

TURPENTINE ORCHARDS.

PRODUCTIVE NAVAL STORES IN THE PINE BELT.

The Turpentiners Do Business on a Large Scale Without Making Great Profits—A Hundred Thousand Trees Tapped to Make the Work Pay Fairly.

Even in a powder mill the sign "No Smoking" is not more cheerfully obeyed by visitors than in one of the big naval store sheds of the Southern States ports. The smoker is not content to know that he has thrown his own cigar away before entertaining, but looks carefully to see that everyone in the party has done the same. The mere thought of a spark in such a place is enough to send cold shivers down a man's back. Whether the shed stands in Wilmington, Charleston, Savannah, or Brunswick, it is the same tinder box, several acres square, always ready for the tiniest spark to start a conflagration that no fire department could have much effect upon.

The yard is surrounded by a high board fence that would be an ugly obstruction in case of danger. The big shed is piled as full as it can hold with barrels of resin and casks of turpentine. On the broad platform between the shed and the yard are hundreds of damaged barrels of glassy resin, some fallen apart completely, some headless, some broken in the sides. Other barrels that have disappeared entirely have left their contents lying in little heaps. Every exposed inch of floor, whether in the shed or on the platform, is covered with a thick coating of powdered resin, that in the course of years has filtered out of the barrels. Most persons have seen the fierce blizz of a small piece of burning resin, and no one who has would care to risk his life by carrying a spark into a naval store shed. There are stories in all these resin ports of fires that spread so fast that men were unable to escape from the yards.

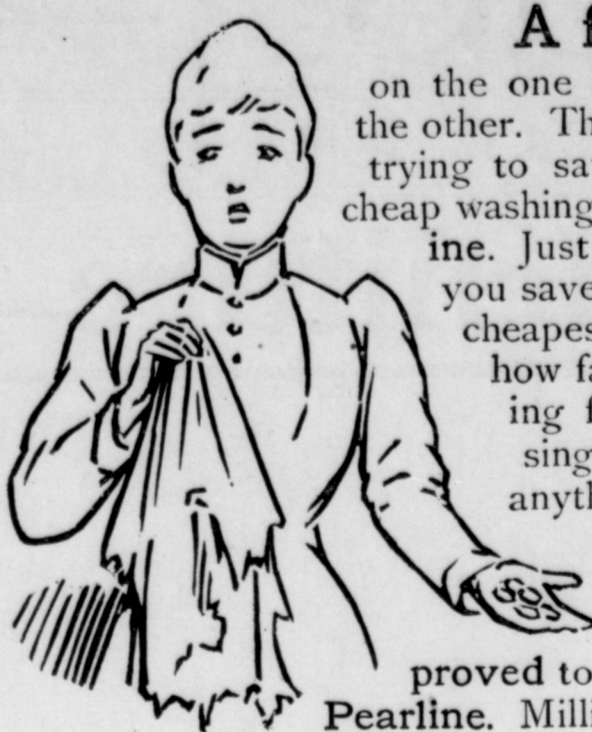
The goods arrive from the interior in cars and are taken away in ships, so the shed stands always between the rail on the one side and the wharf on the other. They are in various forms—resin and rosin (for resin and rosin are different articles), spirits of turpentine, common pitch, brewers' pitch, tar, and oil of tar. These are the seven articles that are classed under the name of naval stores, though in these days of iron ships it is only a small proportion that is used for naval purposes. The most illiterate workman of the Southern forests is familiar with the process of making each of these articles, every one of which is a product of the long-leaf pine; but the superintendent of the big shed at Brunswick makes the distinction between them in these few words:

"Resin, or crude turpentine, is the material obtained by tapping or bleeding the trees. Spirits of turpentine is the liquid obtained by distilling the crude resin. Resin, or copalony, is the residue after the distillation of resin. Common pitch is the residue from the dry distillation of resin. Brewers' pitch, which is used for coating the interior of beer kegs and barrels, is obtained by stopping the distillation of resin before all the oil has been distilled. Tar is produced by distilling the wood itself, and oil of tar is obtained by distilling the tar. Each of these articles is separated commercially into several different grades, and every grade has its own name."

