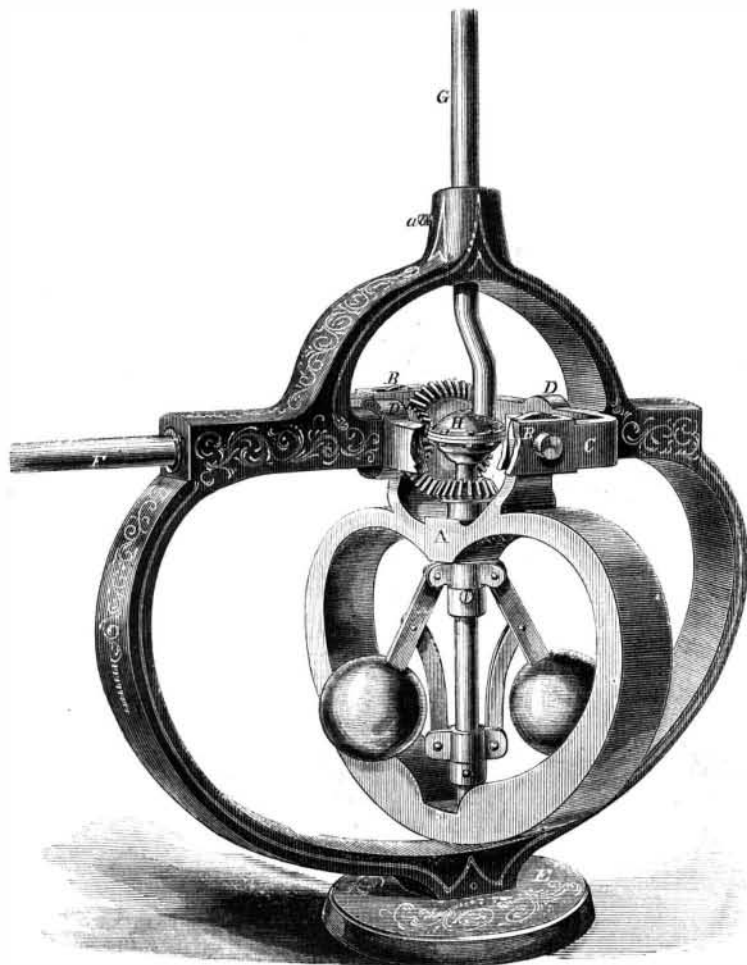


## Improved Marine Governor.

It is a fact well known to all marine engineers that the engines of sea-going steamers "race," or run away with themselves, when pitching and tossing on the surface of the sea. This is very dangerous to the engine, as the increased velocity, and sudden strain it is subjected to when checked by the vessel plunging into a heavy sea is liable to do great injury. Engines are usually checked by hand during heavy weather, requiring a man at the throttle valve continually. To obviate this evil, a great number of marine engine-governors have been invented and introduced, and we illustrate one of the latest improvements herewith. The governor is of the usual kind, and is supported in the frame, A; this



## BEHREN'S PATENT MARINE GOVERNOR.

frame is hung on centers at B B, in the secondary frame, C; this secondary frame is also hung on centers at D, thus giving a universal joint or movement to the governor proper, working in the frame, A, and maintaining it in a vertical position at all times, so that the balls are free to work, and the collar to slide up and down on the shaft without binding, no matter at what angle the deck or keel of the ship may be. The pedestal, F, is of course fastened firmly to the engine frame in any desired position, and motion is communicated to the balls by a pulley on the shaft, F. The throttle valve connects to the stem, G, which has a ball-and-socket joint, H, so that it communicates the variations of the governor to the throttle equally well in all directions. The small screw, a, works in a slot, and prevents the stem from turning. This invention was patented on March 24, 1863, by Henry J. Behrens, model and pattern maker, of New York city; further information can be had by addressing him at 170 Chatham street, New York.

## DISINFECTING AGENTS.

During warm weather decaying organic substances near dwellings emit offensive and unhealthy gases. In situations where the putrid substances cannot be removed, disinfecting agents should be employed for neutralizing their effects. The common gas which is emitted from sinks and sewers is sulphureted hydrogen (H S). It has a peculiarly nauseous fetid odor, resembling that of rotten eggs, and it is so diffusible that a single cubic inch of it escaping into a large

room will render the atmosphere offensive. It is inflammable, burning with a pale blue flame, and when respired it is dangerous. Even when diluted with a considerable amount of atmospheric air, it produces nausea, headache, faintness and loss of appetite, when inhaled for a moderate length of time. Chlorine is a powerful disinfectant of this gas, because the hydrogen of it combines with the chlorine, and sulphur is deposited. The chloride of lime is, therefore, a most convenient substance to use as a disinfectant. It may be sprinkled in the solid state among decaying substances, or it may be placed where the chlorine will evaporate into the atmosphere and combine with the fetid gas, or it may be mixed with water and sprinkled over floors or poured into sinks.

Chloride of zinc also decomposes it, and this has been used extensively as a disinfecting fluid. This gas is rapidly absorbed by charcoal, the hydrogen being oxidized and sulphur deposited. If a weak solution of sulphureted hydrogen is shaken with powdered charcoal, the smell of the gas rapidly disappears. Owing to this property of charcoal, respirators containing charcoal have been recommended for persons whose occupations compel them to breathe the exhalations of sewers.

One of the most efficient substances for the removal of sulphureted hydrogen, either in the state of gas in the atmosphere, or in a solvent form in sewers and sinks, is the hydrated peroxide of iron. This substance is now largely employed in some places for the separation of sulphureted hydrogen in coal gas. The peroxide of iron may be prepared by roasting the sulphate of iron (copperas) in a stoneware bottle exposed to a full red heat; sulphuric acid is driven off through the neck of the bottle, leaving the peroxide in the state of a red powder. Copperas itself is a good disinfectant and is very easy of application by any person. One pound of copperas dissolved in a pailful of boiling water and poured into a fetid sink will banish all the foul odor in ten minutes. Fresh slaked lime is also a disinfectant, but copperas is superior to it, especially where ammonia is present, as in a sink. The odor of sulphureted hydrogen reveals its presence when it only forms 1-200,000 part of the atmosphere. For disinfecting sewers and other such receptacles of decaying organic matter upon a large scale, we recommend the hy-

drated peroxide of iron, but for families to use in sinks copperas is about the best substance that can be employed.

A CORRESPONDENT of the *Boston Cultivator* considers it an important item in the cultivation of potatoes to pick off the blossoms as soon as they appear, for the reason, as he says, that it hurts a potato as much to go to seed as it does a radish or any other root crop.

BLOCKADE RUNNING.—The *Charleston Mercury* says there were 23,000 bales of cotton exported last year from that city, and 9,800 the first quarter of this year.

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