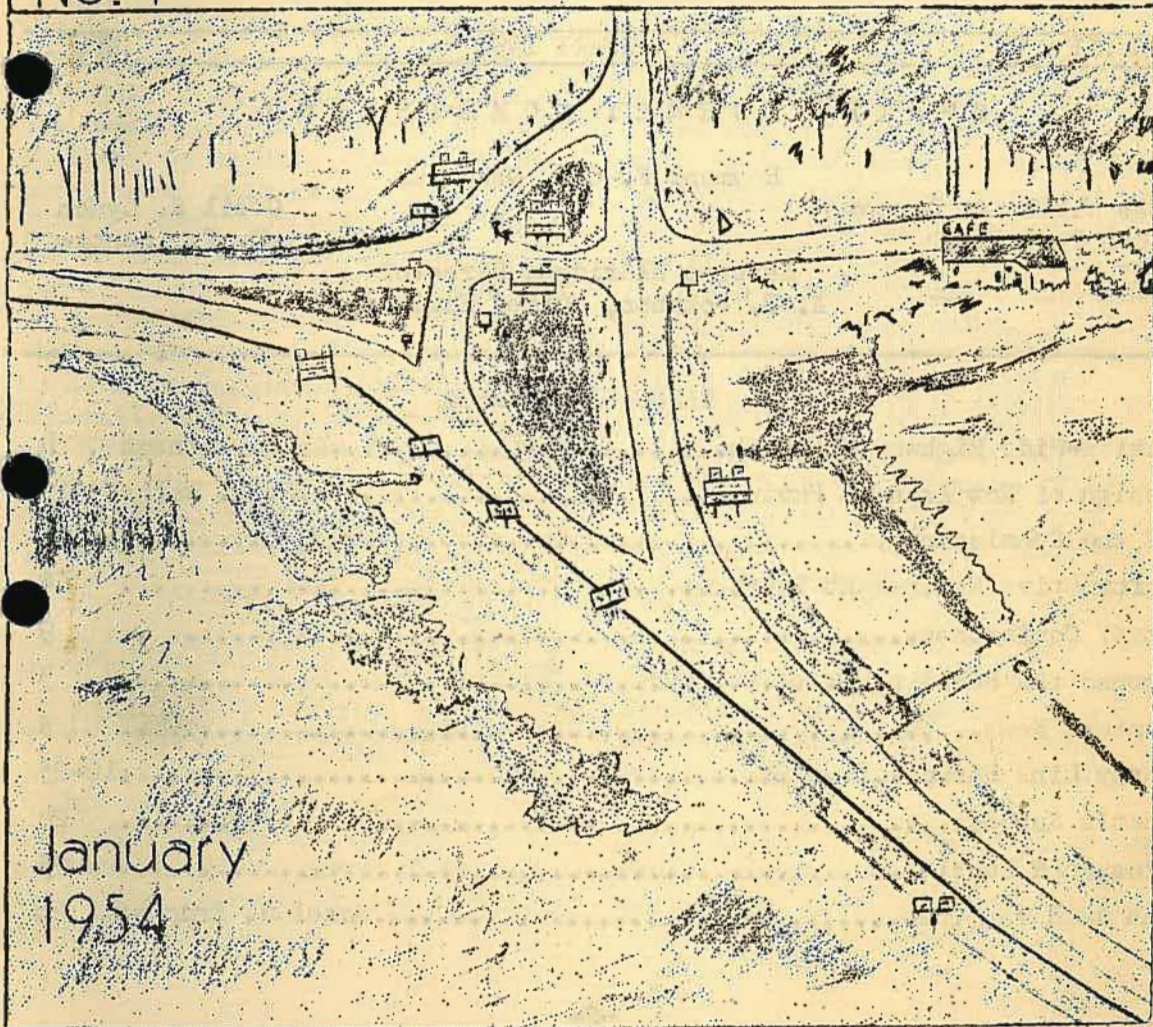


ARKANSAS HIGHWAYS

Vol. II

No. 1



January
1954

ARKANSAS HIGHWAYS

A Monthly Magazine for Employees of the
Arkansas State Highway Commission

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Make-Up.....Layout.....Art Work

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VOL. II

JANUARY 1954

NO. 1

STATE HIGHWAY COMMISSION

Raymond F. Orr, Chairman

Miss Willie A. Lawson
Glenn F. Wallace

Cecil S. Lynch
D. F. Portis

Herbert Eldridge, Director
A. E. Johnson, Chief Engineer

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CONTEST NEWS

OF THE COMMISSION

"Arkansas Highways" is the winning title of the magazine name contest with an overwhelming majority. The name was submitted by the magazine staff with the provision that the award would go into the Flower Fund if the name won.

All contest entries were numbered and a list sent to each of the State Highway Commissioners with the request that they judge the names and select their first 5 choices by number. These selections were then given to the Advisory Committee for point tabulation with Arkansas Highways coming in as winner with 18 points.

Second place with 7 points was Highway Department News, submitted by John C. Hughes of District 2. Honorable mention goes to Charles H. Kelly of District 1 with 5 points and Jean Lowrey, Maintenance Division with 4 points.



FLASH
Good news coming
Watch for it!!

JANUARY COVER

This month's cover is taken from an aerial photograph of the intersection 13 miles north of Marion, Crittenden County, at the Junction of Highways 61-63.

The State Highway Commission awarded contracts to the lowest bidders on nine Highway bridge and road projects at its regular meeting on January 14. There were 107 offers submitted with the low bids totaling approximately \$1.4 million, which is a decided savings on the estimated cost previously made by Highway engineers. The commission will meet again February 18.

Two new personnel policies, which will benefit most of the Highway employees, have been adopted by the Commission: 1. Vacation, sick, and military leave established. 2. A floor and ceiling established on all hourly wage rates.

AROUND THE BUILDING

Director Herbert Eldridge was the guest on an impromptu TV Press Panel January 10. We know that all who heard the program were very proud of our boss.

* * * *

A. E. Johnson, Chief Engineer, represented the Arkansas Highway Department at a Southern Regional Education Board work conference in Atlanta, Georgia, January 21-24.

* * * *

Raymond F. Orr, Chairman of our State Highway Commission, spoke before the Oil Dealers Association (continued on page 23)

NATION-WIDE HIGHWAY RESEARCH

by A. E. Johnson, Chief Engineer

This is a condensation of the article, concerning a critically needed comprehensive load test research in the highway field, which was presented by Mr. Johnson to the Society of Automotive Engineers at its annual meeting in Detroit, January 11-15, 1954

Our economy is based upon the motor vehicle as we, above all nations, travel by motor. It is believed that by 1975 the 55 million vehicles now in use will be increased to 80 million, if adequate facilities can be provided to accommodate them.

