

The Scintillator

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**DIRECTOR OF INDUSTRIAL
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A NEW YEAR ... AND A NEW DRESS!

No doubt you have already observed, since V-J Day, that this reconversion period has had its effect on the "Scintillator."



It has been necessary to whittle the "Scintillator" budget down to a point where it is in keeping with our present personnel. At one time our magazine was standardized at sixteen 9" x 12" pages. We still have sixteen pages, but the page size is now 6" x 9".



In some respects, this format has its advantages. It can be carried in your pocket and fits easily into a magazine rack at home. It is also well suited for mailing purposes.



Anyway, it's not the size that's important . . . it's the contents. Despite the reduced size, we will exert every effort to keep the "Scintillator" lively and interesting. When conditions again justify an expansion of the magazine, we feel confident that the Management will be glad to go along with us. In the meantime, the "Scintillator" is glad to oblige by operating on a reduced budget.



We still want you to assist us with news items, photos, etc. However, with a reduction in space, acceptances will be on a "first come, first served" basis. This is only fair. So let's hear from you. Your suggestions are always welcome.

THE EDITOR

CARBIDE TOOLS PROMISE NEW PRODUCTION RECORDS!

We are proud of our war-time production record. We have a right to be. We took the machines we had, the tools we had, and turned out the parts to meet the schedules that helped win the war. And during those war years we learned a lot about production methods, tools and materials. But we're not stopping there. We can still learn!

As a result of new changes in carbide tool practice, startling possibilities lie ahead of us through improved and wider use of carbide tools.

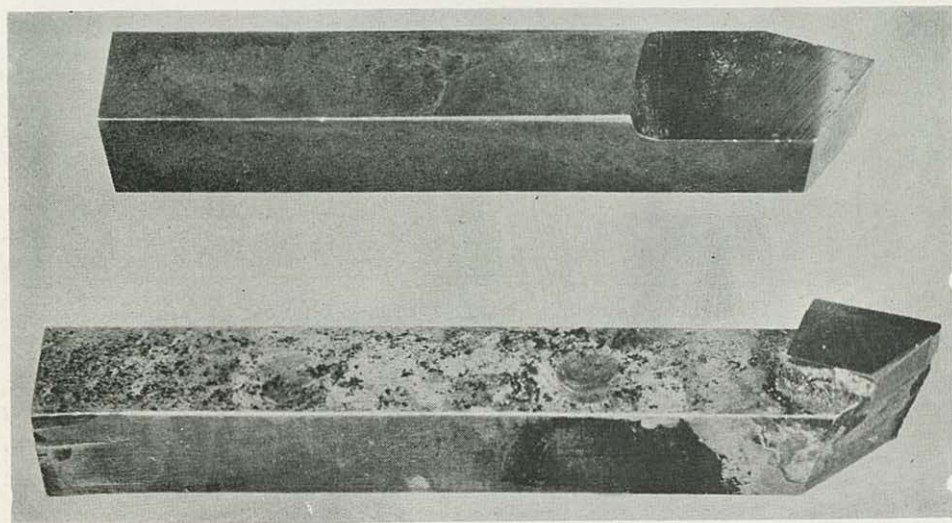
Now new records are ahead of us through improved and wider use of carbide tools. Methods that may, at first, seem revolutionary to many operators, promise astonishing results in speed, ease of production for machine and worker, as well as in the quality of work produced. It is the productivity of this combination of tool and operator, plus high quality work, that has enabled the American industrial system to lead the world. To keep this productivity high, and to improve our own position in a competitive market, we must abandon the old, and adopt new methods. Cutting with high-speed steel must now largely give way to cutting with tungsten carbide if we want speed, finish, and maximum economy in

our machining of even the hardest alloyed steels.

Not that we haven't used carbide tools before! We had them throughout the war, and maintained a large selection for use during that period. But there was a heavy loss due to breakage and burnt-out tools. We now have the answers to these difficulties.

No one knows better than Walter Donnelly what these carbide tools can do. Donnelly, a Bendix-Philadelphia tool specialist, is now at Scintilla to help introduce new tooling methods. Robert D. Ward (28-3), who is highly enthusiastic over the possibilities of the carbide tool

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Enlarged view showing comparison between high speed steel tool (top) and carbide tool (bottom). Carbide tip is brazed onto steel shank.

Carbide Tools *(from P. 3)*

program, has been assigned to work with Donnelly.

Donnelly did some real pioneering in tool practice at the Philadelphia plant, where they inaugurated a tool-changing program under his guidance in the late spring of 1944. Not a bit impressed by the so-called "impossible difficulty" of certain jobs, or by the fact that carbide tools had, until then, been used largely on soft metals and very little on hard steel alloys, Donnelly's research in tools and speeds proved so successful that a conversion of the entire machining set-up was effected.

Actual cutting speeds on hard steel alloys were stepped up as much as 300% to 500%, while milling speeds were increased 500% to 900%. These new speeds, Donnelly points out, make it possible to eliminate many costly form tools and to plunge intermittent cuts that formerly were generated. Furthermore, machining operations can be held to closer tolerances; finer finishes can be attained; and, since many operations can be run dry, there is less need for sloppy coolants.

To understand how these seeming miracles can be accomplished, let's take a look at a few facts about carbides.

We must go back to the field of powder metallurgy, a field whose discoveries

have proved invaluable to industry. One of the most useful products of this method of fusing together metal powder and other materials . . . often non-metallic . . . is the creation of new metals of extreme hardness whose qualities are still maintained, and which still function under great ranges of heat. To the machinist, perhaps the most important of these metals are the cemented carbides.

Structurally, cemented carbides consist of minute particles of tungsten carbide (tungsten plus carbon), bonded under great pressure and heat with cobalt. The addition of tantalum and titanium provides grades suitable for the machining of steel. As a matter of fact, cemented carbide was first used commercially in Germany during World War I as a substitute for badly-needed diamonds. As recently as ten years ago, tungsten carbide was so expensive that a small tool tipped with it cost about \$75. Today the same amount costs about \$1.50.

The two outstanding advantages of tungsten-carbide tools are increase in speed with the same cut and feed, and a saving in time usually lost in changing tools, owing to the much longer life of the carbides.

If these tools are to be used to their greatest advantage, they must be care-

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Walter Donnelly (left), formerly associated with the South Bend and Philadelphia Divisions of Bendix, examines a Fuel Injection Plunger Blank turned by Bob Ward (right) on a lathe. Carbide cutting tool was used for the operation.

