

See that fly? Kill him!

With all his faults, a fly doesn't bother one as much as does a mosquito.

They are fighting in Nicaragua, but why they are fighting no one seems to know.

Blondes are becoming fewer, according to statistics. So many are "letting it go back dark," nowadays.

The individual census cards make a pile 16 miles high. And the man highest up presumably is the top card.

A liberal supply of sentimentalism is good for a man; it keeps him from brooding over his non-performances.

A St. Louis man chewed up a \$5 bill with a sandwich. At that it was about as cheap as a piece of meat of corresponding size.

Massachusetts woman wants a divorce because her husband keeps a live lobster in the house. Well, what's she been keeping?

And now a Beloit professor will tramp in the African wilds. How does he know those cannibals will be able to discriminate between a professor and a missionary?

A Chicago surgeon has discovered how to graft new extremities on the bodies of his patients. Science should, in this way, be able to assemble a man superior to the natural article.

A man who started to cure by fasting one of the ills that flesh is heir to has made the discovery that it cured all ailments in his case. Having become defunct he is free from all disease, even the fever called living.

Because Chinese immigrants have been detained on Angel Island, the Chinese residents have boycotted American goods. Just what their reasoning is, is difficult to understand. Evidently, however, they are trying to meet boycott with boycott.

The thrifty Dutch also are buying large amounts of American bonds and other securities for permanent and safe investment. The Netherlands are a canny folk, and when they make a purchase of this kind it is pretty strong testimony to the excellence of the bargain.

That Culebra cut is one of the great difficulties in constructing the Panama canal. Latest reports show that a vast mass of stone and mud has dropped into the excavated channel, involving a whole lot of extra work. But this is one of the contingencies that had to be considered, and American pluck and perseverance will carry the job through in the face of all obstacles.

Physicians have succeeded in making the stethoscope and telephone so sensitive that the heart beats of a patient in London were distinctly transmitted to a seismologist on the Isle of Wight. It is expected that this will be of great use in enabling physicians to keep in more sensitive touch with their patients at all hours.

The new battleship South Carolina has returned to Norfolk after a trip at sea for target practice with a new record with big guns, having made sixteen bulleyses in sixteen shots with the twelve-inch weapons. With a score like that to their credit the jacks of the South Carolina must come pretty close to the championship for good shooting.

The ex-Shah of Persia appears to have settled for himself at least the problem of what to do with deposed monarchs. He is studying medicine and hopes soon to become a practicing physician. And that is a much more honorable and commendable proceeding than dwelling apart in sullen idleness or plotting revolutions against his country. Some other "exes" might imitate his example with much credit to themselves.

Of course it is guesswork as yet, and no one will know the actual population of the United States until the decennial federal enumeration now in progress shall be completed. But word comes from Washington that census officials, basing their opinion on what has been learned thus far, believe that the total for the country will be not far from 100,000,000, which will surpass most estimates made previously.

A Chicago judge bars wife beaters from citizenship. He might also bar them up away from the rest of the world.

Here's a man complaining because "his wife eloped with his best friend." Friend, perhaps, was just trying to prove it.

When there are a few more flying machines the commuter who works in France and lives in England will have a living chance.

# SAVING THE SHAVINGS

by WILLARD G. BLEYER

**O**UR FORESTS will last but 25 years longer if we continue to cut them at the present rate, declares Gifford Pinchot, former general forester, and one of the best informed men on the forest problem of the country.

