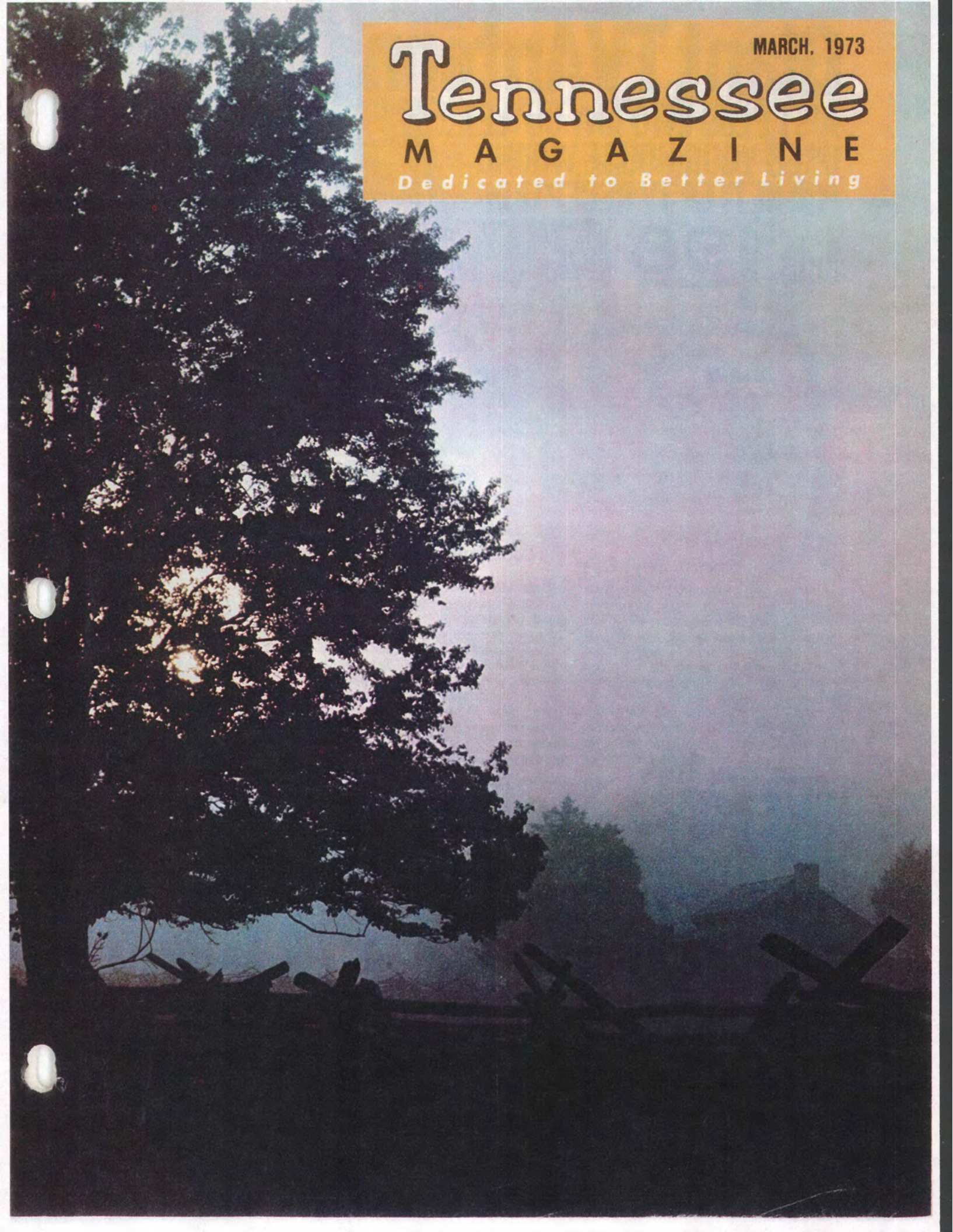


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ON THE COVER



A still vigorous tree, a rail fence row and a house of equal age in the background add a somber but beautiful touch to an early March morning in the Great Smoky Mountains of Tennessee.

Volunteer Views



By J. C. Hundley
Executive Manager, TECA

Immediately following the Administration's announcement, both Senate Agriculture Committee Chairman Talmadge and House Agriculture Committee Chairman Poage declared that use of the Rural Development Act as a substitute for the 2% loan program was contrary to the intent of Congress.

The issue of the termination of REA direct loans, however, is one part of a larger issue: the usurpation of Congressional powers of the purse by the Executive branch of the Government. Feelings in Congress on this are strong and bipartisan.

In mid-January Senators Hubert Humphrey and George Aiken introduced S.394 and Representative Frank Denholm introduced H.R.2276. The Senate bill has 52 co-sponsors while the House bill and other identical or similar bills have more than 100 sponsors, including Tennessee Congressmen Evins, Jones and Fulton for H.R. 2276 and introduction of a similar bill, H.R. 2986, by still another Tennessee Congressman, John Duncan. (See story on Pages 28-29.)

These bills would amend the Rural Electrification Act to "direct" rather than "empower" the REA Administrator to "make loans each fiscal year in the full amount determined to be necessary by the Congress or appropriated by the Congress." They would also amend the 1972 Rural Development Act to stipulate that the loan authority in that legislation "shall be in addition to and not in lieu of" the authority in the Rural Electrification Act.

Whether the action on REA's 2% direct loan program is a death blow or a hard slap that should wake us all up — this remains to be seen.

For certain, this is another case in point that we must be eternally vigilant if our cooperative rural electrification program, which continues to mean so much to so many Americans, is to survive and progress.

Two months have passed since the Administration, through the U.S. Department of Agriculture, announced that it was "converting" REA's 2% direct loan program to insured and guaranteed loans at 5% under the authorities of the 1972 Rural Development Act. During that time, day by day, some facts concerning this action have begun to surface and to become more clear. Here are a few observations:

1. A number of Congressional leaders who helped write and pass the Rural Development Act are adamant that it was never intended to replace any existing programs, including REA as it has been operated for almost four decades.

2. Under the Administration proposal there would be no determination of program money amounts. These would be set by the Office of Management and Budget which, to date, has been no proven friend of cooperative rural electrification.

3. It is entirely possible that only a few rural electricians can qualify for the 5% guaranteed and insured Government loans unless they are unable "to obtain sufficient credit elsewhere to finance his actual needs . . ." on the open market, meaning, most probably, at a considerably higher rate of interest.

4. One section of the Rural Development Act requires that all loan requests be submitted to local planning agencies and governments for review and comment, which are certain to result in serious delays and, at worst, prevention of loans entirely.

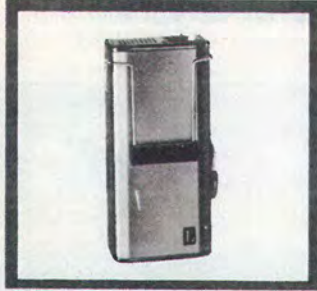
Fortunately, there may be happier solutions to the quagmire of problems brought about by the cancellation of REA's 2% loan program.



to TENNESSEE readers

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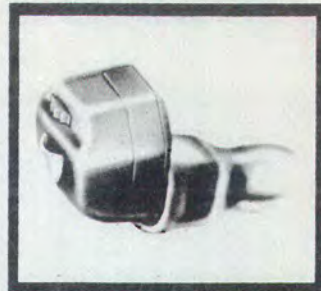
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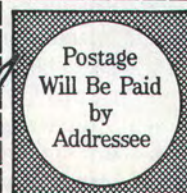
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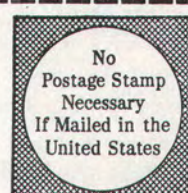
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Tims Ford Dam and Lake TVA'S Newest In Middle Tennessee



By Morgan Lorange
Director of Member Services
Duck River Electric Membership Corporation

Tims Ford dam and reservoir is TVA's newest and first project of its kind in Middle Tennessee. The dam is located in Franklin County near State Highway 50 across Elk River and impounds a 10,700-acre reservoir in Franklin and Moore counties. The dam was closed on December 1, 1970, and by the following June the lake had reached full pool level.

Tims Ford dam and lake, completed only last year and located in Franklin and Moore counties, is already becoming a top attraction in Middle Tennessee. It is located in the middle of a triangle formed by Nashville, Chattanooga and Huntsville and is in the service area of Duck River Electric Membership Corporation.

TVA began construction on Tims Ford dam in March, 1966, and the dam was completed in December, 1970, at which time the final valve was closed and the lake started to fill. By the following June TVA's newest and only reservoir in Middle Tennessee reached full pool level and is about the size of TVA's Fontana Lake. Since that time the Tims Ford project has been providing the multiple benefits for which it was designed: lake and shoreline recreation use, increased power supply, water supply and quality control, and flood relief. A power generating plant at the base of the dam produces 45,000 kilowatts which is fed into TVA's network of transmission facilities to assist TVA in meeting its peak power demands. The lake provides more than 223,000 acre-feet of floor water storage.

175 FEET HIGH DAM

Tims Ford dam is an impressive structure, towering 175 feet at its tallest point. The structure is almost 1,500 feet long.

This aerial picture shows part of the irregular shoreline on Tims Ford reservoir at Mansford Bridge. Land area on both sides of the lake connected by the bridge has been visited by officials of the State Conservation Department and is being considered as Tennessee's 27th State Park. The site is inside a triangle formed by Lynchburg, Tullahoma and Winchester and in the service area of Duck River Electric Membership Corporation.

More than 3 million cubic yards of earth, rock and concrete were required to complete the dam and power house. Cost of the project was nearly \$50 million.

The lake created by the dam has almost 250 miles of shoreline. The lake is 1.2 miles wide at its widest point and 34 miles long as measured by the river bed. It covers 10,700 acres at full pool level. At its deepest point the lake is 130 feet deep. Numerous hills, some of which rise 100 feet above the lake, provide scenic overlooks.

Names of coves, islands, overlooks and other features identified with the lake reflect the region's history and are quite colorful. The dam and reservoir, for example, were named after an early ford crossing the Elk River. The crossing was on or near land once owned by Abner Mansfield Tims, an early Franklin County settler. Numerous Tims descendants are still found in the area. Elbert Mayes owned the land, where the dam is now situated, for more than 50 years before its acquisition by TVA to become a part of the Tims Ford project.