Photo by Norman C. Meagley

fully ground, and should be honed for the best results. The smoother the edge and surface over which the metal must slide, the better the results obtained at these high speeds. Speeds and feeds must be carefully studied for each material, and many of our old ideas must be forgotten . . . even those concerning carbides themselves. Donnelly has found that most machining with carbide tools has been done in the past at speeds far below the maximum possible.

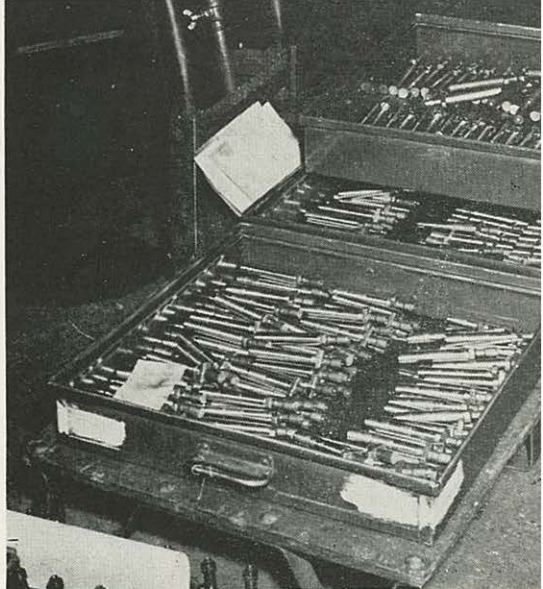
What this new tooling and the improved methods that go with it can do is well illustrated by a couple of Scintilla jobs where these changes have recently been made. Production on a Diesel control sleeve has been increased over 40% per hour, while the Diesel plunger (see photos) has been stepped up over 200%.

Donnelly, with the specific and enthusiastic backing of Factory Manager Walter Michel, proceeds with the following conditions in mind. To keep the carbide inventory low by using standard tests wherever possible; to use only the very hard carbides; and to pursue in all cases the trial and error method on each job, even to the point of trying the seemingly impossible. The result of experience with some 200 operational applications of tungsten carbide in the Philadelphia plant has led to some important conclusions, some of them contrary to generally accepted practice:

(1) Carbide tools are not only highly efficient for the great majority of steel-cutting operations, they are economical as well, because the longer wear of the carbide necessitates less frequent servicing.

(2) Large carbide tools are unnecessary and undesirable. Smaller ones need less grinding and are easier to service. These tool bits are placed in rigidly mounted tool holders which, in turn, are securely mounted on the machine. It has been found advisable in most cases to set the carbide tip beyond the surface of the tool bit's shank, brazing the tip's length to the surface.

(3) The answer to burnt-out tools may be "increased speed." All carbide tooling in the Philadelphia plant was cutting much faster than was considered possible. Turning steel operations cut from 200 to 600 feet per minute. Milling speeds run from 800 to 1200 feet per minute. A few machines have been improved for carbide tools by an increase of 50% in horsepower, and when faster machines



Above—the three boxes contain about 250 turned plunger blanks, all requiring an interrupted cut, performed without resharpening the carbide cutting tool. A high speed steel tool would require sharpening after a few pieces were turned. Speed is about 3 parts per minute compared with 2:19 minutes per piece with high speed steel tools.

are available, processes are expected to speed up even more.

(4) It is not only possible to prevent "chattering" by placing the tool above center, but it is often very advantageous to do so.

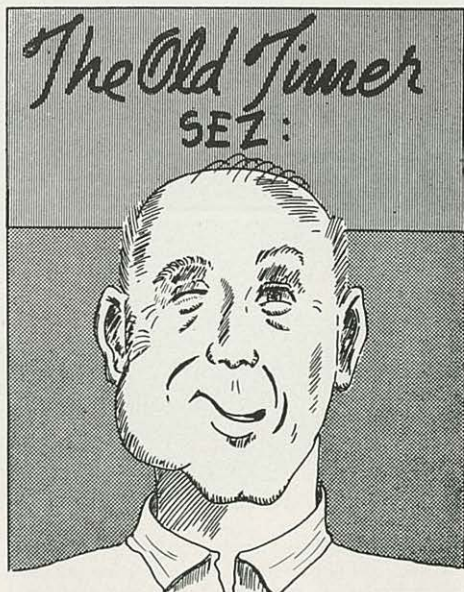
(5) It is possible, and in some applications for small cuts, very necessary, to put a "lip" on carbide.

(6) Carbide tools run very efficiently when dry. On certain types of forming operations, however, coolant is advisable. Where lubricity is essential, oil may be used.

The introduction of carbide tools has presented to machine-tool builders and users new problems in much the same way as did the introduction of high speed steel. Machines must now be made to run at vastly greater speeds and with a minimum of vibration, since vibration is destructive to these extremely hard, tough, but brittle new tools. Tool and work supports must consequently be heavier.

The removal of chips at rates three to four times those for previous tools makes the problem of chip disposal one of considerable importance. And this increase in speed has created other new conditions . . . handling time, for example.

(Concluded on Page 6)



This is one time when I wish I was a kollege perfesser, with a lot o' nice words I kould put together jest the way I wanna say this. But I got booted out of th' eighth grade fer dippin' Mamie Jones'es pigtails in a ink well, so I'll jest hafta git along on the saim lingo I been usin' up to now.

To git to th' point, what are YOU gonna do about stayin' alive fer 1946? If yer in reesonably good helth, chances are you ain't apt to kick th' buckit befoar Jan. 1, 1947. But that ain't all of it. If you read the papers ya can't help knowin' that people all over the country, young an' old, is gittin' bumped off every day, jest from pure carelessness. An' hunderds of others is bein' crippled, maimed an' disfiggered fer life. You don't hafta hunt very fur to find someone that's been a kasualty, either.

The good Lord give man a brain, but it seems like he don't maik very much use of it, sometimes. When he's on the job, he gits a dose of safety drummed into him reg'lar . . . an' even that don't work all the time. But after he bangs the time clock at 5 p.m., he kinda goes slap happy on safety. He tries to mix alcohol an' gasoline; he falls off the front stoop an' fractures his fanny; he walks from behind parked cars into traffic on rainy nites; he piles coal in the furniss an' goes to bed, leavin' the draft on full blast; he stands in the bathtub, soakin' wet, an' grabs a short-sirkutted light switch.

I kould rite a book on the dumb things a feller kin do, an' does do, to keep from

Carbide Tools (from P. 5)

Whenever the machining time of an operation is shortened, the handling time becomes more important. Thus any increase in cutting speeds makes it necessary to find means of reducing handling time, if at all possible.

These are all problems of immense interest to operator and management alike. With the aid of our specialist friends such as Walter Donnelly, we can solve them, and Scintilla's production records will show new economies.