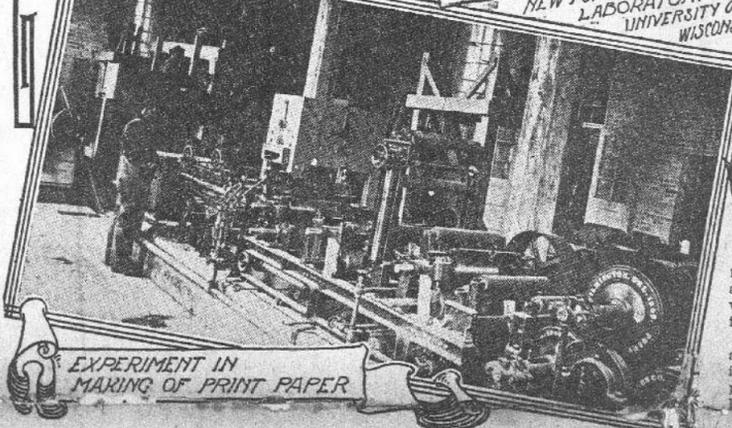
The increased cost of lumber, the scarcity of many kinds of woods, the high price of print paper, already bear witness to the forest famine that faces the United States. And still only one-third of every tree cut down is now being utilized.

Two-thirds of every one of the millions of trees felled annually, including the big stumps, the heaps of branches, cords of slabs and tons of sawdust are being destroyed, burned up to get rid of the so-called waste.

Incidentally burning over the slashings starts forest fires that destroy annually millions of feet of standing timber.

Now Uncle Sam is going to try to save the shavings and make cheaper print paper, wood alcohol, turpentine and other useful products out of the two-thirds of the tree that is now being thrown away.

The United States forest service has just established a big experimental laboratory out in the heart of the middle west, at Madison, the capital of the state of Wisconsin, in connection with



EXPERIMENT IN MAKING OF PRINT PAPER

the state university, in which government experts will attack the problems of these forest products.

The new building has just been formally dedicated and the fine equipment of machinery and testing apparatus which is to make it the most complete laboratory of its kind in the country is rapidly being installed. The staff of some twenty government investigators has already arrived and been established in the suite of offices in the new building and for some months have been delivering lectures before the students of forestry.

In the new laboratory the United States forest service and the University of Wisconsin will co-operate in the investigations which will be made to solve problems confronting the paper manufacturers, lumbermen, builders and others who deal with the products of the American forests. The building itself, which cost some \$50,000, and the site upon which it stands, south of University avenue, between Camp Randall and the Chicago, Milwaukee and St. Paul railroad tracks, were furnished by the university. The equipment was furnished by the government at a cost of about \$75,000 and the staff of investigators is also maintained by government appropriations. These men, in addition to their laboratory work, will deliver lectures in the regular forestry course of the university. The laboratories, too, although devoted chiefly to the government experiments, are open to the faculty and students for advanced research along the lines of study undertaken by the experts.

The laboratory, which faces north on University avenue, is a fine fireproof building of dark brown brick, trimmed with white Bedford stone and roofed with red tiles, with a 180-foot frontage and a depth of 80 feet. Immediately east of the building a private spur from the railroad carries the lumber into the laboratory yards. A derrick is to be erected north of the track for unloading the big logs and stumps for the experiments from the flat cars. Immediately opposite, south of the track, is to be installed a small sawmill with a saw which will cut timbers up to 20 feet in length.

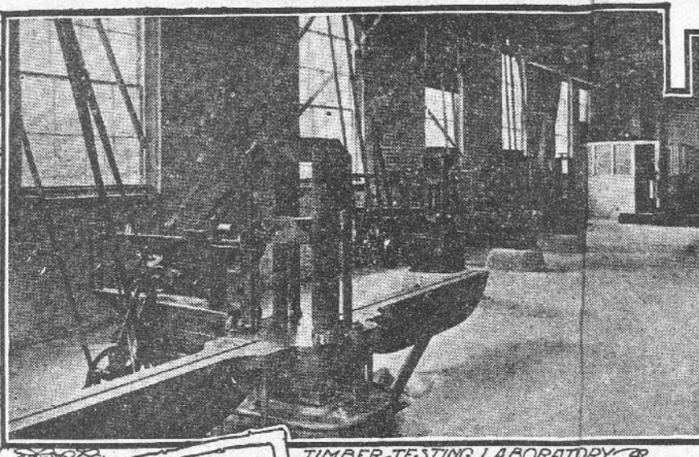
Already logs of long-leaf, short-leaf and loblolly yellow pine have been sent in to the laboratories by lumbermen and paper manufacturers at Kenwood, La., Hattiesburg, Miss., Thornton, Ark., and spruce logs from the Maine woods. A number of fat pine stumps for the turpentine, rosin and alcohol tests have also been received.