The old ford at Tims Ford crossing was located downstream from the present bridge spanning State Highway 50 just a few hundred yards south of the dam. The ford was used until about 1885 when a bridge was constructed across Elk River. The bridge, quite naturally, was named Tims Ford Bridge. The dam is 10 miles from Winchester and 15 miles from Lynchburg.

Names like Gourdneck Hollow, Jolly's Rock, Owl Hollow, Kitchen's Creek, Leatherwood Island and Devil's Step similarly reflect local tales, tradition and history. Some of the main tributary streams that fed the Elk River that now form embayments on the lake include: Lost Creek, Hurricane Creek, Turkey Creek, Little Hurricane Creek, Winchester Springs Branch, Rock Creek, Boiling Ford Creek and Dry Creek.

The successful impact the Tims Ford project has had on improving the region around its shores is due in large part to cooperative efforts of local citizens, represented by the Elk River Development Association, the Tennessee Elk River Development Agency, a state agency, private enterprise, and TVA. Tennessee Elk River Development Agency (TERDA), a specially organized state agency, has been working with the citizens' association and TVA to assure full realization of the opportunities the Tims Ford project offers to help expand the area's economic growth and recreational opportunities.

TERDA is governed by a 15-member board of directors. The board is selected in the following manner: The Quarterly County Courts of Coffee, Franklin, Giles, Grundy, Lawrence, Lincoln, Marshall, and Moore Counties nominate by majority three candidates for each directorship from the respective counties. Candidates for these positions include persons active in municipal, industrial, agricultural, commercial, and citizen organizations active in promotion of comprehensive, unified development of the resources and economic growth of the Elk River watershed.

The governor appoints from the nominees one person from each county for each directorship for terms of six years. The governor also designates mayors of two incorporated cities or towns of the area to serve as directors for two year terms, and the county judge of Giles, Lincoln, Moore, and Franklin Counties continue to serve as ex-officio members. In addition, the governor also designates a member of his staff or cabinet to serve as a director during the governor's term of office. The board of directors reports annually to the governor.

TERDA is responsible for operating and managing shoreline lands for recreational, residential, and industrial development and for administering water supplies for farm, industrial and

municipal uses. It has created a fund to help stimulate areawide economic development and repay part of the project construction cost to the Federal Treasury.

Moving to maximize the benefits of the project and the use of shoreline lands during the planning of future improvements and development, TERDA is also conducting a unique agricultural land licensing program. Each year since 1968 selected shoreline farm lands purchased prior to the construction of Tims Ford dam have been licensed by



Views at dam looking toward the reservoir area on December 2, 1970, only one day after the valves were closed to start the filling of the lake; January 15, 1971; February 14, 1971; and March 12, 1971.

the Agency to local farmers and other interested persons for personal agricultural use. More than 100 land licensing agreements were in effect last year. The agreements concern shoreline tracts in both Franklin and Moore Counties.



A power generating plant at the base of Tims Ford dam will generate 45,000 kilowatts of electricity.

RECREATION USE AND FACILITY DEVELOPMENT

Six improved boat ramps are provided along the shoreline for public use. They are conveniently located for easy accessibility in all directions.

The number of private boats, boat-houses, docks, piers, and launching ramps being constructed around the shorelines continues to rise. At last count, 27 non-commercial recreational licenses had been issued to private parties allowing for the installation of water-use facilities and related shoreline improvements on Tims Ford. The purpose of the TERDA licensing program is to maximize the public's access to the lake while preventing uncontrolled development of safety hazards around the shoreline, particularly at the water's edge. For example, care is taken to insure that a dock or pier does not protrude too far into the water presenting dangers to water skiers or boaters.

Care is taken during pre-construction phases to insure that persons building private, family-type facilities around the shorelines do not unduly restrict public access over the land or unnecessarily prevent the shorelines from being used for public recreational purposes, such as picnicking, landing from a boat or just walking along the shore.

Since boating, water skiing, and swimming are popular in the area, bacteriological tests are being conducted as an on-going effort to insure that water conditions on Tims Ford lake, particularly around the heavily used public access areas, are safe and within

recommended safety standards. Samples taken from nine different locations around the shorelines during the past summer by TVA indicated that water conditions were well within safety standards regarding recreation water use.

Future recreational development appears even brighter. Symbolic of the growing recreational facilities around the shorelines of Tims Ford is a multi-million dollar commercial resort underway on a 98-acre tract seven miles from Tullahoma, including a campground, picnic area, launching facilities, and an adjoining large marina — one of the finest in the state. The marina, housing about 100 boats, was completed early last summer and a camping and picnic area is now in use. Visitors may also rent boats, motors, or both at the marina. Gasoline may be purchased at the site, in addition to sandwiches, drinks, snacks, bait and picnic and fishing supplies.

Another lakeside facility, located about one mile west of Winchester on State Highway 50, has 55 camping sites and features water and electric hookups, tent camping, a sewage dumping station, laundry facilities, bathhouse, bait sales and a grocery store. This campground is owned by two local families.

Elsewhere around the lake, good roads, spacious public parking and gasoline facilities, picnic sites and tables, public use areas, and launching ramps have been strategically located to facilitate public use, convenience, and enjoyment. Overnight and weekend camping was popular around certain areas of the shorelines last summer.

Future additions being considered include overnight lodging facilities; facilities for longer stays such as cottages and condominium apartments; commercial facilities such as additional marinas, shops, and restaurants; and public golf courses, parks, beaches, and hiking and riding trails. Consistent with sound environmental considerations, the development and management of shoreline lands by TERDA is being directed toward providing an optimum mix of quality, natural and developed recreational opportunities; permanent home residential opportunities; and commercial and industrial enterprise opportunities.

Dripping Springs Subdivision, just off State Highway 50, is located on the shoreline of Tims Ford. This restricted residential development features



Joe Moorehead, Service Supervisor for Duck River Electric Membership Corporation in the Franklin County area, supervised the removal of 'miles and miles' of electric lines operated by the Co-op in the Tims Ford reservoir area. In the background is seen Await Bridge across the Big Hurricane Creek a few months prior to closing of the dam.



Viewing the changes being made on the countryside during construction of the Tims Ford dam brought many memories to Joe Moorehead, native of Franklin County and 35-year veteran employee of Duck River Electric Membership Corporation.

waterfront privileges and property, paved and curbed streets, underground electric service and purified water from a municipal system.

The Elk River, once uncontrolled in the vicinity of Tims Ford dam, is now regulated to best serve man, protect his property, provide recreational opportunities, and provide sufficient water to homes, farms and industries. Winchester is now drawing its water from the lake. Nearby Lynchburg's long-range plans include the possible use of the reservoir for that town's water supply.



Trees were left standing in the impoundment area of Tims Ford reservoir which would be several feet below the 'low water mark' after the water reached normal pool level.

How's fishing on Tims Ford lake? Absolutely great! Especially for a new body of water its size. Seasoned fishermen predict that Tims Ford will be one of the 'hottest fishing holes' anywhere for several years to come.

Visit Tims Ford country sometime. You will see one of the prettiest lakes in the world; meet the friendliest people anywhere; and may take such a liking to what you see and hear that you, too, will want to become a resident of the area. It is a great place to live!



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Actual unretouched photograph of a five year scarlet maple.

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FADS AND CRAZES ARE NOTHING "NEW" TO AVID TENNESSEE HISTORIAN

By Jim Lynch
Staff Writer

As a nation, we have been besieged by periodic fads and crazes ranging from Hula-hoops to sack dresses to long hair to "Beatle-mania" and no one knows from where the next will come. For certain, something will pop up to take the country by storm — who knows, maybe Mohawk haircuts will emerge as the rage of the future just as Jenny Lind did in the mid-19th century.

Who?

In case you don't remember, (you'd have to be about 100 years old to have known her) she was the Swedish opera star whose voice and manner captured the hearts of Americans and Europeans alike, and during her American tour of 1850-52, she performed two concerts at the old Adelphi Theatre in Nashville.

And if you believe that all the commotion surrounding the Beatles was unique — well, our forefathers went through the same thing, only it was called "Jenny Lind Fever" then, and Mr. Porter Ware of Sewanee is perhaps the last living "victim" of this epidemic that had people across the globe clamoring to the theatre to hear the "Swedish Nightingale."

Mr. Ware, a member of the Duck River Electric Membership Corporation, became interested in "Lindiana", the term he uses to describe Jenny Lind memorabilia, soon after the Second World War. He had just had an article published in a magazine about shaving mugs (an outstanding collection of which he used to own) and discovered that his article was the only one in the publication that wasn't about Jenny Lind.

This fascinated him; however, he says that he didn't become "deeply interested" until 12 to 15 years ago. Since then, he has put together perhaps the most complete private collection of "Lindiana" in the world.

Mr. Ware has lived in the little Franklin County community most of his life, serving the University of the South in public relations, fund raising, and as Registrar for eight years until his retirement in 1971. Although he never taught there, his father, Mr. Sedley



This portrait of the famous "Swedish Nightingale" is but one of many that Mr. Porter Ware has collected over the past 12 to 15 years.

Lynch Ware, once held the Houghteling Chair of History when only one or two teachers taught in the history "department", if it could be called that.

Since his retirement, the energetic Mr. Ware has been free to travel and collect items of interest, not only of Jenny Lind, but other antiques as well. However, no one can deny that the famous "Swedish Nightingale" is the focal point of his collectings, which causes his wife Louise to often muse about "the other woman in my life."

Mr. Ware often remarks that because of Nashville's famous Grand Ole Opry and massive recording industry, the historic importance of Jenny's Nashville visit has often been overlooked.

According to Mr. Ware, she performed concerts on March 31, and April 2, 1851, and "was quite complimentary of Nashville. She stated she had never seen such pulchritude (beauty) among the young ladies, and mentioned admiring their colorful and fashionable attire."

Known as "Pete" to his neighbors and friends, Mr. Ware also pointed out that few people realize that the first part of her American tour was under the management of the famous showman,

P.T. Barnum. Her Nashville performances were under his guidance.

Along with the vast collection of "Lindiana", Mr. Ware has co-authored, with University of the South German professor Thaddeus Lockard, a book entitled "The Lost Letters of Jenny Lind."

The book derived its title from the fact that Mr. Ware obtained the letters in question long after their whereabouts had ceased to be known, presumably forever.