But before this can become an accomplished fact, every Scintilla Supervisor and Foreman must become familiar with the advantages of carbide tools. Then the next step is to determine how it can be applied to their own departmental production operations. Messrs. Donnelly and Ward welcome inquiries on the subject.

I'vein' long enuff to collect his social sekurity.

An' jest in case you females is laffin' up yer girdles an' thinkin' "Ain't that jest like a man!", don't fergit that you ain't got nothin to brag about either. A lot of doctors is makin' a dang good livin' from patchin up housewives what think they won't git hurt at home.

Now, I ain't much of a hand at makin' New Years revolushions, but this year I'm revolvin' to use my bean, both on and off the job, so I'll be alive an' kickin' to sellebrate New Year's eve 1947.

How about YOU doin' the saim?



Oil on the floor is an invitation to a date with the undertaker!

SKI TALK

As this is written, in the middle of January, the ground is entirely denuded of snow. But it won't last . . . skiing weather is bound to make a come-back soon. At any rate, we were able to take a fling at the Rock Cut Ski slope during the holidays. Due to scarcity of bulldozers, the ski jump grading has not been completed. However, the take-off is finished, and during the holidays Gil Knudsen and Gray Roloson could be seen soaring through the air. Lights have been installed for night skiing. The club house addition has been completed except for laying the floor in the ski storage section, which will be done shortly.

Members are urged to pay up their dues as soon as possible. Anyone desiring to become a member may contact Jud Cole or Franz Van Buskirk in Engineering.

Now for the benefit of you ski enthusiasts who are thinking of joining up . . . a few hints on buying ski equipment.

Like buying a car, one can find the necessary equipment in low, medium and high price brackets . . . depending on the individual's desires and financial means.

While good equipment does not necessarily imply that one can ski better (that comes after much diligent practice), yet it certainly aids greatly in improving one's skiing, and is indispensable to the expert skier.

In the writer's opinion, ski bindings and boots are the most important items, because these must be about perfect if maneuvers are to be executed properly by your skis. Spend your extra money on these two pieces of equipment. If one has to be economical, then pay less for ski clothing and skis.

The cable-type binding with micromatic or screw adjusted toe plates is, no doubt, the best. These cost from \$5 to \$7.

Good ski boots are expensive, costing from about \$18 up. The heel should have two grooves, one for downhill and the other for cross-country or downhill, if too much heel tension is not desirable. Also, hard toes, arch supports and leather straps to insure a snug fit. Most important of all, the boots should have the lace-type back and the top of the boot curved both in the front and back to permit full bend-

ing of the ankles which, together with knee bending, is absolutely necessary in order to be able to ski successfully.

Skis come next. Likewise much money can be spent on skis. However, one should buy hickory skis with ridge tops and metal edges. These cost about \$18 to \$20. If you can afford to pay more, buy the laminated type ski, which has a built-in camber and other desirable features. These range from \$25 up.

Now for ski clothing. Any amount of money can be spent on these items. It depends entirely on individual desires and means. If possible, select a pair of 100% wool gabardine downhill ski pants which are both wind and water repellent, preferably with stitched seams. Next comes a good woolen shirt and ski sweater plus a ski jacket. The writer prefers a poplin jacket with attached hood, which is both wind and water repellent. Then we need a pair of ski gloves. If the skier intends to use a ski tow, the palms of the gloves should be leather lined to withstand the wear from the tow rope.

Finally, ski poles. These can be either tonkin or steel, with prices ranging from about \$3 to \$10.

The writer does not intend to imply by the above that all this equipment is necessary in order to ski. One can get by with just good bindings, shoes, skis and poles to begin with, then gradually add to the equipment. However, like anything else, you receive what you pay for, and it is usually more economical to buy a good complete outfit at the beginning than to buy a cheap one to be replaced later with good equipment.

THE COVER

This is the way the Rock Cut Ski Run looks when the weather man is in a skiing mood. Ed Faatz and an unidentified skier enjoy an uphill ride, through courtesy of the tow rope.

Photo by Ray Ticknor

Food for Thought... at the Cafeteria

Since Sept. 10, 1941, when the Scintilla cafeteria was opened to the first line of hungry war workers, enough food and drink has passed across the counters to feed a small army. Most of us who have eaten at least a meal a day there during the war years have come to accept the service as a matter of course, giving little thought to the problems behind the scenes. Now that the war emergency has passed, it is interesting to look back and take stock of what the cafeteria did, and point out some of the obstacles which had to be surmounted.

Food rationing and shortage of experienced help were, of course, the two greatest problems. At its peak, the cafeteria employed 67 persons. This total has now dropped to 12, including Frank L. Knight, Manager, and Flora D. Brown, Secretary.

Since its beginning, the cafeteria's policy has been to purchase local produce, insofar as possible, and with the exception of the manager, to employ local help. The cafeteria is operated for Scintilla by Crotty Bros., N. Y., Inc., with Home offices in Boston, Mass.

In order to comprehend fully the magni-

tude of the cafeteria's wartime job, it is necessary to pull a few figures out of the hat: at their peak of business volume, they served 1600 meals per day, and catered to 6000 people daily in the plant through the food wagon service. During every 24 hours, 54 wagons toured the plant. When fully loaded, these wagons weighed over a ton. We recall seeing them hauled through the plant by girls, and are led to wonder whether the wagons rolled effortlessly, or if the gals were uncommonly rugged.

Milk was dispensed at the rate of 1500-1800 half-pint bottles per day; sandwiches, 1500-2000 per day, and 2500-3000 pieces of pastry per day.

At one time, the cafeteria ran six shifts in order to serve the plant shifts.

Monthly peak figures give a better illustration of the quantities of food required for the job of feeding Scintilla's production soldiers. Sugar was consumed at the rate of 4 tons per month . . . coffee, 1 ton per month . . . coffee cream (yes, cream—not milk), 540 gallons per month . . . potatoes, 3 tons per month . . . Fudgicles and Choc-O-Pops, 1500 dozen per month . . . meats, about 4½ tons per month . . . butter, about ½ ton per month . . . flour, 2½ tons to 3 tons per month. (Due to rationing, it was quite difficult to obtain even these above amounts at times.) Fifty thousand paper cups per month were dispensed from food wagons in the plant.

Rolls, biscuits and pasteries are baked in the cafeteria. Bread is purchased from an outside source, because oven facilities are not adequate to handle the job in the cafeteria bakery.

We who struggled to provide ourselves with ration points and food for our families agree that Frank Knight and his staff performed a meritorious service in the war. We can't award them an "E" flag, but we can assure them of our appreciation for a job well done.

