Ozone as a Bleaching Agent in Steam Laundries.

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In Europe the application of ozone to various commercial uses has been much more successful than in this country. Thus we see great ozone installations for the purification of the city water at Paris and many other cities. Notable application of ozone to the ventilation of the London Subway is being made, while the French use considerable amounts of ozone in the synthesis of various perfumes and other high-grade organic chemicals.

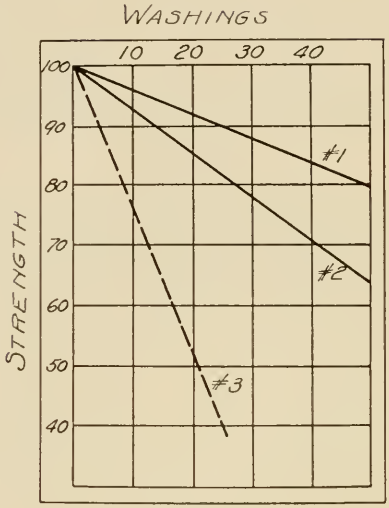
In Germany there are two firms which produce ozonizers suitable for use in steam laundries. One, the Ozongesellschaft m. b. H., is a branch of the Siemens-Halske firm, which is connected with the famous A. E. G., the great electrical trust. This concern uses the most modern modification of the Siemens tube, which has been used extensively for ozone production for a great many years. Another company has concentrated on the application of ozone to laundries. This firm goes by the name, Aktiengesellschaft fuer Ozon-industrie.

Both of these companies advertise in the most glowing terms as to the wonderful merits of ozone as a bleaching agent. Claims are made of great saving in soap, water, overhead, labor, in addition to considerable improvement in quality through the use of ozone as a

Tests made on cotton goods by the Staatlichen Materialpruefungsamtes of Berlin-Dahlen. No. 1 is for ozone bleaching in cold water. No. 2 gives similar data for ozone in hot water, while No. 3 shows the harmful effect of typical peroxide bleaches which has reduced the strength (festigkeit) of the goods to 40% in 25 washings.

bleaching agent. It is stated that the most delicate material is unharmed by their ozone bleaching. Shirts are supposed to have the white part bleached purer white while the colored pattern is brightened by this treatment. Now ozone acts on most organic material with which it comes in contact so that it is surprising that the colored part should not be bleached also! On the other hand, tests made at Berlin-Dahlem by the Staatliches Materialpruefungsamt, using the Goedicke apparatus of the Aktiengesellschaft fuer Ozon-industrie showed that with ozone the goods lasted very much longer than with chlorine bleach material. Samples of cotton cloth were treated and observed after every ten bleachings. A decrease in strength was observed while the weight and stretching were both increased. The cotton goods still maintained 80% of their strength after 50 treatments in cold water, 64% in hot water, while 25 bleachings with chlorine water reduced the strength to a very small value.

As to cost, there is considerable doubt also as to their claims. The use of Javelle water as practised today in up-to-date laundries is a very small item. The interest on the cost of an ozone installation in addition to the power consumption, although it amounts to but a few



watts, bring the cost of ozone just about to a level with that of Javelle water. There remains only the question of quality. At present, it is frequently remarked that home-washed clothes outlast laundry-washed clothes often two to one. Part of this is due to the stronger soaps, soda, etc., used in the laundry, part to the greater mechanical agitation perhaps, and part to bleaching methods. The housewife does not usually use a chemical bleach, but gets the natural effect of the sunlight and moisture in producing sufficient active oxygen in one form or another to give a very beautiful bleaching action. If ozone has the property of emulating sunlight bleaching its use would certainly be desirable.

Heinz & Co. of Berlin are treating newly-woven linen in two revolving drums with ozone to remove the yellowish tinge very successfully. These drums were built by the Aktiengesellschaft to order and their successful operation resulted in the application of ozone to laundry bleaching in several laundries. This is a development of but the last two or three years and ozone may well have found a real use in this field.

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