WEEKLY INDUSTRIAL RECORD.

PUBLISHED EVERY MONDAY, DEVOTED TO NAVAL STORES, LUMBER AND MANUFACTURING INTERESTS.

Adopted Sept.12, 1902, by the Executive Committee of the Turpentine Operators' Association as its Exclusive Official Organ, and adopted Sept. 11, 1902, in Annual Convention, as an Official Organ also of the General Association. Adopted Sept. 11, 903 as th Only Official Organ of Turpentine Operators' Association. Adopted April 27, 1903, as Official Organ of the Inter-State Cane Growers' Association. Endorsed by Georgia Sawmill Association. Official Organ of Southeastern Stock Growers Association.

Rosin Passes Turpentine in Naval Stores Values.

Washington, April 25.—For the first time in the history of the naval stores industry, the production of rosin in the United States during 1908 led turpentine in value.

Since the introduction of improved methods of handling the great yellow pine forests of the Southern States the comparative value of rosin has advanced by leaps and bounds. In 1900 the value of turpentine exceeded the value of the rosin production by more than $9,000,000 and in 1905 by nearly $6,500,000. By 1907 the value of the output of the secondary product advanced to the point where it was less than $1,000,000 under the value of turpentine and last year its value jumped to first place in the naval stores output where it was $3,500,000 over the value of the turpentine production. The following figures give a graphic idea of the rise of the product in value:

Year.	Turpentine.	Rosin.
1900	$14,960,235	$ 5,129,268
1905	15,170,499	8,725,619
1907	18,283,309	17,317,059
1908	14,112,377	17,783,509

Rosin finds increasing use in many industries. The finest grades, which are valued according to their degree of clearness, are used in the manufacture of soaps, fine varnish and for "sizing" in the manufacture of paper. The medium qualities are mostly consumed in making yellow soap, as a flux for solder, as a constituent of sealing wax, with tallow for common candles, and in pharmacy. The lowest qualities of rosin are used for pitch in ship and boat building, for brewer's pitch in sealing the heads and staves of barrels which hold liquids, and for the distillation of rosin oil which enters into the manufacture of lubricating materials. With these varied and even-increasing uses it is easy to see how the annual consumption of rosin last year amounted to more than 4,250,000 barrels, valued at nearly $18,000,000.

The great decline in the prices received for turpentine in 1908, while the prices for rosin were ranging more in conformity with those of the preceding year, has much to do with this condition, but there are other causes which combine to lend interest to this climax in the general trend of advancement in the value and importance of this product of the naval stores industry.

That the general improvement in the grades of rosin, produced by a more general use of improped methods of turpentining, is responsible to an appreciable extent for the icrease in the value of the entire rosin output is questioned, according to men familiar with the trade. Another cause for this condition is the constantly increasing demand for rosin, and especially the paler and more valuable grades both in this and in foreign countries.

Some of those at present engaged in the manufacture of naval stores remember the time when they found it unprofitable to preserve the residue of the turpentine still —rosin. A few years preceeding the Civil War there were few uses for rosin and only a slight demand. During that period rosin was permitted to accumulate with other discarded refuse about the turpentine still. But gradually has the demand for rosin increased and year by year it has been climbing higher in the scale of value and importance, until it has succeeded in passing turpentine, the heretofore vastly more valuable and more important product of the naval stores farm.

The position which rosin has assumed in the naval stores markets argues well methods methods which have resulted to for increasing the use of conservative such a great extent in increasing the value of the rosin by producing paler grades. No agency has been more potent and none can be used to greater advantage in an effort to encourage conservative turpentining than the knowledge that paler and more valuable grades of rosin is one of the most pronounced results following its use.

Now that naval stores operators realize that rosin is no longed to be classed as a secondary and inferior product of the still and appreciate the growing necessity for improving the grade, trade authorities say there should be a decided increase in the use of the cup and gutter and apron system for extracting the resin from the tree.

THE MATTOX-McMILLAN CO.

Florida as is well known is one of the largest state producers of naval stores, and any new machinery tending in the direction to conserve losses in the production of turpentine and rosin should always have quick opportunity to receive assistance by its use.

In some forms of business it takes capital, some start with brains and experience only, whilst some take the American get-up and hustle and we are of opinion that the "New Mattox Still Pyrometer" just recently produced and brought out under the name of the Mattox-McMillan Co. partakes largely of all three essential ingredients. This Pyrometer is the product of scientific research, made with an alarm feature it can automatically check the flames when too hot, and if desired a recorder can be attached to the instrument should the attendant at the still leave his post. Mr. Mattox states that his knowledge of turpentine in the woods is from childhood, and together with his scientific and practical college training has produced the cause for the inception of this instrument, and which upon calling at their office, No. 603 Consolidated Building, will with pleasure be shown them in operation and fully demonstrated.

