

unsuccessful. The matter of what kind of binding material to use is largely determined by the locality in which the briquettes are made, that material being used which is cheapest and best in the locality in question. For instance, in India and other warm climates, lime and meal mixed have proved the cheapest and most suitable binding material; while in the northern counties, pitch and tar are the chief ones used.

The process of making briquettes is in brief, as follows,—The coal must first be cleaned, which is done by thorough washing, after which the coal is drained and dried in special drying ovens. The next step is to crush the coal to a uniform size, usually about 3-16 or $\frac{1}{8}$ inches in diameter. The binding material, pitch for example, may be used in the dry state, or first melted and then mixed with the coal. When pitch is used, it is mixed with about 15 per cent. of tar. The ways of melting the pitch are many, but the following is a common process and the one employed at the Blanzly colliery, France,—the pitch after being broken in a small pug mill, is put into large cylindrical tanks which are heated by steam. The tar is then put in with hand vessels, and the melted product is allowed to flow from a small trap door in the bottom of the tank. By this process 6 tons of pitch are melted in from 6 to 8 hours. The next step is mixing the prepared coal with the binding material, the amount of the latter varying from 6 to 10 per cent. according to the quality of the coal. After mixing, the final process is compressing the mixture into briquettes. The machines for this purpose are of as many kinds as the binding materials, and usually bear the name of their inventor. The primary features of these machines are,—a number of moulds into which the mixture is poured, and an apparatus for compressing each mould to any desired pressure. At the Blanzly colliery, France, the briquettes are subjected to a pressure of from 142 to 156 lbs. to the square inch, and the briquetting machine at this colliery turns out 23 briquettes per minute. After leaving the machine, the briquettes are allowed to dry