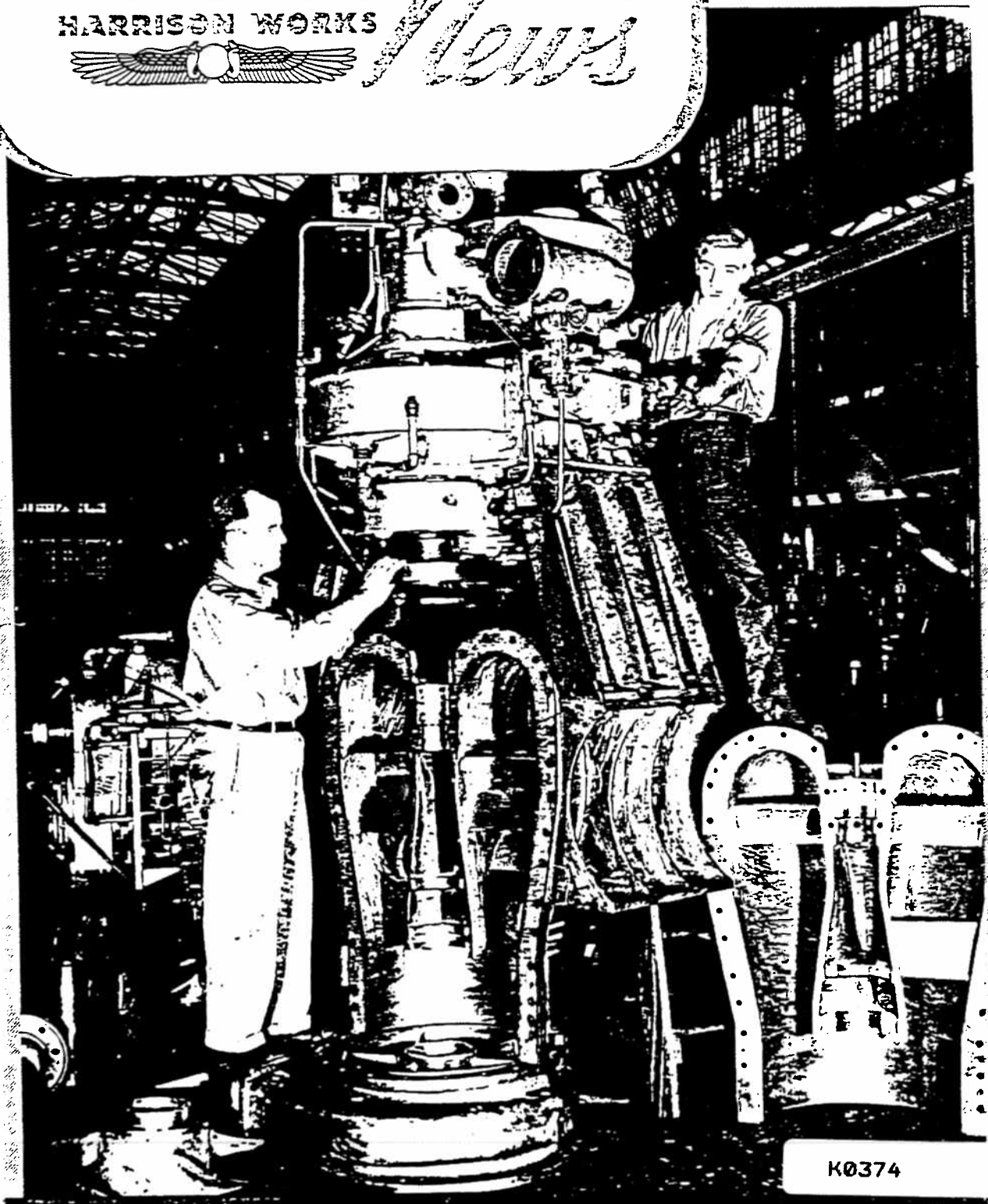


# WORTHINGTON

HARRISON WORKS

*News*



K0374

**VOL. III—Nos. 10-11**

**OCTOBER-NOVEMBER 1944**

20.02

# WORTHINGTON HARRISON WORKS *News*

Published by and for the employees of the  
Worthington Harrison and Newark Works  
and Worthington-Gamon of Newark. Ad-  
dress all communications to I. T. Smith,  
Editor, Worthington Pump and Machinery  
Corporation, Harrison, New Jersey.