Turpentine and Turpentine Substitutes.

The American Druggist and Pharmaceutical Record contains the following interesting article on "Turpentine and Turpentine Substitutes," and explains that the laboratory notes are from the analytical department of McKesson & Robbins, by E. H. Goire and M. H. Webster:

American turpentine has for years held a well deserved reputation as the finest product of its kind for use in the paint and varnish industry. It has been preferred in all countries to the French and Russian products, owing to its excellent quality and freedom from objectionable odor. The comparative scarcity and high price of the so-called "gum" turpentine has led to the introduction of the "wood" turpentines, so called because produced directly from the wood by distillation. These wood turpentines are becoming more and more a prominent factor in the turpentine industry, owing to the destruction of the turpentine yielding trees by the wasteful methods of collecting now in vogue.

There are three varieties of wood turpentine, termed respectively "stump" turpentine, "steamed wood" turpentine and "wood pulp" turpentine. The first is produced by destructive distillation of stumps and other parts of dead or destroyed trees. The second is made by distilling chips with steam; and the third is a by-product of the wood pulp industry. Chemically, these products differ little from the "gum" turpentine, and are fully the equal of it for technical purposes. The only objection to them is the odor, which is stronger and more objectionable than that obtained from "gum," but this feature is being overcome by improved methods of manufacture, and "wood" turpentine is now being prepared by destructive distillation of the resinous wood, and the distillate purified by subsequent steam distillation. In this process a large number of by-products are formed, including wood alcohol, pyroligneous acid, creosote, heavy pine oils, tar and charcoal, all of which have commercial value. In the purification process pine oils of varying density are obtained, which are being used, as we shall see later, in the preparation of turpentine substitutes. The value of turpentine in paint work is supposed to be due to the fact that it absorbs oxygen during the drying process, and so aids in the drying of the paint and in forming a hard surface that will resist atmospheric action. There is no difference in this respect between the old "gum" and the new "wood" turpentines, both answer equally well the purposes of the paint or varnish maker.

Turpentine has long been the object of considerable sophistication, the more so as the addition of certain products was difficult of detection. Rosin spirit is stated, in various works, to be a common adulteration, but the objectionable odor and frequently the high color of this product would prevent its being much used, and indeed we have never come across this admixture and doubt whether it has ever been practised to any extent. Petroleum products have been the principal adulterants. Kerosene has been used, and also petroleum benzin, to a very large extent. Neither of these possesses drying properties, and the former and sometimes also the latter leaves a greasy residue, which is highly objectionable. The ready market which these adulterated products found has led to the introduction of a host of turpentine substitutes, which are now boldly advertised as equal to, or superior to, turpentine for paint or varnish work. They are sold at all sorts of prices, from 15 up to 40 cents per gallon, and usually under fancy names, such as "Terrabentine," "Turpalin," "Chicago Turpentine," "Nuturps," "Sunoco," and other spirits, "Turpteen," "Varnish Turpentine," etc., etc. So long as they are sold for what they are, no objection can be raised to them, but it must be remembered that they do not possess, in any sense, the peculiar properties of turpentine, except in so far as some of them contain a proportion of turpentine. The price at which these substitutes are sold will almost tell the composition of the product. Those selling at 15 to 20 cents per gallon obviously contain no turpentine, but are simply petroleum products. Those sold at a higher figure are mixtures of turpentine and petroleum, in proportion to suit the price, or, in some cases, they are petroleum with a very small percentage of the heavy pine oils above referred to. These oils are added to cover up the petroleum odor and to impart a certain body to the product, so as to produce a closer resemblance to turpentine in physical properties.

The greasy character of kerosene and the great inflammability of "benzin" have led to the production, by oil refiners, of a "mineral base," especially for use as a turpentine substitute. This base, which is obtainable at about 15 cents per gallon, has a specific gravity of about 0.810, and is free from any very objectionable odor. It is similar in appearance to benzin, but has a flash point of 105 degrees F., identical with that of turpentine. It is prepared by "cracking" the heavier petroleum oils and carefully fractionating the distillate. It is the introduction of this "mineral base" which has led to so wide a use of these substitutes. As a solvent or as a dilutent it answers very well, but the man who advertises it as the equal of turpentine claims properties for it which he knows himself it does not possess. Further, there is a great temptation to sell these petroleum products at prices above their real value. The dealer who wishes to handle these products should buy the petroleum at petroleum prices and do his own mixing.