By the same token, Mr. Knight says: "Whatever we have accomplished was made possible in large measure by the whole-hearted assistance and cooperation of Scintilla Magneto Division."

Present operations are on a normal basis, with meals served only on cafeteria premises.

Wanted: A Sports Reviewer

For the past few months the Scintillator has been without the services of a volunteer correspondent to handle the reporting of sports events. Right now the bowling season is in full swing, but your editor can't be everywhere at once, therefore the bowlers are being neglected in these columns.

How about it, fellers? Somewhere in Scintilla there must be a regular guy who wouldn't mind doing a monthly story on sporting activities in the family circle. If you are thusly inclined, stop in at the editor's office (Personnel Dept.) and we'll talk it over.

Line forms on the right, boys . . . no crowding, please.

●

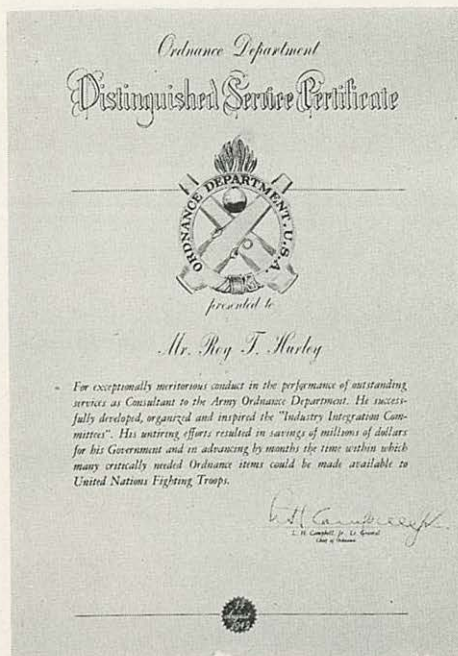
For outstanding interest in safety, we nominate E. Murphy of Dept. 88 as this month's leading contender. During the recently closed deer season, "Murph" hunted for two hours before discovering he had no shells in his gun!



The cafeteria played an important part in keeping Scintilla workers "stoked up" for the big war job. Top—A typical lineup during the lunch hour. Center, left—Frank L. Knight, Manager, and Flora D. Brown, Secretary. Center, right—Emil Grueb, Chef, in action behind the scenes.

Bottom, l. to r.—Feminine portion of the cafeteria staff includes Rena Ellis, Ruth Snow, Gladys Eastwood (Baker), Mattie Fitzgerald (Head Counterwoman), Olive Haynes, Clara Roberts, Shirley Turtur.

Photos by Norman C. Meagley



Above is a reproduction of the Distinguished Service Certificate presented to Mr. Roy T. Hurley, Bendix vice-president by Lt. General L. H. Campbell, Jr., Chief of Ordnance. Text explains reason for award.



Mr. Roy T. Hurley

DON'T FORGET . . . YOUR OLD CLOTHING IS NEEDED!

Mountain high is the misery which has piled up in the wake of the war. Hunger, disease, and destitution are sapping millions of men and women overseas of energy, the will to achieve, and even of hope itself.

A world deprived of the strength and courage of millions is a world that is also shorn of its best chance for the early re-establishment of order and lasting peace. Both our humanity and our self-interest tell us that in every possible way we must help to restore war-sufferers to health and vitality.

Each and every one of us has an immediate opportunity to alleviate a small part of the misery overseas. These people need clothing for health, for self-respect, for courage, and for hope. American closets, chests and drawers yielded sufficient clothing, shoes and bedding to help clothe twenty-five million men, women and children during last spring's nation-wide clothing collection.

But according to UNRRA and other relief agencies working overseas, twenty-five million people are only a small percentage of the destitute, homeless, and looted millions of Europe, China and the Philippines. In the face of inflation, scarcity and ruin, the people of the devastated countries have not the means, and no hope of obtaining the means, to buy what little new clothing there is available. President Truman says that conditions are so appalling that a second appeal to the generosity of the American people is imperative.

A hundred million serviceable garments with additional shoes and bedding are being sought in a nation-wide collection, now taking place until January 31st in your own community. Anything that you or your family wear is needed.

Shoes must be securely tied together in pairs. Don't forget to contribute lightweight clothing and yard goods for the Philippines. You are invited to include with your contribution a message of friendship.

These bombed, invaded and desperately tired people of the world are not asking you to give them Utopia . . . but only serviceable things like your old coat—the one with the frayed edges but the warm lining, or the baby blankets so long stored away. Without the help of these people there will be no peace for our children.

Strictly

FOR THE GIRLS!



AND WHY NOT?—Ever hear of pots and pans in museums? Well, hear of it now. Not antiques, but freshly modern are the Reynolds Metals new aluminum bake pan and cookie sheet chosen for display at New York's Museum of Modern Art for their good functional design. That means no ornamentation that does not serve a useful purpose is present to clutter up the utensils. Aside from their artistic merit, they perform beautifully in the kitchen. The cookie sheet has edges along two sides, for easy removal of cookies. The bake and storage pan has a three way use in the oven, on the table and in the refrigerator.



EVER HAD THE LUXURY of eating a leisurely Sunday breakfast before a live bed of real coals glowing in your fireplace grate? It's the answer to a lazy fire-tender's prayer. Big pieces of slow burning anthracite coal will last for hours and hours and hours—well, anyway ten or twelve—with no poking or fanning or throwing on of logs by anyone basking in its cheery warmth. Second hand shops have old basket grates to replace your andirons, or department stores offer inexpensive new grates. Cream, please, for me Jeeves, and another piece of cinnamon toast. Ah-h-h-h.



URGENT!—Your contribution to the Victory Clothing Collection is desperately needed overseas. Clothing, shoes, bedding for children, men and women left perilously destitute by the war, should be taken to your nearest collection station immediately. You may include a message of friendship and goodwill with your contribution.



They're off! All rationing restrictions but sugar, so get back into the swing of baking to your heart's content, but keep the molasses jug handy. This devil's food cake, sweetened entirely with corn syrup and molasses, boasts extra iron richness when the molasses used comes from our own sunny South.

DEVIL'S FOOD CAKE

$\frac{1}{2}$ cup shortening
 $\frac{1}{2}$ cup New Orleans molasses
 $\frac{1}{2}$ eggs, well beaten
 2 squares chocolate, melted
 1 teaspoon vanilla

$1\frac{3}{4}$ cups sifted all purpose flour
 $\frac{1}{2}$ teaspoon baking soda
 $1\frac{1}{2}$ teaspoons baking powder
 $\frac{1}{2}$ teaspoon salt
 1 cup milk

Cream shortening, add molasses and eggs. Add chocolate and vanilla. Add flour, baking powder, baking soda and salt sifted together, alternately with the milk. Pour into greased and floured 8 inch layer cake pans. Bake in moderate oven of 350° F. for 20 minutes.

