¶Ornamental but also useful.

DIAMONDS GO TO WORK

THE CROWN of the Maharajah of Indore contains 73 diamonds that gleam brilliantly in a setting of purest gold. But in almost any big American automobile plant are more than a thousand diamonds set in hardest steel—diamonds that grind and cut. The gems of the potentate and those of the factory may have come from the same mine, but their destiny is as separate as the poles. For the jewels in the prince's crown are solely things of beauty, while those in the vast workshops are expected to do but one thing—to work.

No pampered object of luxury is the industrial diamond. It is plunged into the noise and grime of the modern factory, where it toils and cuts until it is literally worn away to nothing. Fully one-half of the world's diamond production is fated never to end up on milady's finger, nor in the diadem of a sultan; one-half of them are used only for utility.

A thousand miles north of Montana, in a tent-and-cabin town on the Great Slave Lake called Yellowknife, there's a rip-snorting gold rush going on right now. The fever of the days of '49 is in the air, for the sour-doughs have found gold aplenty in this rock-bound terrain of Canada's far Northwest Territories.

But it's a gold rush with a modern slant. The men who hunt the precious yellow metal are using diamond "shovels" with which to dig for their gold. The ore has to run rich and deep in order to pay the tremendous cost of getting it out and back to civilization. The promoters already knew it was rich on the surface. And so, the burning question was: how deep does the gold run?

To find out, the mine's backers shipped up a cunningly simple device called a diamond core drill—a tubular drill whose bit is encrusted with diamonds. These diamonds bore easily into flinty rock which would crumple hardened steel. Hollow parts retain a sample of the strata passed through. To find what hidden wealth lies in the bowels of the

earth, the mining engineers simply analyze their samples.

They did this at Yellowknife. And there are now more than 30 mining and prospecting companies there, all because the diamond drill has proved it profitable.

Only in recent years has the diamond become something other than a pretty and expensive bauble. The reason is that in this steel age, when tough metals must be cut to size with hair-line accuracy and tremendous speed, diamonds and nothing else will do the job.

The fiery stone gouged from the bowels of African earth is by far the hardest thing known in Christendom. And because of this incredible hardness, which allows it to cut the most formidable alloys as though they were soft cheese, the diamond is indispensable to the automobile industry. Forty per cent of all industrial diamonds are used in the manufacture of automobiles, and were it not for this, your car would not give either the performance or the wear you have come expect of it.

These diamonds are not pretty things. Their shape is without good proportion and they contain flaws that any jeweler would notice at once. As a result, they cost only from $30 to $35 per carat. But flaws or no flaws, they have solved many a knotty problem for the automotive engineer.

And so it is with wire. The millions of miles of wires that criss-cross the nation all had to be drawn through dies—and that is where the diamond comes in. One-fifth of all industrial diamonds are used as dies for drawing wire.

The diamond wire die is simply a gem set in a metal casing and drilled in dead center with a small round hole. By fast-revolving machinery the wire is drawn through a series of such dies with different-sized holes until it is reduced to the proper diameter, a terrifying exact thing. The drilling of the hole in the diamond involves almost a week of ceaseless hammering at the center of the stone with a needle impregnated with diamond dust. And enough 20-gauge copper wire to encircle the world two dozen times can be run through a diamond die before the hold suffers any measurable enlargement.

Diamonds plow through staunch metal hour after hour, day after day, without showing perceptible wear. One factory is using a gem that has reamed 19,000 holes, has

been recut several times, and is still doing precision cutting.

Stone-quarry operators long ago learned that diamonds can save them money by speeding production. The stone facings for America's mightiest skyscrapers were sliced to size with circular diamond-toothed saws. The largest of such saws in existence has a blade seven feet in diameter with more than a thousand stones set in its rim. It mows through solid stone as though it were soap, and goes on sawing for months before the diamonds must be reset. This does not mean that the gems have been worn out. It means that the tremendous pressure on the diamonds has worn the steel settings that hold them. The settings are repaired, and the same gems are ready for more labor.

In comparison with this, the life of the gems which keep the nation on schedule is an easy one. The job of a diamond in a fine watch is to provide delicate moving parts with a setting that defies time and wear.

Nothing will cut a diamond but another diamond. And that is why the blue-blooded jewelry shimmering in the jeweler's showcase owes its beauty to the "other half"—the worker diamonds that cut, polish and buff them.

New uses are constantly being found for diamonds. In oil-burning furnaces, for example, pierced diamond nozzles are coming into favor because the diamond gives a steady spray of oil and is unaffected by terrific heat. Tomorrow will bring other uses.

This glinty caprice of nature that used to be only an extravagant bauble has come out of the white-collar class with a vengeance. It does work that no other thing on earth can do.—*W. A. Swanberg, condensed from This Week.*

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NAMES

HERE is a list of towns in the United States with odd names, which, with the abbreviated name of the State included, make interesting combinations: Ash, Kan.; Carpet, Tex.; Ogoo, Ga.; Odear, Me.; Skeleton, Ky.; Shoo, Fla.; Kay, O.; Houdy, Miss.; Fiven, Tenn.