Included in his collection are about 300 original newspaper articles, 150 photographic prints, some daguerrotypes, many original programs, an annual ticket to her performances, and a "diploma" given to pupile completing her singing classes for handicapped children she taught in Vienna around 1846.

He also has a piece of lace from one of Jenny's dresses which was given to him by one of the singer's great-granddaughters in England.

In fact, Mr. Ware has corresponded with several of Jenny's decendents and



While most of his collection is safely stored away, Mr. Ware does keep several figurines and other pieces of his collection in this old hutch at his home in Sewanee, Tennessee.



This portrait of the "Swedish Nightingale" is one of the first items obtained by Mr. Ware when he began his collection. It hangs in the dining room of his home.

later met many of them on a holiday in England.

One of his prized possessions is a piece of tile from the theatre in Great Malvern, England, where Jenny sang her last concert in 1870, for the benefit of railroad employes' widows and children, Mr. Ware said it was typical of her to perform such charitable deeds and that she had, in the course of her life, donated a considerable amount of money to charities because she believed that her gift of singing was a gift of God, and shouldn't be taken advantage of.

To anyone who might begin discussing the life of the "Swedish Nightingale" with Mr. Ware, one thing becomes immediately apparent. The retired University of the South official can, almost at will, recall dates, times, places, persons and just about anything he wishes on the subject of Jenny Lind. Besides being a collector, he has read numerous books and chapters on her life and maintains an almost "instant recall" on the details of her activities.

He says, "When you're as interested in the subject as I am with Jenny, remembering the facts and details is easy — it just comes natural."

Although most of his collection is stored safely away, Mr. Ware does keep several items of interest in his home, "Plum Tree Cottage", including Jenny Lind's personal seal which she used on

(Continued on page 3 0)



Part of Mr. Ware's collection is this certificate of award to the famous songstress for her aid in helping handicapped children to sing in Vienna, 1854. (Note that she was married at this time to conductor Otto Goldschmidt, her conductor for her American tour.)

Oh a tear

*Oh! that the Chemist's magic art
 Could crystallize this sacred treasure!
 Long should it glitter near my heart,
 A secret source of passive pleasure.*

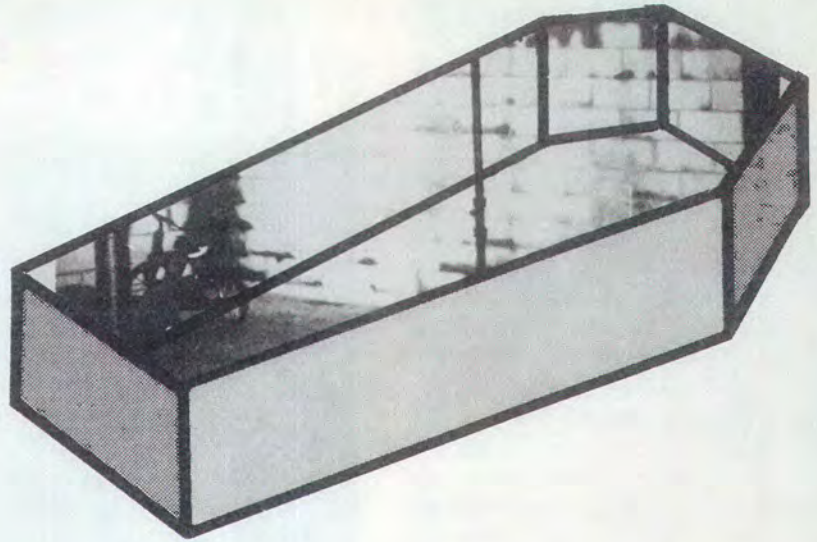
*Benign restorer of the soul!
 Who ever fly'st to bring relief,
 When first we feel the rude control
 Of Love or Pity, Joy or Grief.*

In kind remembrance of

Jenny Lind.

A poem sent to a friend during her American tour of 1850-52, it is not known whether Jenny Lind actually wrote the poem, or copied it from a poet's effort.

DEAD BASEMENTS CAN BECOME LIVING AREAS



Mary Ann Gibson,

Home Service Advisor

Meriwether Lewis Electric Cooperative

Basements that once were dull junk catchers can become attractive, useful living areas with thoughtful planning and wise utilization of space. Rising costs of materials and construction make basement renovation more attractive than ever before. It would be wise for one to consider the potentials of a basement whether building or remodeling.

The first step in converting a basement area is to decide what you want to use the basement area for — laundry, recreation area, sewing, office, or perhaps all four of these. Furniture and appliance cutouts drawn to scale help you to determine where these centers should be located in the basement area for the best utilization of space; the best traffic areas; and to help locate the different areas of activity.

After the appliances are located and the furniture arrangement has been made, the convenience outlets can be located. By arranging the furniture first, all the outlets do not end up behind large pieces of furniture, such as sofas. How many times have you pulled a large, heavy piece of furniture out to plug in something because there was not another plug? Advance planning of furniture arrangement and your electrical needs eliminate many problems of inconvenience.

Lighting

Basement lighting needs special consideration since many times there is little or no outside light. Care must be taken to prevent the appearance of a cave. Lighting is planned around the furniture and appliance arrangements, providing light where activities will take place. Color can also help give a lighter and more cheerful appearance to basement rooms. Lighter shades of paneling and light colors help reflect the light off the walls instead of absorbing it.

Insulation

Heat loss through masonry walls and basement windows is very high, but the effective use of insulation can make basements much more comfortable as well as cutting down heating and air conditioning costs.

Insulation is valued in "R" values which indicate the material's ability to resist heat passage. The higher the "R" value, the greater the insulating ability. R-11 insulation is recommended for basement walls. One of the easiest ways to insulate basement walls is to add stud walls and insulate between them, and then cover with paneling or sheet rock. Another way is to put two-inch (at the least) furring strips up and insulate between them.

Heating

In selecting basement heating equipment, keep in mind the size and intended occupancy of the basement area. Different sets of interior design

requirements, family needs, living habits, and climate conditions often require different types of heating equipment. Yet for most basements the choice of equipment can be made from a broad range of types and styles, fitting any decor and adapting to any heat needs. Check around and see all the possibilities of heating, then select the one that best meets your needs.

PLANNING ASSISTANCE

Your local Cooperative has trained personnel to help you with your basement conversion. They can calculate your heating and cooling needs and advise you about all the types of equipment that are available.

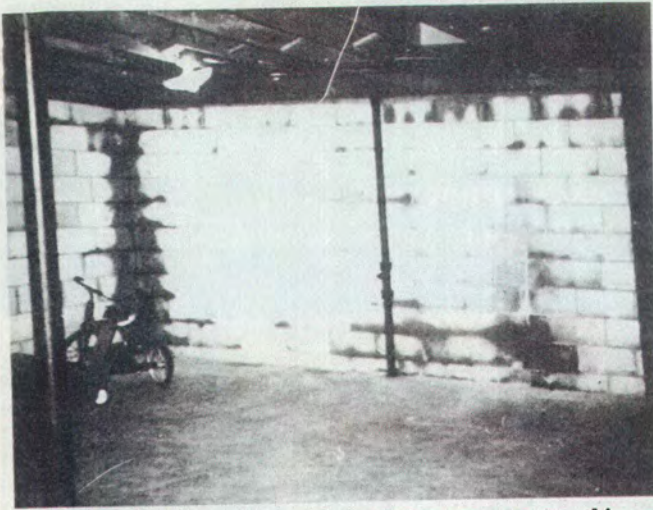
Furniture cutouts and other booklets are available to help you with your planning. If your local Cooperative employs a home economist, she will draw your basement floorplan and make an electrical drawing with your lighting and wiring on it. All this planning assistance is a free service to you as a member of your Cooperative. Start planning now to convert your dead basement into a practical, attractive living area.

fresh
Clean

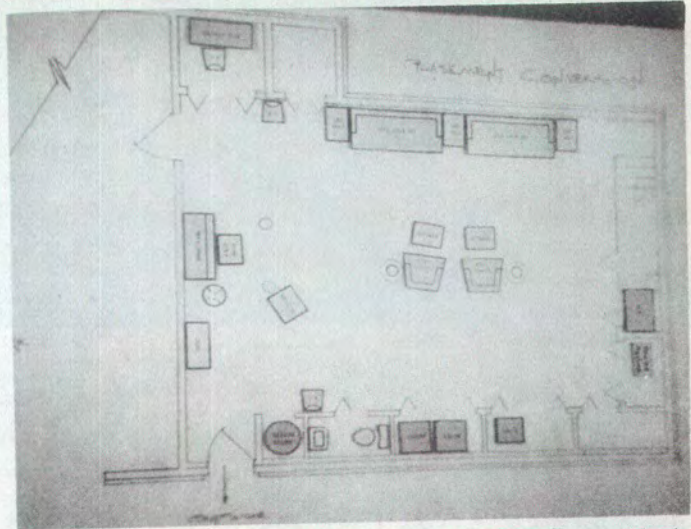


**ELECTRICITY
DOES IT BEST!**

STEPS IN BASEMENT CONVERSION



Take the basement as it is and decide how you can use this space best for your family.



Draw the basement to scale. With furniture and appliance cutouts plan the arrangement of the room. Then lighting and wiring needs can be put on the drawing.



Construction begins by placing stud walls. Note good insulation behind appliances. This is a must in basement conversions.



The end result is a pleasing, light living area.



Behind each of the louvered doors is a specific work center. Notice the freezer, sewing area, closet, kitchenette and laundry area. Not pictured in this room are a half bath, water heater and office; all behind louvered doors also.



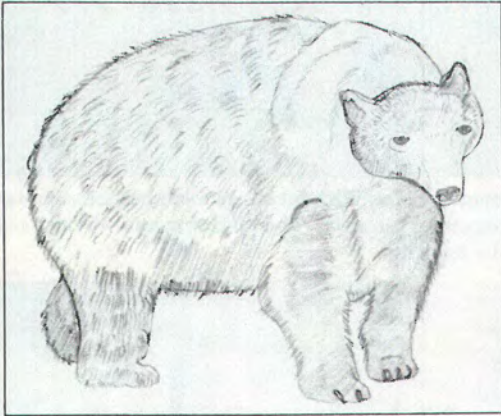
On the opposite wall is a built-in sofa unit. Good lighting is provided by the cornice made from the paneling used in the room.

