Millions in Petrel
Vast Stretch of ‘Rocks’ For
Awaiting Call of Capital
Glass Not Only Outlet for
Products of Arkansas’
Possessions of Sand

By WILLIAM JOHNSON

In counting up the potentialities of the sand region in Arkansas we have been overlooking one of the most important factors that will determine the future of this industry. It is the vast stretch of the Arkansas sand field that is available for the establishment of large glass works. The sand is the raw material of the glass industry, and the abundance of sand in Arkansas makes it a most attractive location for the establishment of glass works.

There is a great deal of sand in Arkansas, and the possibilities of the industry are unlimited. The sand is of the finest quality, and the abundance of it makes it possible to establish large glass works in the state. The sand is also easily accessible, and the transportation of it is not a problem.

In conclusion, the potentialities of the sand region in Arkansas are enormous, and the establishment of large glass works in the state is a most promising venture. The abundance of sand, the quality of the sand, and the accessibility of it make it a most attractive location for the establishment of glass works.
Arkansas Sand Deposits

By H. E. Kelley.

The sand used most extensively in the United States is glass-making from the so-called Arkansan sand deposit, known as the Chalk Mountain sand, found in Eastern states, and the so-called St. Peter sandstone, in the Mississippi river valley. Both sands are almost pure silica.

The difference between the two seems to be in the shape of their grains. The grains of the Chalk Mountain sand are angular, more like the grains of sugar, while the grains of the St. Peter sandstone are worn by wind and water until they are almost round.

This sand forms a rock, sometimes forming a massive cliff which raises its head many feet above the valley floor. At another place it may occur in a solid formation a few feet below the surface of the earth.

This sand rock is soft and easily broken. A stream of water will break the softest formations into its natural grains. Other formations are broken into small pieces by blasting and these pieces are run through a machine which crushes them into sand.

After it is broken up into its natural grains the sand is run over screens, which remove all the dust and impurities. After it has passed through another machine to be dried, it is ready for shipment to the glass factories.

Glass-making is an old art, so old that its origin is uncertain. Improvements in the methods of manufacture have been slow. It is only in recent years that machines have been used successfully to replace hand labor.

The process before the era of the machine was for workmen, called "blowers," to equip themselves with short lengths of pipe, to dip one end of the pipe into the molten glass in the same manner that one dips a bottle into a strong soda. The pipe was placed to the mouth of the workman and he began to blow a bubble of glass.

Glass is very tough; in a way it resembles wax.

Originally our window panes were blown in the form of large cylinders. These cylinders were heated until they became soft, then cut open and flattened out so they could be cut into desired sizes.

The high grade glass plate in show windows, expensive cabinets and windowsills, is still made by what may be termed a hand process.

The purest sand makes the best glass.

Optimus glass used in spectators, field glasses, telescopes and microscopes, is made in a manner similar to plate glass and only the purest materials are used.

In bottles, fruit jars, and similar articles, coloring matter may be added, or the presence in the ground of some impurity, such as iron, may give color to the glass.

Within the past few years, machines have come into use which "draw" plates and glass in sheet form. Bottles and fruit jars are blown by compressed air. This process is many times faster than the old hand method, consequently the small factory which could not obtain machines was forced to close down.

The northern half of Arkansas is fortunate in having the most extensively colored of St. Peter sandstones. These deposits, of which there are many, do not run so uniformly in grain size as the Ottawa (III.) of the Kankakee (I.).

Arkansas has failed to develop these deposits as it should. She has the gas for the glass factories, but she has not had any large factories. Just over the line in Louisiana is one of the largest if not the largest glass factory in the Southwest.

Malvern Sand and Gravel Company, a subsidiary of the New York Sand and Gravel Company, has acquired the rights to an extensive strip of land, including all of the valuable deposits of sand and gravel situated in the Malvern and Grundy townships of that county, and the state of Arkansas.

"Old Man River" gives up his treasures.

"Old Man River" deposits sand in his sand banks; but when man wants to "draw it out" he must go to the river bed for it.

Preparation of clean, fine sand for building and construction work is an interesting and elaborate procedure involving the general belief of the industry.

"The modern equipment used for removing sand from the bed of the Arkansas river and the further complicated processes for refining and grading the sand are of sufficient interest to attract many curious sight-seers to theanks of the Arkansas river frequently in watch the Big Rock Stone and Material Company crew at work.

The river equipment includes steam tow boat, a pump or dredge boat equipped with washing and grading plant, and several steel barges for transporting the sand to unloading points. The average depth of the river bed from which sand is taken is twenty feet; however, constantly changing river conditions make special equipment necessary and it often is necessary to cover large areas in building suitable dams.

Contrary to the opinion of many persons, sand is not just "sand." There are many grades and sizes, and many manufacturing processes must be resorted to in the production of a quality product. On the average, it is necessary to pump one hundred tons of water for each ten tons of sand secured.

The presence of dirt and quicksand in building sand is very objectionable, making almost impossible the production of a mortar that can be relied upon for strength and waterproof qualities essential for first-class work. Furthermore, when sand with dirt in it is used for glass blowing, sawing walls cause the dirt to bleed through and ruin wall decorations. It is for these and other reasons that the Big Rock Stone and Material Company has made a large investment in equipment that guarantees the production of highest quality, carefully graded sand for every purpose.