TEST FOR GOLD.

There is a simple method for the detection of gold in quartz, pyrite, etc., which is not generally described in the mineralogical text books. It is an adaptation of the well known amalgamation process, and serves to detect very minute traces of gold.

Place the finely powdered and roasted mineral in a test tube, add water and a single drop of mercury; close the test tube with the thumb, and shake thoroughly and for some time. Decant the water, add more and decant repeatedly, thus washing the drop of mercury until it is perfectly clean. The drop of mercury contains any gold that may have been present. It is therefore placed in a small porcelain capsule, and heated until the mercury is volatilized, and the residue of gold is left in the bottom of the capsule.

The residue may be tested either by dissolving in aqua regir and obtaining the purple of Cassius with protochloride of tin, or by taking up with a fragment of moist filter paper, and then fusing to a globule on charcoal in the blowpipe flame.

It is being shown that gold is much more universally distributed than was formerly supposed. It has recently been found in Fulton and Saratoga counties, New York, where it occurs in pyrits. It has also been discovered in the gravel of Chester Creek, at Lenni, Delaware county, Pa. In one of the Virginia gold mines wonderful richness is reported, $160,000 worth of pure gold having been taken from a space of three square feet. —*Jewelers' Circular.*

THE SAND BLAST.

Many are the wonderful and useful inventions of the present day, and not the least of them is the common sand blast. Let us suppose that a piece of marble is to be lettered. Cover the stone with a sheet of wax no thicker than a wafer, cut out the letters, figures, or other ornament, leaving the marble exposed. Next pass it under the blast. The wax will remain uninjured, but the sand will have cut the letters, etc., deep into the stone.

If you desire to have raised letters, cut away the surroundings of the letters down to the stone, and by applying the blast, the sand will cut these surroundings away, leaving the wax-protected letters unscathed.

Take a piece of French plate glass, of convenient size, and cover it with fine lace, and expose it to the action of the blast sand. Not a fiber of the lace will be injured, but the glass will be worn away wherever it was unprotected by the lace, and its beautiful and intricate pattern will be found engraven upon it, upon the removal of the lace. Beautiful figures and devices of all kinds may thus be engraven upon glass at a comparatively small expense. Even while the sand is wearing away the hardest material, the workman may hold his hands into it with impunity; his hand, yes, but not his nails, else he would have none in a very short time. Even the protection of steel thimbles will do no good, they will be worn away very quickly, but a wrapping of soft cotton will protect them completely. The sand wears away any hard substances; steel, iron, even diamond, but leaves unharmed soft substances, the human hand, wax, cotton, or any other soft article.—*Jewelers' Circular.*

MUSIC BOXES.

"There is a great demand for music boxes from China," said a Broadway dealer. "The Chinese are passionately fond of them, and at a festival a Chinaman who can afford it carries a music box in each pocket. "What music do they like best?"

"All Chinese music. They will have no other. The sweetest strains from 'Trovatore,' 'Mignon,' and 'Faust' are as 'sweet bells jangled out of tune' to a Chinaman. We have to employ men who can reduce the Chinese music to written notes, and from this as 'copy' the music box is made. We have to make up a different set of tunes for every country. If we should send boxes to France that played 'Nellie Gray,' 'Way Down on the Swanee River,' 'When you and I were Young Maggie,' or 'Sweet By and By,' we should get them back quick enough.

"National airs are the first tunes chosen, then the popular tunes, and then selections from famous operas. Scotch tunes, except 'Auld Lang Syne' and 'Bonnie Doon,' are difficult to render effectively by a music box, and they are rarely used. The great expense in the manufacture of music boxes arises from the necessity of changing the tunes, discarding those that are tiresome and substituting the latest and most popular. But sit down while we talk."

The writer took a seat, and the strains of "Farandale" from "Olivette" floated from beneath the chair.

"Have a cigar?" He turned a cigar stand, and there came out of it the air of the drinking song Giroflo-Girofla."

"This is a picture of our Swiss factory."

As the album was open there came out of it an air from "Fra Diavolo."

"Will you take a pinch of snuff?"

As the lid was raised there was a whisper of "Should Auld Acquaintance be forgot?"

"We have a customer who has a music box attachment to his front door, and his visitors are always greeted by a tune. A music box can be concealed in a very small compass, and one of the reigning demands is for articles that contain them so as to create pleasant surprises. Dolls, clocks, and books are provided with them. Nearly all of the music boxes are made in Sainte Croix or Geneva in Switzerland.

"The principle of manufacture is simple. The different parts comprise a brass roller, studded with fine points of the hardest steel, a steel comb the teeth of which give the sounds, a spring to give the revolving motion to the cylinder, and fly wheel or fan to regulate the revolving motion. The music has first to be arranged by a thorough artist. The cylinder which comes from the machine shop is then placed in the hands of a woman, who, with the aid of the music and a very ingenious machine, marks the places on the cylinder where the points are to be inserted. Another person drills all the little holes, and another inserts the points. The cylinder is then filled with molten cement, and then placed on the lathe and revolved quickly. The cement adheres to the inside surface, and thus holds the points. A hole is left in the center of the cylinder for the axis. The points are then filed down so as to be of equal length. The comb is tuned by a tuner, who first files the teeth without excessive care, to give them the proper flexibility, and then files them near the base to lower the tones, and near the points to sharpen the tones.

The operation of fastening the cylinder and the comb to the bed plate requires much accuracy, so that the points of the cylinder and the comb will exactly meet. A woman following the music then bends the points on the cylinder