Uncle John's Page

This page is reserved for the young folks. We will pay one dollar for each poem or drawing published. ALL WORK MUST BE ORIGINAL. Drawings should be in black, and drawn on white, unlined paper. Tell us your age, address, and Electric Co-op, and

Send all items to:

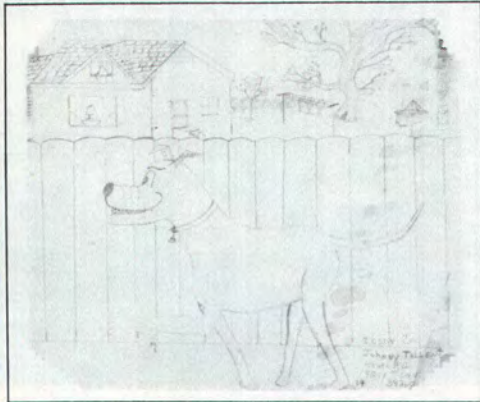
UNCLE JOHN, The Tennessee Magazine
710 Spence Lane, Nashville 10, Tenn.



Frenda Roberts Age: 13
600 Hill Avenue
Henderson, Tennessee
Southwest Tennessee Electric
Cooperative



Vivian Baggett
Route 1, Box 42
Clarksville, Tennessee 37040
Cumberland Electric Membership Corp.



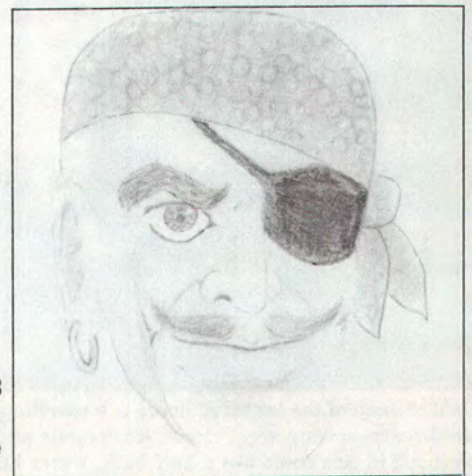
Johnny Tallent Age: 14
Route 2
Troy, Tennessee 38260
Gibson County Electrical
Membership Corp.



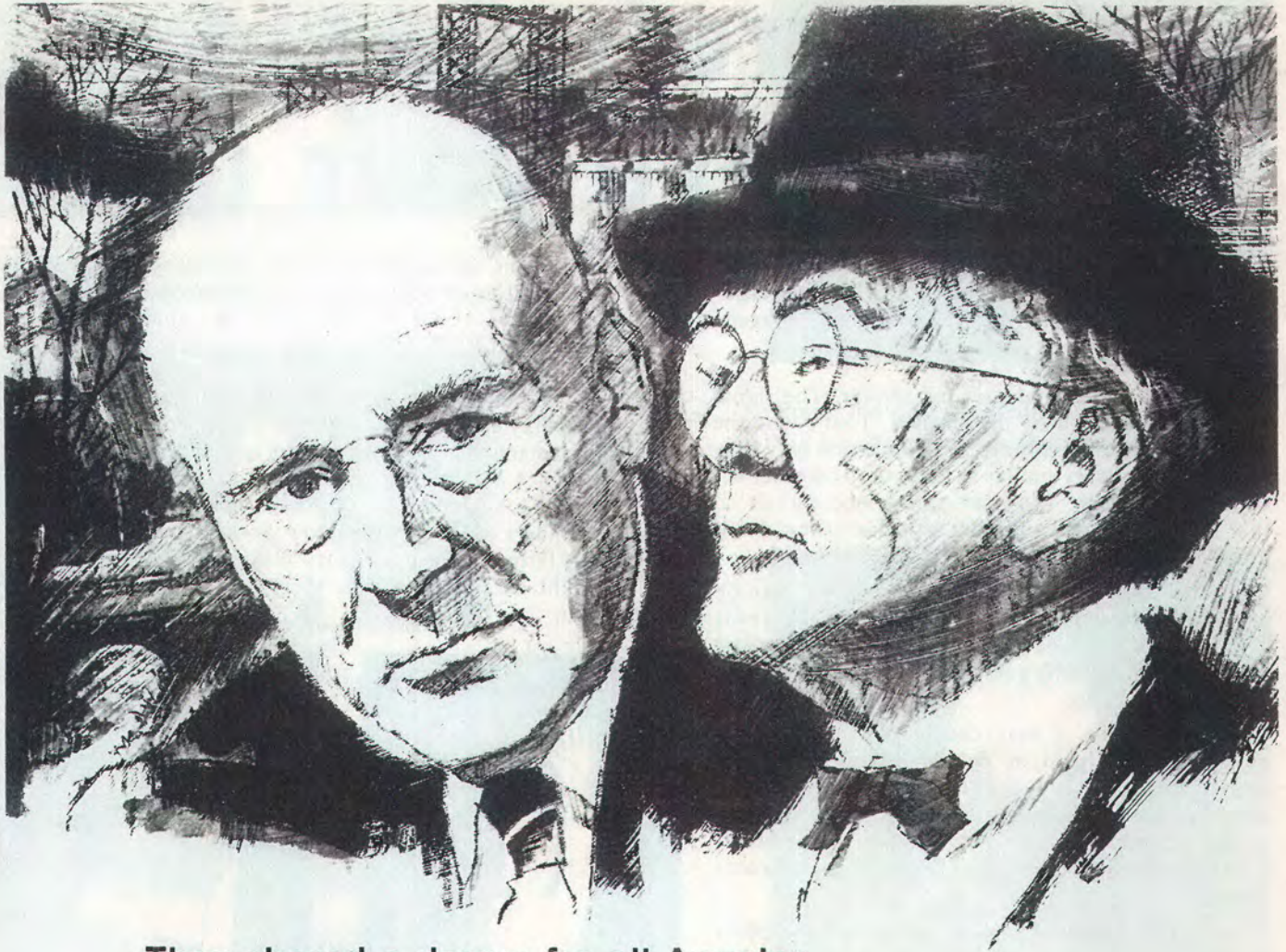
Dale Worley Age: 13
Route 2
Whitwell, Tennessee 37397
Sequachee Valley Electric
Cooperative



Larry G. Thomas Age: 15
Route 3
Woodbury, Tennessee 37190
Middle Tennessee Electric Memb.
Corp.



Shane Moody Age: 13
Butler, Tennessee
Mountain Electric Cooperative



They shared a dream for all America

America was beginning to shake off the despair of the Great Depression. Across the nation men were going back to work, and the machines of industry were starting to hum again.

But out in the rural areas, life showed little change. Rural Americans were cut off from the nation's quickening pulse by the absence of electric power. Poverty and hardship were a way of life. But Senator George Norris of Nebraska and Representative Sam Rayburn of Texas had a dream. And because they were fighters as well as dreamers, they lived to see their dream take shape.

Norris and Rayburn co-authored the Rural Electrification Act of 1936, when only 10 per cent of the nation's farms had electricity . . . and the rest is history. Today more than 97 per cent of all the homes in rural America enjoy this convenience which has become a necessity.

The job is far from done, however, as America's rural electric systems, with the help of REA loans, build to meet the continually rising demands for more and more electricity. In only seven years, rural Americans will be using twice as much electric power as they do today.

To the end of their lives, Norris and Rayburn loved the program they did so much to start. Rayburn considered rural electrification one of his greatest legislative achievements, and often said so.

From these early dreams of Norris and Rayburn has grown today's great rural electrification program—an American success story and a priceless asset to the entire nation.



AMERICA'S RURAL ELECTRIC SYSTEMS*

*These are the nearly 1,000 consumer-owned, non-profit electric systems, financed by the Rural Electrification Administration loans, which serve 20 million Americans in 46 states. For more information, write Rural Electrics, 2000 Florida Avenue, N.W., Washington 9, D.C.



Agriculture hand signals could save your life

HAND SIGNALS can save time and prevent accidents — even fatal accidents. They are especially useful when noise or distance make voice communication difficult or impossible.

But just any signal isn't the answer. The signal must be understood by the receiver. That's why the hand signals for agriculture are simple and why they are the same or very similar to those used by other occupational groups. Most are one-armed signals so that they can be given though only one arm is available.

When people who need to communicate can be seen but not heard they are going to make some sort of signal with their hands. If the signal is misunderstood, there is nothing gained, and it may even make the situation worse.

For example, a man caught in a corn picker waved his free hand at people driving along the nearby road. They thought he was just being friendly and so they waved back and drove on. In desperation he finally tried to use his free hand to push himself free. It too became caught and he lost one hand completely and all the fingers off the other one.

A similar misunderstood signal had a happier ending. This man was stranded on top of a grain bin when the ladder blew down. He too, was close to the road and he also waved and waved at passersby. Most of them saw him and waved back but didn't realize his problem. He was getting pretty cold when a member of his family went searching for him.

In neither of the above cases was the person in trouble giving a specific signal — they were just waving. Maybe the potential helpers would not have understood the signal. But, the signal which means "COME TO ME" doesn't look like an ordinary friendly greeting. And, with a little effort signals can be learned that fit various situations. For example, the signal "COME TO ME" followed by "SPEED IT UP" means I need help quickly.



THIS FAR TO GO

Place palms at ear level facing head and move laterally inward to indicate remaining distance to go.

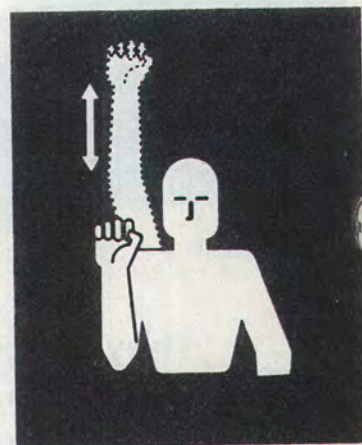
Some signals are very well understood. Among these is the one that indicates "HOW MUCH DISTANCE THERE IS TO GO." The signals "STOP" and "FOLLOW ME" are also commonly used.

Careless or sloppy signalling causes confusion and may even result in injuries. So, learn how to give each signal properly. Don't just read the instructions! Practice and ask others to check to see whether the signal looks correct from their view point. Involve members of the family, fellow workers and neighboring farmers. After all, they may be the people you might be signalling. Or, they may be signalling to you.