## MEMBER:

HOUSE MAGAZINE INSTITUTE  
NATIONAL COUNCIL  
OF INDUSTRIAL EDITORS

---

OCTOBER-NOVEMBER

VOLUME III    NUMBERS 10-11

---

## COVER FOR THIS ISSUE

Main Condenser Circulating Pump in the process of being assembled. Our feature story for this period is a running account of how these and similar type pumps for Navy orders are handled from the receipt of the order to the finished product.

---

## PHOTO CREDITS:—

A. Metis: pages 3, 8, 11, 12, 13, 14, 15,  
18, 20, 21, 22, 23 and cover.

Page 7—Fire Engineering Co.

Page 12—Official Navy Photo.

## Worthington Awarded Fourth Navy 'E' Star

The fourth star has been added to our Navy "E" Flag, signally acknowledging that a huge job has been "Well Done."

We have been requested by the Navy Department not to hold a formal ceremony, but this has not deterred the pride felt by us as possessors of a flag bearing four stars—an accomplishment in Government service which puts us in a top-ranking position.

Following is the correspondence between Admiral Bloch and Vice President Ramsey:

DEPARTMENT OF THE NAVY  
WASHINGTON  
OFFICE OF THE UNDER SECRETARY

Mr. H. C. Ramsey, Vice President,  
Worthington Pump & Machinery Corporation,  
Worthington Works,  
Harrison, New Jersey.

9 October 1944

Dear Mr. Ramsey:

Due to the untiring efforts of the men and women of the Worthington Works of the Worthington Pump & Machinery Corporation to produce the equipment needed for victory, the Navy Board for Production Awards at its last meeting granted your plant a fourth renewal of the Navy "E" Award. A new flag with four stars will reach you in the near future.

Each and every man and woman of the Worthington Works is to be heartily congratulated for the splendid production record that has been established and maintained since the time that the original Navy "E" was granted. The determined support of all is required to back up our courageous men on the battle fronts.

In view of your excellent record, the Army and Navy have decided that your company may retain the flag for a year before being considered for the next renewal. It is our sincere hope and desire that you will keep up the good work and that your present record will be maintained or exceeded in the future.

Sincerely yours,

C. C. BLOCH, Admiral, USN (Ret.),  
Chairman, Navy Board for Production Awards.

---

## WORTHINGTON PUMP & MACHINERY CORPORATION

Admiral C. C. Bloch, USN (Ret.),  
Chairman, Navy Board for Production Awards,  
Office of the Under Secretary,  
Department of the Navy,  
Washington, D. C.

October 13, 1944.

Dear Admiral Bloch:

We are deeply grateful for the kind expressions in your letter of October 9th, and for the action of the Navy Board for Production Awards in granting to our Harrison Works a fourth renewal of the Navy "E" Award.

It is on behalf of all of the employees of our Harrison Works that I am privileged to express our appreciation of your confidence in us.

We acknowledge receipt of the new pennant with four stars affixed, and will be proud to fly this over our plant during the period of the next year.

You can depend upon the unflagging efforts of this organization to achieve the maximum production, and to be helpful in any and every way within our capacity to do so.

In compliance with the request in the supplementary note attached to your letter, we are not engaging in any formal ceremonies in connection with this four star award.

Sincerely,

H. C. RAMSEY,  
Vice President.

HCRamsey/mw

K0375

# WORTHINGTON CENTRIFUGAL PUMPS 'KEEP

"General quarters, man your battle stations!"

Everyone knows what that command usually means when issued over the loudspeaker system of a U.S. Navy vessel — the enemy has been sighted, stand by for action! It also means that every man on board ship will take his assigned post to execute the duties expected of him during an engagement with hostile forces. Backing up these men and ready to perform the duties expected of them are the many centrifugal pumps on board.

