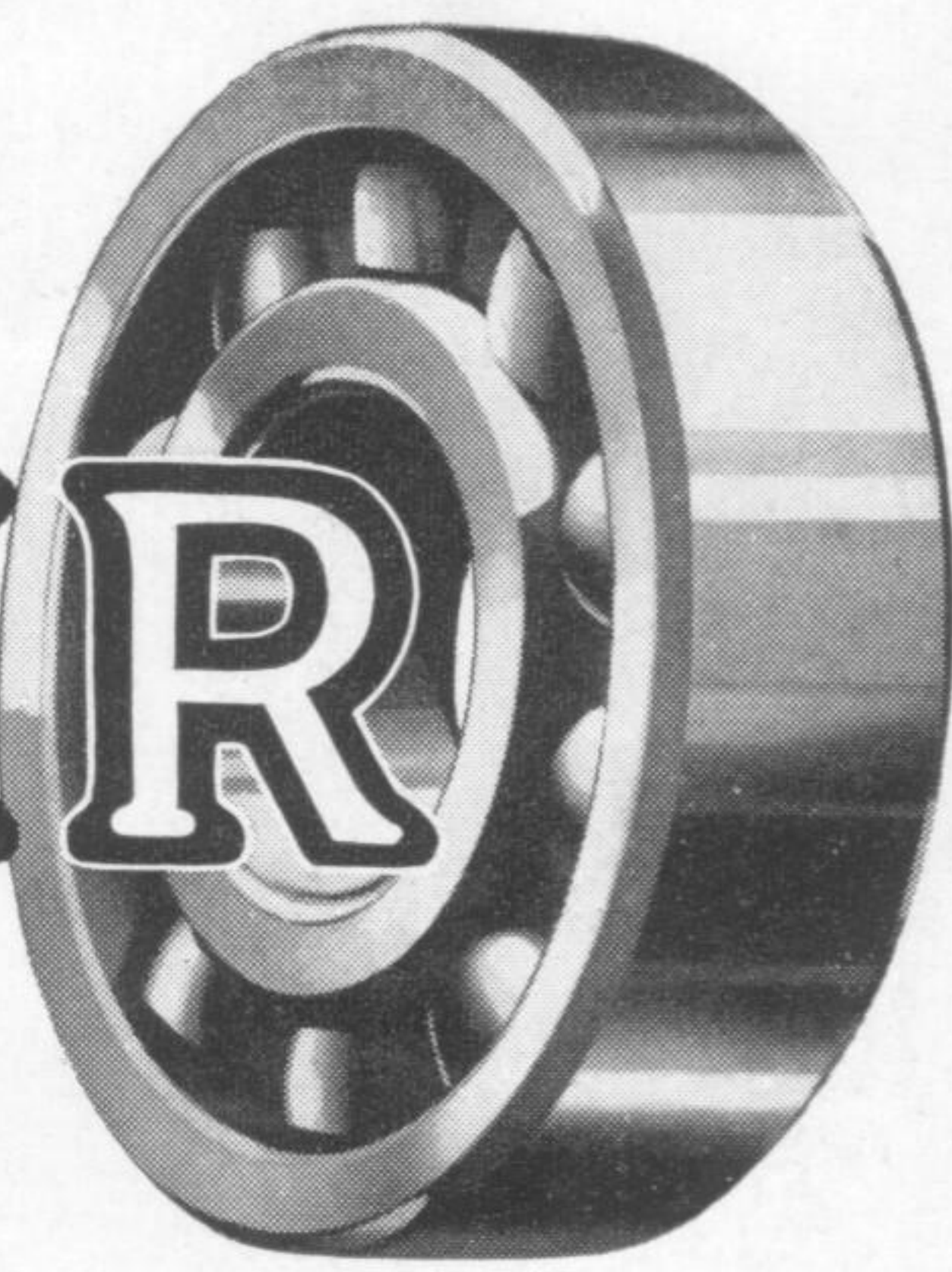


FAFNIR NEWS



NEW BRITAIN, CONN.

THE FAFNIR BEARING COMPANY

AUGUST, 1943

FAFNIR BEARINGS IN AMERICA'S WAR PLANES

Snub-nosed, lethal-appearing Fafnir equipped Republic Thunderbolts are proving the deadliest sky scrappers in action today. With their pulverizing 6,400 rounds-per-minute firepower and their 1,000 mile range, the P-47 fighters are punching down all opposition to help the United Nations gain absolute air mastery over the European invasion front. The 13,500 pounds overall weight of the Thunderbolt includes eight machine guns mounted in the wings, a 2,000 horsepower radial engine, and a turbo-supercharger. With a level flight speed exceeding 400 miles per hour, the P-47 Thunderbolt has dived at 725 m. p. h. Its ceiling of 40,000 feet makes it an effective protector of bomber armadas.

Fafnir Bearings are used in *all* of the American War Planes listed below, and those marked with an X use Fafnir equipped Hamilton Propellers. When you know that over 1,000 Fafnir Bearings are installed in a single four-motored bomber, this list becomes even more impressive. Think of this when you read the story by Captain Coss on pages 4 and 5.