Many states have been unable to materially increase or modernize their facilities since the mid-30's, when there were only half as many vehicles in use, and when the accepted normal axle loads were much less than now. Roads which were built for light traffic have broken under modern traffic demands and created critical highway financing problems in many sections of the country.

There has been a terrific increase in the use of motor trucks and an increase in the size of those trucks. Between 1940 and 1950 there was an increase of 45% in passenger car registration and 80% increase in truck registration. During that period the ton miles of freight hauled over the rural main-line highways increased 152%.

Many of our existing main highway routes are rigid pavements built upon subgrades that are prone to pump. This phenomenon of pumping was not clearly understood by many highway engineers until early in 1940 when sufficient load applications of necessary weight began to be applied to these highways causing this action. Pumping is now serious and definitely contributes to the deterioration of pavements.

Since 1933 an increasing amount of low-type bituminous roads have been constructed. Though this was an answer to the public's demand for dustless surfaced roads and the necessity of furnishing paved roads on an economical budget, many of these roads have proved inadequate for the traffic demands placed upon them.

It is true that revenues have increased but also, in turn, have the costs of construction and maintenance of highways. When a road is replaced it must be made wider and thicker to accommodate traffic demands, adding to the cost of con-

struction. So, financially, road building agencies have not benefited materially from the apparent increase in available funds.

The matter is not a static one, we either go ahead or lag behind. The penalty for not providing adequate highway facilities could result in restricted use of motor vehicles, and we are too dependent upon them not to get our affairs in shape so we may be able to finance, design, and construct an adequate highway system.

We must build these highways to last a full economic life expectancy and it is time that money is spent to solve the many problems dealing with the economics of highway transportation and the problem of adequate structural design.

For several years the American Association of State Highway Officials has been working on a proposed comprehensive load research project. To finance and execute such a research program would be money well spent to aid in exercising good judgment before launching too far into the big construction program that somehow must come.

It is impossible to obtain undisputable or factual engineering data as to the results of specific load applications when they are a component part of normal vehicular highway traffic made up of various sizes and weights. The answer lies in laboratory controlled specially designed test sections subjected to moving controlled design load-

ings with sufficient instrumentation and competent staff to fully evaluate and analyze results of the research. Such assumption is the basis of the proposed AASHO Road Test Project.

The following description of this research deals, in the main, with the important phases of structural design and its effect upon highway costs. Such study is that type which is critically needed at this time. Research on these particular phases is not by any means all that is needed, or that will be needed. We should take advantage of experience and expert thinking of all groups interested in overall highway transportation and in planning and executing any research proposed by any one group in the highway transportation field.

SITE REQUIREMENTS

When the project was originally conceived, certain specifications were outlined for site requirements and invitations sent to all states. These specifications covered precipitation, frost penetration, and uniformity of fine-grain subgrade soils. Illinois offered a site of 9 miles on a proposed relocation that was reviewed and found to meet the requirements fully. The soil is characteristic of the many soils posing the most serious design, construction and maintenance problems to highway engineers and is encountered in practically all the states in the union.

DESCRIPTION OF PROPOSED LAYOUT

It is planned to construct 4 elongated loops within a section of the proposed 9-mile relocation, the loops designed so they can be salvaged and become an integral part of a future 4-lane divided highway. Each loop will have two 6,000-foot tangent sections, each made up of 12 different 500-foot-long test sections. Pavement will be 24 feet in width, made up of two 12-foot lanes with both inside and outside shoulders 10 feet in width. There will also be deceleration and acceleration sections and a turn-around at each end of loops.

Every effort will be made to have the subgrade soil, density, and moisture uniform under each 4 loops; and the subgrade controlled to at least a depth of 3 feet.

One tangent of each loop will be constructed of flexible pavement composed of hot-mix hot-laid bituminous concrete of which the coarse aggregate will be 100% crushed stone of high stability from one source. These sections will vary as to depth of surface course, base course, and subbase and will have sections which are intended to be under-designed, adequately designed, and over-designed for the applied test load. Nonplastic granular subbase material will be used in various thicknesses to improve subgrade qualities.

The other tangent section will be of rigid pavement using air on-

trained cement and nonreactive aggregates secured from one source. Pavement depth will be varied, as will the nonplastic granular layers to improve subgrade qualities and control pumping.

Special studies will be made on the acceleration sections of the 2 loops for experimentation in the effect of heavy loadings, fatigue, and vibration on bridge structures.

The turn-around sections may be utilized for studies on subgrade warping in rigid pavements, and shoving of flexible pavements. Designs of bituminous concrete may be effectively tested for stability, resistance to shoving and retention of nonskid properties under the several controlled loadings.

As all of the effects of speeds, loads, vibrations and frequency of loading upon soils is not clearly understood, a special study will be made of soil mechanics.

TEST TRAFFIC AND LOADS

The design loadings for the 4 loops are: Single Axles - 10, 18, 22.4, and 30 thousand pounds; Companion Tandem Axles - 20, 32, 40, and 50 thousand pounds. These axle loadings extend above and below those currently specified by the states as legal loads so we may have sufficient data for economic study and for determining cost of furnishing structural design for a basic vehicle as compared to heavy ones and ascertain if heavier axle loads may be economically hauled.

The test traffic will be by 3 vehicles each applying 2 test load applications per trip, traveling 10 hours during the day and 10 hours at night, 6 days a week for a period of 2 years. Test loading is specified in this manner in order to cover all climatic variations and to obtain the desired number of load applications. There will be one standby unit for each size vehicle so testing may proceed at the same rate and under the same conditions in case of a breakdown.

In case destruction should occur on any section, records will be made and the section repaired. All of the sections will be given that maintenance normally afforded operating highways at all times. Only road construction and maintenance will be used for evaluating road costs.

INSTRUMENTATION AND RECORDS

An interesting phase of this research is instrumentation. Thermal couples will be imbedded in pavements for temperatures; soil moisture cells installed at various depths for reading; test traffic count and lateral placement recorded and controlled; application of SR strain gauges to measure deflections and warping stresses; cells imbedded to read pressures, load distribution, and stresses.

A recording anemometer will be installed at one location on the project to record wind direction and velocity several times daily;

rain and snowfall recorded and a continuous record of frost penetration made; photograph records made to document progressive testing.

Roughometers and profilometers will record surface deformations; and all materials will be tested in accordance with standard and accepted testing procedures.

ECONOMIC PHASES OF STUDY

While this particular research project will not yield all of the economic data which should be considered in an over-all study, it will furnish valuable contributions. It seems logical that a purely physical research project should not be undertaken without a companion and parallel economic study and it is understood the Highway Research Board Committee No. 5 is planning and is willing to undertake the economic portion of the research if the AASHO proposal is undertaken.

