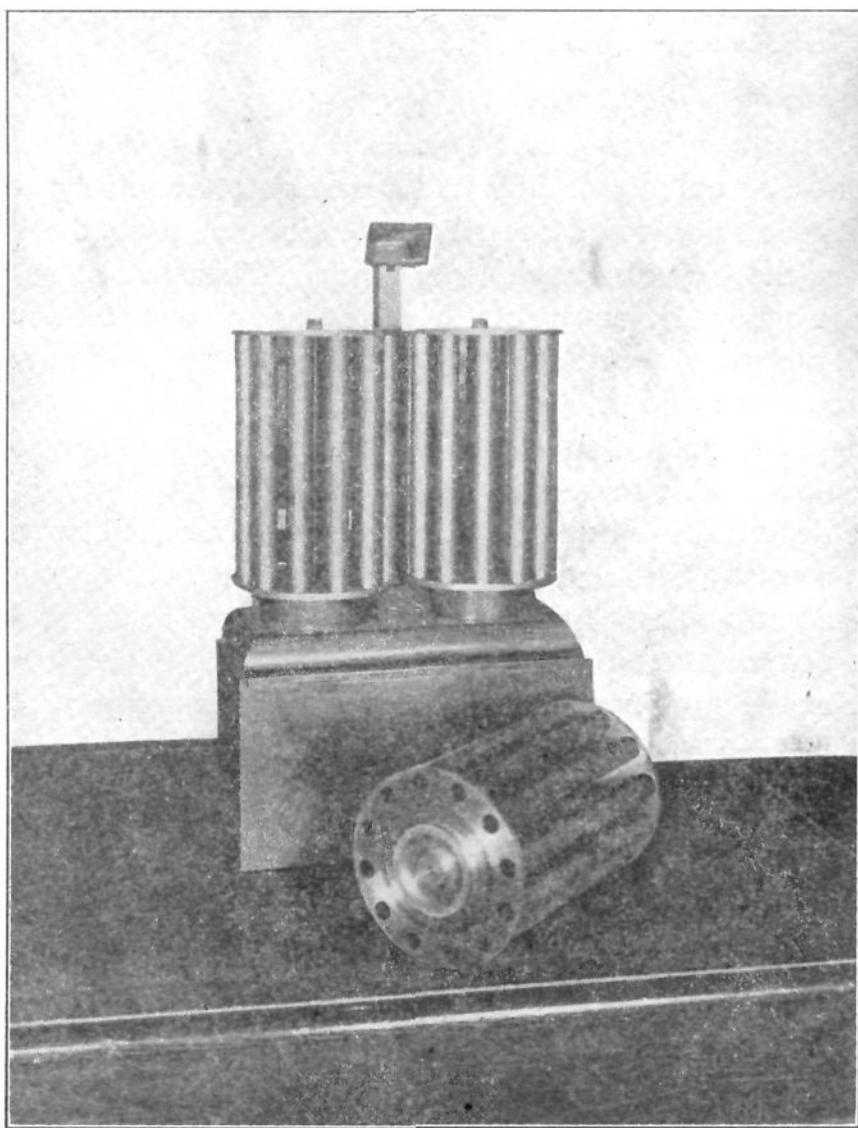


NOTES.

Device for Reading "Nesslerized" Ammonia Tubes in Water Analysis.—The illustration shown herewith requires but little explanation. Two disks of brass $\frac{1}{4}$ inch thick and $6\frac{5}{8}$ inches in diameter are joined by twelve tubes of brass $\frac{13}{16}$ inch in inside diameter and $9\frac{3}{4}$ inches in length. The glass "Nessler" tubes, which are $\frac{3}{4}$ inch in diameter and 8 inches to the 50 cc. mark, just fit these tubes and are kept from falling through the open bottoms by the holes in the lower brass disk, being slightly smaller than the diameter of the brass tubes.



Each lower brass disk is furnished with a very short but broad pivot (3 by $\frac{1}{4}$ inches), which fits into a socket on the wooden stand, thereby permitting the set of tubes to be rotated about a

vertical axis. The wooden stand in question has a base of $6\frac{3}{4}$ by $13\frac{1}{2}$ inches, supporting a pair of wooden sockets. Between the sockets is a small mirror set at an angle of 45° , which throws light up through the two "Nessler" tubes under comparison, and permits the observer to see them in the upper mirror as though in horizontal position. The "Nessler" standards being placed in the set of tubes on the left and the "free" and "albuminoid" ammonias on the right, the two sets can be rotated at will until the colors on the right hand are matched by those of the standards on the left.

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*Occurrence of Manganese in a Deposit Found in City Water Pipes.*¹—The author recently had occasion to examine a deposit that, it was said, would occasionally entirely stop up the service pipes in the city of Hutchinson, in the Arkansas valley. The water is obtained from points driven from 40 to 60 feet into the gravel, and from a well about 25 feet deep. The pipes have been laid from ten to fifteen years, and a direct pressure of 45 pounds is maintained upon them. It is almost impossible to remove this material by flushing out the pipes.

The deposit, of which several pounds were received, when dry, is of an earthy brown color, porous, soft, and friable. It forms both in lead and iron pipes, but seems to form more quickly at points nearest the pumps.

The analysis of a sample, dried at 100° C., is as follows:

Silica.....	9.25
Ferric oxide	13.00
Aluminum oxide.....	3.02
Manganese sesquioxide.....	45.20
Zinc oxide.....	5.94
Calcium oxide.....	0.48
Copper oxide.....	0.66
Barium oxide.....	0.11
Water	7.59
Loss on ignition, less water.....	13.67
Total.....	98.92

In addition to the above, there was present a small quantity of chromium oxide, magnesium oxide, phosphoric anhydride, carbon

¹ Read at the St. Louis meeting of the American Chemical Society, December 30, 1903.