the "new skin" or celloidin is poured into the bottles. This consists of covering the inside of the bottle with a ten per cent. solution of molasses and water. The molasses solution film is allowed to thoroughly dry on the inside of the bottle, before coating the inside of the bottle with the celloidin film. The celloidin film can very easily be removed by simply immersing the bottle in water as this will dissolve the film molasses coating on the bottle.

The only precaution necessary is to be sure that the ether of the celloidin solution has been thoroughly removed before the water is added. As pointed out, the ether will have sufficiently evaporated when the odor of ether is gone.

Our technician has found this a great time-saver; it also eliminates the danger of breaking the bag in removing it from the bottle.

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HEARING IN A NOISE

REFERRING to the letter of Dr. G. W. Boot, in SCIENCE of October 17, it seems that many cases of enhanced acuity of hearing of deaf people in the presence of a noise, including one of the cases cited by him, are really cases of greater ease of conversation with a normal hearing person. These may be explained by the fact that the noise bothers the deaf person less than the normal person, due partly to the difference in the levels of loudness to which they are sensitive and partly to the difference in frequency between the noise and the speech, the deaf person being more deficient for the noise frequencies than for the speech frequencies. As Dr. Boot points out, it is people with fixation of the stapes who report the phenomenon, and these people are deaf at the lower frequencies, which is the region of probably most disturbing noises.

I would like to call attention to the desirability of having the test made which was suggested in the March issue of the *Annals of Otology, Rhinology and Laryngology*. If the hearing itself is improved in the presence of a noise, as Dr. Boot maintains, then two such people with similar deficiencies in hearing should be better able to converse *with each other* in noisy surroundings, while if the change usually noted by them is due to the change in loudness with which normal hearing people talk in a noisy place, as is suggested above, then the two deaf people should not find the noise to be of any benefit. It is hoped that some one with clinical material available may try this experiment.

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SPECIAL ARTICLES

INFLUENCE OF ULTRA-VIOLET LIGHT ON YOUNG LAYING HENS

WE have found ultra-violet light to have as much effect on the egg production in young laying hens as it has on the bone development in young growing chicks. It is very common for young laying hens, when kept in the absence of ultra-violet light, and on a feed low in the anti-rachitic vitamin, the condition that tends to produce rickets (leg weakness) in growing chicks, to develop a pathological condition characterized by the following symptoms:

(1) The egg production is low.
(2) The eggs produced have very thin shells.
(3) The whites and yolks have less calcium and phosphorus than normal eggs.
(4) A much smaller percentage of these eggs hatch than normal eggs.
(5) Fully developed eggs are often retained in the oviduct, for three or four days.
(6) The hens often develop lameness or paralysis of the legs or wings.
(7) The bones become low in their mineral content and are easily broken.
(8) The calcium and phosphorus content of the blood is below normal.

That ultra-violet light will prevent the above condition is shown by the following experiment which we conducted last winter.

Two lots, of twelve Leghorn pullets each, were placed in the nutrition laboratory October 1, 1923. They were given the same ration, which consisted of yellow corn 82 per cent., tankage 5 per cent., casein 5 per cent., butter fat 5 per cent., bone ash 3 per cent., all ground together in a mash, and all the sprouted oats and oyster shells they would eat.

A cockerel was placed in each pen the first of January. Once a week these cockerels were shifted from one pen to the other in order to reduce, as much as possible, the influence of the male on the hatchability of the eggs from the different pens.

Beginning January 23 the hens in Pen I received a ten-minute ultra-violet light treatment each day during a period of sixteen weeks. During the period before the light treatment of Pen I was begun, there was no significant difference in the egg production of the two pens. The light treatment had a very marked effect on the egg production which showed up during the first week it was used.

During the sixteen-week period, in which Pen I received the ultra-violet light, the hens laid 497 eggs, while those in Pen II laid only 124 eggs. The eggs in Pen I had about 30 per cent. more calcium in the shell, and 5 per cent. more in the contents (whites and yolks) than the eggs in Pen II. Eggs from Pen I had an average hatchability of 78 per cent.,