From the Sportsmen's Angle...

There is no lack of activity in the program of the Sidney Sportsmen and Field Trial Club. On Dec. 16th, the Club acted as host to about 75 sportsmen of the Delaware County Federation of Sportsmen's Clubs who gathered in Sidney for their annual meeting. Thomas Rae, Delhi, was elected president for the third time, along with John Scofield, Secretary-Treasurer. The entire roster of officers remains the same for 1946.

The Sidney Club provided coffee, sandwiches and home baked beans for refreshments. Movies on Woodcock Hunting and Spaniel Champions were shown.

Happenings at the State Conservation Council meeting, held the previous week in Syracuse, were reported by Mr. Rae and Clark Sanford, official representative to the Council from Delaware County.

Following a spirited discussion on elimination of vermin and foxes, a resolution was passed calling for a \$4 bounty on foxes. This resolution will be forwarded to Assemblyman E. J. Kellam, who favors a bounty system sponsored by the state

instead of by individual counties. At present, there is no uniformity in this matter. Each county handles the problem as it chooses.

On Tuesday, Jan. 29, the Sidney Club will hold its annual dinner meeting in the Scintilla Cafeteria. Tickets may be obtained from Ralph Mason, "Zip" DeSalvo, Robert Day, Henry Pardee, Walt Meiner and Austin Dartt. Guest speakers will be Dr. John Powers, Cooperstown surgeon and Secretary of the Cooperstown Rod and Gun Club, and Thomas Rae, President of the County Federation. Movies on Moose Hunting in Canada will be shown. Ladies are invited, also male non-members.

The Nominating Committee will present a slate of officer candidates for the coming year. Nominations from the floor also will be permitted. Voting will be by secret ballot. Balloting privileges will be restricted to paid-up 1945 members, those intending to re-join in 1946 and newcomers whose 1946 dues are paid up by the time of the meeting. Get your tickets for this affair before Jan. 25th.

Tool Room Chatter

In starting the year 1946, let us of Dept. 11 agree that resolutions are futile. However we do have some suggestions to make.

Suggestions:

1. The chimes on the time clock be changed to play "Your Time Is My Time."

2. They should install dressing stations at intervals through the tool room (you know why!)

3. That Pearce get off his soap box before Walker kicks it out from under him.

4. That Bill take the calendar off the wall while Frances is beside him. The calendar has a pin-up girl on it, and it's getting so that Bill doesn't know which way to turn.

5. That Fay make some of his 1945 stories come true.

6. That Fitzgerald remove that big red bow, now . . . he's had it on long enough.

7. Becker suggests that DeMott get some more hens from Anderson.

8. Porter should make Parent's dream come true, as he has a nice big house now. Parent wants to be a Grandpa, and you should have seen him when Porter bought a baby-gate. (It was to keep the dog out.)

9. We suggest that Fay put on one of his buckwheat pancake suppers.

10. Ed Meehan should sing more Russian folk songs.

11. Wischusen should wear two pairs of pants.

Is Your Blue Cross Hospital Plan in Force?

Many employees enrolled in the Blue Cross Hospital Plan seem uncertain as to their current status, if deduction of one or more monthly premiums via the payroll deduction plan has been missed.

Blue Cross payroll deductions are usually made from your pay in the third week of the month. If you are absent that week no deduction can be made, and it is the responsibility of the individual to take, or send, the premium direct to one of the Blue Cross offices. It is also necessary to notify them when you return to work, in order that payroll deductions may be resumed.

Inquiries should be addressed and payments made to Hospital Plan, Inc., Utica, N. Y.

Let's Try to Keep the Slate Clean!

Traffic deaths throughout the nation went up 53 percent in October, 1945, over the same month a year ago.

The October death toll was 3,440. For the sake of comparison, the Pearl Harbor toll of dead and missing was 3,303.

The nation became properly alarmed over Pearl Harbor, but it accepts with a shrug of the shoulder an accident toll which is a disgrace to a civilized country.

We may as well face the facts. The newest car on the public highways is at least 4½ years old (being a 1942 model), and there are few of these. The average car is between 6 and 10 years old. All this means poor tires, worn parts, poor rubber in windshield wipers, faulty defrosters, worn steering equipment, and many other hazards which are too numerous to mention.

With V-J Day came the release of gas. With the familiar words, "Fill 'er up, Bud," and the relaxing of our speed laws, some teen-agers, who had been waiting for the opportunity to get hold of the old bus, started out with insufficient experience due to the years of gas rationing. Many times this resulted in personal injury and death. Some put a license back on the "old crate," took her off the jacks, and started out, forgetting that it had been quite a few years since they had driven in heavy traffic. Then came the ice

and snow of winter. On glare ice at 20 miles per hour, it will take 191 feet to stop a car; with chains on the rear wheels, 110 feet. On packed snow, it will take 97 feet; with chains on the rear wheels, 62 feet. These are facts that, if remembered, may mean the difference between life and death. As if all this were not enough, along came the Christmas and New Year holidays. To most of us they brought good cheer and happiness; to some, sorrow and sadness. Over 1,000 people met their deaths through the holiday period. Many of these deaths were caused by too much hot toddy with the driving.

Furthermore, some pedestrians are caught napping, because, accustomed to slower travel due to war conditions, they can't quite adjust themselves to post-war traffic. America is paying an inflationary price in human life for the privilege of indulging in a post-war traffic spree.

Unfortunately, there is no magic cure-all for these hazards. The only sure cure is an emergency inoculation of common sense, caution, and regard for your own life and the life of the other fellow.

With the New Year, we at the Scintilla start with a clean slate. Let's think of Safety in our work, in our homes, and in our play. Safety is a religion; we must believe in it, practice it, and put it to use in our daily tasks.

Mrs. Frances Gorton (11-500) smiles approval of one of the new dispensing boxes built to contain the monthly issues of the "Safe Worker," the popular booklet published for Scintilla by the National Safety Council. Boxes have been mounted in all time clock areas.

Photo by
Norman C. Meagley



Sam Brand says —



I run across one of these advertisin' fellers the other day—and I figger he's got a pretty good slant on things.

He says advertisin' is first makin' things as good as you can, an' then tellin' other folks about 'em. He says us fellers here in the plant are really the important advertisin' men. He figgers this way: he can tell folks about our Brand Name, and mebbe get 'em to buy it once or twice. But the only way to keep 'em comin' back for more is to show 'em they can count on its always bein' good. If you let the customers down they'll quit buyin'—and there ain't anything the advertisin' feller can do about it. He says all us advertisin' men got to work together to keep the customers satisfied.