RESULTS THAT COULD BE ACCOMPLISHED

This project would be the type of controlled research necessary to prove or disprove the various methods of design being used by states and highway engineers. They would be able to check and evaluate design methods against results obtained or to arrive at a better and more rational design procedure than is now being used. Also, it would furnish definite evidence as to what constitutes comparable

(continued on page 24)

INFORMATIVE RETIREMENT TOUR

V. E. Scott, Administrative Assistant and Chairman of the State Highway Retirement System Board of Trustees, began a state-wide tour, January 5, accompanied by State Maintenance Engineer A. G. Rives. The purpose of the tour is to discuss in detail the various provisions of the Retirement Act with the personnel in all the Districts. After a short talk there will be a question and answer period, at which time Mr. Scott will be prepared to answer all questions pertaining to the Retirement System.

In an interview with Mr. Scott, regarding the tour, the following information was acquired which we believe will be of interest to every employee in the Department.

"The Employees' Retirement System came into being July 1, 1949. All funds handled by the System are placed in trust with the State Treasurer. All investments, to date, are in U.S. Treasury Bonds.

"The Act provides that employees who earn \$200 per month or more are required to become members. Membership is optional for those earning less than that amount. No employee, regardless of earnings, is denied membership. The cost amounts to 4 percent of employee's gross earnings and is collected by payroll deductions. The member's contribution is matched equally by contributions from the State.

"Members may retire at age 60 with 20 years' service; at age 65 with 10 years' service; or with 35 years' service, regardless of age.

"Any member with 10 years of creditable service who becomes disabled, either through sickness or injury, may draw disability retirement benefits for life. Retirement benefits are based on a formula which uses the average of the base 5 years' compensation and years of service. For example: $\$2,400 \times 1\frac{1}{2} \times 20 = \750 a year or \$60 a month.

"Provision is also made that if a member has not paid his prior contribution in full he may retire and meet these payments by deductions from his annuity check. This provision was added to avoid any hardships on people who still owed on their prior service and were unable to pay it in full.

"Every dollar, an employee pays into the System, is under a trust provision which guarantees it for his exclusive benefit. Should he leave our employ, prior to becoming eligible for retirement and so desires, every cent will be refunded. If a member on retirement dies before receiving benefits equaling his contributions, the difference is refunded to his beneficiary."

The tour will continue through February 20, and all employees are urged to present any question on which information is desired.

STAFF CONFERENCE HELD

An all-day staff conference was held in the Commission Room early in December, attended by all Division Heads, Section Heads and District Representatives.

Director Herbert Eldridge opened the meeting by pointing out the progress made under the new Commission and the increase in public confidence in the Department's operations which was largely attributable to the foundation which the Commission had laid in its policies, and the delegation of authority to the Division Heads and District Representatives to control personnel matters.

He reviewed the status of programming, which was illustrated by a chart, advising that all funds through July 1955 have been committed; and that one of the first items to be presented to the 1955 Legislature will be an emergency appropriation. This will provide a backlog of worthy projects that will permit a more orderly flow of contract lettings. He then presented a map and reviewed the situation as to secondary roads, their volume of traffic, and the urgent necessity of improving impaired segments during the next 2 years.

Mr. Eldridge called for an open discussion of the various problems confronting the Department and the best solution for solving these difficulties. Consideration was

taken of all suggested improvements as compared to the procedure now being used, and in the case of controversy a vote was taken.

The following subjects of the regular agenda came up for round-table discussion:

1. Personnel - Hours; utilization of time; wages; working conditions; application forms; and emphasis placed on strict adherence to the requirement of absolutely no political activities.

2. Bridge Maintenance - Repairs; replacements; structure; painting; and guard fences.

3. Road Maintenance - Shoulders; widening narrow pavements; blading and improvement of secondary roads; replacing damaged and corrugated asphalt roads, fault and the best method for treatment; oil mats; and seal coats.

4. Roadside Parks - Public Demand; location; and maintenance.

5. Right-of-Way - policy of procurement; cost liability; and extension of width.

6. Signs and Markers - Responsibility of replacements and maintenance; painting; and uniformity.

7. Equipment - New equipment; types needed; and the repairing of old equipment.

8. Permits - Responsibility of handling various types of permits in cooperation with Headquarters Maintenance Division.

DESIGN OF HOT ASPHALT PAVING

by E. L. Wales, Engineer
Materials and Test Division

The Materials and Tests Division is responsible for the design and field control of hot asphalt plant mixtures used in paving our highways. For several years the design of these mixtures was based on experience only. This method was quite satisfactory as has been shown by the long service of our older asphalt pavements but as the pavement program expanded at a rapid rate there developed an acute shortage of experienced asphalt engineers to handle the volume of work. The asphalt technicians then began to look for definite design procedures which could be handled by personnel with less experience. Several laboratory methods were developed and tried with varying degrees of success. These were studied and some of them tried in our laboratory which resulted in the Marshall Method being adopted as our standard procedure.

There are two general types of hot mix asphalt pavement used in our work - the asphaltic concrete type which is used on our heavy traffic roads and the dense graded type which is less costly and is used on intermediate traffic roads. The asphaltic concrete mixes re-

quire crushed stone or crushed gravel and the addition of limestone dust as a filler. The crushed aggregate increases stability and the limestone dust increases the durability. Bank gravels are permitted in the dense graded mix and limestone dust is not required.

Before a job gets under way samples of the materials proposed for use by the contractor are submitted to the laboratory in Little Rock where screen tests and quality test are made. If these tests show the materials to comply with specification requirements the laboratory proceeds with the mix design. First a combination of aggregates is computed which will produce a mix within the grading requirements of the specifications, will be workable when laying, and will be as economical as possible in keeping, of course, with desirable results.

With the gradation of a trial mix, determined mixtures are made in the laboratory with a range in asphalt content. Usually 3 or 4 mixtures are used with an asphalt range of 5 to $6\frac{1}{2}$ per cent. Three round specimens 4 inches in diameter and 2 inches in height are

moulded and compacted from each mixture. Mixes are prepared, moulded and compacted while hot at a temperature of 275 degrees Fahrenheit. Each specimen is compacted by 50 blows of a drop hammer on both top and bottom. Through considerable research it has been determined that this amount of compaction will obtain a density equal to that ultimately obtained in the pavement under traffic.

After compaction the specimens are allowed to cool in open air for at least 1 hour and the density determined. They are then placed in a water bath maintained at 140 degrees Fahrenheit for a minimum of 30 minutes. Specimens are taken directly from the water bath and placed in the Marshall stability machine where they are loaded on the edges (2-inch dimension) through compression heads in the form of half circles. As the load is applied, the total load in pounds and the deformation in hundredths of an inch are shown on dial gauges. When the specimen fails the load is recorded as the stability and the deformation is recorded as the plastic flow. The stability indicates the traffic load the pavement will carry without rupture and the flow indicates the amount the pavement will flex and deform under traffic.

