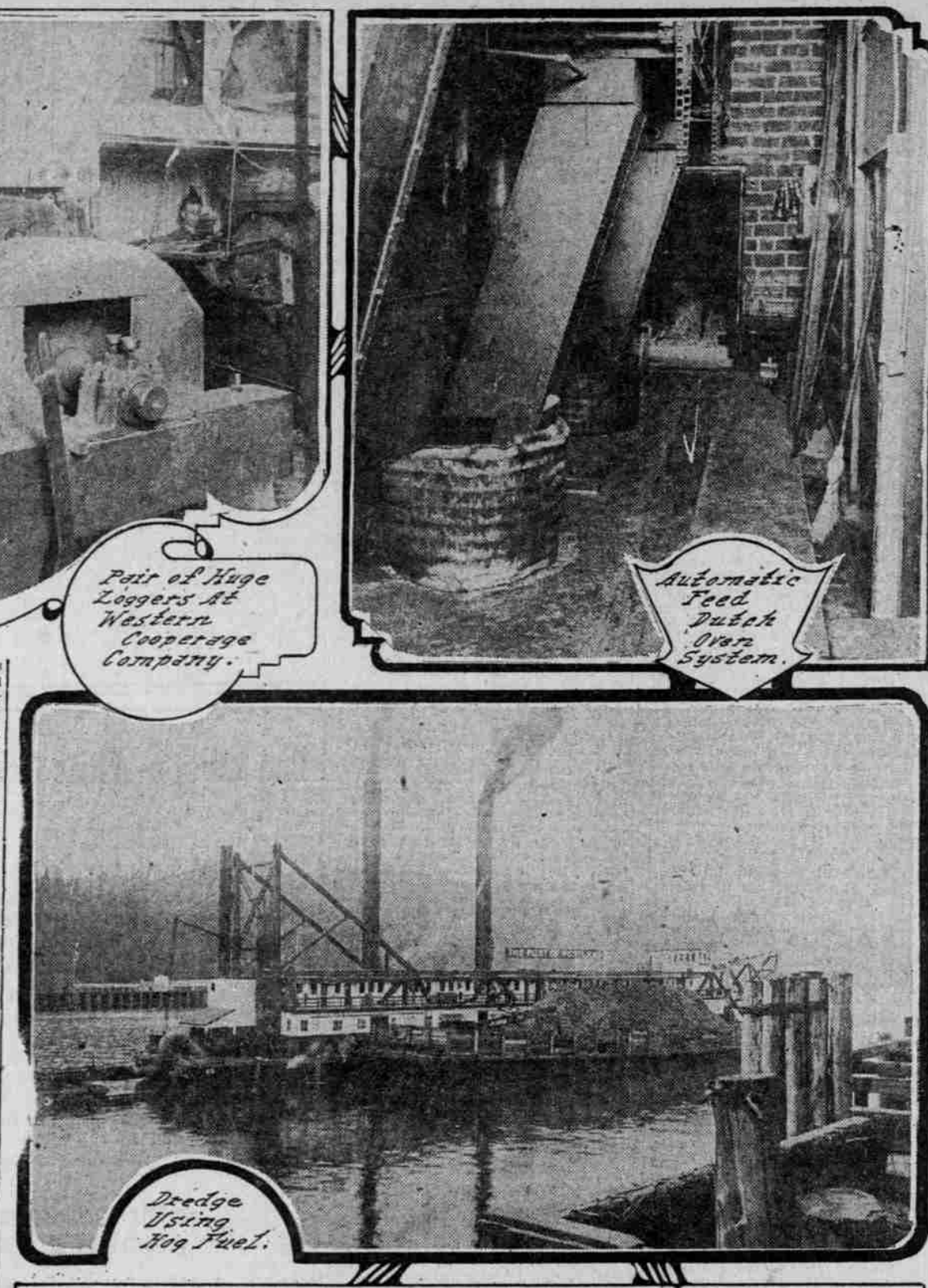


WASTE OF SAWMILLS NOW BEING COMPRESSED INTO FUEL THAT PROMISES GREAT ECONOMY FOR OREGON INDUSTRIES

Refuse From Timber and Lumber Products "Hogged" Into Chips and Then Treated in Manner That Makes Their Transportation Cheap and Their Heat Value High at Low Cost to Consumer—Briquets Not to Be Marketed.