The \$10,000,000 worth of naval stores that is shipped every year from Savannah, Charleston, Wilmington, Mobile, Brunswick, and New Orleans constitutes the bulk of the naval stores produced in the world; and Savannah does the largest part of the business, shipping in some years nearly 1,000,000 barrels of resin, which go to every civilized country of the earth. The falling off in the number of wooden ships built interfered for a time with the demand for resin, and petroleum products largely took the place of turpentine; but the arts and manufactures in which both are used all over the world have increased so greatly that the demand for them is now larger than ever before. About nine-tenths of our product of resin and turpentine is sent across the ocean, and much of it comes back in various manufactured forms.

All of this material comes from the great pine belt that fringes the South Atlantic and Gulf States like a chain beard to the national face. Notwithstanding the clearings that have been made in the last two centuries, this is still one of the most extensive forests on earth. A pedestrian might start from Brunswick on the Atlantic coast, and without going much out of his way walk westward to the Mississippi River without once leaving the shade of the pine forest, except in crossing the innumerable rivers. The forest is about 100 miles wide, beginning on the North Carolina coast and sweeping westward along the Gulf until it reaches Louisiana. Some of the workmen who help produce the naval stores live as much in the shade as the forest dwelling tribes in Africa, and do not emerge from the pine shadows ten times in as many years.

Of this tremendous extent of forest, 2,250,000 acres are constantly kept at work producing naval stores, and 800,000 acres of new or virgin trees are tapped annually to keep up the supply, for trees can be worked profitably for four years only, and they must either have a long rest or be cut into lumber. It looks as if this industry



A few Pennies

on the one hand—ruined garments on the other. That will be the result of your trying to save money by using poor, cheap washing-powders, instead of Pearl-line. Just consider. How much could you save in a year if you bought the cheapest and most worthless? And how far would it go toward paying for the things ruined in a single month? You can't save anything by buying cheap washing-powders. The way to save money in washing is to use what has been proved to be absolutely safe. That is Pearl-line. Millions use it. 417

ought to give constant independent work to every unemployed man in the South, as if a man need only buy a few acres of pine land at \$2 to \$3 an acre, or better yet, rent a tract for the purpose of turpentineing it, as it is called, and be sure of making a good living for the next four years by tapping the trees on all his own account; in other words, to be as independent as the small farmer who raises his own crops. This was so, once, but it is not the case now. Capital has been as busy with turpentineing as it has been with the other industries, and it is practically impossible for a small owner to get even the price of his labor by turpentineing his own little tract. The big producers set the pace, and there is no longer any chance for small operators.

The turpentineer is as well known an institution in the pine belt as is the commission merchant in fruit and vegetable sections. He is in a sense a commission merchant, but besides that he is a manufacturer. Generally he does not own an acre of land, but he must have a capital of not less than \$5,000 to begin a profitable business, and he knows that in the four years of his operations with a plant he must spend \$50,000. Not only must he know all about producing and manufacturing naval stores, but he must have a good idea of the country. In the whole pine belt there are about forty of these large operators at work, and they produce the greater part of the naval stores of the world.

The turpentineer with his capital ready must first select his location with as much care as a farmer selects his land. He requires a solid tract of about 4,000 acres of forest that has not been tapped, and on this space there must be not fewer than 100,000 well-grown pine trees. To find such a tract, and to be able to rent it, is not always easy; but this is only a beginning. The tract must be near enough to a railroad or to a navigable stream to give him good shipping facilities, and there must be an unfailing supply of water for operating the still. Such tracts are found generally far away from civilization, and usually they are in the hands of several owners, and each owner of course must be negotiated with. Some owners of pine land object to having their trees turpentineed, believing that it injures the lumber. There is no haggling about the price, for the price for turpentineing is as well understood as the market price of resin. The sub-sections into which a big turpentine orchard is divided are called crops, and an orchard must contain not fewer than twenty crops to be profitable. A crop is a sufficient number of trees to give 10,000 boxes; and as from two to four boxes are cut in large trees, about 4,500 or 5,000 trees are necessary to comprise a crop, which should cover about 200 acres. As the trees will yield profitably for four years, and no longer, the renting of turpentine land is always for periods of four years; and the standard price is \$50 for each crop of 10,000 boxes for the four years. This gives the lessee the privilege of tapping the trees, cutting away underbrush, and operating his works on the premises, but nothing more. He must not cut down or otherwise destroy trees; and it is his own interest to protect the forest against fire. At this rate he pays 12½ cents a year an acre for land that is worth about \$2 an acre in the market, and he asserts that when he leaves the trees are as valuable as they were before. The general opinion is that turpentineing injures the trees and lessens the value of the lumber; but there are two sides to that.