PLEASE USE YOUR OWN ENVELOPES!

C. E. Libby, Mail Room Supervisor, has requested that we publish the following:

"Please, for your personal correspondence and mailing of Scintillators to relatives, and all similar purposes.

"When Bill writes Aunt Mary and mails the missive in a company envelope, and Aunt Mary has moved without a forwarding address, the letter comes back to the Mail Room. Even though it carries a three-cent stamp, there is no way we can deliver it to the sender unless we open it. Even then we are not sure who Bill is.

"Another thoughtless stunt is to slip said letter into the departmental outgoing mail without a stamp. We do not meter such. In this case, Aunt Mary must wonder for a long time why Bill does not write any more.

"As this is written, we are holding two stamped company envelopes (contents we guess to be December Scintillators) . . . one for Rockroyal, one for Delhi. Only difficulty is there aren't stamps enough.

"In all friendliness, it is suggested you would do well to always use your own stamps on your own envelopes, with your own return address in the corner."

Dis—N—Dat from Shipping and Receiving

We of Shipping and Receiving would like to take this opportunity to again say, "thanks," to Herb and Jack for the swell Christmas party they gave the gang! It was a darn nice party and everyone had a swell time.

Reconversion is doing a lot of things to our personnel, but we'll try to have a little news in each and every issue. It is our paper, and let's all try to make it a good one.

Receiving lost its "It Girl" when "Billie Mae" checked out a couple of weeks ago. She certainly had a lot on the ball. Good luck to you always, Billie.

Shipping also lost Earl Lashaway to the Boiler Room. Good luck, Earl, but why don't you use a shovel instead of a hammer to feed the boiler?

Al Adams, a former checker in Receiving, paid us a visit from Uncle Sam's Army. Al looks good in olive drab, but says he misses the Sidney girls, especially the ones from Scintilla Engineering.

Welcome back to Mert Hebbard, who is just out of service. A note to you boys working with Mert . . . you'll have to step on it to keep up.

We wonder why Harry shaved off his mustache. Didn't the girls like it, Harry?

Don't forget to take your troubles to Pop Allen. He likes trouble of any kind.

Seen and Heard Around Engineering . . .

The Christmas Party held by Engineering at Long River, was largely attended . . . especially by the men.

Flora Odone has resigned her position in the Materials Lab. A farewell dinner was given her Jan. 3 at the Hotel DeCumber.

William Berger, a former Scintilla employee, who has been with the Air Forces for the past two years, is again working in Engineering.

Bill Uline and crew working hard to make the Electrical Connector program a success. Looks like they will do it.

Van Buskirk, of Field Engineering, very much interested in making bubbles with the new wire loop. Van says he is the only one in Field Eng. interested in watching dancing bubbles. Claims the others interested only in bubble dancers . . . who ain't?

(Continued on Page 16)



Hubba, hubba! While the rest of us hug the fire or dream of sun-swept, palm-bordered beaches, Ax's little heat wave dons her working clothes for benefit of us less fortunate sneeze and sniffle addicts. Little 1946 (see bottom!) runs her one better in scanty attire. (It's a joke, son . . . don't let it get by ya!)

Seen and Heard Around Engineering (from Page 15)

We welcome Mr. Pross back to Scintilla. Also Jim DeMarco, after a month's leave of absence.

Radio Shielding room in Dick Coats' cubicle of the lab moved out into Production. Tough, now, . . . no place for the lads to relax.

Doc Stearns reports a splendid New Year's Eve party of the Eng. Club at Major's Inn.

Paul Ryan, formerly of the AAF, now working in Materials lab.

Ever try to get any harnesses or leads from Art Kludas, without first signing his little book? Just can't be done.

The guys and gals in Eng. drafting room still giggling over a dummy condenser one of them invented, and then requested one of the lads to test. It appears when he went to get it again and pick it up, the results were

shocking. He decided it was not the condenser that was the dummy.

Before you comment on the nice, mild weather, make sure you are not talking to a member of the Rock Cut Ski Club. It's dangerous to admire the unseasonable Spring weather in their presence.

Joseph Miles, a newcomer now working under Jack McNulty, comes to us from the Sylvania Corp.

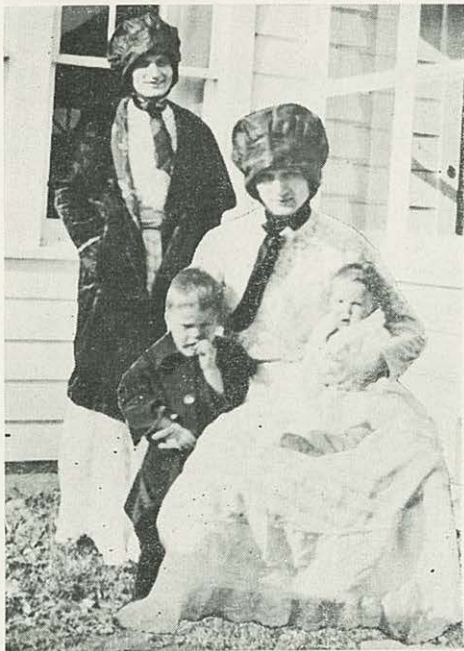
Doc Stearns really put out due to the new income tax reductions. Doc is one of the unfortunates who received no reduction. Claims he would move to Europe, only it's full of foreigners.

The lads in Field Eng. have come to the conclusion that you just can't believe what the newspapers print or the radio blats. For instance, all this belling about how the hotels are crowded they think is just plain hawg wash. One of their men went to New York City on business and got TWO separate rooms, all for his lone self. How he could manage to GET two separate rooms, let alone sleep in TWO separate rooms in the same night, has the boys doing both calculus and simple arithmetic.

EXTRA . . . noted Sidney scientist and Engineer in clutches of the Law! Well known Sidney electronic engineer captured in huge dragnet of Binghamton police. Released after posting unprecedented large sum. Properly translated, means Jack McNulty was fined two bucks for parking his car on the street all night, thereby cluttering up traffic. Above news tip furnished by the "Stearns Infernal News Agency."

Unverified report has it that Miss LaGuardia of Field Eng. is planning a merger. The lucky man has not been identified.

Sems as tho romance is busting out all over. Our genial librarian, Wanda Weatherly, is to leave us soon. Matrimony is the reason, we're told.



The witch of Endor was a ravishing beauty compared to this fugitive from Frankenstein's Home for Fallen Women. In case you experience difficulty in identifying these twin gargoyles, Mademoiselle Steve Egnaczak will gladly oblige. Apparently under the influence of a witches brew (and we do mean brew), the subject's hypnotic gaze caused the camera to see double. Watch out, kids . . . the old goblin looks hungry.