Pair of Huge Loggers at Western Coopers Company.

Automatic Feed Pouch Over System.

Dodge Using Hog Fuel.

Hog Fuel Plant and Truck Loading.

IT USED to be that lumber mills in this district were confronted by a difficult problem in disposing of refuse. Many acres of reclaimed land about old mill sites are filled with sawdust, chips and blocks, for it was only of recent years that facilities were installed for the disposal of this refuse by burning. Economists viewing these fires in past years sought for some means of utilizing the waste, with the result of the development of hog fuel. Industrial conditions in the Pacific northwest are now such that steam costs can be brought lower than for the main industrial part of the United States.

Comparisons of costs of hog fuel, fuel oil and slab wood made by E. Hippley, engineer, formerly with the Portland General Electric company, show hog fuel from 40 per cent to 75 per cent cheaper than other steaming fuels. A rather hasty but extensive study of the fuel situation recently made by William W. Eastman of the Western Coopers company opens a vista of formidable possibilities for the use of hog fuel as the utilization of small timber and waste wood in logged-off areas.

Large Hoggers Installed. The Western Coopers company plant in the Peninsula district recently installed two of the largest-sized hoggers or machines for grinding up waste wood from its plants. In the development of the local market arrangements were made for the disposal of the entire output, with the result that a fleet of trucks is supplying many laundries, hotels and smaller manufacturing plants with the fuel that a few years back was utter waste. Mr. Eastman can see green development in the market for hog fuel. He thinks it will be possible to compress the chips and sawdust into briquets, which will be used for household use. Experiments are being conducted along this line and when completed likely will result in the marketing of household briquets at a price which is lower than for fuels being offered today. Cleanliness, lack of ash and clinkers, complete combustion and a long fire are advantages assigned to the new fuel.

Increasing problems connected with the mining of coal tend to boost the price to such a point that it is pointed out that this section of the country can develop ample electricity by water power, and by utilizing the waste wood have a sufficient supply of heat units. In any event the new Dutch oven system for consuming hog fuel has proved so successful that concerns engaged in its manufacture in Portland have their entire output under contract, with new inquiries constantly coming in. In fact, the demand has exceeded the supply, and it is reasonable to assume that in the near future the quantity produced and consumed will be more than double what it amounts to at present.

Where Fuel Gets Its Name. Hog fuel derives its name from the wood grinding machine called the hog. It resembles a hog by the noise and rapidity with which it consumes mill refuse and reduces it to fine chips. The size of the chips can be regulated as desired by adjusting the knives in the mill. The machine consists of two large discs into which high-speed knives are set. The wood is fed into the hog by an overhead conveyor and is successively cut into 36 revolutions per minute it easily can be conceived how quickly the wood is transformed into chips. A day, have realized the economy of it, and are having it delivered to them with motor trucks. In many instances alterations and extensions have been made to facilitate the handling of it, and in each instance the saving was sufficient to make the small investment a well-paying proposition. At this time, this fuel is worth from \$2

to \$2.50 per unit (200 cubic feet) at the various mills under present conditions. The variations in price are controlled by the amount consumed and the length of contract. Numerous tests have been conducted during the last few years to determine the evaporation value of this fuel and some interesting data have been compiled concerning it. It has been established, in a series of tests, that the average evaporation of the unit is 10,000 pounds of water. Fir hog fuel ranks the highest, and it is a well known fact that green wood mixed with some dry makes the highest grade of ground fuel.

Ground Product Cheapest. In dollars and cents, ground fuel is absolutely the cheapest in the north-west today, says Mr. Eastman. There is considerable to be worked out in the matter of handling it, but strides toward its development are being made so rapidly that it is only a matter of a short time until it will be

successfully and extensively used for ordinary house-heating purposes. Last year a sample of green hog fuel was submitted to the Oregon Agricultural college at Corvallis for laboratory analysis. The report of which follows: Moisture content, 37.3 per cent. Volatile matter, 45.8 per cent. Fixed carbon, 16 per cent. Ash, 0.9 per cent. The amount of ash from hog fuel is very small compared to coal, and being of a very light nature, it is easily carried away in properly designed plants. Statistics show that the standing timber in the state of Oregon amounts to approximately \$45,000,000,000 feet. With so many timber products plants operating at the present time, and the prospective future development, this community can indeed consider itself fortunate in having a steady flow of cheap and efficient fuel to look forward to for years and years to come.