Since the durability of the pavement depends to a great extent upon the asphalt content, the most desirable mix is one that contains

as much asphalt as possible but will not rut, shove or bleed under traffic. The asphalt concrete mixtures are designed to have a stability of at least 1,000 pounds with a flow of not more than 12. The dense graded mixtures are designed to have a stability of at least 500 pounds with a flow of not more than 15.

Density is also important in an asphalt pavement because a mixture with low density will allow the infiltration of water and is likely to ravel or disintegrate. When the density is too high and the voids are overfilled with asphalt the pavement will likely bleed or rut and shove. When a trial mix shows low density even though the stability and flow are satisfactory, or when the trial mixture shows density too high which cannot be corrected by adjusting the asphalt contents it is necessary to use another combination of aggregates and repeat the laboratory procedure outlined above. Sometimes a mixture which has been designed in the laboratory does not spread and roll properly. When this happens the mix is adjusted and rechecked in the laboratory.

We permit the use of local materials when feasible and design mixes so as to utilize the cheaper materials in so far as possible. It is the aim of the laboratory to design asphalt mixes which will be economical yet give a maximum of smooth riding service.

Party Line Parade

— HEADQUARTERS —

ADMINISTRATIVE DIVISION

Betty Lane - Reporter

We were sorry to lose Mary Ann Bemberg, secretary to the Director, who left us on New Years Day to stay home and make "wee garments" for the coming Blessed Event. The entire Highway Department joined in a Stork Shower for her before she left. The feminine members of Headquarters honored Mary Ann with a luncheon held in the Pirate Cave at Hank's Dog House. The table was decorated with a lovely floral centerpiece, furnished by Meyers Florist, and a yellow carnation corsage was presented our guest of honor with best wishes from her friends. There were 33 guests attending with Jessie Lee Perry in charge of arrangements. Leontee Connolly composed and read a poem expressing all our sentiments.

* * * *

Joyce Spencer has been transferred from V. E. Scott's office, to the Director's office and will take over Mary Ann Bemberg's desk.

* * * *

We are happy to welcome Ferol Jones back to Mr. Scott's office. We missed her while she was over in the Capitol Building working with the Publicity Department.

CONSTRUCTION DIVISION

Lucille Schmidt - Reporter

Congratulations to Mr. and Mrs. Bill Jeter, who are the proud parents of a daughter, Carolyn Annette, born at 1:49 p.m., on December 24.

* * * *

We all miss James E. Lowder, resident engineer, who has been transferred from our division to the Chief Engineer's Office.

* * * *

We are very glad to extend the welcome mat to W. B. Duncan, Jr., who is back with us again in the Final Estimate Section. W. B. has been working with Mr. Glenn Cotham.

* * * *

Our traditional "Open House," which was held in our offices December 23 immediately following the Department Caroling, was quite a success. There was a steady flow of guests throughout the entire afternoon and a merry atmosphere was created with their laughter and chatter. The two large tables filled with open-face sandwiches, hors d'oeuvres, tidbits, cookies, nuts, and candy were an invitation to all to help themselves. Coffee or punch was served, according to the individual taste.

Party Line Parade

STATISTICS & ANALYSES

Bill Hoadrick - Reporter

Our Division entertained with an "Open House" Christmas party the afternoon of December 23 in room 401. Cake, candy, nuts, sandwiches and hot coffee were served to over 150 guests. All employees, wives, husbands and sweethearts were invited to join our celebration with friends throughout the Department.

* * * *

Bill Springer has announced his engagement to Nancy Ann McCoy of Denver. The wedding is to be in September and we hope to have more information of this romance later.

PURCHASE OFFICE

Margie Fincher - Reporter

On December 18, Mary Ann Rand, surprised her friends by changing her name to Mrs. Red French. Best wishes to the young couple for a very happy future together.

* * * *

Helen McCook spent the holidays, in Circleville, with her father.

* * * *

E. S. Dudley, is having quite a time with his Movie Titler, a gift from his office force.

* * * *

Mildred Sanderson was in Memphis for the holidays visiting with her family and friends.

EQUIPMENT AND PROCUREMENT

Mary McLane Hill - Reporter

Our deepest sympathy goes to Herbert "Doc" Burns in the loss of his father, Dr. W. M. Burns, who passed away at the age of 75 on December 28. Dr. Burns was a well-known citizen of North Little Rock and was loved and respected by all who knew him.

* * * *

We enjoyed having P. L. Sinton, from Henderson Ferry, as a visitor in our office recently.

* * * *

J. W. Berryman, truck driver at Central Shop, trapped a gray fox in the yard at the Jacksonville Shops January 8. The fox was delivered to the Zoo in Little Rock.

* * * *

O. S. Marett is back on the job again after a recent illness which put him in bed.

* * * *

Visitors in Cecil Elliott's home for the holidays were his brothers Travis Elliott and his family from Miami; and John A. Elliott and his family from Pasadena.

* * * *

We extend a welcome to Mrs. Clyde Holmes, new employee in our office at Jacksonville. Mrs. Holmes replaces Mrs. Vera Gray who resigned to accept a position with the Telephone Company at Little Rock.

Party Line Parade

MATERIALS & TESTS

Julia Mae Halliburton - Reporter

Russell M. Newsom spent the Christmas holidays with his mother and father in Wynne.

* * * *

Happy birthday greetings to R.C. Turney and Charles H. Tullos, who will celebrate January birthdays.

* * * *

Congratulations to Charles and Lois Tullos, proud parents of a son, born December 11, Stephen Charles. Charles is one of our Materials Inspectors.

* * * *

Our Division entertained with an office party December 23. Refreshments of cake, coffee, and home made candy were served and everyone joined in with the holiday spirit for a most enjoyable time.

* * * *

We heard Santa left a TV antenna on top of Henry Dreher's house. We hope Santa left Henry a new supply of shirts---after that deer hunt, from what we hear, he will need them. (Editors Note: We hope that Santa left the TV set to go with the antenna!)

* * * *

We were happy to have a visit from Elton Pierces, who is now with Texas Highway Commission, and Horace Cox of Mississippi. Elton and Horace are both former employees.

RIGHT-OF-WAY

F. C. Bogart - Reporter

Our Division held open house December 23, for all our friends throughout the Department. We kept the coffee hot all day with plenty of goodies to go along with it. It could be that the mistletoe was a good incentive for return trips and it turned out to be a "tie" off who did the most kissing-----the girls or the boys!!!

* * * *

Quite a few members of our office family managed to get out of town for the holidays: A. W. Hardy was in Magnolia with his family; N. A. McLeod in DeQueen with his family; C.V. Clark in Corning with his family; Leo Hurd visited her parents in Sayre, Oklahoma; and Nancy Sipe and her family were in Sheridan with her parents.

