father to fill the buckets. Suddenly she cried out, "Oh, papa, come here and see the vinegar cruet stopper I have found!"

He went to look at it. Sure enough, it was a cruet stopper—or at least it looked very much like one. Sitting down upon a rock, his attention was diverted from the object in his hand, and he was amazed to see that the boulder was literally stuffed with "cruet stoppers, as thick as plums in a pudding," to borrow his own expression. He knew, of course, that they were natural crystals; but not until he had submitted specimens to an expert for examination did he learn that they were pure corundum—ranking in hardness next to the diamond, and differing in nothing but color from rubies. Not for several years did he learn that Craig Mountain was a solid mass of corundum bearing rock—the greatest solid body of valuable mineral in the known world; and beyond all comparison the most extensive, purest, and most valuable deposit of corundum in existence.

The announcement of the discovery of a "whole mountain of pure corundum" was received with derision. All such deposits that had ever been found were small, impure, and scattered; and it was several years before the geologists of the Dominion could be induced to take sufficient interest in the matter to make an exhaustive examination. Their report proved authoritatively the existence in Craig Mountain of corundum in sufficient quantities to supply the wants of the world for centuries to come. It is only within the last three years that this wealth has been exploited; but a large mining and reduction plant is now in operation, and the product is being shipped all over the world.

Corundum is the most valuable of all known abrasives, indispensable in the manufacture of edge tools, farming implements, and nearly every finished product of iron and steel. Emery is an impure and inferior form, consisting of particles of corundum found in connection with oxid of iron. No doubt the use of emery—now imported largely from Greece—will become smaller and smaller each year, until it ceases altogether, as the purer product obtained from the "cruet stoppers" of Craig Mountain can be placed on the market at a price that makes competition impossible.

It is a comforting example of poetic justice that the little girl whose sharp eyes led to the discovery and opening of the great Canadian corundum mines is now the wife of the mine superintendent, and has little girls of her own who may still pick blackberries on the same old mountain, provided they take care to keep at a safe distance from the quarrymen, who are busily engaged blasting out "cruet stoppers" exactly like the one found years ago by their mother.

Preferred Brine to Oil

A LEADING industry of West Virginia is the production of petroleum and natural gas. It is a little known fact that both gas and oil were produced by artificially drilled wells in West Virginia more than thirty years before Edward Drake drilled his famous well on Oil Creek, near Titusville, Pennsylvania. In the Kanawha Valley from time immemorial have been numerous salt licks, to which bear, deer, buffalo, and other wild animals went to lick the soil or drink the water for the sake of its saline properties. At these places, the early pioneer sank wells in order to secure brine of as great strength and purity as possible, and grievous was the disappointment of many of them at finding the salt water ruined by copious flows of greasy, oleaginous fluid, or by great volumes of foul smelling and highly inflammable gas.

It seems incredible that through the lifetime of a generation salt water was esteemed of infinitely more value in West Virginia than crude petroleum; and not for years after the outbreak of the oil fever in Northern Pennsylvania did the Southern salt producers awaken to a realization of the fact that they had been throwing away fortunes. Had the shrewd old Quakers from Philadelphia who were responsible for the exploitation of the Pennsylvania oil fields happened to pass through the Kanawha Valley forty years before the war, that stream would hold the place in the history of the production of petroleum occupied by Oil Creek and the Allegheny River. The blindness of the West Virginia salt producers is one of the rare illustrations of men's refusal or inability to take advantage of the opportunities that chance or accident places in their way. Their conduct is, in a way, comparable to that of a man quarrying sandstone who should deliberately throw away as worthless a vein of high grade gold producing ore. They refused to cash the checks placed in their hands by prodigal dame Fortune.

Regeneration of a Commonwealth

THERE has been no more important and significant agricultural development in recent years than the rise of the Campbell system of "dry farming," an adaptation of farming methods to semi-arid conditions, making possible the profitable cultivation of millions of acres of Western prairie land that has always been considered worthless for any purpose but grazing. If he who makes two blades of grass grow where only one grew before is deserving of remembrance, surely he who has made it possible to replace the bunch grass, sage brush, and cactus plants of the semi-arid lands with waving grain and productive orchards should be forever enshrined in the hearts of his countrymen.

The man to whose untiring labor and perseverance, through twenty years of discouragement and ridicule, the plains farmer of to-day owes the fact that farming in our semi-arid empire has become a safe and dependable business rather than a wildly hazardous speculation, is Hardy W. Campbell, now a resident of Bethany, Nebraska. He was born fifty-six years ago on a farm near Montgomery, Vermont; but his destiny lay west of the Missouri River—although he did not know it. He engaged in a manufacturing enterprise in his native town; but kindly Fate had better things in store for him; so he was burned out by unaccountable fires in 1873, 1875, and 1877.