Snyder, Genevieve Young, Frieda Kauter and Gladys Christensen, as E Bottom proved himself an able accompanist for the singers. The fifth and last recital of the year will take place Saturday night, June 11, when advanced vocal, piano and dramatic art students will be presented.

Mary Ellen Mullan announces a student recital to take place at the Lincoln High school auditorium June 29. Assisting the vocal students, the Schumann-Heink quartet will sing several numbers. This quartet is composed of the Misses Hulda and Rachel Brinkmeier, Ada Strad and Mary Ellen Mullan.

Mrs. Jane Thatcher, concert pianist from the University of Oregon school of music, will play the following programme before the annual assembly of the Oregon Federation of Women's Clubs at Pendleton, Or., Thursday night, June 2: "Delphic Dances" (Debussy); "Pavane" (Ravel); sonata, "Pastorale" (Scriabin); "Gavotte and Variations" (Rameau-Leschetzky); "Etude," revolutionary; opus 10, No. 12 (Chopin); "Nocturne, G Major" (Chopin); "Polonaise" (Carpentier).

Madame Bruske-Hollenback, dramatic soprano and former soloist of the Russian Symphony orchestra, has decided to give up her home in Syracuse, N. Y., and to reside in this city. She plans en route to stop in Saginaw, Mich., to help in her legal battle to nullify the will in which her father, Gustavus W. Bruske, one of the leading wholesale and retail hardware dealers of northern Michigan, made up a \$300,000 estate

to children by his second marriage. Madame Bruske-Hollenback is a half-sister of the late Mrs. Helen M. Bruske, the soprano's husband is Captain F. H. Hollenback, who died in the Ohio national guard. If a will drawn in 1914 by Madame Bruske-Hollenback's father holds good she may inherit \$100,000.

The Portland Saxophone band wants boys who can play alto, tenor or baritone saxophones or who are willing to learn these instruments. Applications have been received, mostly from boys who play C melody saxophones. A few more of these also are desired. Write to Mrs. A. J. Apple, Miss Wandra, Ellers building, or telephone East 7181.

A feature of the sacred concert to be given by the chorus choir of the First Methodist Episcopal church tonight will be the singing of the four principal solos from Mendelssohn's "Elijah" by the members of the quartet. Miss Goldie Peterson will sing the aria "Hear Ye, Israel." The contralto solo "Benedictus" will be sung by Mrs. W. H. Chatten. E. Trevor Jones will sing the recitative "Ye People, Send Your Hearts," and the aria "If With All Your Hearts" P. A. Ten Haaf will sing the baritone solo "It Is Enough."

Miss Edith Woodcock, who is head of the Junior and Intermediate classes in the piano at the Ellison-White Conservatory of Music, presented her class in recital at the Little Theater May 21. The little performers played their parts with assurance and musical feeling and gave proof of their ability to recognize the various rhythms and transposé and modulate with remarkable accuracy and speed. The last half of the programme was composed of numbers by further advanced students from Miss Woodcock's class. Each number was played with a nice touch and phrasing.

Piano students of Miss Martha Reynolds in the Junior and Intermediate grades appeared in a successful recital at Lincoln High school. All, including those who had studied nine months or less, played with confidence and showed poise and established technique. Those on the programme were Eva Miriam Zavin, Mildred Cook, Jean Evelyn Garsman, Esther Schulman, Helen Holt, Frances Schlossberg, Kenneth Peterson, Christina Holt, Elmer Davis, Dorothy Wedemeyer, Mollie Leveton, Blanche Stabler, Bessie Shelhoff, Herman Miller, Alice Stein, Gladys Leonard, Marjorie Miller, Edith Schaffer and Anna Schwartz.