With his 4,000-acre turpentine orchard secured, averaging about twenty-five good well-grown trees to the acre, the turpentineer next selects the spot for his works. If he can have his own way about it he puts them close to both rail and water. Where the railroad crosses a small stream is just the spot. He need not bother about a station, for the railroad company will gladly enough build a little siding up to his still, knowing that a great many thousand barrels of freight will be shipped within the next four years. Only rough sheds are necessary and these quickly go up, and then along comes the still. The copper still generally used has a capacity of about 800 gallons, or enough to carry a charge of twenty to twenty-five barrels of crude turpentine. The 4,000 acres of good trees furnish just enough resin to charge such a still twice in twenty-four hours during the working season. And when the still is erected tenderfoot passengers in the cars

generally think that they have discovered a moonshiner's lair, for the outside of the stills are very much the same.

The labor question is the least of the turpentineer's troubles; indeed, it is hardly a question at all. The first steps are hardly taken toward establishing a plant before men begin to appear as if they dropped from the trees. No matter how isolated the site, there are negro cabins on or near the tract, and their occupants want work. Then the turpentineer has a following of his own, men who have worked for him in other orchards and they stick to the "boss." Wherever he goes, they are ready to put up their cabins and remain in the same employ, sure of work in that spot for the next four years. The colored man as a rule prefers turpentineing to plantation work. On the plantation his "keep" is part of his pay, and he handles only about \$10 a month. But in the backwoods all his provisions must be bought, as far as the employer is concerned, so there is no inducement to board him, and he receives from \$1 to \$1.25 a day, and supplies his own provisions. It amounts to about the same thing in the end, but the man has the felicity of spending \$30 a month instead of \$10. His cabin is soon built in the new orchard, generally close by a clear spot where he can make a little garden. With the vegetables that he can raise, the fish his wife and children can catch, and the game and birds his gun can bring down, the cost of living is reduced to a trifling expenditure for corn meal and bacon, coffee and sugar.

The workman is as familiar as his chief with the peculiarities of the long-leaf pine. It has a number of distinctive features, and he knows them all: No man of science can tell him much about the three sections that compose the trunk of the tree—the bark, the sapwood which supplies the flow of resin, and that the bark and the heart are as useless to him as if they were not present, the sapwood being the comparatively soft folds lying between the bark and the heart. In a big tree the heart may be a foot thick and it is full of resin, but the resin will not flow. It is this heart which supplies what in the North is called fat pine, and here in the South is called lightwood. Cut down the tree, and in a few years the bark and the sapwood decay and disappear, but the heart remains, almost as hard and as indestructible as iron. The planter hunts out these hearts for fence posts, because they are so full of resin that they will stand in the ground for a generation without injury. The tar maker must have them, too; but the heart is worthless to the turpentineer.

The weather is of as much importance to a turpentineer as it is to a farmer. Give him steady, long-continued heat, or a series of cold rains, and he is sure of a poor crop. A cold spring is equally bad for him. But work in a new orchard begins before spring opens; the boxing may be done any time through the winter to be ready when the sap begins to flow. The boxes are not ordinary boxes, but triangular holes cut in the trees. Two hundred thousand of these boxes must be cut in the orchard, at an expense of about \$2,500. No trees of less than twelve inches diameter ought to be boxed, but trees of not more than eight inches are often made to do duty. The lower part of the box is cut about twelve inches above the ground, and the hole is made seven inches deep, slanting from the outside to the interior at an angle of 35°. This makes a pyramid-shaped cut into the trees, and forms a cup that will hold about three pints. While the boxers are at work, other men, or sometimes women or boys, are raking around the trees, removing all the pine needles and chips for a space of three or four feet, and burning the stuff in little heaps. This is done so that in case of fire in the woods the flames will not reach the box; and for the same reason as much of the underbrush as possible is cleared away and burned.

