

cleaned out and the experiments started again. Beginning January 12, 1916, operation was begun on a twelve-hour cycle; i.e., ten hours for aeration, and two hours for settling, drawing and filling. It was planned to gradually reduce this time as the sludge deposit increased until the minimum period required for obtaining the desired purification was found. The air pressures, volumes of sewage treated, temperatures of sewage before and after each filling and the room temperature were recorded. During January and February the room temperature ranged from 38 degrees to 46 degrees, the temperature of the fresh sewage entering the tanks from 46 degrees to 50 degrees and the temperature after aeration from 40 degrees to 47 degrees, showing an average loss of 7 degrees in tank No. 1 and 6.3 degrees in tank No. 2 during the aeration period.

The tanks were operated continuously from January 12th to February 15th, being then closed down till February 20th for repairs to pump and motor. Tank No. 1 was in operation from February 20th to March 2nd, and tank No. 2 from February 20th to February 25th. Both tanks were operated from March 13th to April 24th, from April 27th to May 5th and from May 13th to June 5th. The idle periods were due to the adjustments and repairs required to the apparatus. The time of the staff during the summer was entirely taken up with the press of the summer work. On April 5th the cycle was reduced from 12 hours to 10 hours.

The following are some of the results noted:—

Percentage of sludge.

	Tank 1.	Tank 2.
March 2	8.6%	3.9%
March 10	8.5%	...
March 31	13.8%	10.5%

Chemical Tests.

Raw Sewage.

	Oxygen absorbed, in pts. per 100,000.	Nitrites, in parts per 100,000.	Nitrates, in parts per 100,000.
February 5	3.0	none	none
February 7	2.4	none	none
February 10	3.5	none	no test
February 11	3.0	none	no test
March 29	3.7	none	none
April 4	3.0	none	0.7

Effluent from Tank No. 1.

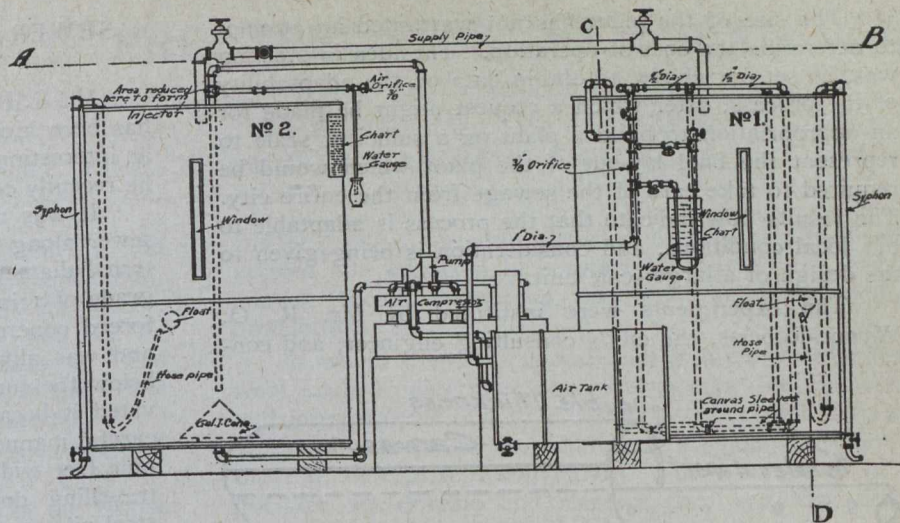
	Oxygen absorbed, in pts. per 100,000.	Nitrites, in parts per 100,000.	Nitrates, in parts per 100,000.
February 5	1.1	.1	.3
February 7	1.1	.3	.4
February 10	1.2	.3	no test
February 11	1.2	.1	no test
March 29	2.0	0.5	0.5
April 4	1.2	0.8	0.5

Effluent from Tank No. 2.

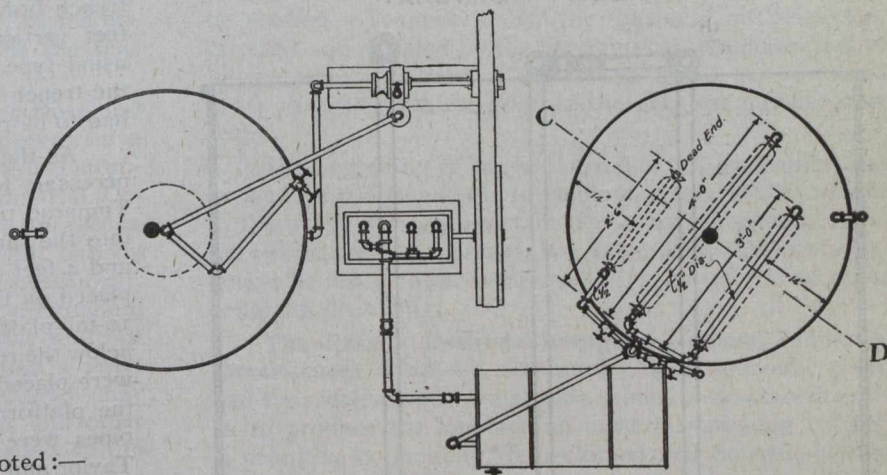
	Oxygen absorbed, in pts. per 100,000.	Nitrites, in parts per 100,000.	Nitrates, in parts per 100,000.
February 5	1.3	.1	.5
February 7	1.2	.3	.3
February 10	1.2	.2	no test
February 11	1.3	.2	no test
March 29	1.5	.7	.8
April 4	1.5	.8	.8

Relative Stability, in Days.

	Tank No. 1.	Tank No. 2.
February 5	4	3.9
February 12	10	3.2
February 29	5.3	...
March 2	3.3	...
March 14	1.9	2.0
March 15	5.0	2.7
April 1	1.7
April 17	2.6	2.6
April 18	2.8	2.8



Elevation.



Section at A.B.