* * * *

We are happy to welcome C. V. Clark, from Corning, who joined our office force December 15.

* * * *

Eugene Nelson was happy to have his three sons at home for the holidays: Gene, Jr., who is stationed at Aberdeen, Maryland with the armed forces; Dickie, who is attending Arkansas University at Fayetteville; and Rene Bill of Castle Heights Military School at Lebanon, Tennessee.

Party Line Parade

ROADWAY DESIGN DIVISION

Myrtle Miles - Reporter

Roy Garner, one of the heavy-weights of the drafting room, and his family spent several days during the holidays with Mrs. Garner's family in Mt. Ida. Judging from the exuberant and "thoroughly fed" appearance of Roy, the visit was an enjoyable one.

* * * *

Aileen Bishop, feminine member of our draftsmen, has been hobbling around the last several weeks with a sprained ankle. When queried on the details surrounding the accident all Aileen would "give" was, "Doggone it, I just stood up and fell down --- of all things!!"

PERSONNEL DIVISION

Hazel Norman - Reporter

From all we hear a big time was enjoyed by Jackie Wallace who flew to New Orleans while vacationing in Memphis during the holidays.

* * * *

After a visit with friends and relatives in Clinton, W.S. Stephens, motored to Panama Beach, Florida, and reports that he had a most enjoyable fishing trip while there.

* * * *

Jean Redwine and her mother made a pre-holiday motor trip for a visit with her grandmother.

Our PBX operator, Birdie Wright, and Kathryn Gardner, S&A Division, spent Christmas Day in Hot Springs with Kathryn's grandparents.

* * * *

Mrs. Callie Walters returned to work January 12 after an extended visit with her daughter in San Antonio, Texas.

* * * *

Nebraska Droughter, our messenger boy, went deer hunting in Arkansas County Christmas week. Nebraska failed to mention how many deer he bagged though.

FUEL & INVENTORY DIVISION

Helen McCook - Reporter

We are happy to welcome Sarah Neal and Margaret Allen to our office. Sarah is a former Highway employee, and Margaret comes to us from the District 4 office.

* * * *

Jessie Lee Perry motored to Marmaduke the weekend of January 10. She reports that she was caught in the snowstorm on her trip back home Sunday and as if that weren't enough---the car developed a flat tire on the road between a stump and nowhere. Jessie Lee says she had a wonderful time 'cept for the "experience" of the trip back home, but declares that she will make no more week-end trips until we are through having "wether!!"

Party Line Parade

ACCOUNTING DIVISION

Stuart Pattillo - Reporter

Margaret Schamer, who is taking an executive training program at Foley's Department Store, Houston, spent New Years with her parents, Mr. and Mrs. Joe Schamer.

* * * *

Ensign James M. Sink visited his parents, Ellen and George Sink, during the holidays. Jim has been in flight training at Pensacola, since graduating from the University of Southern California.

* * * *

Jimmy Zinn, who is becoming quite in demand as a public speaker, served as Master of Ceremonies at the Christmas party given by the United Commercial Travelers.

BRIDGE DESIGN DIVISION

Norma Monroe

Many happy returns to Bob Mattox, Doc Bonnor, Bill McMahon, and Bort Rownd on their January birthdays.

* * * *

Bill McMahon will be spending the days of January 11 through 22 at home with his wife, Amy, and his new dog. Happy training, Bill. His sons will also participate.

* * * *

Mr. and Mrs. W. E. Wilson were happy to have W. E. Jr., at home from Purdue for the holidays.

Bort Rownd, one of our official duck hunters, certainly had a duck tale to tell after 2 weeks of duck hunting in Arkansas County.

* * * *

Bob Mattox has proudly displayed several action picture books of his 2 months old son, Michael.

* * * *

The Christmas party was quite a successful event in Bridge Design. We were happy to have our friends join us for the celebration and we missed the employees who were away on vacation at that time.

IBM SECTION

Irma Jetton - Reporter

Our congratulations to Roy and Dorothy Shelby who are the proud parents of a daughter, Vickie Lynn, born December 17.

* * * *

Kurt and Betty Jo Smith spent the holidays with Kurt's family at Ringling, Oklahoma.

* * * *

The newly-weds, Don and Betty Jean Dare, drove over to Memphis during the holidays.

* * * *

Our office entertained with a Christmas dinner party December 19 at the Albert Pike Hotel. A wonderful evening was thoroughly enjoyed by all the personnel, their wives, and husbands.

Party Line Parade

COUNTY PROGRAM

Zelda M. Riggs - Reporter

Richard and Zelda Riggs are happy to announce the Ordination of their nephew, Courtland M. Moore as a Minister. He will serve Saint Lukes Episcopal Church at Seminole, Oklahoma. The holidays were a happy time for the Riggs and Zelda's mother, Mrs. Martha Ann Allen, when they had as their guests Zelda's son, Freeman L. Johnson, engineer with the Southwestern Gas and Electric Company and Richard's sister Mrs. Elizabeth Moore of Tulsa

* * * *

Tom and Patricia Allen have returned to their home in Houston, after a visit with Pat's parents, Jack and Mary Teasdale.

* * * *

Doris Miller has been transferred from V.E. Scott's office to that of Guy W. Cobb, drainage consultant. She is taking over the desk of Doris Reamey, who resigned to accept a position as Church secretary in Tampa, Florida.

A small boy's head bobbed over the back fence and a meek little voice called, "Please, Mrs. Smith, may I have my arrow?"

"Certainly," said the neighbor, "Where is it?"

"I think," replied the boy, "it's stuck in your cat."

DISTRICT 1

WYNNE

Mildred Stacy - Reporter

Congratulations to Albert and Naomi Rodgers who celebrated their 33 wedding anniversary December 22. Albert is area foreman at Marion.

* * * *

William D. Miller, who has been with the Highway Department about 6 years, has resigned to accept a job with the Arkansas Power and Light Company.

* * * *

We extend our sincere sympathies to Thomas O. McCoy in the loss of his father. The funeral service was held at Magazine, December 27.

* * * *

We are glad to report that Ed Hamilton, son of James and Leota Hamilton, recuperated beautifully from an emergency appendectomy performed December 19 and was able to return to Arkansas Tech, at Russellville after the holidays.

* * * *

Kitty Harris and Carolyn Jones entertained with a buffet supper at the Country Club during the Christmas Holidays.

* * * *

We extend the welcome mat to the following new members of our Highway family: James A. Hensley, Helena, John A. Dunn, Marianna, James A. Ford, Elaine, Amos Hall, Wynne, Donald Elmo Bridges, Brinkley.

