If non-load bearing products such as wall panel sheets, wall tile sheets and the like are made, further and greater compression of the continuous sheet may be accomplished before it is cut into the small, wall tile or wall panel sheets. For this purpose I provide a series of cylindrical pressure rollers 270—272 having bearings mounted in a carriage 274 like that carriage 250, 250a, 251 used for the dewatering unit cylinders 230—233. The bearings of the rollers 270—272 are secured in the carriage 274 by four bolts, the ends of which abut the bearings at points spaced 90° apart, whereby minor adjustment of the rollers 270—272 is made possible without changing the position of the carriage. The carriage 274 is vertically adjustable as a whole by mechanism exactly like that used for the adjustment of the dewatering unit carriages, hence it need not be described further. By means of this adjustability sheets of different thicknesses can be pressed, and the degree of pressure can be varied. As in the dewatering units so also in the compression unit, an endless belt 275 is passed around the rollers 270—272. This belt preferably is rubber, but may be polished steel or wire mesh if desired. This belt also passes around cylinder 276 which is located directly above the cylinder 206 and is of equal size thereto, and it also passes around a cylinder 277 which is vertically adjustable on vertical members of the frame 200, by bolts passing through slots in the vertical members. The slack of this belt 275 may be taken up by a guide roller 278 which is mounted on and vertically movable relative to the framework 200.

As a matter of course certain of the supporting rollers 208 are located directly below the rollers 270—272, so that the compression of the continuous sheet may take place between them and the rollers 208.

The same motor which drives the dewatering units, and rotates the distributors and causes movement of the dewatering and conveyor belts, may be used to drive the compression rollers 270—272 through appropriate gearing. The actual construction and operation of all this gearing is a matter of mechanical skill and need not be described other than to say that the peripheral speed of all the belts and rollers in contact therewith are determined by, and are controlled so as to be the same as, the desired speed of the conveyor belt 202.

Coloration

The process and machine described here are particularly suited to the manufacture of colored products. The two usual ways of coloring products of the sort here concerned are to apply a coloring agent to the surface as a veneer or to mix it all through the plastic mass before it is pressed. The chief disadvantage of surface coloration is its lack of durability under the erosion of the weather when the product is used out of doors. The coloration by complete impregnation of the product with a coloring agent is durable but very expensive.

In the present process, the coloring agent is added only to the body of mixed cementitious and fibrous ingredients which is formed into an outer layer of the initial mass and which becomes the outer thickness of the final concrete body. The coloration extends to a substantial depth, as distinguished from surface or veneer coloration, and is therefore as durable under weather erosion as a product colored throughout. It effects a saving of two thirds or more when the initial mass is three layered, as shown in the drawings, since the outer layer need not be as much as a third of the total thickness.

So far as I am aware, there has never been known a product of this sort—i. e., one having cementitious and fibrous materials as its principal and characterizing ingredients—in which the coloring agent is present in the material and not merely on its surface, and to a depth sufficient to resist erosion by the weather yet not extending all the way through the product. Thus, the desirable qualities are present without entailing the cost of complete coloration.

The present process and apparatus makes available and practicable certain coloring agents which generically may be described as those organic pigments or stable lake colors which may be combined with the plastic alkaline material forming the body of the products here concerned without chemical decomposition. These organic pigments are known and are extensively used. Before this time their cost and the lack of a practicable and economical way of adding them to the product have prevented their use in cementitious fibrous sheets for walls and roofing or for shingles.

This invention makes it practicable to use these organic pigments alone or in conjunction with metal oxide pigments and thus to obtain more varied colors and mottled vari-colored effects in each sheet or shingle.

I have also found a material which, to my knowledge, heretofore has not been used for coloring products of this class and which, while being extremely inexpensive and readily procurable, is satisfactory for giving a red color to the products. It may be finely ground as usual and added to the initial mix in the same way as the finely ground oxide pigments are added, or it may be crushed only to a coarse size so that when added to the outer layer of the strip it will give a rough pebbled surface thus enhancing the decorative qualities of the product. This material is an impure red oxide of iron formed as a clinker residue in the manufacture of sulphuric acid from iron pyrites.

In the manufacture of shingles by the machine first described it is possible to effect a greater saving in coloring material by taking advantage of the fact that only the exposed butt of the shingle need be colored. The spreader which is delivering the outer layer may be set for a narrow width by swinging its gates 111 toward the center. With a divider 110 in each spreader the machine will be forming two strips, tapered slightly if desired, from which two series of shingles may be cut. With the orifice of the last spreader narrowed, the colored mixture is delivered in a strip extending only over the inner parts of the previously delivered uncolored layers and therefore forms a butt having colored material to a substantial depth. The subsequent pressing between belts B and C removes the sharp line of demarcation between this top, partial layer and the other full width layers. In this way only one-sixth or less of the shingle contains the coloring agent, yet the result, for all practical purposes, is the same as if the whole shingle were colored.

When one orifice is narrowed in this manner, it is desirable to reduce the volume of material fed to that spreader. This obviously may be done by reducing the volume of dry materials delivered from the well 11. The spiral conveyor in the well delivering to the last spreader may be provided