News Chips from Tool Engineering and Production Engineering

The New Year brought a few changes to our department, including the return of a few of our old employees.

Among the returnees: Henry Egli, who spent the last two years in the U. S. Army; Bob Davis, back from the AAF. These two boys are now employed in the Mold Design and Tool Design Depts., respectively.

Doug Hall has joined our Layout force.
(Continued on Page 17)

Department 70—Gun Club

New faces in Department 70 are Marian Russell, Dorothy Lowry and Inga Dahl. Welcome all. We also want to welcome back to our midst Fred Van Voorhis. Glad to see you back, Van.

Luva Lewis, our genial friend and mail clerk for many months, transferred to the Insurance Section, and Miss Dahl, formerly of Sales Department, replaced her.

Mr. Ernest Oechslein left us December 17th to take up new duties in Cost Accounting. Good luck, Ernie.

Recent visitors, both former employees, were Mr. Harold Follett and Captain Howard Comfort.

Former employees Harry Daniels and Phil DeRock of the Navy and Air Corps respectively, have both received their discharges and returned to Sidney.

Bessie Armondi was a recent patient in the Hospital, but we are glad to report she is recovering nicely at home at this writing.

The New Year came in with few casualties and good stories to cover the few. Oh, Van, don't flood that Plymouth when you're running taxi service in the morning.

Only one birthday this month . . . Mr. Howard Kinch. Happy birthday from all of us, Howard.

Tool Engineering (from Page 16)

Among the girls returning to our departments are: Mrs. Anna French and Mrs. Doris Oliver, who have been living at home for the past few months; also Miss Inga Neilson, who has joined our Layout Dept. Welcome back!!

As we gain, so do we lose . . . Al Zurbuegg recently began his duties as Supervisor at Barr Mfg. Co., Weedsport, N. Y. Al is one of our "oldest timers" . . . 14 years at Scintilla. The Layout boys gave Al a party Friday night, Dec. 28th, and presented him with a beautiful Masonic ring. Good luck, Al.

This Special Commendation, awarded by the U. S. Marine Corps, was received recently by Scintilla Magneto Division in recognition of this Division's wartime efforts in cooperation with the U.S.M.C.

BARTER COLUMN

FOR SALE: 8-foot toboggan, complete with pad. Inquire Walter Benedict, 34-15.

FOR SALE: Remington portable typewriter, in good condition. J. G. Fisk, Service Department.

FOR RENT: Garage, within stone's throw of Scintilla Cafeteria. R. Wharton, 6-45.

FOR SALE: Girl's ice skates, with white shoes, size 3. Mrs. T. House, Legal Dept.

FOR SALE: Two Maytag Washing Machine engines (one 1-cylinder, one 2-cylinder), in good condition. George Baldwin, 11-234, or phone Unadilla 3298.

WANTED TO BUY: A 5/8 horsepower Briggs-Stratton gas engine. Walter Benedict, 34-15.

WANTED: Someone to finance patent fees on a new money-making toy. This is something absolutely different in toys! E. Murphy, Dept. 88.

FOR SALE: Black opossum fur coat, size twelve. Excellent condition. Call Sidney 3244.

United States Marine Corps

Headquarters



Washington, D. C.

To all who shall see these presents, greeting:

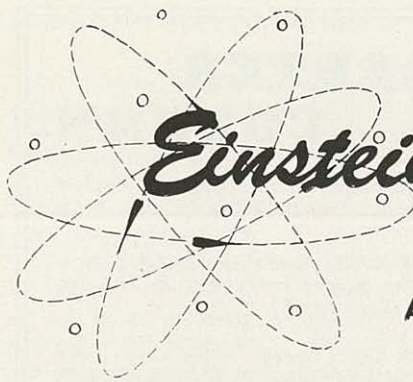
Be it known that a *Special Commendation* has been awarded to
SCINTILLA MAGNETO DIVISION,
BENDIX AVIATION CORPORATION,
SIDNEY, NEW YORK

By reason of your unselfish and tireless efforts in fulfillment of the requirements of the United States Marine Corps, and through your cooperation and loyalty which enabled us to do our part in bringing victoriously to a close World War II, the United States Marine Corps does hereby gratefully extend this Special Commendation.

Dated DECEMBER 7, 1945



Ed W. Vondra
GENERAL A. A. VONDRAS, JR.
THE COMMANDANT OF THE MARINE CORPS
W. H. Hall
MAJOR GENERAL W. H. HALL, USMC
THE QUARTERMASTER GENERAL OF THE MARINE CORPS



Einstein on the Atomic Bomb

ALBERT EINSTEIN
as told to
RAYMOND SWING

Editor's Note: This article appeared originally in the "Atlantic Monthly" for November, 1945, and is reprinted here by special permission of the publishers.

The release of atomic energy has not created a new problem. It has merely made more urgent the necessity of solving an existing one. One could say that it has affected us quantitatively, not qualitatively. As long as there are sovereign nations possessing great power, war is inevitable. That statement is not an attempt to say when war will come, but only that it is sure to come. That fact was true before the atomic bomb was made. What has been changed is the destructiveness of war.

I do not believe that civilization will be wiped out in a war fought with the atomic bomb. Perhaps two thirds of the people of the earth might be killed, but enough men capable of thinking, and enough books, would be left to start again, and civilization could be restored.

I do not believe that the secret of the bomb should be given to the United Nations organization. I do not believe that it should be given to the Soviet Union. Either course would be like the action of a man with capital, who, wishing another man to work with him on some enterprise, should start out by simply giving his prospective partner half of his money. The second man might choose to start a rival enterprise, when what was wanted was his cooperation.

The secret of the bomb should be committed to a World Government, and the United States should immediately announce its readiness to give it to a World Government. This government should be founded by the United States, the Soviet Union, and Great Britain . . . the only three powers with great military strength. All three of them should commit to this World Government all of their military strength. The fact that there are only three nations with great military power should make it easier rather than harder to establish such a government.

Since the United States and Great Britain have the secret of the atomic bomb and the Soviet Union does not, they should invite the

Soviet Union to prepare and present the first draft of a Constitution for the proposed World Government. That action should help to dispel the distrust which the Russians already feel because the bomb is being kept a secret, chiefly to prevent their having it. Obviously the first draft would not be the final one, but the Russians should be made to feel that the World Government would assure them their security.