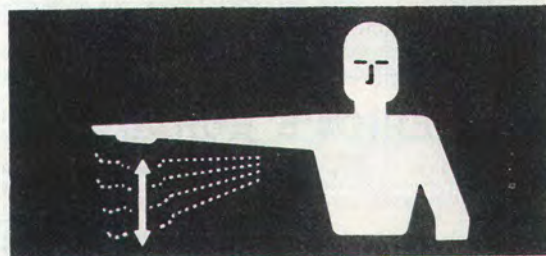
STOP

Raise the hand upward to the full extent of the arm, palm to the front. Hold that position until the signal is understood.



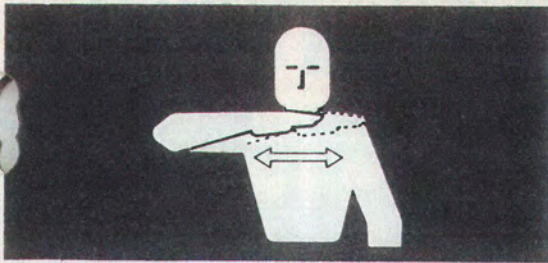
SPEED IT UP — INCREASE SPEED

Raise the hand to the shoulder, fist closed; thrust the fist upward to the full extent of the arm and back to the shoulder rapidly several times.



SLOW IT DOWN — DECREASE SPEED

Extend the arm horizontally sideward, palm down, and wave arm downward 45 degree minimum several times, keeping the arm above horizontal.



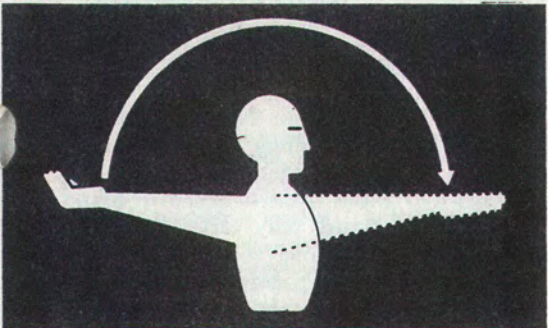
STOP THE ENGINE

Draw right hand, palm down, across the neck in a "throat cutting" motion from left to right.



RAISE EQUIPMENT

Make circular motion with either hand at head level.



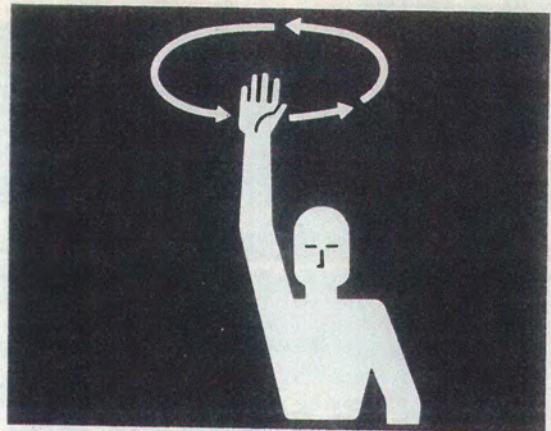
MOVE OUT — TAKE OFF

Face the desired direction of movement; hold the arm extended to the rear; then swing it overhead and forward in the direction of desired movement until it is horizontal, palm down.



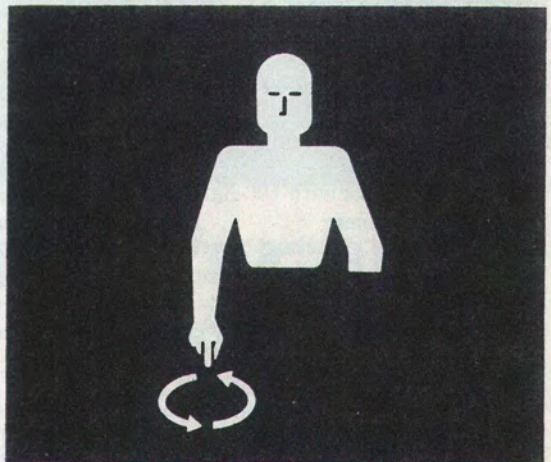
MOVE TOWARD ME — FOLLOW ME

Point toward person(s), vehicle(s), or unit(s), beckon by holding the arm horizontally to the front, palm up, and motioning toward the body.



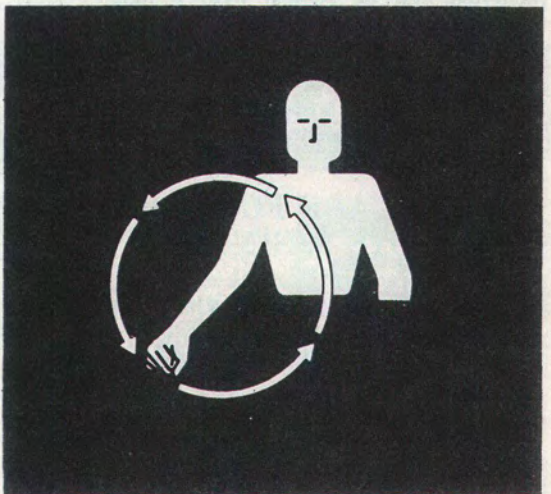
COME TO ME

Raise the arm vertically overhead, palm to the front, and rotate in large horizontal circles.



LOWER EQUIPMENT

Make circular motion with either hand pointing to the ground.



START THE ENGINE

Simulate cranking of vehicles by moving arm in a circular motion at waist level.

Timely Topics

USE CAUTION WHEN WELDING

This is the season of the year when many farmers will be operating welders to make repairs on their farm machinery. Observing a few rules will make the job not only safer, but much more pleasant, reports a University of Tennessee agricultural engineer.

"A welder should never be used unless it is in a safe operating condition," says Kenneth E. DeBusk. "Check the power supply cord as well as the ground and electrode holder cables for mechanical damage. Be sure the welder is properly fused."

To decrease the likelihood of electrical shock, always stand on dry footing and keep your body insulated from the electrode and work, says DeBusk, associate professor with UT Agricultural Extension Service.

A face shield or helmet must always be worn to protect the face and eyes from welding flash and sparks. Goggles are not recommended. If very much welding is to be done, such as building up tire chains or hard surfacing plow shares, provide protection from the heat waves of the welding arc.

"Burns similar to sunburn can occur from prolonged exposure," he says. "There is one major difference. Burns from welding are usually deeper and more painful. For this reason, the collar button on the welder's shirt should be fastened and he should wear a long sleeve shirt."

Always work in a well ventilated space, the engineer advises. This is especially important when welding metals which give off an abundance of fumes and smoke, such as galvanized metal.

WHY ARE FOOD COSTS RISING?

Since the fact that we've been paying more for food in recent months has been widely discussed, a University of Tennessee agricultural economist explains some of the reasons behind these costs.

"It's true that total expenditures for food in 1972 increased to \$118 billion, almost \$7 billion over 1971, but we must remember that the total bill for marketing farm foods in 1972 amounted to \$79 billion, or about two-thirds of the total retail cost," reports D.R. Humberd.

Humberd, assistant professor with the UT Agricultural Extension Service, says that since the charge for marketing adds to the total food cost, a logical question is, "Why has the cost of marketing increased \$53 billion since 1950?"

He says that about one-half of the increase is accounted for by the additional food required to feed an increasing population. And rising costs, particularly for labor, accounted for another one-third of the increase in the marketing bill.

Also, the marketing system performs many tasks formerly done on the farm or in the home, Humberd continues. Increasing numbers of shoppers demand foods that are pre-washed, pre-peeled, pre-mixed, and/or pre-cooked. In most cases this convenience saves time, but costs more.

"Another factor is that expenditures for foods eaten away from home are increasing," Humberd concludes. "Operating costs in public eating places usually amount to more than one-half of the price charged for the food served."

4-H GRANTS ANNOUNCED

Seven Tennessee 4-H Clubs have been selected to receive 1973 Citizenship In Action grants to launch projects in their communities, according to Glenda Jellicorse, state 4-H specialist.

"The grants, made available by the Reader's Digest Foundation through the National 4-H foundation, will be used to organize citizenship projects ranging from working with retarded children to organizing an anti-litter campaign," says Mrs. Jellicorse, assistant professor with the UT Agricultural Extension Service.

The Tennessee clubs, awarded \$1,225, are among 47 clubs in seven states receiving grants this year, she says. The Reader's Digest Foundation provided \$8,500 for the annual Citizenship In Action program, designed to encourage young people to start creative community service projects.

In Perry County, the Pineview 4-H Club received a \$300 grant to construct an outdoor recreation facility in the community. The Moore County Senior 4-H Club received \$250 to renovate and equip a building for two doctors from the National Health Service Corps.

Two clubs were awarded \$200 grants; the Wayne County 4-H All Stars and



Honor Club for their "Youth On the Move" project to work with underprivileged and retarded children; and the Robertson County 4-H Senior Council for a County Citizenship Short Course.

The Sumner County 4-H Honor Club received \$125 for their community improvement project to organize a day care center, a senior citizens program, anti-litter campaign and a soil erosion combat program.

A \$100 grant was awarded to the Sullivan County 4-H Honor Club for a nature trail project; and a \$50 grant to the Bedford County 4-H Honor Club for an abandoned auto removal project.

ORGANIC OR INORGANIC FERTILIZERS?

Many people have read or heard the arguments concerning organic and inorganic plant nutrition practices, so a University of Tennessee soil fertility specialist offers some explanations of these two practices.