There are limitless uses of centrifugal pumps on board ship. They may be used as Main Feed Pumps or they may be installed to pump drinking water throughout the ship. On the other hand, if a ship is hit during a battle and water starts to fill

the hull, the battle damage pumps will commence to operate and thereby keep the ship afloat until temporary repairs can be made to the damaged section. However, no one type of pump can be rated as most important. Each must function properly and promptly to assure the integrity of the ship. Naval battles frequently result in shipboard fires. Operation of the ship's fire pumps is essential in limiting fire damage to the minimum—sometimes to saving the ship. From the earliest days of sail, the fateful order "man the pumps" has sent all hands scurrying to their pumping stations.

Only a relatively few years ago boilers depended on the "black gang"—men who in the heat of battle kept coal flying through the fire doors so that their ships could maintain maneuverability. Today ships depend on pumps for supplying fuel to the boilers. Modern boilers operate at such high temperatures and pressures that a very rapid shutdown would be inevitable if the fuel oil pumps failed.

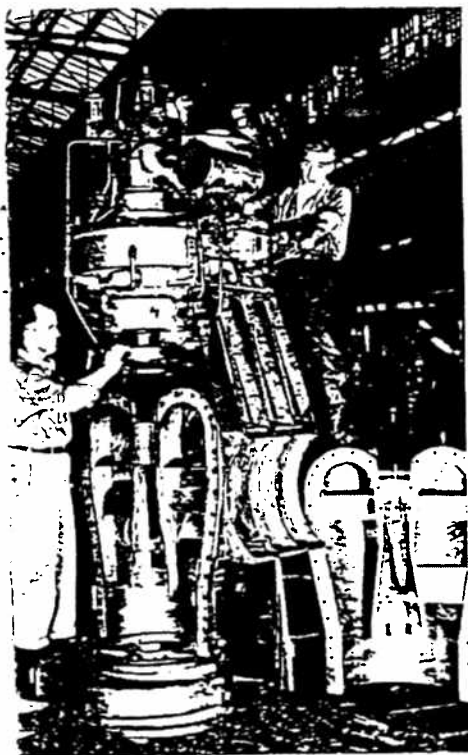
On aircraft carriers, battleships, cruisers, and certain other ships, gasoline is carried which requires very careful pumping. Time is all important in plane reservicing. Pumps must be suitable for servicing one plane or a dozen at the same time, and, as gasoline is highly volatile, the pumps must be leak-proof and fool-proof, for the safety of the ship depends on safe handling of this airplane fuel.

Because the well-designed pump is a fairly unobtrusive machine, humming along day after day without much care or attention, it has always lacked the glamour of the more temperamental pieces of equipment. Nothing on board ship is more com-

monplace nor more important to the successful operation of the ship than its pumps. It is, however, very interesting to consider the amount of detail and labor necessarily involved in the manufacture and installation of these vital yet "taken for granted" pieces of equipment on the ships of the United States Navy.

When the Navy Department decides that it will build a new ship, inquiries are sent out to the manufacturers of all equipment that will be needed on board ship. To the various pump manufacturers go the requests for a set of plans and prices on the various types of pumps required. The manufacturer is given full information regarding the amount of liquid and pressure each pump must deliver, and also a general idea of what type pump the Navy Department wants for the job. That is, they will state whether it is to be a vertical or a horizontal type pump in addition to giving the approximate size of the pump.

At Worthington this request will be handled by the Marine Sales Division. The engineers of this division will select a definite size and type of pump to conform with the Navy specifications if a standard pump is required, otherwise the request will be referred to the Centrifugal Engineering Navy Department. This department is composed of members of the Centrifugal Engineering Division who are specialists in the details of the exacting work required by the U. S. Navy on their pumps. The designing engineers of this group will design a pump to meet the requirements set forth by the Navy. (A new design is necessary in practically every instance since almost every pump must be tailor-made for the job). The designer knows that the pump must be made to conserve space and weight, both of paramount importance, because of the tremendous amount of machinery crammed into



At Left:—Main Condenser Circulating Pump built for installation in Uncle Sam's fighting Ships.