Party Line Parade

DISTRICT 2 PINE BLUFF
Inez Royston - Reporter

The stork visited us twice during December delivering Christmas babies. Congratulations to Mr. and Mrs. Charles B. Roberts of Rison proud parents of a son, Charles Jr. and Mr. and Mrs. Samuel D. Bennett of Star City proud parents of a 6-pound 15-ounce daughter, Nettie Jo.

* * * *

W. K. Wilson went on a deer hunt during the holidays but reported that he had no luck with a kill.

* * * *

Mr. and Mrs. H. R. Lucus spent the holidays at their home in Mammoth Springs. They were joined there by their daughter, two little granddaughters, and H. R.'s sister, Miss Lula Lucus. Too much good food was the only complaint heard.

* * * *

Charles R. Gaddy and his mother has moved from their home on West 26th to 910 West 18th.

* * * *

Donald Welch, nephew of Brewster Shalmy, was home on furlough for the holidays and had now returned to Aberdeen Proving Ground in Maryland. Don worked for the Highway Department several vacations.

* * * *

Corporal David Tice, who is stationed at Camp Chaffee, spent the holidays with his father, Joe Tice.

Before we closed on December 23, Mrs. J. L. Goins, Sr. and Mrs. Ben Jackson sent us two beautiful and delicious cakes, which were thoroughly enjoyed by the entire shop and office personnel.

* * * *

Our Bridge crew, under the supervision of Joe Tico, have just completed an 8 span, precast slab bridge on Highway 114 in Lincoln County. They have also completed the major repairs on Saline River bridge, Highway 79.

* * * *

Gravel replacement operations, covering various routes and sections in District 2, is now underway under the direct supervision of W. K. Wilson. At the present time, we are shipping gravel to Arkansas County.

CROSSWORD PUZZLE SOLUTION

d	e	t	e	r	s	h	a	r	e		
r	e	v	i	v	e	p	e	c	a	n	s
o	p	e	n	e	d	a	r	t	i	s	t
m	a	n	r	a	n	c	e	s	s	u	e
p	r	e	y	c	u	e	r	e	e	l	
s	t	r	e	e	t	s	p	a	s	s	e
a	s	s	s	a	t						
s	p	u	r	t	l	a	t	e	r	a	l
a	r	n	s	b	e	t	r	a	t	a	
p	i	g	s	l	a	i	n	p	o	t	
i	d	e	a	t	e	r	e	f	i	n	e
d	e	a	c	o	n	i	r	o	n	e	r
d	r	e	a	d	c	o	p	e	s		

Party Line Parade

DISTRICT 3 HOPE
Olive Jackson - Reporter

We offer our congratulations to Mr. and Mrs. W. T. Jeter, Jr., of Little Rock, who are the proud parents of a daughter, born December 24. W. T. Jr., is the son of our maintenance superintendent.

* * * *

Mr. and Mrs. Carlisle Crews were happy to have their daughter and her husband, Mr. and Mrs. Allen Parker of Texarkana, as guests for the holidays. They made a trip to El Dorado, December 20 to visit Mrs. Donald Crews and the Bing Hale family.

* * * *

We extend our deepest sympathies to O. N. Huckabee in the loss of his brother, Charles W. Huckabee, who passed away on December 15 at Irelan, Texas.

* * * *

Mr. and Mrs. Paul Jones of Millham were happy to have a holiday visit from their son who is stationed at Ft. Hood, Texas.

* * * *

J. P. Sample of Ashdown, retired Bridge Superintendent, visited our office recently. We were all glad to see him.

* * * *

Mr. and Mrs. Rual Staggs and family were in Lockesburg for the holidays visiting Rual's family.

DISTRICT 4 FT. SMITH
Margaret Allen - Reporter

Congratulations to Mr. and Mrs. Elmo Mathews whose son, Eddie Gene, was born December 18. A future highway man, of course.

* * * *

We are glad to report that O. B. Godfrey is recuperating nicely at home, after a recent operation.

* * * *

Faye Carter has taken over the desk of Margaret Allen, who moved to Little Rock in December, and is now our new bookkeeper.

* * * *

John T. Smith, mechanic, fractured his hip and may have a long sojourn in bed. Our best wishes for a speedy recovery, John.

* * * *

Our deepest sympathies to Vernon Cravens, Logan County, in the loss of his father who died November 30.

* * * *

Clarence Lafleur and his family spent the holidays visiting relatives and friends in Elton, La.

* * * *

Mr. and Mrs. Richard N. Parker visited relatives in Hope during the holidays.

* * * *

We are happy to extend a welcome to our new Clerk-Stenographer, Anne Hammock and to William E. Mitchell, new member with the Sign Crow.

Party Line Parade

DISTRICT 5 BATESVILLE
Mary Lee McCown - Reporter

Our best wishes to Coy Frazier's wife, Macie, who is in the hospital recuperating from a heart attack.

* * * *

Carl and Bess Rowland's son, Ronald, was inducted into the Air Force in December and is stationed at Lackland Air Base, San Antonio.

* * * *

B. B. Owens, area foreman, is enjoying a 2-week vacation.

* * * *

Hillman Watkins reports that the fish are really biting at Bull Shoals lake. He had a nice catch December 26, averaging 2½ pounds.

* * * *

Mr. and Mrs. Hanford Magness have announced the wedding of their daughter, Pauline, to Paul Cummings on January 2.

* * * *

Froese and Lucille Kimmer and their son, Irvin, spent a week end recently in Stuttgart. Froese came back with his limit of ducks.

* * * *

A wonderful time was enjoyed at our District party December 23. We exchanged gifts and consumed 28 pounds of ham with all trimmings.

* * * *

Districts 5 and 9 have completed concrete approaches to Henderson Ferry Landing at Lake Norfolk.

DISTRICT 6 NORTH LITTLE ROCK
Edith Greene - Reporter

The J. E. McCooks drove to Benton Christmas to visit their granddaughter and her husband, Tommy Reed, and their pride and joy, 15-month-old Minta Goan.

* * * *

The O. A. Tinsleys spent the holidays at their home in Paragould.

* * * *

R. A. Ward spent the holidays in Arkadelphia with his daughter and son-in-law, Mr. and Mrs. W. B. Murry and their family.

* * * *

Helen Coe spent Christmas with her mother, Mrs. Sara Coe, now living with Helen's sister, Mrs. J. W. Richardson on the Hot Springs Highway. Mrs. Richardson is the mother of Wanda Sue Lampkin, former employee of the Highway Department, and now the proud mother of a son, Richard Eugene, born December 14. Four generations were present for the family reunion.

* * * *

Edith Greene was in Sapulpa, Oklahoma, for the holidays, visiting her brother B. F. Greene.

* * * *

We are happy to report our new office will be ready for occupancy January 15. We are very proud of the new set-up and herewith invite all our friends to come visit us.