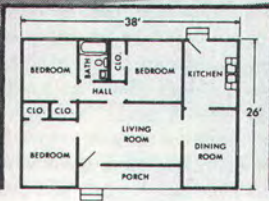
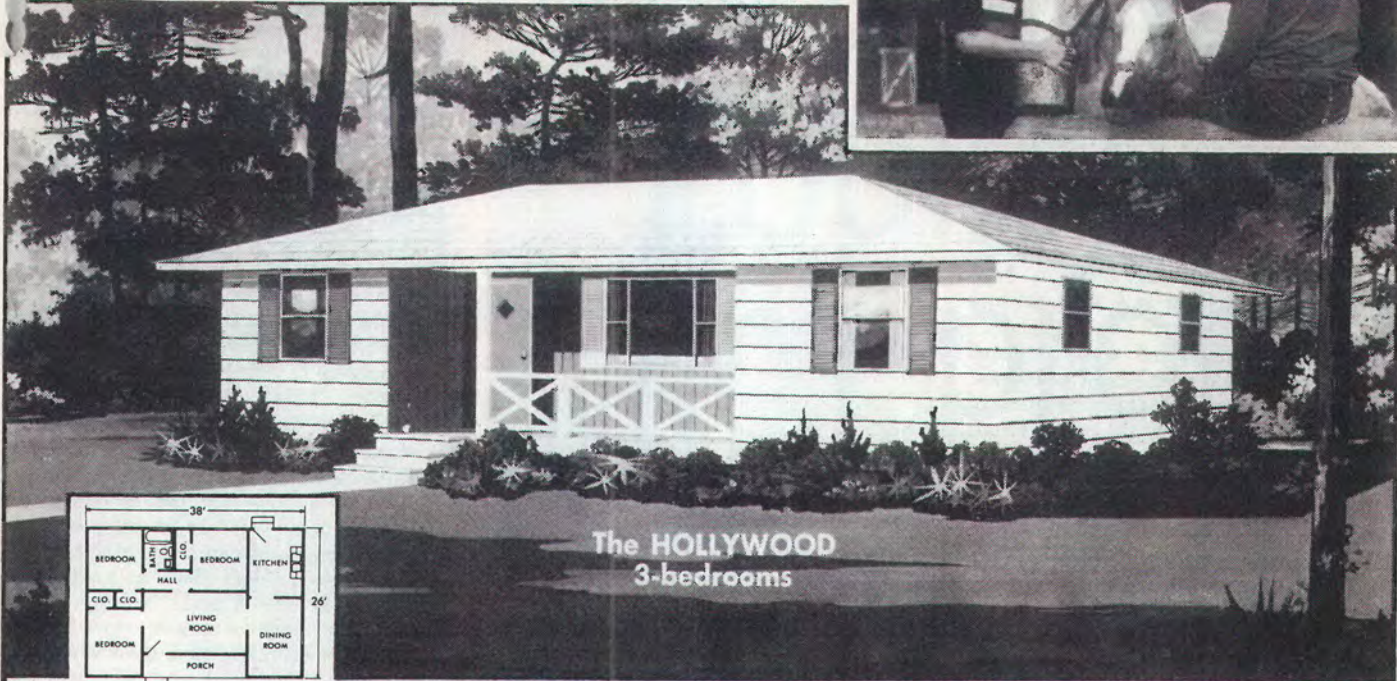
"Plant scientists have found that plants use only certain forms of each element," says Donald D. Howard, associate professor with the UT Agricultural Extension Service. "Therefore, plant nutrients, whether from organic or inorganic sources, are virtually the same before entering the plant."

"For instance, plants take up potassium in the ion form regardless of how the element is applied to the soil. And the same can generally be said for the other plant nutrients. Therefore, the argument as to which source to use must be over certain other characteristics."

Organic fertilizers are directly derived from plant and animal sources, Howard explains. Their primary advantage is their ability to slowly release nutrients throughout the growing season. Other advantages usually include their ability to increase water holding capacity and improve soil structure.

"The primary disadvantage is that their nutrient content is rather low, especially in nitrogen," he says. "Therefore, either a very large amount must be applied to meet plants' needs or the plant suffers from a nutrient deficiency. Also, organics must start decomposing before nutrients can become available for plant uptake."

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"Diggin' Deep" May Provide One Power Generation Answer

By John Stanford

During the last half-century or so, we have seen men drill or dig in the good earth for water, gas, oil, coal and fishing worms, but it wasn't until this past summer, during a field trip session of a Statewide Electric Co-op Editors' national meeting being held in New Mexico, that we ever saw men drilling for steam.

The availability of underground steam can serve a number of purposes, the prime one being for the generation of electricity. And, although only a small portion of the electricity now generated in the United States is by this underground heat process — called **geothermal**, from the Greek words meaning "earth-heat power" — the potential is great. So are our needs for ever-increasing amounts of electricity for both the present and future and no stones must be left unturned, especially the hot ones far below the surface of the earth which are the sources of geothermal energy, in our quest for new sources of energy.

Nothing New

The use of underground heat in the production of electricity is not new. Italy has been doing it since 1904 with a steam field at Larderello helping light the city of Rome.

Here in America, only one location — the Big Geysers field in California — is now producing significant amounts of electrical power. This field supplies steam to generate 190,000 kilowatts of power. An additional 110,000 kilowatts are scheduled to be added each year for the next several years.

And this is only scratching the potential surface.

Testimony at a recent House Task Force Committee hearing in Washington revealed that, currently, only 0.1% of the world's total generation is geothermal and amounts to about 1,000 megawatts (each megawatt being 1-million watts), of which approximately 200 megawatts are generated in the United States. It was projected that by the 1980's, geothermal sources would be producing 4% of the world's power with an output of 20,000 megawatts.

At this same hearing it was also testified that there are about 100,000 square miles of known geothermal reserves in the United States, of which 50,000 square miles are estimated to be about one mile thick. Contained in that reserve is enough energy to generate the total electric supply for the United



This is the drilling site of Baca VI in the Valle Grande, located in the old volcanic mountains of New Mexico about 25 miles northwest of Los Alamos. At least one area of steam has been reached in this drilling. Note height of derrick by comparing with workers standing on platform.

States for 150 years at its present rate of consumption.

Not That Simple

Needless to say, having that potential under the ground and going through generators are not necessarily one and the same thing. And there are some more things to be learned and techniques to be developed concerning the use of geothermal energy before it is likely to be a household word.

Nobody knows for certain what keeps underground rocks molten, or hot enough to turn water into steam although scientists theorize that it is caused by friction in the broken crust of the earth and the radioactive decay of materials underneath. In most places the molten rock, or magma, is some 15 to 25 miles underground. In some places, however, where there are fissures in the earth, it pushes closer to the surface. The magma heats other rocks and these turn underground water into hot reservoirs six miles or less from the surface of the earth. If this hot water can find a way out, it comes out in hot springs or geysers, such as may be seen in some of our National Parks. If not, it

can be tapped by a well drilled to where it is.

The wells bring up steam or hot water, or both. The steam can be fed straight through a turbine to run an electric generator. The hot water can be used to boil a volatile liquid into vapor to spin the turbine that runs the generator.

The U.S. Geological Survey lists more than 1,100 thermal (hot water) springs in the United States, almost all of which are located in the Western part of the nation. This combination of underground hot rocks and on-site water is ideal, but is not the only way that the benefits of molten rocks may be used.

The few geothermal plants presently operating are limited to sites above underground reservoirs of water heated by molten rocks. But a group of scientists at the Atomic Energy Commission's Los Alamos scientific laboratory recently came up with what they term an improved method of exploiting geothermal energy for the production of electric power that would



Another idea as to height of steam-drilling rig may be gained from this worm's eye view from base of platform.

require no new technology.

Their idea is to drill into hot but dry underground regions and pump water into the earth where it would be circulated and heated, following which the boiling water would rise to the surface and create steam to power electric generators. These scientists say their new technique might be used wherever there is hot but dry rock within 25,000 feet of the surface. Although, as noted before, underground hot water reservoirs in this country are primarily limited to the Far West, hot, dry rock is available elsewhere. These scientists believe their method could have practical application in parts of the East, particularly in portions of Pennsylvania and upstate New York.

A United Nations official, surveying geothermal energy for worldwide use, points out that a capital investment of only \$100 to \$150 is needed per kilowatt of electricity generated by this form of energy, this against estimates of \$200 to \$300 for a coal or oil burning power station and \$500 for a nuclear power station in 1975. Furthermore, estimates this official, a geothermal electric plant takes only two years to build.

Worldwide, geothermal energy is now being used or developed in 18 countries. There are signs of available geothermal energy in at least 80 countries, some with indications of considerable energy. The modest-sized nation of Ethiopia, for example, is believed potentially to have sufficient geothermal energy to provide the entire continent of Africa with electricity.

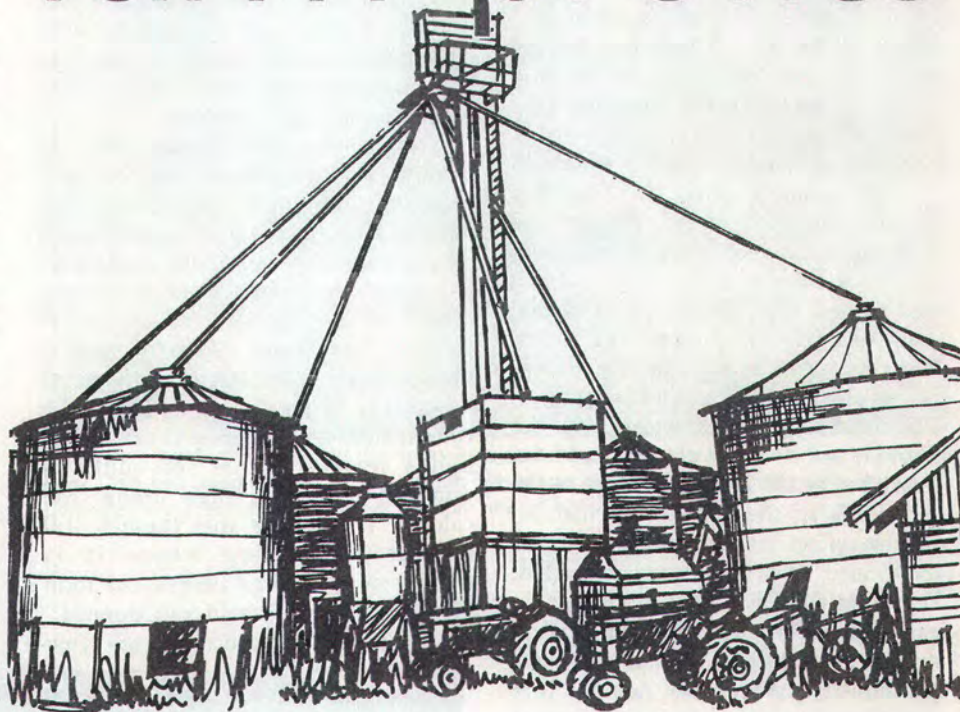
How much of and for how long we allow to remain virtually untapped this geothermal energy — estimated at more than double the energy in all the world's estimated coal, oil and gas deposits combined — remains to be seen.