K0376



## 'EM FLOATING'

the relatively small space available aboard a modern man-of-war. In addition, the pump must be able to withstand terrific punishment without failing and, therefore, must be rugged. This calls for the use of special alloys and exacting operating characteristics for on the operation of the pumps depend the life and effectiveness of the ship.

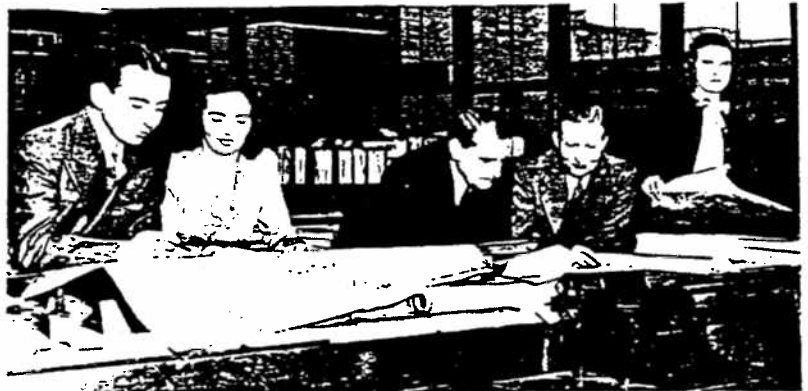
The engineer then, keeping in mind these many requirements, designs a pump capable of standing up to the important task expected of it. When the basic design is completed, preliminary plans, consisting of an outline elevation and a sectional elevation of the pump, will be forwarded along with the bid to the Navy Department. If the design and price are satisfactory, an order will be issued for the purchase of the pump as shown on the preliminary plans (possibly with alterations suggested by the Navy).

Immediately upon receipt of the order, our Marine Sales Division will enter a Works "P" order. When this order is received in the Centrifugal Engineering Navy Department, the preliminary plans will be checked and the design altered if the Navy so requests. At this time the engineering staff will commence work on the detail drawings of the unit. Unlike the standard commercial job drawings, where each detail is made on an individual sheet, the Navy specifies that all details must be made on as few drawing sheets as possible. This means that there may be as many as 15 to 20 details on one 27" x 40" drawing sheet. The reason for this is quite simple. The Navy, upon completion of all plans, including those of our vendors, issues one complete set of reproduced cloth drawings (known as "D" plans) covering all pieces of equipment aboard a warship to every Navy yard throughout the United States! There is also a complete set of blueprints carried aboard the vessel. In the event the blueprints as well as the ship are damaged through battle and the ship needs parts when it arrives in the States, the nearest Navy yard can be notified and have all parts completed when the ship arrives.

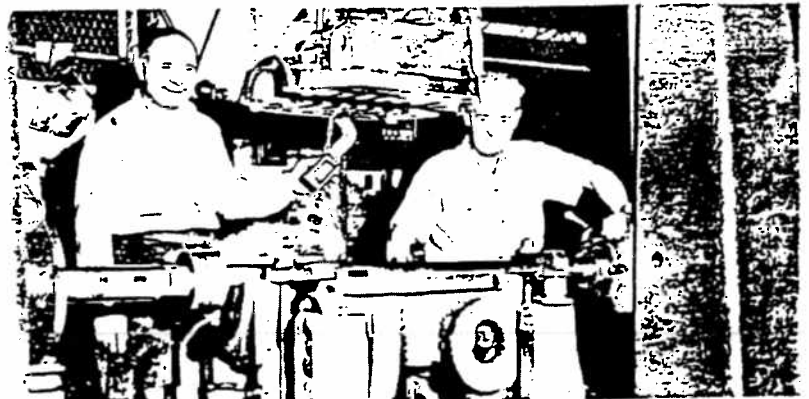
However, at the same time that one group of our Centrifugal Engineering Navy Department is preparing these plans, another group will start ordering all necessary purchase material for the unit. The vendors must receive an order stating exactly what they are to furnish (in many cases



Ivan Assayteen, Frank Fritcher, in charge of Navy and Marine Dept. of Centrifugal Engineering Division, Max Reimer and D. Mennele work out a design for a Navy Pump order.