Party Line Parade

DISTRICT 7

CAMDEN

Sula Burnham - Reporter

Walter and Blossom Hicks plan to attend the Associated General Contractor's banquet at the Marion Hotel in Little Rock, January 13, honoring Alf. E. Johnson. Blossom has been quite busy getting fixed up with a new permanent.

* * * *

Warner and Norma Rushing were happy to have their daughter, Diamond, of Washington D. C., at home for the holidays.

* * * *

Tom and Irma Thompson went on a goose hunt while visiting in Louisiana during the holidays.

* * * *

V. E. Scott gave a talk to the employees on the Retirement Plan January 7. Everyone appreciated having the system explained in such a clear manner. It made them proud to be a member and they plan to take up their prior service. Thanks Mr. Scott!

* * * *

Maxwell Smith spent the holidays in Little Rock with his sister, Mrs. Jack Goad.

* * * *

We welcome Linda Goodwin, of Hampton, who has joined our office force; and also Bobby Groening who is back with us after a hitch in the Navy.

Our office personnel gave a Christmas party December 22 with approximately 60 guests attending. Gifts were exchanged and an enjoyable social hour was spent with plenty of good food, laughter and merry making. We were happy to have A. G. Rives and Jake Clements from Headquarters Maintenance Division with us for the occasion.

DISTRICT 8

RUSSELLVILLE

Mary Alice Potset - Reporter

Practically every employee was present at the District meeting held December 11 at our office. Our guests included Miss Willie Lawson, Glenn Wallace and Cecil Lynch, Members of the Highway Commission; Director Herbert Eldridge, Dennison Yates and V. E. Scott, of Department Headquarters; and members of the press who were traveling with the party. W. F. Turner acted as Master of Ceremonies and we all enjoyed the talks made by each of those present.

* * * *

Everyone had a wonderful time at the Christmas party in our District Shop December 23. Gifts were numbered and placed under our tree and Reese Batson, District maintenance foreman, acted as Master of Ceremonies. Refreshments of cake, coffee, and sandwiches were served to the 128 employees present.

Party Line Parade

HARRISON

DISTRICT 9

SPRINGDALE

Shirley Morton - Reporter

Louise Day - Reporter

Mr. and Mrs. H. L. Dees and children, of Ft. Worth, spent the holidays with Mrs. Dees' parents, Mr. and Mrs. W. B. Hawkins.

* * * *

Rex L. Villines and his family have moved to Bear Creek Springs where they will make their home.

* * * *

K. C. Leslie, District maintenance foreman, and his wife have returned from a 2-week vacation which they spent in California visiting with relatives and seeing the sights.

* * * *

Oscar Rogers, another of our District maintenance foremen, has been enjoying a vacation. More details, please, Oscar.

* * * *

Mr. and Mrs. W. H. Cook spent part of the holidays with friends and relatives in Warren.

* * * *

Mr. and Mrs. J. C. Perkins, Jr. and their son spent the holidays in Tahlequah, Oklahoma, visiting Mrs. Perkins' father.

* * * *

The office personnel surprised W. H. Cook on his birthday, December 15, with a big white birthday cake which we served with coffee. A good time was had by all.

Henry Coe spent his vacation and the holidays with his family in Tuckerman.

* * * *

Otis Vaughn is slowly but surely getting the new equipment for his shop and he is much happier about everything these days.

* * * *

District Maintenance Foreman, Alton Farley, spent most of his vacation bird hunting. All the proof he has though, are the scratches on his legs.

* * * *

Congratulations to Mr. and Mrs. Donald R. Jennings, proud parents of a daughter born December 24.

* * * *

Many happy returns of the day to W. R. Shay who will celebrate his birthday January 15.

* * * *

Our congratulations and best wishes to Pat Luckett, former employee of the Highway Department, who is the proud mama of a 6 pound daughter born December 15.

* * * *

While repairing a bridge on Highway 99, E. H. Lawrence, bridge superintendent, took a tumble into the river. Luckily, the only ill effects that E. H. suffered were to his "dis--position!!"

Party Line Parade

DISTRICT 1C PARAGOULD
Lettie Brown - Reporter

We are glad to extend a welcome to Hoyce "Bud" Hodnett, formerly with the Department, who is with us again as job superintendent.

* * * *

Proud parents, Mr. and Mrs. Jess Bush, announce the much-heralded arrival of an 8-pound daughter, Donna Joyce, born on December 28. "Happy changing" to you both and our hearty congratulations.

* * * *

Lester M. Wycoff, bridge foreman, was happy to have his son Lester S. who is stationed at Memphis with the Air Force, at home with him for the holidays.

* * * *

Cloyce Gibson of the Bridge crew has a new dependent.....his recent bride Patricia Ann. Congratulations to the young couple and our best wishes for a happy future together.

* * * *

J. C. Perkins entertained the District employees with a Christmas party, on December 23, in the Mechanics Shed. Candy, cakes, fruit, nuts and kindred goodies were prominently displayed on a long table. After a most enjoyable period of eating and visiting, the employees hastily made tracks to the nearest exit, eagerly anticipating a wonderful week-end holiday.

AROUND - continued from page 3

of Arkansas recently on the topic, "What Is An Arkansas Road Program?" Mr. Orr's answer to this pertinent question is both interesting and informative, and we hope to have a condensed version of his speech in a future issue of your magazine.

* * * *

Harvey D. Booth, former Safety Director for AHD from 1949 - 1952, was in Arkansas for the holidays and paid us a visit. Mr. Booth now owns a business in Hyattsville, Md.

* * * *

Y.W. Whelchel conducted a school, during our inclement weather, for the traffic field crew to better familiarize them with the work and solve various problems encountered.

* * * *

A.E. Johnson was honor guest of the Arkansas Chapter of Associated General Contractors at a dinner dance January 13. A bronze plaque was presented Mr. Johnson for his election as AASHO president.

* * * *

A First Aid Instructor's Course will be conducted in the Commission Room February 8 - 12. This course will be taught by Mr. Lynn Stair, Arkansas Director of First Aid for the Red Cross. Representatives are expected from each of the Districts as well as from the various Divisions at Headquarters. After completion of the course all representatives will be expected to conduct First Aid classes.

RESEARCH - continued from page 7

structural designs for flexible and rigid pavement construction for the same design loads; and the relative effects of tandem axles as compared to their companion single axle loads.

Measured pavement stresses and strains could be compared with theoretical values obtained from design computations and needed engineering data provided for future road designs. Such research would aid materially in arriving at an optimum balance between road life and road use for the best over-all economy in highway transportation.

Highway officials are always besieged with requests as to how much money is needed for highways, and in what proportion various classes of users should pay this over-all bill. The AASHO project would go far in securing an answer to these questions.