Miss Alice Holman, for the last two years head of the department of piano in the Willamette university school of music, will leave immediately after the close of school to attend the summer session of the University of California, at Berkeley, where she will study harmony under the personal direction of Miss Alchin. Miss Holman has demonstrated herself to be an instructor and pianist of unusual ability during her two years at Willamette. She was largely responsible for the extending of the music course to lead to an A. B. degree. Formerly a diploma was granted for completion of the music course, but starting next fall at Berkeley where she will receive a diploma equal to that of a graduate from any of the liberal arts departments.

Robert Louis Barron presented 15 of his elementary violin students in recital recently at the Y. W. C. A. auditorium. Much talent was displayed in the rendition of the programme. Participants were Chas. H. Ashby, Helen Scruggs, Harlan Foth, Collins Chatten, Donald Foth, Robert Poucher, Hugh Short, Logan Reed, Hazel Harlow, Gerald Shimizu, James Eoff, Harold Oakes, Marie Jacobs and Vernon Elliott. Advanced violin students of Mr. Barron will give a concert at Lincoln High school auditorium June 7. The programme will consist of concertos by Viotti, De Berlioz, Nardini and Mozart, and solos composed by Leonard, Massenet, Ten Have, Mlynarski, Drda, Simonetti, Bilet, Guirand and Fischel. Mrs. Ida May Conover, Mr. Barron will play the accompaniment.

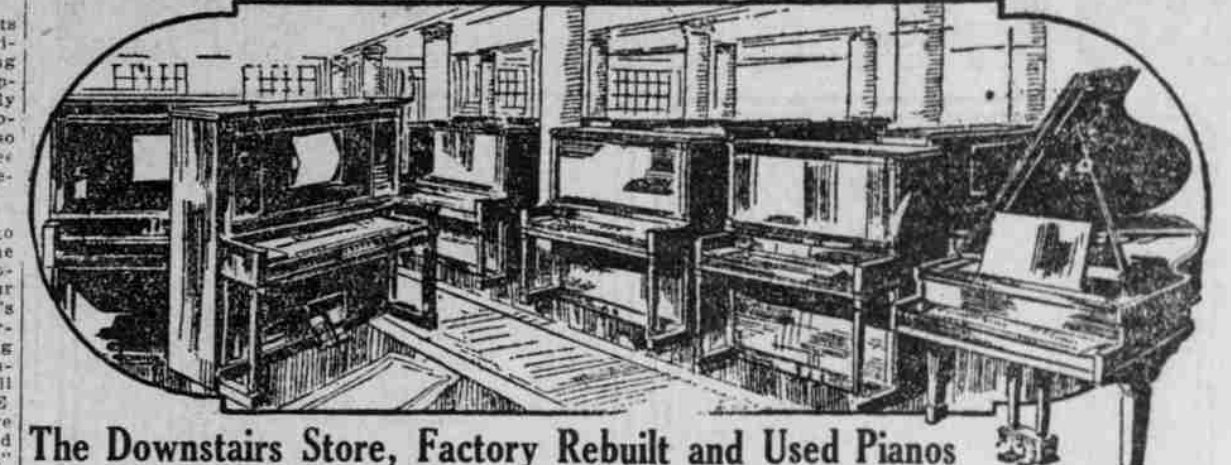
CHICAGO, May 28.—During a part of the two days of his 10-day visit in Chicago next month, Madame Marie Sklodowska Curie, famous woman scientist who, with her husband, Pierre, discovered radium, will be entertained by Northwestern university, the University of Chicago and the American Chemical society, which Professor W. Lee Lewis of the former university is chairman, according to announcements made by Professor Lewis today. Mme. Curie is due in Chicago Monday, June 13, coming here from Colorado. That afternoon at the art institute, a part of the afternoon and her tribute at a reception promoted by the association of collegiate alumnae of the University of Chicago and the organization of Chicago.