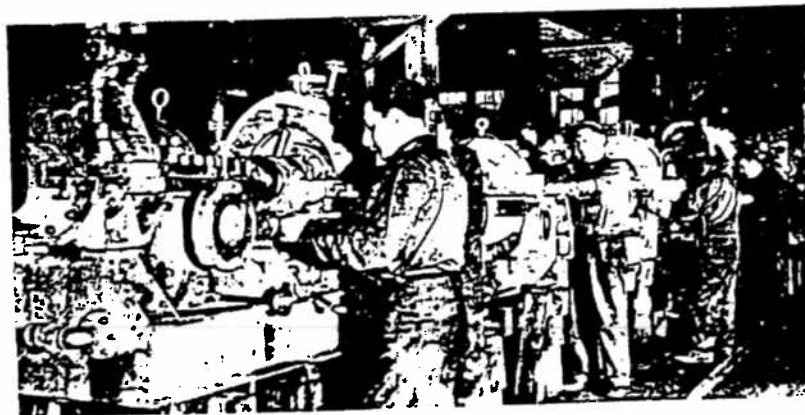
Nick Tullo, Agnes McKenna, Pete Loustrom, A. Bruckner, Mabel Meek work up basic drawings.



Boring main feed casing.



The Navy Inspectors.



Installation of oil piping on Main Feed Pumps.

drawings are required to insure receipt of the proper materials). It will be necessary to purchase a motor or a turbine to drive the pump. Possibly a special set of controls, etc., may be required. The vendors, almost without exception, must furnish Worthington with detailed plans of their equipment.

Upon the receipt of our vendors' plans and the completion of our own plans, they must be forwarded to the Navy Department for approval or comments. These are known as "B" plans. Almost invariably the Navy officials request changes to several parts of the pump, driver, etc., both in design and material to be used. After comments have been marked on the drawings by the Navy, the plans are returned to Worthington. It is then necessary to change these drawings per the comments and resubmit them once again to the Navy for approval. If the "B" plans are then returned approved the specifications must be written by the Engineering Department and the plans released to the shop for manufacture.

After the many individual parts of the pump have been cast and fully machined, it is necessary to secure the approval of these parts by the RINM (Resident Inspector of Navy Material), who has a large staff of inspectors stationed here at Worthington. Occasionally these inspectors are forced to reject completely finished pieces of work due to flaws that show up in the last operation. Many minor defects that appear harmless cannot be accepted by the Navy inspectors since they are trained to realize that this slightly defective piece may mean the difference between ultimate victory or defeat.

After all parts have been approved they are sent to the Navy erecting department in "JA" shop for final assembly. These erectors build nothing but U. S. Navy pumps. The pumps and drivers are assembled into a complete unit here. Close cooperation is necessary between this department, the Engineering Division and the RINM for the production of an efficient pump.

Before the completed unit can be shipped, however, it must be tested. This is so in the case of every single pump that Worthington furnishes the Navy. The Navy inspectors must witness the testing of each pump to be certain that the unit will see the job it was sold to do. Our stand can closely, if not exactly simulate any condition that will be encountered on shipboard. When the performance of the unit has been finally approved by the RINM, it can be packed in boxes, and shipped to its destination which will be the shipyard in which the vessel is being constructed.

One would undoubtedly assume this would be the end of all work on the unit insofar as Worthington

concerned. This is not so! The Navy requires instruction books for many of their pumps. These books are carried on shipboard and contain complete operating and maintenance instructions for the pump and driver, as well as any other equipment that we may have purchased from a vendor to complete the unit. This book also contains reproductions of elevation and other necessary drawings.

In addition to this, Worthington must furnish copies of the test reports as well as the "D" plans which have already been described. Also, an experienced erecting superintendent will be sent to the shipyard to supervise the correct installation of the equipment furnished by our company. When the vessel is finally completed a trial or shakedown trip will take place. It will be necessary for a Worthington representative to be aboard to make any adjustments to our pumps that may be necessary. The repair problem after the ship enters actual service is also a condition which we must consider. Although all the shipyards have experienced men available, it is ordinarily advisable to have a factory representative present whenever the pump is to be overhauled or repairs of any sort made. This man may locate the cause of trouble in a few minutes, whereas it would take another less experienced man several hours to do the job.