The matter of a comprehensive research project is a problem of the first magnitude, requiring the assistance of all people connected with highway transportation. Motor vehicle manufacturers, legislators, petroleum groups, highway users and officials should cooperate to advance this project, laying aside all prejudice in order that we may arrive at some of the solutions which are so vitally needed. In fact, it is so important that the future health of the automotive industry of our nation is at stake.

THAT'S SUCCESS

It's doing your job
the best you can
And being just to your fellow man;
Making money - but holding friends;
Staying true to your aims and ends.

It's figuring how and learning why,
Looking forward and thinking high,
Dreaming a little and doing much;
Keeping always in closest touch

With the finest in word and deed;
It's being thorough
yet making speed;
It's daring blithely
the fields of chance
While making labor a brave romance;

It's going onward despite defeat,
Fighting staunchly, keeping sweet;
It's being clean and playing fair,
Laughing lightly at Dame Despair.

It's looking up at the stars above,
And drinking deeply
of life and love;
Struggling on with the will to win,
But taking the loss
with a cheerful grin:

It's sharing sorrow, work and mirth,
And making better
this good old earth;
It's serving, striving
through strain and stress,
It's doing your noblest --
That's Success.

— Anonymous

CROSSWORD PUZZLE

ACROSS

1. Hinder
6. Portion
11. Rekindle
12. Nut
14. Unlocked
15. Skilled Painter
16. Male
17. Belgian Marble
18. Prosecute
20. Victim
22. Hint
23. Stagger
24. Thorofares
26. Antiquated
27. Beast of burden
28. Perched
29. Gush
32. Of the side
36. Sea eagle (obs)
37. Wager
38. New Zealand Tree
39. Hog
40. Murdered
42. Kettle
43. Preconceive
45. Purify
47. Church official
48. Presser
49. Fear
50. Contends

DOWN

1. Leave
2. Equalizer
3. Metal Container
4. Always

	1	2	3	4	5		6	7	8	9	10	
11							12					13
14							15					
16				17		18				19		
20			21		22				23			
24				25				26				
			27				28					
29	30	31				32				33	34	35
36					37				38			
39				40				41		42		
43			44				45		46			
47							48					
	49						50					

5. Edits
6. Emptiness
7. In this place
8. Deed
9. Lifts
10. Follows
11. Frolics
13. Pillarlike Monument
18. Greek letters
21. Long time
23. Grader
25. Estimate (abbr)
26. Tap
28. Ironic
29. Palatable
30. Took credit to
31. Remove harness
32. Meadow
33. Plunder
34. Make amends
35. Subsequently
37. Mix
40. Portico in Greece
41. Roman Despot
44. Top Performer
46. Dude

from the Editor ---



THE ROAD YOU TAKE

Which road will YOU take in '54? Are you off to a good start --- or will you be a spectator?

Anytime is a good time to resolve to better one's self but with the start of a new year, what better time to ask, "Am I getting what I want out of life?" If not, "What will I do about it?" The only way to set a record in '54 is to begin working NOW.

No idea will work unless you try it, and nothing succeeds li success. If you would be a success you must earn it! It isn't something that just happens to you while you sit on the sidelines and watch.

Successful men are those who do things that failure will not do. Decide what you want and with your desire uppermost in your mind, give a little more than is expected of you -- work a little longer than is expected -- do a better job than is expected -- and you will reap more than you expect! If you give half measures, you will receive half-measures in return. Moments may not be recaptured, so make the most of them as they come. Waste no time, but utilize it to attain your goal.

If space would permit, we would give the whole of a little booklet "The Magic Story" by Frederic Van Rensselaer Dey. The following is merely a condensed and brief view of this inspirational story. It has been claimed to have the philosophy of success. Whether this is true or not depends upon the mental attitude and receptivity of the reader.

This is a story of a man who found himself after disaster failure, and utter despair. The story is told in lessons to be learned.

"1. Man should remember that promises for the future are as nothing compared to the opportunity he has in hand. 2. Fortune is elusive and must be retained by force. 3. Failure exists only in the grave; man may turn about and ascend the same path he descended. 4. Seek comrades among the industrious, for the idle will sap your energies. 5. The final lesson to be acquired must be adapted from the remainder of this tale:

"Well do I remember my awakening; my bed was a pile of shavings in the rear of the cooper shop where I once worked. It was the dream which converted me to the knowledge that I was possessed of two identities.

"After toiling through a blizzard, I peered into a window and saw that other being. He was healthy, with conscious power and force in his

meanor. He bade me enter and with a smile of derision motioned me to a chair, uttering no word of welcome. I went out into the night burdened with shame at the contrast between us. Then I awoke; and here is the strange part of my tale; I was not alone - there was a Presence with me!

"When the Presence turned away, I followed, and throughout the day I never lost sight of it except when it disappeared beyond some doorway where I dreaded to appear. The second day was like the first and this happened many days, until I discovered that constant association with the Presence was producing an effect upon me; and one night when I awoke and saw him, I made bold to ask, 'Who are you?'

"'I am that I am,' was the reply. 'I am he who you have been, who you may be again, who you were, and whom you have cast out. I am the man made in the image of God, who once possessed your body. There is a plus-entity and minus-entity in every human body. Whichever one of these is favored by the flesh becomes dominant. I am your plus-entity, you are the minus-entity; I own all things, you possess nothing. You can exist without me for a time but your path leads downward, and the end is death. That body which we both inhabited is mine but it is unclean and I will not dwell within it. Cleanse it, and I will take possession.'

"'My brain has lost its power,' I faltered. 'The will is weak.'

"'Listen!' said the Presence. 'To the plus-entity of a man all things are possible. The world belongs to him - is his estate.'

"Thereafter I slept again and when I awoke, I seemed to be in a different world and looking about for the Presence, I saw a puny, abject, shuddering figure. Perhaps I knew then that was the minus-entity and the plus-entity was within me. There was much for me to do; and as had once been my habit, I went where I used to eat my meals. Nodding cheerily as I entered, men who had ignored me for months spoke graciously. After eating breakfast and ordering a room I hurried to the cooperage where men were loading casks for shipment. Asking no questions I began helping and when this was finished, entered the shop and went to an empty bench.

"Later the master workman entered the room and paused in surprise at sight of me; there was a large pile of neatly shaven staves at my side. To his unasked question I replied, 'I have returned to work, sir.' He nodded his head and passed on. Since that moment I was a successful man and before long owned my own business." Thus ends this story with the plea to make a constant companion of your plus-entity and whatever you desire is yours; if you have a skill, apply it; start now to learn the secret of being what you have it within you to be.

As we start this new year, much hope is in our hearts that all will find happiness and go far toward achieving that which is desired.

BE ALERT
IN WINTER WEATHER

ACCIDENTS
CAN'T BE UNDONE