Sheds for air drying the lumber line the west side of the yard, which is to be graded and covered with cinders. Immediately back of the building is a deep, cement-lined pit to hold the creosote to be used in experiments until it is pumped out into the laboratory tanks.

The problem of making a satisfactory print paper from materials other than spruce and hemlock is one which will receive particular attention, and for this purpose a complete paper making plant has been made a part of the laboratory equipment. Every process, from the breaking of the wood into chips for the first treatment by soda and sulphite solutions to the final running of the sheets of paper through the calendering rolls to produce a finished surface, will be followed carefully, so that the results of substitution of



NEW FOREST PRODUCTS LABORATORY AT UNIVERSITY OF WISCONSIN



TIMBER-TESTING LABORATORY



SAMPLE LOGS FOR THE LABORATORY

various woods for the usual materials will be noted at each stage of manufacture.

Both soda and sulphate processes of treatment of the chips will be used and the laboratory will make its own sulphite liquor in a vat adjacent to the digestors, in which the wood is cooked by steam until the lignin is all dissolved and only the cellulose left. A blast of high-pressure steam drives the chips against the side of the digester, further dividing the cellulose fibers, and the whole mass is pumped out by a centrifugal pump into a tank in which it is stirred until the fiber is still further broken up. Over and over it is run through "riffle" troughs and over screens where suction draws out the fiber to be used and leaves behind the small chips, splinters and other waste.

When the liquor has been washed out of it in a washer driven by an electric motor (a contrivance much like the housewife's washing machine) it is put into a press and the water is squeezed out of it. Such of the pulp blocks from the press as are not wanted immediately are then in convenient form to store away on shelves.

After going through the beating engines the refined pulp is run on to the screens of the paper machine and taken up by felt rollers, from which it goes to wooden rollers and then between metal rollers to the steam-heated drying drums, where the wet sheet is run back and forth until it is ready for the final smooth finish of the hot steel calendering rolls. Any grade of paper can be made on this machine, from the roughest brown paper to fine correspondence paper, in a running sheet 15 inches wide, and even a water-marking device is attached, so that the impression can be made on the wet sheet before it goes through the rollers and on to the winding drum at the end.

How to make timber last longer by protecting it with preservatives from the various borers and fungous growths which attack wood will be another important problem to which considerable time and laboratory space are to be given.

Beneath the building is a great pit, heated by steam to a temperature most favorable to rot, and there, in separate glass compartments all about the walls, are to be samples of timbers with the various fungous growths and animal and insect enemies of the wood attached. The progress of their effect upon the wood will be closely watched and compared with that of the same pests upon samples of the wood treated with different preservatives, prepared and applied in the room above.

A big skylight and many windows make the preservative laboratory an excellent place to work and every facility is provided for testing the various forms of preservatives and antiseptics to protect timbers, such as those in mines and water-front piers, which are much subject to the attack of minute animals and plants.

Into two great treatment cylinders the timbers are shoved and steam pumps force the oil from tanks above at high pressure into the cylinders. When no more oil will enter the cylinder, even under 150 pounds pressure per square inch, it is drawn off and again returned to the tanks and measured. The difference between the amount drawn off and that originally forced in, deducting the oil collected

from the vapor condenser, gives the exact amount absorbed by the timber, which is always weighed before and after treatment as a further means of calculating the oil absorbed.

In a small cylinder the preservative may be applied at a pressure of 800 pounds per square inch for smaller specimens and the resulting protection can be compared with that of the lower pressure preservatives.

Open tanks are provided for tests of preservatives that do not require pressure. These are heated with steam coils and an iron cage hung above lets the railroad ties or other timbers down into the hot oil. By a trolley arrangement the cage can be lifted and run across to other tanks filled with cold oil, so that it is not necessary to pump out the hot oil and replace it with the cold, as in laboratories where there is but one set of tanks.