By that time he was an utter financial wreck; and, like ten thousand other discouraged losers in the business game, he set forth for the western Land of Promise, hoping to retrieve his fallen fortunes in the newly opened lands of the Dakotas. Hunting for gold in the Black Hills did not appeal to him; so he settled in the James River Valley, and engaged in wheat growing. In 1882 he harvested from his land the greatest wheat crop that had ever been reported in that part of the country, obtaining twelve thousand bushels from three hundred acres. Next year, under conditions that seemed practically identical, two hundred and sixty acres of the same land failed to produce as much as had been used for seed, while the remaining forty acres returned a good crop. The season following, the forty-acre patch yielded a good crop, while the two hundred and sixty acres did not pay expenses.

She Found a Whole Mountain of Cruet Stoppers.

These paradoxical results on the same lands, in the same and succeeding years, prepared in the same manner and under apparently identical conditions, started him thinking, and led to the beginning of the long series of investigations and experiments in scientific soil culture that has brought to pass the agricultural revolution that is now peopling the desolate plains of Wyoming, Colorado, Western Kansas, Nebraska, and Oklahoma, New Mexico, and the Texas Panhandle—whose only occupants since the passing of the red men and the buffalo have been the occident ants and the prairie dogs, with here and there a straggling bunch of sheep or cattle.

If Campbell had been burned out only twice instead of three times in Vermont, if he had turned prospector instead of farmer in Dakota, if his crops had never failed in the James River Valley, or if the failure had been uniform over his whole farm in the same season, the system of dry farming would never have been heard of, and the great belt of territory between the one hundredth meridian and the foothills of the Rocky Mountains might have been condemned to centuries more of unproductive aridity. Thus slender is the thread of circumstance upon which depends the welfare of commonwealths.

It would require a lively imagination to conceive of any possible connection between the Napoleonic wars that convulsed Europe for a quarter of a century and remodeled the maps of two continents, and the beet sugar industry. Nevertheless, but for the Napoleonic wars it is probable that no one would ever have thought of making sugar out of the succulent vegetable.

Although Napoleon seemed invincible on land, England never lost command of the seas; and, after Trafalgar, the ports of France were hermetically sealed. Upon her West Indian possessions France had long depended for her supply of sugar. That supply was now entirely cut off, and it was not long until the stores in the country were exhausted, and sugar became worth almost its weight in gold. Then it was found that sugar was not merely a luxury, but a highly important article of food; and the French Government offered a high reward for the discovery of a substitute for sugar cane, that could be grown cheaply and quickly in France. Experiments were conducted with nearly every fruit, vegetable, and forage plant produced in France, and finally some one tried the ordinary beet.

It yielded a high percentage of saccharine matter; it was capable of being produced in quantities limited only by the demand at a low cost; and it possessed little market value for any other purpose. Consequently the growth of the beet sugar industry in France was phenomenal; and, when the era of war was over, that country was in position to supply a large part of Europe with this modern necessity. Germany quickly imitated French methods, and many other European countries now depend largely upon home grown beets rather than upon tropical sugar cane fields.

Colorado Had Its Chance Too

IF the French thus turned to sugar beets because they were driven to do so, it was quite otherwise in Colorado, now the leading American State in beet sugar production. About eight years ago, John F. Campion sat in his office in Denver, and in an idle moment carelessly began turning the pages of a pamphlet on sugar beet production that had been sent him by the Department of Agriculture. He was a mining man, and was not interested in sugar—beyond the lump or two he always wanted in his morning cup of coffee.

He had received thousands of pamphlets from the Department of Agriculture and other Government divisions in the course of his lifetime, but had never read a line in one of them. Who shall say why he read this one? Was it blind chance, or was it unalterable destiny? Upon the reading of that particular pamphlet by that particular man depended the establishment in Colorado of an industry that in six years has grown to be the most important manufacturing industry in the State, that supports its most important agricultural specialty, that calls for the investment of many millions of dollars, gives profitable employment to thousands of persons, and that promises ultimately to do away with the necessity for the importation of a single pound of sugar from foreign countries.

When Campion had finished reading the pamphlet, he started at the first page and read it again. Then he sent to the Department of Agriculture for every word that had been published by the Government on the subject of sugar beets. For six months he read, thought, and studied, until he became something of an authority. Then he attacked the Denver Chamber of Commerce, and besieged that body with facts, figures, and inevitable conclusions, until it capitulated unconditionally. The press of the Centennial State was converted, and Colorado went sugar beet mad. It was a profitable form of insanity. Its results may be seen in scores of prosperous communities and hundreds of happy homes that owe their prosperity and their happiness solely to the sugar beet.

"There's Many a Slip"

THE proverb, "There's many a slip 'twixt the cup and the lip," is probably the oldest of all the familiar English sayings. Its origin is found in the following ancient Greek legend told by Lycophron. Ancæus, the son of the god Poseidon and King of the Leleges of Samos, took great pride in his vineyards, and treated most harshly the slaves who worked them.

A prophet predicted that as a punishment for his cruelty he would not live to enjoy the wine pressed from his grapes. The harvesting and the wine-making passed in safety, and finally Ancæus stood jeering at the prophecy with the first cup of wine in his hand. But the seer replied to the King's mockery, "Many things happen between the cup and the lip." At that moment a wild boar broke into the vineyard, and Ancæus, setting the cup down untasted, hurried off to direct the chase, in which he was killed.