Tuesday, June 14, Mme. Curie will be the guest of the University of Chicago, and in the evening will be entertained by the Chicago section of the American Chemical society, when the Willard Hall feature of the "Pasha" program will be presented. Mme. Curie will be awarded by Madame Curie Professor Lewis, a member of the national committee of scientists, which early last winter co-operated with Mrs. William Brown Meloney and Variations" (Rameau-Leschetzky); "Etude," revolutionary; opus 10, No. 12 (Chopin); "Nocturne, G Major" (Chopin); "Polonaise" (Carpentier).

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New Car of Factory Rebuilt Pianos

just received—will be closed out at the following greatly reduced prices \$10 Sends a Piano Home During This Sale as Before the War



The Downstairs Store, Factory Rebuilt and Used Pianos

Table listing various piano models and prices, including 'Modernized pianos', 'Emerson upright', 'Kimball, modern oak', etc.

Considering the prevailing Portland prices, the above represent an unusual offering and consequent quick selling of this special lot of Pianos TERMS, \$6, \$8 TO \$15 MONTHLY, AS BEFORE THE WAR

Schwann Piano Co.

101-103 Tenth St. at Washington and Stark Sts.

GUSTER TO BE HONORED

BATTLE OF LITTLE BIG HORN TO BE ENACTED. Monument to General Will Be Unveiled in City of Hardin on July 25.

BILLINGS, Mont., May 28.—With United States cavalrymen and members of the American Legion taking the part of General Custer's ill-fated force and Crow and Cheyenne Indians representing the Sioux, the battle of the Little Big Horn is to be reenacted on the 45th anniversary of the Custer massacre, June 25. Plans for the observance, which will include the unveiling of a monument to General George A. Custer at Hardin, Mont., 12 miles from the battleground, have been announced by the Custer Battle Anniversary association. The reproduction of the battle on the scene of the massacre will take place at 11 o'clock in the forenoon, and after a breakfast on the reservation park on the Crow reservation, the spectators and participants will go to Hardin for the unveiling of the monument. An Indian powwow and a street dance are planned for the night activities at Hardin. Permission, which has been obtained from the government for the use of the national cemetery established on the battlefield, where are buried the remains of the fallen and co-operation of the War Department has been tendered. General Hugh L. Scott of the 6th Cavalry, who supported Pula Negri in the battle, and Mrs. Custer, widow of the commander of the heroic little band, have been invited to attend.

NEW BILLS AT THE MOVIES

(Continued From Page 4) and go on with Underwood. How she reaches her decision and finds happiness forms the gripping climax of the picture.

POLA NEGRI SCORES SUCCESS

Polish Film Star at Columbia in Great Production. "Gypsy Blood," starring Pola Negri, is a screen version of Prosper Merimee's original French story of "Carmen," and Pola Negri is seen in the role of the bewitching Gypsy girl whose loves and hates change color like the chameleon and leave in their wake a trail of joy and sorrow. Harry Ledwith, who was Armand

On Road to Boneyard

"I have just finished a treatment of your wonderful remedy, and can say it has done wonders for me already. For the past five years I have been unable to eat any but the lightest food and that but sparingly, as any food caused me to bloot with gas. I was reduced to a skeleton of ninety pounds, and was on the road to the boneyard. A friend in Birmingham sent me a bottle of May's Wonderful Remedy, which I took, and I am sure it will entirely cure me of my trouble, judging from what it brought from me and the way I feel." It is a simple, harmless preparation that removes the catarrhal mucus from the intestinal tract and allays the inflammation which causes practically all stomach, liver and intestinal ailments, including appendicitis. One dose will induce regurgitation or money refunded. The Owl Drug Co. and druggists everywhere.

De Folk in "Passion"

is again seen playing opposite Pola Negri in the role of Don Jose Navarro, the Spanish dragon, who sacrifices honor, robs and even kills for love, he becomes the victim of La Carmencita's entrancing smiles. Pola Negri is neither French, German nor Italian; and newspaper stories published in the United States describing her as a native of one of the other of these countries have caused her considerable vexation. Miss Negri is Polish and wants the world to know it. "She was born and reared in Poland, and is a close friend of Ignacy Paderewski, the Polish artist and diplomat. Pola Negri made her first big reputation as a star of the Russian imperial ballet in the czarist regime. Miss Negri is a young woman, 25 years old and unmarried. She is a striking brunette of rare beauty and talent.