All about the inner walls of the preservative laboratory are ranged shelves to accommodate the samples of wood for treatment and those already submitted to the different forms of protection against rot and other attacks.

What woods will best stand various kinds of strain, in bridges, buildings and different structures will be determined in the timber testing laboratory, where two seven-horsepower motors furnish the electric current to run the machinery.

In the torsion machine timbers can be twisted until the strain reaches 30,000 inch-pounds. Five "Universal" testing machines are provided to test the strength of different woods under slow pressure, one having a capacity of 100,000 pounds, another twice that, and three other smaller ones 30,000 pounds.

To see what sudden strains oak, pine, maple and different woods will withstand a Hatt-Turner impact machine was built in the machine shops of the Purdue university and sent to the forestry laboratory for experiments. It can be so gauged that the hammers, ranging in weight from 50 to 250 pounds, can be dropped from heights up to six feet upon the beam or block of wood, exerting a sudden pressure of hundreds of pounds.

In a laboratory where so much machinery is in constant use there must be facilities for instant repairs. For this purpose one end of the laboratory is fitted up into a machine shop. Here, too, much labor is saved by use of electricity to run the engine lathe, milling machine and other necessary apparatus. Beside the anvil there is a gas forge for heating and tempering steel.

The equipment of the wood shop, where timbers and samples of wood are to be prepared for tests, is very complete. Steam heated ovens for drying wood, in order to test the shrinkage, warping tendencies and water content of different woods are a part of the laboratory equipment, and a portion has also been set off for a seasoning room.

In this connection, in another laboratory, tests will be conducted to discover the heat conductivity of different woods, to assist in the work of the kiln drying and preserving tests.

Stumps and other resinous portions of the trees now burned as trash will be put into stills and retorts and the turpentine, tar and gases will be extracted, carried off, separated and refined into the various commercial products. If methods of doing this economically can be fixed upon, the problem of utilizing much of the big pine trees now wasted will be solved.

All of the many chemical tests made necessary by the work of the different departments will be centered in a big chemistry laboratory on the second floor, where eight large windows on the east and south furnish admirable light, and eight stone tables, besides those running all about the room beneath the win-

dows, give room for the apparatus and experiments.

As some of the tests will produce strong fumes, there are tables encased in glass with hoods and ventilators above to carry off the smells and small doors through which the experimenters will work.

A corner room is set apart for special work in distilling turpentine and other products and special apparatus is provided for the chemicals storage room. Still other unlighted spaces are reserved as photographic dark-rooms and record vaults for the safe keeping of the valuable reports of the work done.

One of the most interesting offices is that of the pathologist who has charge of the experiments with the fungi and other enemies of the woods. Upon his desk are large collections of glass tubes containing cultures of every sort of vegetable growth which feeds upon wood fibers, and samples of all the minute animalcules which attack timbers. Many he secured last summer in his visits to mines in different parts of the country, since one of the greatest sources of the dangerous mine cave-in is the destruction of supports by these little enemies.

A large drafting room, lighted from the north and east, a library and filing room, a lecture hall and a suite of 17 offices for the staff officials and their clerks and stenographers complete the building arrangements below and in the attic a space for storing materials which cannot be left in the open yard and which is reached by an elevator from the basement.

The government will appoint to regular work in the laboratory, as an addition to the present staff, several of the students who have been doing forestry work the past winter at the University of Wisconsin.

The forestry lecture course of the university, just closed, included this year, besides the regular work under State Forester E. M. Griffith, lectures by W. L. Hall, assistant forester at the Washington office; R. S. Kellogg, who holds a similar position; Franklin H. Smith, in charge of the wood utilization office of the government at Chicago; H. F. Weiss and H. S. Bristol, assistant directors of the new laboratory; L. F. Hawley, in charge of the wood distillation of the laboratory, and Frederick Dunlap, in charge of the kiln drying investigations.

At the time of the formal dedication of the laboratory the various departments of the government work were in full operation, that the visitors may see the actual work in progress—just how paper is made; how timbers are tested; how stumps are distilled, and how the little marine animals are prevented from boring through shipping.