With the earlier days of spring the sap begins to flow, and then the turpentine orchard becomes a busy place. The boxes are all ready, but without further treatment no appreciable quantity of sap would flow into them. To start the flow of sap and guide it into the right channels, the men go to work with their odd-looking tools and chip or hack the trees immediately above the boxes, cutting away the bark at the proper points and making incisions into the wood in the shape of a broad letter V, ten or a dozen of them, one above another, each of the points bearing downward so as to form so many shallow

gutters to conduct the sap into the box. This chipping is repeated every week from March till October or November. The soft resin which accumulates in the boxes is dipped out about seven times in the first season and poured into barrels to be taken to the still. Each crop of 10,000 trees should yield about forty barrels of dip or turpentine at each dipping, or 280 barrels in the first season, giving a total of 5,600 barrels for the whole orchard in the first year. The flow becomes greatest in the hottest months, July and August, and decreases as the weather grows cooler. As soon as the exudation is arrested and the crude resin begins to harden, it is scraped from the chip and the boxes with a long-handled scraper. This material is called scrape, or hard turpentine, and it contains only half as much volatile oil as the dip. The scrape amounts to about seventy barrels to the crop the first year and increases to 120 barrels in the second year. In the whole four years the entire orchard of twenty crops should yield about 120,000 gallons of spirits of turpentine, the average from each tree for four years being about a gallon and a half of spirits and thirty pounds of high-grade rosin.

The distillation is a matter that requires great care and experience to prevent loss in spirits of turpentine, to obtain the largest quantities of rosin of the highest grades, and to guard against overheating. After heating the still somewhat beyond the melting point of crude turpentine, a small stream of tepid water from the top of the condensing tub is conducted into the still and allowed to run until the end of the process; and it is by a peculiar noise made by the boiling contents of the still that the distiller knows when to stop—a sign that would have no meaning to a beginner. After all the spirit has been evaporated, the fire is put out and the residuum is drawn off by a tap in the bottom of the still. This molten rosin is first run through a wire cloth, and then through cotton cloth into a large trough; then it is ladled into barrels.

There is not much danger that turpentine will be overdone, for the profits are not large enough to attract any except men who have been brought up in the business and know no other. The best that can be said about the profits is that they are reasonably sure, for they are ridiculously small. The \$5,000 capital required is for the still and other works, barrels, advance on labor and rent, houses, sheds, tools, wagons, and mules. The cost of four years operating a single crop, or one-twentieth of the whole orchard, is estimated at \$2,306.50, of which \$125 is for chipping 10,000 boxes, \$15 for inspecting and tallying the same, \$12 for covering the boxes, \$40 for raking around the trees, \$555 for chipping the boxes, \$353 for dipping the resin and scraping stands, \$333 for hauling the dippings and scrapings, \$222 for distilling at 20 cents a barrel, \$305 for 122 spirit barrels at \$2.50, \$238.50 for making and filling 795 resin barrels at 30 cents, \$80 for superintendence of the crop, and \$50 for rent. This gives the following total expense for operating an orchard of twenty crops for four years:

Labor, rent, and materials	\$14,170
Interest on capital invested (\$5,000)	1,200
Depreciation of plant, 10 per cent a year	1,200
For four years	4,800
Taxes and incidentals	633
Total expenses	\$20,000

The 120,000 gallons of spirits of turpentine produced in the four years, together with 12,000 barrels of rosin should bring in the market about \$60,000 at average prices. It may be a little more or it may be a little less, according to the supply and demand. But without such a great rise in prices, as comes very seldom, a man may never come again to the turpentine, with his \$5,000 capital, his own labor for four years, and his risk from fire and otherwise, makes \$10,000 in the four years, or \$2,500 a year.

WESTERN BLOODHOUNDS.

Man-Hunting Dogs Trained for Hunting Criminals.

The use of bloodhounds as an adjunct of the Police Department is becoming more and more common in various sections of the Union. This is particularly the case in the far West.