It would be wise if this Constitution were to be negotiated by a single American, a single Britisher, and a single Russian. They would have to have advisers, but these advisers should only advise when asked. I believe three men can succeed in writing a workable Constitution acceptable to all three nations. Six or seven men, or more, probably would fail.

After the three great powers have drafted a Constitution and adopted it, the smaller nations should be invited to join the World Government. They should be free to stay out; and though they would be perfectly secure in staying out, I am sure they would wish to join. Naturally they should be entitled to propose changes in the Constitution

as drafted by the Big Three. But the Big Three should go ahead and organize the World Government whether the smaller nations join or not.

The World Government would have power over all military matters and need have only one further power: the power to intervene in countries where a minority is oppressing a majority and creating the kind of instability that leads to war. Conditions such as exist in Argentina and Spain should be dealt with. There must be an end to the concept of non-intervention, for to end it is part of keeping the peace.

The establishment of the World Government must not have to wait until the same conditions of freedom are to be found in all three of the great powers. While it is true that in the Soviet Union the minority rules, I do not consider that internal conditions there are of themselves a threat to world peace. One must bear in mind that the people in Russia did not have a long political education, and changes to improve Russian conditions had to be carried through by a minority for the reason that there was no majority capable of doing it. If I had been born a Russian, I believe I could have adjusted myself to this condition.

It is not necessary, in establishing a world organization with a monopoly of military authority, to change the structure of the three great powers. It would be for the three individuals who draft the Constitution to devise ways for the different structures to be fitted together for collaboration.

Do I fear the tyranny of a World Government? Of course I do. But I fear still more the coming of another war or wars. Any government is certain to be evil to some extent. But a World Government is preferable to the far greater evil of wars, particularly with their intensified destructiveness. If a World Government is not established by agreement, I believe it will come in another way and in a much more dangerous form. For war or wars will end in one power's being supreme and dominating the rest of the world by its overwhelming military strength.

Now that we have the atomic secret, we must not lose it, and that is what we should risk doing if we should give it to the United Nations organization or to the Soviet Union. But we must make it clear, as quickly as possible, that we are not keeping the bomb a secret for the sake of our power, but in the hope of establishing peace in a World Government, and that we will do our utmost to bring this World Government into being.

I appreciate that there are persons who favor a gradual approach to World Govern-

ment even though they approve of it as the ultimate objective. The trouble about taking little steps, one at a time, in the hope of reaching that ultimate goal is that while they are being taken, we continue to keep the bomb secret without making our reason convincing to those who do not have the secret. That of itself creates fear and suspicion, with the consequence that the relations of rival sovereignties deteriorate dangerously. So, while persons who take only a step at a time may think they are approaching world peace, they actually are contributing, by their slow pace, to the coming of war. We have no time to spend in this way. If war is to be averted, it must be done quickly.

We shall not have the secret very long. I know it is argued that no other country has money enough to spend on the development of the atomic bomb, and this fact assures us the secret for a long time. It is a mistake often made in this country to measure things by the amount of money they cost. But other countries which have the materials and the men can apply them to the work of developing atomic power if they care to do so. For men and materials and the decision to use them, and not money, are all that is needed.

I do not consider myself the father of the release of atomic energy. My part in it was quite indirect. I did not, in fact, foresee that it would be released in my time. I believed only that release was theoretically possible. It became practical through the accidental discovery of chain reactions, and this was not something I could have predicted. It was discovered by Hahn in Berlin, and he himself misinterpreted what he discovered. It was Lise Meitner who provided the correct interpretation and escaped from Germany to place the information in the hands of Niels Bohr.

I do not believe that a great era of atomic science is to be assured by organizing sciences in the way large corporations are organized. One can organize to apply a discovery already made, but not to make one. Only a free individual can make a discovery. There can be a kind of organizing by which scientists are assured their freedom and proper conditions of work. Professors of science in American universities, for instance should be relieved of some of their teaching so as to have time for more research. Can you imagine an organization of scientists making the discoveries of Charles Darwin?

Nor do I believe that the vast private corporations of the United States are suitable to the needs of these times. If a visitor should come to this country from another planet,

(Concluded on Page 20)

Einstein on the Atomic Bomb (from Page 19)

would he not find it strange that in this country so much power is given to private corporations without their having commensurate responsibility? I say this to stress that the American government must keep the control of atomic energy, not because socialism is necessarily desirable, but because atomic energy was developed by the government and it would be unthinkable to turn over this property of the people to any individual or group of individuals. As to socialism, unless it is international to the extent of producing a World Government which controls all military power, it might more easily lead to wars than does capitalism, because it represents a still greater concentration of power.

To give any estimate of when atomic energy can be applied to constructive purposes is impossible. What now is known is only how to use a fairly large quantity of uranium. The use of quantities sufficiently small to operate, say, a car or an airplane is as yet impossible. No doubt it will be achieved, but nobody can say when.

Nor can one predict when materials more common than uranium can be used to supply

atomic energy. Presumably all materials used for this purpose will be among the heavier elements of high atomic weight. Those elements are relatively scarce, because of their lesser stability. Most of these materials may already have disappeared by radioactive disintegration. So, though the release of atomic energy can be, and no doubt will be, a great boon to mankind, that may not be for some time.

I myself do not have the gift of explanation by which to persuade large numbers of people of the urgencies of the problems the human race now faces. Hence I should like to commend someone who has this gift of explanation . . . Emery Reves, whose book, *The Anatomy of Peace*, is intelligent, brief, clear, and, if I may use the abused term, dynamic on the topic of war and the need for World Government.

Since I do not foresee that atomic energy is to be a great boon for a long time, I have to say that for the present it is a menace. Perhaps it is well that it should be. It may intimidate the human race into bringing order into its international affairs, which, without the pressure of fear, it would not do.

WARDS THANK SCINTILLA...

When our Engineering Department read of the disastrous fire experienced by Walter J. Ward and his family in their Yonkers, N. Y., home, they got busy and raised a fund of \$432 which they passed on to the Wards. Mr. Ward was formerly employed in Engineering, and left in April, 1943, to join the Merchant Marine. He has since been discharged from the service.

The following letter was received by Engineering from Mr. and Mrs. Ward.
*To Scintilla Magneto Division and
Our Many Friends Employed There:*

It is useless for us to try to put on paper what we feel in our hearts toward your kindness and your gift.

To do so correctly would take a lifetime. We feel sure that no matter what we say, it is sure to appear as a "botched" job.

To put it simply, what can people say when their voices are choked with tears, and their hearts are brimming over, but thank you again and again and again.

Most sincerely,

Mr. and Mrs. Walter J. Ward



Staff Sgt. Howard T. Niblette, formerly of the Scheduling Department, displays a Jap flag captured on Okinawa.