It appears certain, however, that an energy potential so great cannot easily be ignored!



Looking like battleship-size guns waiting to be mounted, these casings, upwards of 100 feet in length, are waiting to be sunk into ground after drillings for steam have been completed.

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By Robert Sosebee,
Electrification Advisor
Tri-State Elec. Memb. Corp.

Tri-State Electric Membership Corporation is located in an area which includes portions of Cherokee County, North Carolina, Fannin County, Georgia and Polk County, Tennessee. This section of the country is commonly known as the Great Copper Basin. As one would guess from the name this is mining country.

Cities Service Company is the present owner of the mining industry, having taken over the operations in the mid 1960's, but mining in the Basin area goes back some one hundred and thirty years. Copper was first discovered in the Basin in 1843, shortly after the Cherokee Indians had been moved West of the Mississippi. In 1850 the first mine was opened at Ducktown, Tennessee, and it was named the "Hiwassee". A wagon road was opened through the Ocoee River gorge to Cleveland for the purpose of hauling copper and supplies. Cleveland had the nearest railroad. For a short while the copper industry flourished in the Basin Area, but in the early 1860's, the Civil War had an adverse effect on the industry. From 1863 until 1865 mining was halted. Following the Civil War mining again came into its own with the diamond drill and a new explosive, dynamite, giving the industry a great boost. Again in 1878 mining and smelting operations ceased in the Basin area and not until the coming of the railroad in 1890 did mining operations restart.

In 1899 the Tennessee Copper Company was formed and up through the years they purchased most of the other mining facilities and kept modernizing and diversifying as the need to do so required. When Cities Service Company assumed operations in the mid 1960's they continued, and are continuing, the modernization and change which had already begun.

Cities Service Company, Copperhill Operations, extracts its ore from Mother Earth through five underground mines. Deep within the earth, the orebodies are broken by drilling and blasting and the resulting ore is crushed and hoisted to surface. Copperhill Operations does no strip mining.

The ore mined in the Copper Basin contains several useful and recoverable ingredients, the main ones being sulfur, copper, iron and zinc. Once the ore is brought to surface, the next consideration is to separate the mineral values from the worthless rock and then to separate them from one another. This is done through a selective flotation process. The ore is crushed and then ground finely in revolving rod and ball mills. In these mills, water is added to produce a pulp. Later the mixture goes through a succession of machines with appropriate chemicals being added at various points and the components are separated through flotation.

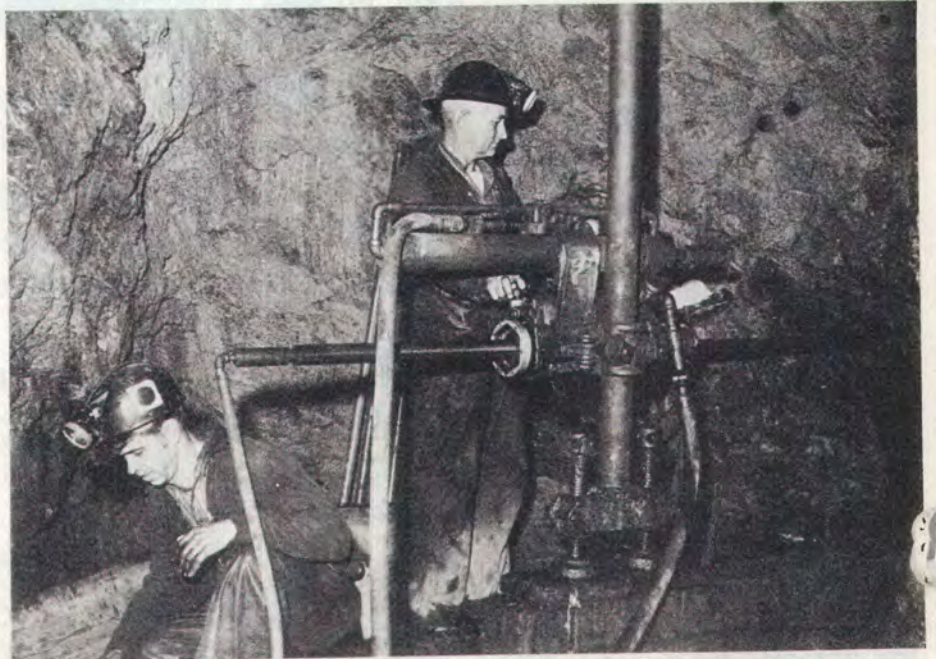
Upon leaving the flotation plant, or mill, the ore components have now been separated into iron, copper and zinc sulfides (better known as concentrates). The Company sells its zinc sulfides at this point and refines them no further. The iron and copper concentrates, however, go through separate smelting processes where the sulfur is driven off as sulfur dioxide gas. The iron concentrates are processed through Fluo Solids roasters where the sulfur is removed leaving a high grade iron calcine. The calcine goes through still another operation where it is transformed into iron pellets, the form in which the iron is sold and shipped.

The copper concentrates are first

treated in a fluid-solids roaster to remove part of the sulfur and then are melted in a huge electric furnace. The molten matte then goes to a Pierce-Smith converter where it is further purified. Some of the molten copper is poured into molds and solidified into cakes for shipment. Some of the molten copper is also poured slowly into water which breaks it up into pellets known as shot copper. This shot copper is then used locally in the manufacture of other products.

In all of the smelting processes, sulfur dioxide is driven off as a gas. This gas is collected and cleaned and most of it goes to the contact acid plants where it is converted into sulfuric acid. Sulfuric acid is produced in high concentrations and has become the company's major product. Some of the SO_2 gas is put through a liquefying process and is marketed for various purposes as liquid sulfur dioxide.

Various combinations of the company's own basic products are used also to produce a variety of other useful products. An example of this is that sulfuric acid and shot copper are utilized as the basic materials for making copper sulfate and numerous copper products that are used as fungicides. Other company-made materials are used to manufacture special organic chemicals, ferric sulfate and other products.



Copperhill operation's miners operate drill in one of company's mines.

With the beginning of 1973, Copperhill Operations is in the process of completing a gigantic three-year expansion and modernization program. This program has seen the sinking of a new mine shaft, expansion of milling facilities, the building of completely new smelting facilities and the construction of a new acid plant. All of the new operations feature the most modern designs available for this type industry.

This is a brief description of the mining, refining and manufacturing operations in the Copper Basin. From the account it should be readily apparent that between the beginning point of mining activities and the shipping of finished products lies a complicated and diversified operation.

Visitors to the Basin who have traveled up the scenic river road (Highway 64), entered from the greenery of Western North Carolina or from the beautiful mountains of North Georgia, are sometimes rather startled to find themselves suddenly in an area virtually devoid of vegetation. The tendency is naturally to associate the conditions with current mining operations.

The facts are, though, that the damage was done before the turn of the century when crude open smelting operations, using wood as a fuel, were used by early mining companies in the area. Trees from the surrounding hills
(Continued on page 24)



This pine planting is typical of the many being made each year by Cities Service to reclaim land that has been devoid of vegetation for many years. Bill Mercier, who heads the Company's reforestation program, checks one of his seedlings.



General view of Copperhill plant looking through main entrance. At top left are some of the acid producing facilities and the general office is at the extreme right in photo.

Jim Lynch Employed As TTM Staff Writer

James R. (Jim) Lynch has recently joined the Tennessee Magazine in the position of staff writer. A graduate of Middle Tennessee State University in Murfreesboro, Lynch served as Editor-in-Chief of the University newspaper, Sidelines, and also held the post of Sports Director for the University radio station, WMOT-FM during his college career.



While in Murfreesboro, he worked for the Nashville Tennessean as the Rutherford County Correspondent for almost two years prior to his graduation in December, 1972.

In addition to his writing responsibilities, Lynch will be working with the individual electric cooperatives in the preparations of their respective magazine sections.

TICKLE BOX® by Ted Trogdon



"I must run, Doreen . . . I'm double parked."

Tri-State

(Continued from page 23)

for miles were cut to be used for fuel and sulfur gases from the open smelting kept vegetation from returning and erosion took away the top soil.

In 1907, the first sulfuric acid plant was brought into being by the old Tennessee Copper Company, predecessor of Copperhill Operations. From that point on, the loss of any sulfur gases to the atmosphere has been the loss of a basic raw material.

With the gases under control, the company began in the mid 30's a reforestation program to reclaim the land that has continued to the present and is still underway. At first the efforts were in conjunction with governmental agencies such as the CCC and TVA but now is carried on by the Company alone.

Millions of pines have been planted and are still being planted at the rate of about a half million a year.

Gradually the Basin is turning green again and as it does, its main distinguishing characteristic is slowly disappearing in direct proportion.

There are naturally some diverse effects received from having the copper mining industry and its related works in the area, but it has been a way of life and the backbone of the economy for the Basin for almost a century and half. It is hoped that the industry will continue to prosper and contribute employment to the people of the Basin for a long time to come.

A special "Thanks" is extended to Don Sisson of Cities Service Company for the pictures and material which he contributed for this article.



Molten matte is being poured from ladle into copper converter where only remaining sulfur will be driven off. Molten copper will later be poured back into ladle for transfer to molds where it will solidify into cakes.



Copperhill operations' new smelting operations are shown in this picture. At left is the iron pelletizing plant, the iron and copper facilities are located in the center portion and the huge duct leading off to the right carries the sulfur dioxide gases from ore smelting operations to the acid plants.



Surface facilities of the Company's newest mine are pictured here. Sinking of the shaft is complete and the shaft steel is being installed. The new mine will be known as Tennessee mine.

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PUZZLE CORNER

Responses were slightly off for the February puzzle but those that we received were, for the most part, correct since there are several ways to get to the solution.

You were asked how a grocer proposed to put up twenty (20) pounds of coffee into two (2) pound packets with the aid of only a five (5) pound weight and a nine (9) pound weight for his scales.

The answer: With the five (5) pound and nine (9) pound weights on different ends of the scales, weigh out four (4) pounds until the scales balance. Then, with that four (4) pounds, weigh out all the coffee into five (5) equal portions, each weighing four (4) pounds. Finally, divide each portion equally on the two ends of the scales.