The staff of the new laboratory is as follows: McGarvey Cline, Purdue '04, director; H. S. Bristol, Yale, and H. F. Weiss, Yale, assistant directors; H. D. Tiemann, Stevens Institute of Technology, in charge of technology; Ralph Thelen, University of California, mechanical engineer; W. H. Kempfer, University of Michigan, in charge of maintenance; Edwin Sutermeister, Massachusetts Institute of Technology, in charge of wood pulp laboratory; E. Bateman, Yale, in charge of chemistry; L. F. Hawley, Cornell, in charge of wood distillation; Frederick Dunlap, Cornell, in charge of kiln drying operations; F. W. Bond, Massachusetts Institute of Technology, in charge of wood preservation; C. T. Barnum, Cornell, and C. P. Winslow, Yale, engineers in wood preservation laboratory; J. A. Newlin, Purdue, in charge of timber tests; H. E. Surface, Ohio State university, engineer in wood chemistry; H. E. McKenzie, University of Maine, engineer in timber tests; C. J. Humphrey, University of Nebraska and Cornell, pathologist, and A. W. Schorger, Ohio State university, chemist.

**A Serious Blunder.**  
"Yes," said the drug clerk, "I am called up occasionally to compound prescriptions at night."  
"Isn't a man apt to make mistakes working in semi-darkness?"  
"You bet he is. I took a plugged quarter once."

**Get After the Flies.**  
With the warm days flies multiply amazingly. Now is the time to attack them and prevent the breeding of millions from the few hundreds that already exist.

Perhaps the most effective method of destroying flies is by burning pyrethrum in each room. This stuns the flies and they can be swept up and burned.

Flies are dangerous carriers of disease and an enemy of humankind. Do your part toward keeping down the pest and improving the health of your community.

**Try This, This Summer.**  
The very next time you're hot, tired or thirsty, step up to a soda fountain and get a glass of Coca-Cola. It will cool you off, relieve your bodily and mental fatigue and quench your thirst delightfully. At soda fountains or carbonated in bottles—5c everywhere. Delicious, refreshing and wholesome. Send to the Coca-Cola Co., Atlanta, Ga., for their free booklet "The Truth About Coca-Cola." Tells what Coca-Cola is and why it is so delicious, refreshing and thirst-quenching. And send 2c stamp for the Coca-Cola Baseball Record Book for 1910—contains the famous poem "Casey At The Bat," records, schedules for both leagues and other valuable baseball information compiled by authorities.

**Dangerous Job.**  
Kind Lady—Here is a rhubarb pie, my poor man. How did you get that wound on your arm?  
Tired Tim—I was a lookout, mum.

Kind Lady—Ah, a lookout on a steamer and there was a collision?  
Tired Tim—No, mum, a lookout for a second-story man an' de watchman winged me, mum.

**Important to Mothers.**  
Examine carefully every bottle of CASTORIA, a safe and sure remedy for infants and children, and see that it bears the Signature of *Dr. J. C. Watson*. In Use For Over 30 Years. The Kind You Have Always Bought, Faster.

Teacher—Children, nature is superior to man in everything. For instance, there is nothing that travels so fast as the unseen wind.  
Willie—Huh! You ought to hear what my pa says about a sight draft!

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**In New York.**  
Up-to-Date Gladys—Is it really an improper play?  
Up-to-Date Doris—Oh, it isn't just to see, but it's all right for us girls.—Puck.

Dr. Pierce's pleasant Pellets cure constipation. Castoria, a safe and sure remedy for infants and children, and see that it bears the Signature of *Dr. J. C. Watson*. In Use For Over 30 Years. The Kind You Have Always Bought, Faster.

**ADVICE TO THE AGED.**  
Age brings infirmities, such as sluggish bowels, weak kidneys and torpid liver.  
**Tutt's Pills**  
have a specific effect on these organs, stimulating the bowels, giving natural action, and imparting vigor to the whole system.

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134 South Main Street  
Recover your Umbrella with a Tuffin Parasol for \$1.25. Embroidered Designs for Parasols.