"THE KILLER" AT CIRCLE

Fascinating and Sinister Characters Portrayed in Film. The story of "The Killer," at the Circle, from Stewart Edward White's most recent novel, is about one of the most fascinating and sinister characters that ever figured in fiction. Henry Cooper was a killer by nature. To him, destroying life was as permissible an act as playing the piano, or reading his favorite books. He was utterly hopeless until an adventure-seeking young man, disbelieving the tales he had heard about the neighboring rancher, blundered into the situation and found all the adventure and romance anyone could wish for.

Strength Wins Admiration

The healthy, robust man is admired by all because health gives power to draw friends and to win social and business success. Those who are run down, debilitated, lacking in strength, should try LYKO. It puts the body in the "pink of condition" by overcoming constipation, aiding digestion, improving the appetite. It is a help in nervous exhaustion, and generally tones up the system.

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STRENGTH IS DYING AT TOP

Appeal From Russia for Help to Save Intellectuals. New York World. An appeal from Maxim Gorky is issued through newspapers in Finland calls on the charitable throughout the world to come to the relief of the injured.

Rupture Kills 7000 Annually

Seven thousand persons each year are killed by ruptures. Why? Because the unfortunate ones had neglected themselves or had been merely taking care of the swelling of the affliction and paying attention to the cause. What are you doing? Are you neglecting yourself by carrying on a job, or whatever, or whatever name you choose to call it? At best, the truth is only a makeshift—a false propped-up wall—and cannot be expected to act as more than a mere retainer of the blood circulation, thus robbing the weakened muscles of that which they need most—movement. But science has found a way, and every man, woman and child should know it. Make a FREE test, right in the privacy of their own home. The PLAPAO method is unquestionably the most scientific, logical and successful self-treatment for rupture the world has ever known. The PLAPAO PAD when adhering closely to the body cannot possibly slip or shift out of place, therefore, cannot chafe or pinch. Soft as velvet—easy to apply—impermeable to be used whilst you work and whilst you sleep. No straps, buckles or springs attached. Learn how to close the hernial opening as nature intended so the rupture CAN'T recur. Write for FREE PLAPAO PAD and information necessary—ADV.

Intellectual leaders of Russia

of whom 5000 are on the verge of starvation Gorky is not pleading for the so-called "intelligentsia," the leisure-class radicals who got most of a revolution that they bargained for, but for the scientists, historians, artists and educators who represent all that is constructive and forward-looking in civilization. When a civilization is reduced by a gigantic cataclysm to a mere struggle for existence, there is no market for information that cannot be made immediately useful and no demand for artistic products. As a result, Russian scientists and scientific discoveries are perishing together. Invaluable men, men with the keys to Russia's future in their hands, are dying prosaically of hunger.

But the same state of affairs exists elsewhere than in bolshevik Russia, and no political faction can be blamed for it. Over all Russia and nearly all central Europe skilled brain-workers are at a fearful discount. Even in Germany it is difficult to buy laboratory materials or books on modern research; further, the laboratories in Poland, Austria, Hungary, Russia or the Balkans. The men who understood them will be dead.

The buzzing sound made by flies is produced by the rapid vibration of the wings, which may amount to 600 beats a second.



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MUSIC

CHILDHOOD Miss Weinstein has shown remarkable musical talent. Under the instruction of E. O. Spitzner of this city she gained the reputation of being an able young violinist, and comes into contact with the operating hog fuel as it does for the portion that is utilized for making their finished product. A hog of the large type requires horsepower motor to operate it. In addition, conveyors for handling it must be maintained, along with the necessary labor that otherwise would not be needed. It frequently occurs that a careless workman allows a piece of metal to drop into a conveyor, and when this happens the conveyor is damaged and must be replaced. Since this section of the country is the greatest producer of lumber and timber products, it is correspondingly the greatest producer of hog fuel. Large consumers of fuel were quick to realize the saving that could be effected by utilizing this ground fuel, and after careful investigation and numerous tests chose the location of their plants within the close proximity of the supply. Special devices and conveying apparatus for handling hog fuel were built, involving large investments. The saving effected by