

the old the young. These tragedies occur in the warrens and are not conspicuous. There is simply a diminished herd in the spring. It will be but a fragment, a remnant, of a fox herd which the government will possess when the futile law suspending seal killing has run its course three years hence. The irony of the situation lies in the fact that the foxes, thus cruelly and improvidently treated, yield skins which in 1912 sold as high as one hundred and fifty-eight dollars each. Had Mr. Jones recommended that the government send up beef from Seattle or San Francisco to feed these foxes over the winter, his recommendation would have been one which the government could well afford to consider favorably.

No; the problem of the Pribilof Islands is not one of bringing the comforts of civilized surrounding to the officials and natives. It is rather one of applying common horse sense to the administration of the fur-seal industry. The present ill-advised and wasteful law should be repealed or amended. The fur-seal herd stood ready to yield six hundred thousand dollars worth of sealskins in 1914. Mr. Jones might have had the satisfaction of seeing them taken and their value covered into the treasury. The law prevented it. He has no comment to make. Incidentally the taking of these skins would have given useful occupation to the natives, restored to them and to the foxes their wonted food, and richly earned for the officials and natives of the islands any degree of generous treatment at the hands of the government.

GEORGE ARCHIBALD CLARK

STANFORD UNIVERSITY,  
CALIFORNIA

#### A SAFE METHOD OF USING MERCURY BICHLORIDE FOR THE ANTISEPSIS OF WOUNDS OF LARGE SURFACE

SOME years ago the writer developed what appears to be an entirely safe and very effective method of making antiseptic extensively lacerated areas. Briefly (and I am afraid in very untechnical language) the results of the experiments were as follows:

1. The reason mercury bichloride is dangerous is that it combines with the albumen (?)

of the exposed surface of the wound. For example, if a liter of 1 to 1,000 solution be used to bathe a wound of extensive surface, all the bichloride (roughly speaking), amounting to a gram in weight, is precipitated out of the solution and remains in the wound in the form of albuminate of mercury, which is later redissolved and absorbed. Hence the subsequent poisoning.

2. If, however, the wound be first bathed with a solution having a stronger affinity for albumen than mercury (a dilute solution of chloride of zinc, and other metallic chlorides, was found to give good results) especially one which gives a granular but coherent compound, and is then bathed with water and *finally* with a 1 to 1,000 solution of mercury bichloride, not left in too long, the antiseptis is perfect and there are no bad after-effects. The albumen having combined with the zinc to form albuminate of zinc, seems to be no longer able to quickly combine with the mercury.

3. That mercury bichloride is a much stronger antiseptic relatively to other antiseptics than is stated in the text-books.

4. That antiseptics mixed with oils or fats, vaseline for example, lose their effectiveness almost entirely.

The importance of the matter at the present time (there is no known way of effectively disinfecting wounds received in battle) and the fact that the results were forwarded to the *Lancet* and *Nature* some years ago but not printed or acknowledged is my excuse for asking you to publish this rather crude and incomplete note.

REGINALD A. FESSENDEN

BROOKLINE, MASS.

#### A SOLAR HALO

TO THE EDITOR OF SCIENCE: On the morning of May 20 an interesting solar halo was observed in the vicinity of Philadelphia, which was sufficiently unusual to be worthy of record. When observed between 11 A.M. and noon the appearance was as indicated in the accompanying diagram. *A* and *B* were two prismatic circles concentric with the sun, of radii (meas-

ured with a sextant)  $22^{\circ} 10'$  and  $46^{\circ} 45'$ , respectively. *C* was the whitish parhelic circle, of radius  $20^{\circ} 5'$  corresponding to the solar altitude of about  $70^{\circ}$ . At the intersection of the circles *A* and *C* there were slight increases of intensity but no conspicuous parhelia. *D* and *E* were much fainter arcs intersecting the parhelic circle at the point opposite the sun. If prolonged they would have been approxi-

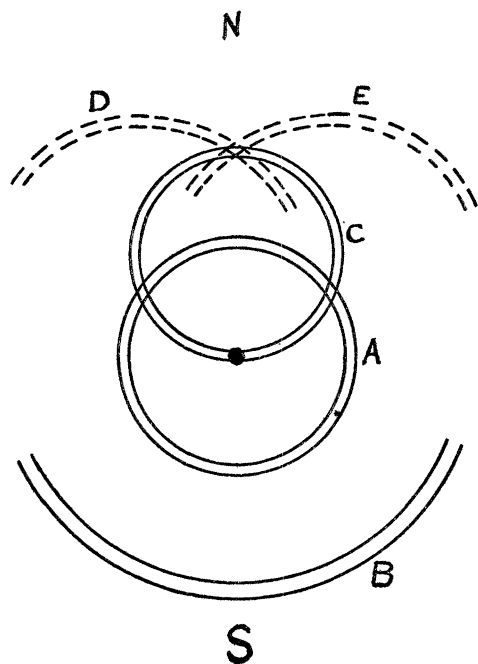


FIG. 1.

mately tangent to the  $22^{\circ}$  circle. The phenomenon was first noticed at 11 A.M. and faded soon after noon.

HORACE CLARK RICHARDS

RANDAL MORGAN LABORATORY OF PHYSICS,  
UNIVERSITY OF PENNSYLVANIA

#### QUOTATIONS

##### THE CONDITIONS OF INDUSTRIAL ACCIDENTS

THE enactment of laws in various states on workmen's compensation for injuries has aroused increased interest in the statistics and physical and psychic conditions of industrial accidents. The total number of these accidents is almost appalling. The lowest

estimate places the fatal accidents to adult workers in the United States at 35,000 a year, with an additional 1,250,000 non-fatal accidents. The Massachusetts Industrial Accident Board, on the other hand, placed the number of workers killed by accident yearly at 75,000, which apparently includes not only adults, but also workers of all ages, while the number of injured of the same classes was placed by this Massachusetts authority at 3,000,000 or over. An earthquake in a foreign country that kills half this number of persons and maims one fiftieth of those injured in our United States industries is spoken of as catastrophic.

Among the interesting elements of these accident statistics is the fact that a greater proportion of accidents occurs on Monday than on any other day of the week. Accidents are said to be due often to fatigue. As, after the day of rest on Sunday, workmen should be less fatigued than on other days, some other factor must be sought to explain this feature of the statistics. It has been suggested that the "blue Monday" accidents are really due to the fact that workmen take more spirituous liquor on Sunday, and thus become unnerved and more liable to accidents during the following twenty-four hours. There is, perhaps, something in this contention, though it has been disputed. In the Massachusetts Industrial Accident Board Reports, in which the official figures are given, there is scarcely more than one twentieth more accidents on Monday than on Tuesday, while Tuesday is not much above the average in the number of accidents reported for other days. Saturday, of course, shows a noteworthy reduction, because of the half holiday in some trades.

By far the larger number of accidents occur at about 10 A.M and 3 P.M. This fact is confirmed by the reports of two state boards, Washington and Massachusetts, which have secured rather careful records. As they represent the extremes of the country, the conclusions from their statistics would seem to be incontrovertible, though the fact is not what might naturally be expected. The State