Worthington's job in reality is hardly ever finished. It is necessary to be on call to aid the fighting forces on a second's notice. The detail involved in the production of a "taken for granted" pump is tremendous. Because landing craft and every ship that is built must have pumps that will stand up under the most difficult conditions, not every manufacturer is qualified to build pumps for Naval use. Those manufacturers and their employees who are designing and building pumps for the U. S. Navy know the supreme importance of having every pump "just right," since the lives of many men may depend on the operation of every single pump which will be installed aboard the ships that will one day sail up Tokyo bay in the triumph of victory!

## NIGHT SHIFT NOTES

By FLORENCE RYSECK

There is a certain young man in BA Shop who is very happy. Being a faithful believer in the Ouija Board, having his last four sittings come true, convinced him more than ever of the powers of the Ouija Board. The fifth sitting told him he would win a thousand dollars on a certain day. The sixth sitting told him he would die about a month later. Imagine the state of mind the poor fellow was in. Then came the day for the thousand dollars. At five o'clock that evening he would know his fate. All day fellow workers cast benevolent glances in his direction. At last the hour arrived, and he rushed out to meet his fate, but lo and behold he did not win, and the spell was broken. A sigh of relief was heaved by all.

Mary Bradley recently became engaged to Leroy Johnson of Baltimore. The wedding will take place around the holiday season. We all wish you the very best of luck.

BA Shop had two visitors, Ensign Ernest Toth AV(N) from Miami and Pigeon Urban, Infantry. Pigeon lost 38 pounds. What a big improvement it made in him. Good luck to you both.

Glad to see Sandy Gibbs, night inspector, from F Shop back on the job after a serious accident.

Eddie Doran, night foreman, recently went under an operation. We all wish you a speedy recovery and good health.

Frank Nauss, stockroom, was in need of a ride to Newark one A.M., so Jack Pedone, BA operator, came to his rescue. At the H. & M. Bridge Jack's car ran out of gas. Of course, Frank pushed the car for about five blocks to a gas station. In relating his experience the next day, Frank found out that it is a common occur-

The men in the Shop who are responsible for seeing that the pumps get out.



rence with Jack. Half of BA night shift have pushed that car at one time or another.

Bill Maley, foreman of D Shop, is now a proud father. The baby was born September 30. Good luck to the Maley family.

Why do they call Makowski the General from BA?

Since our beloved Big John from BA has gone away to the Navy, why have those two rascals Mac and Larry changed from two slaphappy jerks? They have now become the gruesome twosome. Make out Charlie isn't happy.

### D SHOP

Joe Sabin is now serving with the United States Marines.

Abe Rudman (the Salami salesman) is back on the job after being ill. Keep well now.

Fred Holley has moved from the Blanchard Grinders to the Radial Drill. Good luck, Fred.

Bill Lawrence is trying to cut Rudman by trying to sell New England Maple Syrup.

Anker Hansen is back working after an operation. Keep healthy, Anker.

Angelo Pappas has quite a crop to harvest on Dick DeFosse's farm. Next year Harry Coward wants him for his farm.

### E SHOP

We miss our friend Tiny Jones who went to work days, but, pardon me, that was just for one week.

Why does Jim Manfrie call Willie Capone names?

Jack Dale has been home lately on account of illness in his family.

We extend our sympathy to "Butch" who recently lost his mother in Pennsylvania.

Otto Sacco and Julius, our laborers in E Shop, are dear friends. Why?

What does Walter do after he finishes his twelve hours of work in E Shop?

Jimmy, our layout man, is a happy man these days. Why?

Harvey Curley, craneman, is a great fellow for getting red ears.

Milo "Step'n Fetchit" Slinger is smoking 2 for 5 cigars.

Pete, the craneman, is back with us. Everybody down in Millionaire Row is happy too.

Jeffery from Q Shop is a happy man these days. His son returned from the Navy.

Charlie Kleinmans from K Shop, after 42 years of bachelor life, decided to get married. Charlie was married on September 16. Good luck to you and your Mrs.