CLAIMS

1. A soil improvement method, comprising:

providing two wells at a predetermined interval in a ground;

feeding water and air under pressure from one of the wells into the ground through a strainer at a lower position of the one well; and

sucking water and air in the ground from the other well through a strainer at a lower position of the other well.

2. The soil improvement method according to claim 1, wherein

a water pump feeds the water and a compressor feeds the air into the one well, and

a lifting pump pumps up the water and a vacuum pump sucks the air from the other well.

3. The soil improvement method according to claim 1, wherein the feeding of the water and the air under pressure from the one well into the ground and the sucking of the water and the air in the ground from the other well are repeatedly performed.

4. A soil improvement method, comprising:

providing a large well in a ground and a plurality of small

wells at predetermined intervals around the large well in the ground;

feeding air under pressure from lower portions of the small wells into the ground; and

sucking water and air in the ground from the large well through a strainer at a lower position of the large well.

5. The soil improvement method according to claim 4, wherein

a compressor or a plunger pump feeds the air to each of the small wells, and

a lifting pump pumps up the water and a vacuum pump sucks the air from the large well.

6. The soil improvement method according to claim 4, wherein, while the small wells are stepwise moved up, the feeding of the air under pressure from the lower portions of the small wells into the ground and the sucking of the water and the air in the ground from the large well are repeatedly performed.

7. The soil improvement method according to claim 4, wherein a boring machine bores with a bore channel by a predetermined depth to establish each of the small wells.

8. The soil improvement method according to claim 5,

further comprising:

providing air feed holes at predetermined depth intervals in the small wells;

installing air feed channels in the small wells; and

feeding the air under pressure into the ground through the air feed holes while stepwise moving up the air feed channels.

9. A soil improvement method, comprising:

providing two small wells at a predetermined interval in a ground;

feeding air under pressure from one of the small wells into the ground; and

sucking air in the ground from the other small well.

10. The soil improvement method according to claim 9, wherein

air suction holes are provided at predetermined depth intervals in the other small well, and

a vortex pump sucks the air into the other small well.

11. A soil improvement method, comprising:

providing a large well and a small well at a predetermined interval in a ground;

sucking water and air in the ground from the large well through a strainer at a lower position of the large well and

sucking air from a periphery of the strainer; and

sucking air in the ground through a lower portion of the small well.

12. The soil improvement method according to claim 11, wherein

a lifting pump pumps up the water and a vacuum pump sucks the air from the large well, and

a vortex blower sucks the air from the periphery of the strainer and from the small well.

13. The soil improvement method according to claim 12, wherein a gas-liquid separation apparatus is provided in an air suction path from the small well to the vortex blower.

14. The soil improvement method according to claim 13, wherein water separated by the gas-liquid separation apparatus is fed into a water lifting path from the large well to the lifting pump.

CLAIMS

1. A soil improvement method, comprising:

providing a large well in a ground and a plurality of small wells at predetermined intervals around the large well in the ground;

feeding air under pressure from lower portions of the small wells into the ground;

sucking water and air in the ground from the large well through a strainer at a lower position of the large well, wherein while the small wells are stepwise moved up, the feeding of the air under pressure from the lower portions of the small wells into the ground and the sucking of the water and the air in the ground from the large well are repeatedly performed.

2. The soil improvement method according to claim 1, wherein a compressor or a plunger pump feeds the air to each of the small wells, and a lifting pump pumps up the water and a vacuum pump sucks the air from the large well.

3. The soil improvement method according to claim 1, wherein a boring machine bores with a bore channel by a predetermined depth to establish each of the small wells.

4. A soil improvement method, comprising:

providing a large well in a ground and plurality of small wells at predetermined intervals around the large well in the ground;

feeding air under pressure from lower portions of the small wells into the ground;

sucking water and air in the ground from the large well through a strainer at a lower position of the large well,

providing air feed holes at predetermined depth intervals in the small wells;

installing air feed channels in the small wells; and

feeding the air under pressure into the ground through the air feed holes while stepwise moving up the air feed channels.

5. A soil improvement method, comprising:

providing two small wells at a predetermined interval in a ground;

feeding air under pressure from one of the small wells into the ground; and

sucking air in the ground from the other small well, wherein air suction holes are provided at predetermined depth intervals in the other small well, and a vortex pump sucks the air into the other small well.

6. A soil improvement method, comprising:

providing a large well and a small well at a predetermined interval in a ground;

sucking water and air in the ground from the large well, through a strainer at a lower position of the large well and sucking air from a periphery of the strainer; and

sucking air in the ground through a lower portion of the small well.

7. The soil improvement method according to claim 6, wherein

a lifting pump pumps up the water and a vacuum pump sucks the air from the large well, and

a vortex blower sucks the air from the periphery of the strainer and from the small well.

8. The soil improvement method according to claim 7, wherein a gas-liquid separation apparatus is provided in an air suction path from the small well to the vortex blower.

9. The soil improvement method according to claim 8, wherein water separated by the gas-liquid separation apparatus is fed into a water lifting path from the large well to the lifting pump.