, that is, a disturbance of the cord giving rise to well-marked spinal symptoms, which disappear entirely in a week or so. The more severe spinal conditions are divided into two classes: those complicated with lesions of the vertebral column, and those not associated with such lesions. This latter class is again subdivided into two classes: in the first the disease follows the injury immediately, and in the second a chronic spinal disease develops as a late result of the injury. In this last group he reckons chronic anterior poliomyelitis, sclerosis, gliosis, sclero-gliosis and syringomyelia of traumatic origin. In studying the mechanism of injuries of the cervical cord he distinguishes those due to direct injury, and those due to indirect injury. The latter arise from the peculiar structure of the vertebral column—a rigid thoracic portion and a movable cervical portion—and the forces exerted by the position of the head in falls upon the back (the natural tendency to flex the head and the force exerted by the weight of the head).

⁷ *Jahr. f. Psych.*, xix, 380, 1900.

In this way lesions of the cervical cord may arise indirectly from violence applied to the thoracic vertebræ. The histopathology of those uncomplicated, directly traumatic affections must be considered separately as to the various tissues, since our pathological conceptions of inflammation, etc., are still obscure. We cannot determine definitely the pathological basis (hemorrhage, necrosis, inflammation, etc.), of a traumatic spinal disease from the clinical symptoms. The diseases of the different tissues naturally vary in intensity, and this fact, with the pathological changes in the reciprocal action of these tissues, forms the basis for the difference in the anatomical changes. The primary degenerations may be lymphogenous or ischemic. The degeneration of the periphery of the cord is a mixture of these forms with secondary degenerations. The tendency to regeneration varies greatly and it may give the anatomical appearances the stamp of a lymphogenous primary degeneration of nerve substance or a more active regeneration of connective tissue resembling a non-purulent inflammation.

Among the pathological processes he distinguishes in the membranes, hemorrhage, cicatricial contraction and adhesive meningitis; in the lymph apparatus, lymph stasis, lymph infiltration, lymphogenous degeneration (Schmaus's primary necrosis), and cavity formation; in the vascular system, primary and secondary hemorrhage, hyperemia, proliferation of endothelium, changes in the adventitia, obliteration of the capillaries with consecutive ischemic degeneration, true periarteritis and arteritis; in the neuroglia, moderate proliferation about foci of disease, in the peripheral zones of the cord, and in the perivascular spaces with a change in the cells; in the nervous tissue, primary mechanical destruction, lymphogenous and ischemic necrosis, diseases of the roots and changes in the cells of varying intensity and often remote from the seat of the violence. Marked changes may arise primarily without any hemorrhage. The lesions in the cells and roots are not as dependent upon the seat of the injury as are the general changes in the cord, and we thus find disseminated foci of disease, degeneration of the roots and changes in the cells at a considerable distance from the point of greatest alteration, and these remote lesions may also influence the clinical symptoms.

Chipault⁸ shows that arthropathies of a trophic nature are occasionally met with after injuries of the spine and spinal cord and also in spinal caries. Clinically they somewhat resemble tabetic arthropathies, and sometimes they are exactly similar to them, as in a case of fracture of the spine, where, at the first attempt to walk, there suddenly developed an enormous swelling of the right knee. Most of the arthropathies following injury or caries, however, develop under the form of an effusion with little or no deformity, since the patient is confined to his bed, and thus is less liable to injure the joint by attempting to walk; while tabetic patients increase the joint trouble by keeping about. The arthropathies in the cur-

⁸ *Trav. de neur. chir.*, v., 76, January, 1900.