During the days of slavery dogs were used throughout the South to run down fugitive slaves, but for many years after the war man-hunting with hounds was almost unheard of. Now and again it was tried, but lack of training in the dogs and perhaps want of patience in their owners, brought about so many failures that the practice was almost forgotten. Ten years ago when two desperate men held up a train on the Atlantic and Pacific, in the Southwest, and secured many thousands of dollars in booty, a ranchman in Arizona offered to trace the highwaymen if sufficient force for their capture was furnished him and a reward for his trouble offered. These preliminaries being settled, he appeared on the scene twenty-four hours after the crime had been committed with a couple of not very dangerous looking dogs and a Winchester rifle. He was ragged in costume, and apparently ragged in

For Mothers, Wives and Girls.

The Ablest of Women Journalists Indorses Paine's Celery Compound.

Mrs. H. B. Sperry, who is now the eminent and respected president of the Woman's National Press Association of the United States, is a lady journalist of note and reputation.

The active profession of journalism has kept Mrs. Sperry up to date in information and progressive in thought. When there was evident need of a remedy in her family, she was well aware that Paine's Celery Compound was the best medicine to use. The following enthusiastic letter, sent to Wells and Richardson Co., shows the happy results from the use of this best of all medicines:

DEAR SIRS:—A few weeks' use of Paine's Celery Compound by my 83 years-old mother has been of great benefit to her, and proved to my satisfaction that there is nothing like it for the headaches and sleeplessness incident to impaired digestion. A niece in my family was also cured of indigestion by using one bottle of Paine's Celery Compound.

Yours very truly,
HANNAH B. SPERRY.

In every part of Canada and the United States women are now strongly advocating

the use of Paine's Celery Compound. Women, old and young, know well that this medicine is specially adapted for all the ills peculiar to their sex. When it is used the sick and suffering ones are seen to gain steadily in healthy strength and vigor. No room is left for doubt to the skeptic and stubborn-minded individual. The joyous transformation from sickness to health is going on in thousands of homes all over this broad Canada of ours, and those once alarmed about the safety of loved and dear ones now rejoice as they see the bloom of returning health lighting up and beautifying features once pallid and wan.

Dear sick friends, remember that you cannot trifle much longer with life. Your troubles, if not banished at once, may take you off at any moment. Bear in mind that Paine's Celery Compound is guaranteed to cure; it will meet your case no matter how bad it may be. May heaven give you faith sufficient to use at least one bottle of nature's curing medicine, in order that you may be convinced that it is what you need. To cure and make you well you must get "Paine's," substitutes and imitation will never do the good work.

tally, but, as the result proved, knew what he was about.

"You keep your eyes on them dogs and your hands on your 'weapons'—there's going to be more or less fun," was all he had to say to his associates in starting.

Three days later, after a weary chase of many miles over one of the roughest trails in the world, the dogs came up with and cornered the highwaymen. The latter killed both of the dogs, but before they could escape the pursuing posse was upon them and they surrendered. They afterwards confessed their guilt and told where the booty was hidden. Nearly \$50,000 was recovered. The amount of money involved and satisfactory work of the bloodhounds revived the old practice of trailing men with dogs, and there are now hundreds of the useful animals in the possession of the peace officers of the West. They are carefully bred and trained for the police duties.

In California the sheriffs of a dozen counties have these four-legged deputies, and not infrequently they prove more faithful and successful than their two-legged associates. The best hounds in California have been taken there from other states, where their breeding is made a business. Some of the animals have long pedigrees. A valuable addition to the sheriff's force of Nevada City is a five-months-old pup christened "Jim Budd," after the Governor of California. Young Jim Budd was born amid the Green Mountains of old Vermont, at the kennels of J. L. Winchell, at Fair Haven. His sire's official name on the record book of the English Bloodhound Club of America is "Champion Victor, 19, 365," and his maternal ancestor's designation on the same archives "Champion Judith, 13, 870." There's a Duchess in his family tree, a Premier and a Nestor, showing a union of nobility and brains not far back on the record. In color Jim is black and tan, and he has a mouth that alone is worth an arsenal of rifles at any jail. "A natural-born man trailer" is the cheering character given him by the sheriff.

