

sandstone helps to make it light and fluffy, as the slag by itself is glassy and rather heavy. It takes about two tons of coal and over a ton of coke as fuel to every ten tons of the rock mixture. A layer of wood is followed by a layer of coal and coke, then a layer of the rock mixture. More coal and another layer of rock having been placed in the cupola, the fire is started, and an air-blast, with a pressure of from three to five lbs. per inch, is forced through this mass, soon heating and fusing it. When it is in this state a small opening is made at the base of the cupola, and a stream of the fluid mass as thick as the stem of a clay pipe is allowed to run out. A steam pipe with steam at 90 lbs. has a suitable opening about a foot below the base of the cupola, and a few inches from the stream of melted rock. A valve being opened, steam rushes out of the pipe with great velocity, encounters the stream of glowing liquid, and carries it along with it in a rush. The steam-jet and the flow of the rock are adjusted with such nicety by the attendant, that none of the liquid drops to the ground, but all is caught up by the steam and whirled into the blowing chamber, where it falls by its own gravity. The blowing chambers are oblong rooms 20 to 30 feet wide, twice as long and about 20 feet high, and such is the force of the jet of steam that the finer wool is blown to the extreme end of the room, the heavier and coarser settling down nearer the entrance. Having thus been automatically graded, it is packed in bags for domestic use or pressed into bales for export. The bags weigh from 35 to 55 lbs., according to quality, and the bales weigh from 150 to 180 lbs. When running with a double shift working from 18 to 20 hours, the capacity of the works is about ten tons per day. The uses of mineral wool are so many that the supply is hardly ever equal to the demand. It is used for packing around boilers, furnaces and pipes, to retain heat, and in other places to keep the frost out. It is used in buildings between the walls and in the ceiling to deaden the sound and also to retain the heat. During the recent coal scarcity it was put to a new use, a wire cage being packed with the mineral wool, which was then impregnated with kerosene and used as fuel in heaters or stoves, and, as it is incombustible, it would last indefinitely.—American Machinist.

CHANGE OF NAME.

The Loom Picker Co., of Biddeford, Maine, long and favorably known to our readers as manufacturers of loom pickers, loom harness, reeds, picker sticks, etc., announce that the name of the company has been changed this month to the Garland Manufacturing Co. and the post office address to Saco, Maine. The company have done business under the old name and with the old address for thirty years, although the factory has been located in Saco for the past twenty years. Those not familiar with the geography of this part of Maine should understand that Biddeford and Saco are practically one place, separated by the Saco river, and that the change announced is merely a change of postal address and not of location. The circular announcing the new name states: "The management of the business and the location of the factory will be identically the same as for many years, so that the only change will be in the name and address. We change our name because our product is no longer confined to loom pickers as was the case when the business was established and as our name has implied. We change our address to Saco, where our factory has been located for many years, because the Saco Post Office is much nearer our factory than the post office at Biddeford, which is on the opposite side of the Saco river. The address

is changed not only for our own convenience, but also for the purpose of enabling us to more promptly handle our correspondence.

SULPHUR IN WOOL.

One of the annoying things that is apt to be present in all wool is a certain proportion of sulphur. It may not be present in a very large quantity, but whenever it is in evidence it leads to complications and trouble of various sorts. At the start, perhaps, the first thing to determine is whether there is sulphur present at all or not, and this can be done by means of the following simple tests: Take a solution of oxide of lead dissolved in neutral acetate of lead solution, dilute it and raise it to the boiling point, and then place the wool to be tested in this dilute boiling solution. It will be noticed that the wool will first turn to a brown color and then finally to a black, and the reason for this is that the lead of the solution has combined with the sulphur of the wool in the form of a lead sulphide, and this has become a precipitate upon the wool fibre. The combination forms a black lead sulphide, and this sulphide will not be produced unless sulphur is present, so that it is possible to use this test to determine whether a fibre is really wool or not. A wool treated thus will show the black precipitate, while if the fibre is silk or some other material, no such precipitate will form, because sulphur is not a chemical that is found on any other textile fibre than wool. It may vary from 1 to 4 per cent. in wool, and so can cause trouble if it is not removed.

It might be thought that such a small proportion of sulphur as the above could cause no appreciable difficulty in the finishing and wool treatment processes, but such is a serious mistake. The fact is that when sulphur appears on the wool fibres and is not removed, it is bound to lead to trouble, annoyance, and difficulty. In the dyeing of wools it is well known that if sulphur is present there is liable to be great difficulty with light shades and colors. In cases of this kind it is impossible to use metallic dye kettles, because the sulphur on the wool will combine with the metal of the kettle to form a dark-colored precipitate that will cause more or less variation in the shade of the colored fibre, according to the proportion of sulphur present and the kind of metal in the containing vessel. Trouble of this description is sure to result when the neutral dye kettle is used, and if copper or lead is the metal in the kettle. It will be noticed that the same result practically follows in this case, as followed in the test above described for the detection of sulphur in the wool. The trouble in both cases arises from the formation and precipitation of a dark-colored sulphide upon the fibres of the wool. The trouble is most marked where the color or shade is delicate, and the sulphur is present in the larger proportions. Practically similar results are caused from similar conditions in the wool-mordanting operation, unless care and caution are exercised. If too much of the crystals of tin are used in the mordanting treatment of a wool from which the sulphur has not been removed, the result will be that the sulphur of the wool will combine with the excess of tin in the mordant, and a metallic sulphate will again be produced which will precipitate on the fibres of the wool in the form of a dark-colored material, which will turn the wool brown in color. This, of course, will cause infinite trouble if the wool is one that has to be dyed a light shade or color. In fact, in order to dye light and delicate shades, it is necessary to remove the sulphur from the wool before the drying is undergone.