The winners, chosen by lot from all correct answers on a rotating basis of the States's three Grand Divisions, are as follows:

First Place: Tommy A. Smith of Gadsden, Tennessee 38337, a member of Gibson County Electric Cooperative — \$10

Second Place: Debby Dowlen of Pleasant View, Tennessee 37146, a member of Cumberland Electric Membership Cooperative — \$5

Third Place: John W. Moore of Route #6, Tazewell, Tennessee 37879, a member of Powell Valley Electric Cooperative — \$5

And now for the March puzzle:

During a gale a maypole was broken in such a manner that it struck the level ground at a distance of twenty feet from the base of the pole, where it entered the earth. It was repaired, and broken by the wind a second time at a point five feet lower down, and struck the ground at a distance of thirty feet from the base.

What was the original height of the pole? In neither case did the broken part become actually detached.

Send your replies, along with your name, address including zip code, and name of your electric cooperative to:

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(Editor's Note: On February 5, 1973, NRECA General Manager Robert Partridge made the following statement before the U.S. Senate Committee on Agriculture and Forestry. Two days later the Committee voted out for consideration on the Senate floor the Humphrey-Aiken bill (S.394) which would amend the Rural Electrification

Act to "direct" the Administration to make full use of the loan funds appropriated by Congress each fiscal year. Of the Senate's 100 members, 53 were listed as co-sponsors of the Humphrey-Aiken bill as of the date, February 7, that it was reported out of Committee.)

Co-ops Support Humphrey-Aiken Bill; Reported Out of Committee

On behalf of the nearly 1,000 rural electric systems serving rural consumers in 46 states on more than 40% of all the miles of distribution line in the Nation, I should like to state four views very briefly:

1. We deeply appreciate your holding these hearings and inviting us to testify.

2. We support this Committee and the Congress in what we believe to be your determined drive to restore proper balance between the Legislative and Executive Branches — a balance which has been completely upset by the President's recent arrogations of power. The President has conferred upon himself the power to exercise, in effect, an item veto on the budget approved by Congress and to ignore substantive legislation, specifically the Rural Electrification Act of 1936, as amended. One concrete evidence of our support for the restoration of balance in all respects is our recent testimony before the Senate Judiciary Committee on S. 373.

3. We urge the Congress to require the Executive to administer during this fiscal year the programs which have been terminated, suspended, or greatly reduced by Executive fiat. These include not only the rural electrification and rural telephone programs but also the REAP cost-sharing program and various housing and community development programs of the Farmers Home Administration. We support the bills that serve these purposes.

4. We strongly recommend that you report for floor action immediately Senate Bill 394, often referred to as the Humphrey-Aiken bill, which I understand is now co-sponsored by more than half the members of the Senate. In our opinion, it is important to do exactly what you have set out to do in this bill:

Amend the Rural Electrification Act of 1936 to make clear that administration of the act is mandatory, and amend the Consolidated Farm and Rural Development Act of 1972 to make clear that Congress intends this Act to supplement but **not** substitute in whole or in part for the Rural Electrification Act.

In view of your familiarity with this bill and the fact that today's hearing offers opportunity for discussion of it, would it not be appropriate for the Committee to report S. 394 and thus enable the Senate to vote on it in the very near future?

Time is of the essence — first, because we do not have any rural electrification loan program in operation; and, second, because it would be much better to get the congressionally authorized program started up again than to let the newly and suddenly concocted program get started — and then stopped and replaced, as would certainly need to be done if it were to go into effect.

Each year the appropriations committees of both houses of Congress have considered the objectives of the rural electrification program in relation to all other objectives of the United States. They have from time to time recommended changes in the funding of this program, and the Congress has voted on those recommendations. The committees and the whole Congress have encouraged us to develop supplemental financing in recognition of the fact that the Congress felt it could not supply all of the capital needed by the rural electric systems to meet their responsibilities to their consumer-members and the general public. Indeed, the Congress has encouraged the Administration to cooperate to a much

greater extent than it has in enabling us to get private financing. I refer to the repeated suggestion in reports of the appropriations committees of both houses that the Administration should permit the deferment of principal repayments to let us speed up the capitalization of our new financing cooperative, CFC. In short, the Congress has been making searching inquiries and very deliberate decisions each year with regard to the rural electrification program. The President has no basis in fact for asserting or implying that the Congress has acted thoughtlessly or without reason as it increased rural electrification loan funds in each of the last three years. And he certainly has no basis in fact for asserting that his judgment is better than that of the Congress.

The President's Secretary of Agriculture and super-cabinet counsellor on natural resources, Dr. Earl Butz, held a press conference January 4th in which he was asked to justify the December 29th press-release decree that repealed the Rural Electrification Act. The justification, he said in effect was that the program was "controversial" because of its low interest rate, that the government needed to cut down on outlays of money, and that the cutoff would be good for the rural electric systems because it would be "another step in the direction of financial independence for the REAs."

Those words — "another step in the direction of financial independence" — reminded us of the candid statement made to us in a meeting in June 1970 by Mr. Maurice Mann, at that time the Assistant Director of the Budget Bureau. Speaking of REA loans, he said, "I think we ought to move toward

phasing them out . . . The more we can shift to reliance on private sources of funds, the better off we will be."

Many of our people didn't think Mr. Ann was speaking for President Nixon, and when he left the Administration, we were more or less forgot the warning. During the recent election campaign, we were lulled by the statements of the President's designated surrogate, Dr. Butz, that we had the support of both the surrogate and the President.

But now comes Secretary Butz, not merely talking about phasing out the rural electrification program enacted and supported by the Congress but actually doing it.

Last week the President's economic counsellor and Secretary of the Treasury, Dr. George Shultz, appeared on NBC's Today show and both erroneously and inexcusably stated that 80 percent of the rural electrification loan money goes to nonrural areas, some of it to help country clubs. This doesn't make sense, he said, and what he said most certainly didn't.

Then came the President himself in a press conference, answering a question about the REA program in these words: "Now 80 percent of this 2 percent money goes for country clubs and dilettantes, for example, and others who can afford living in the country." (End of quotation.) I only hope he is getting better information on other official business than he is getting on the REA program.

As business and industrial companies move to or start up in rural America, and as suburbs spread out, rural electric systems naturally connect up more new meters per mile, on the average, than they formerly did, but the national average density is still less than 4 consumers per mile, less than one-seventh the number served by the investor-owned power companies.

Needless to say, country clubs and dilettantes get no REA loans. Only electric utility systems do, and to qualify for loans, they have to promise to extend their lines to the isolated locations within their territories without special charge. The promise is written in the mortgage, as a direct result of the Pace amendment that set interest rates at 2 percent.

To me it seems ridiculous to say, on the one hand, that rural electrification is a basic necessity for rural development, and then, on the other hand, to say (as the Administration is saying) that it's wrong for the program to serve the needs

of anybody but farmers. The program was never just a farmers' program. It's a program for business, industry, residents, farmers — all people in rural areas — who need central station electric service. It is justified in large measure because it is essential to help develop rural areas and relieve the pressure on overburdened cities. And it should not be withdrawn when some of this development starts.

I have refrained from volunteering information about the effects that the Administration's proposed substitute for the congressionally authorized program would have on rural electric systems and their consumer-members. I have refrained because this is not the issue with which you are dealing.

We will offer testimony on that matter whenever you want to hear it. For now, suffice it to say, those responsible for the soundness of our member systems do not share the stated confidence of Secretary Butz that the change would really be good for the systems.

We of the rural electric systems have always cooperated with the Congress to keep the program geared to the public need. I'm sure we will always cooperate, recognizing that the congress must assure itself continuously that it is serving the good of the entire people.

But today the issue is whether the Congress has anything to say about the rural electrification program and many other programs.

The Executive is choosing which parts of the Rural Electrification Act to administer and which parts to ignore. The Executive is choosing to set a loan funds level that bears no relationship to the decision made by Congress. The Executive is applying the Rural Development Act in a manner not intended by Congress.

If Might makes Right, there is no contest. But we who represent the rural electric cooperatives believe in the democratic system, and we urge you to act now to save that system.



NRECA General Manager Robert Partridge (hands folded on table, facing camera) gives to the U.S. Senate Committee on Agriculture and Forestry the important testimony contained in this article.

Jenny Lind

Continued from page 11

her letters at a time when envelopes had no glue.

Indeed, Tennessee was honored by her presence and without a doubt, Mr. Ware would have loved to have been there to hear her fill the halls of the old Adelphi Theatre with her legendary voice.

As the old Nashville Daily American said the morning following her first performance, "Nothing could have been more exquisite. The audience, it must be confessed, came to be pleased, but when she left the stage after this, they were delighted and as the evening advanced, if that delighting at all changed, it was but into marvel. Indeed we are, as much as we have labored to describe the leading capacities of her voice and skill, unable to give more than a slight idea of them. Those who would judge of her must hear her and then we shall be surprised if they can do more than join in our cry of admiration."

Mr. Porter Ware never had the opportunity to hear her, but the admiration for the great singer is there just the same.



One of Mr. Ware's prize pieces is this tile from the Great Malvern Theatre in England where Jenny Lind performed her last concert.



This is the piano used by Jenny Lind during her Nashville performances and is currently the property of Belmont College in Nashville.



Relaxing in his living room, Mr. Ware glances at a copy of the book he co-authored about his favorite subject.



A former official for the University of the South, Mr. Ware retired in 1971, which gives him time to travel and collect, perhaps his favorite pastimes.



This painting of "Plum Tree Cottage", Mr. Ware's home, was done for him by his daughter, Mary Dabney, who currently resides in Key West, Florida.

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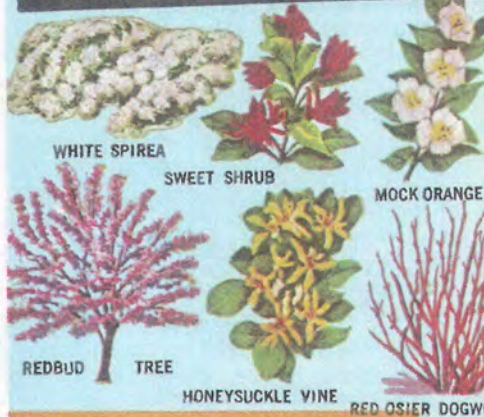
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