Fresno has six bloodhounds, and the genial burglar who has been having a good time for months past is seriously considering a change. One of the Fresno dogs is by the famous Leander, who has captured more train robbers than any dog living. In one instance Leander took the trail of one train robber four days after he had left the house in which he had stayed all night. The dog followed the trail six days and treed his man.

Sheriff Jack Jones, of Stockton, has the reputation of being one of the greatest criminal catchers in the West. He uses six dogs, and is on the go with them all the time. Leander, the pet, is by Old Romulus, owned by the state of Arkansas, and imported from Cuba. All the dogs owned by Mr. Jones are either imported Cubans or from imported stock.

Monterey County is one of such vast dimensions, and at the same time so sparsely populated, that since the days of

Vasquez, the desperado, its rolling hills, densely covered with chaparral, and its bare lands have always proven a refuge for criminals. Owing to these almost inaccessible districts in the county, Sheriff J. L. Matthews saw the necessity of securing bloodhounds to help him in trailing refugees. In 1893 he sent to Kruttschield, the overseer of the convict farm at Carroll's Prairie, Tex., for some bloodhounds. He soon had cause to put them in active service, for shortly after their arrival the depredations took place at Seaside and Pacific Grove, for which Amos Virgin is now serving a life sentence in San Quentin. A few months ago the hounds did the county a valuable service in trailing the murderer of Conductor Soledad. They followed the trail for twenty-five miles until they found the criminal. For the most part these countries and others find the dogs so useful that the animals bring very large prices now.

One of the best authorities on bloodhounds is Edwin Brough, of Scarborough, England. He tells how pups should be fed on oatmeal porridge, stewed sheep's heads and ship's biscuits, and gives minute directions as to training the youngsters "to hunt the clean boot." He discourages the practice of rubbing blood on the boot of the man who is being experimentally chased for training purposes, and favors the "clean boot" every time.

Mr. Brough is quite an enthusiast in the bloodhound man-chasing business, and to him it has as much fascination as tennis or foot ball to the sporting man of quieter tastes. He says, among other things:—

"Any one is fond of seeing hounds work, but who has only a limited amount of country to hunt over, will find an immense amount of pleasure in hunting man with one or two couples of bloodhounds. In such circumstances it is a great convenience to be able to select the exact course, which could not be done in hunting some animal, and a great variety of limited runs can be contrived over limited ground."

I know nothing more delightful than to see bloodhounds working out a scent carefully under varying circumstances, and to hear their sonorous, deep, bell-like note. There is not, of course, the slightest danger to the runner, even if the hounds had never seen him before. When they have come up and sniffed him over they manifest no further interest in him."

PROSTRATED FOR WANT OF BREATH.

Extreme Case of Heart Disease Cured by Dr. Agnew's Cure for the Heart.

There is comfort in the thought, that Dr. Agnew's Cure for the heart, is seldom unsuccessful. One of many illustrations is found in the case of James Allen, of St. Stephen, N. B., who says: "In 1894 I was troubled very much with severe palpitation of the heart, and with pain in my side. My breath was very short, and with the least extra exertion, I became fully prostrated from want of breath. I was attended by a physician for a long time. When in considerable distress I visited the local drug store, and my attention was drawn to Dr. Agnew's Cure for the Heart. I obtained a bottle and before I took half of it I felt ever so much better, and today I am a sound man, owing to the use only of this remedy."

Britain's Newspapers.

The London Times says: "There are 483 newspapers published in London, and 1,357 in the rest of England; Wales is responsible for 100, Scotland for 226, Ireland for 169, and the British Coast Isles for 20, a total of 2,355. The magazines number 2,097, of which over 507 are of a religious character. Over 200 of these magazines were produced for the first time during the past year. It is estimated that £4,000,000 a year is spent in advertisements, and that 1,500,000 copies of newspapers are sold annually in London alone."

Hidden Foes.
Among the many foes to human health and happiness Dyspepsia and Constipation are twin enemies greatly to be feared. With B. B. B. to drive them out of the system, however, no danger need be anticipated, as every dose brings the sufferer a long step further on the road to perfect health and strength, and a permanent cure always results.