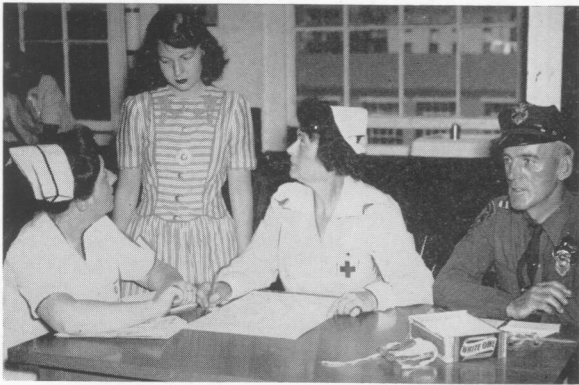


Photo by Hugelmeyer 1st Air Force

<i>Fafnir Equipped Hamilton Propellers</i>	<u>Army No.</u>	<u>Navy No.</u>	<u>Manufacturer</u>	<u>Airplane</u>
<u>HEAVY BOMBERS</u>				
X	B 17		Boeing	Flying Fortress
X	B 24	PB4Y	Con.-Vultee	Liberator
<u>MEDIUM BOMBERS</u>				
X	B 25	PBJ	No. American	Mitchell
	B 26		Martin	Marauder
X	B 34	PV	Vega	Ventura
X	B 37		Lockheed	Ventura
<u>LIGHT BOMBERS</u>				
X	A 20	BD	Douglas	Havoc (Attack)
X	A 24	SBD	Douglas	Dauntless (Dive)
X	A 28	PBO	Lockheed	Hudson (Patrol)
X		TBD	Douglas	Devastator (Torpedo)
X		TBF	Grumman	Avenger (Torpedo)
		SB2A	Brewster	Buccaneer
		SB2C	Curtiss	Helldiver
<u>PATROL BOMBERS (Flying Boats)</u>				
X	OA-10	PBY	Con-Vultee	Catalina
		PBM	Martin	Mariner
		PB2Y	Con-Vultee	Coronado

<i>Fafnir Equipped Hamilton Propellers</i>	<u>Army No.</u>	<u>Navy No.</u>	<u>Manufacturer</u>	<u>Airplane</u>
<u>FIGHTERS</u>				
	P 38		Lockheed	Lightning
	P 39		Bell	Airacobra
	P 40		Curtiss	Warhawk
	P 47		Republic	Thunderbolt
	P 51		No. American	Mustang
X		F4F	Grumman	Wildcat
X		F6F	Grumman	Hellcat
X		F4U	Chance Vought	Corsair
<u>OBSERVATION SCOUTS (Seaplanes)</u>				
X		OS2U	Chance Vought	Kingfisher
		SO3C	Curtiss	Seagull
<u>TRANSPORTS</u>				
X	C-46	R5C	Curtiss	Commando
X	C-47	R4D1	Douglas	Skytrain
X	C 53	R4D3	Douglas	Skytrooper
X	C 54	R5D	Douglas	Skymaster
X	C 56	R 50	Lockheed	Lodestar
X	C 87		Con.-Vultee	Liberator Express
			Lockheed	Constellation
X		JRF	Grumman	Goose
X		J4F	Grumman	Widgeon
<u>COMMUNICATIONS</u>				
		L5	Con.-Vultee	Sentinel

BLOOD! BLOOD! BLOOD!



Rita M. Luddy, Fafnir head nurse; Patty Baker, donor; Mrs. Mabel Parsons, a Gray Lady and volunteer worker; Captain Pat Coon.



Their duty done, Merrill Hunting, Arthur Maltman who handled all arrangements for the two-days blood-giving, Lillian G. Feeley and Marion E. Gombatz enjoy a snack. All gave their pint of blood.



Ann Kolodziej and Marion Gombatz with Nurse Jean Ackerman.



Miss Mary Hoczyk giving her pint.

Buckets of blood? We at Fafnir provided nearly a barrel of blood in a two-days session here sponsored by the American Red Cross Blood Donor Service in July, a barrel of precious fluid to save the lives of fighting men.

Of course the blood our 362 men and women donated at the rate of one pint each was not poured into a barrel, not by any means. Each don-

or's offering was carefully preserved in a separate container, placed immediately in dry ice, shipped to New Jersey where it was separated into two components, the red corpuscles being removed. The remaining fluid was so treated that all of the liquid portion was removed, leaving a golden powder, plasma, a pint of blood providing about two-thirds of a pint of plasma. As a powder it will be sent

to any part of the world, may be on its way already to the Mediterranean, or the South Pacific, or the Aleutians. For use it is dissolved in sterile water, becomes a liquid immediately.

Among the donors were many from the third shift, men and women who gave up some of their sleep and some of their off time to give of their blood. To them special credit is due.

BAUBLES FOR BUDDIES

At the suggestion of Dorothy Partyka of AR19, a Baubles for Buddies Box has been placed in the Employment Office so that it may be handy to receive any discarded jewelry Fafnir girls wish to deposit. The articles collected will be sent to the New York headquarters to which junk jewelry is being forwarded from many parts of the country for distribution to our fighters in the far places, where it

will be used for gifts or barter among the natives.

HATS OFF

Hats off to our fellow bearing-makers at the Holland division of Fafnir Bearing Company!

They have just sent us the first copy of *Fafnir Folks*, a new monthly publication they are putting out. Timely, newsy and interesting, *Fafnir Folks* in its initial issue carries

a message from President Maurice S. Stanley in which he states that "Through the products of your skill and hard work you are yourself in spirit in the air over Germany, Russia, Italy, China and the Pacific some part of every day and every night." There is also a message from General Manager H. S. Covell of the Holland Division.

Fafnir Folks is edited and produced by Holland employees at a subscription price of 50 cents a year.

OUR BLOOD AS WELL AS OUR SWEAT HAS GONE TO WAR

101	Carl Garczewski	2-1961	Anna Kolodziej	3-5173	Adelard Bourgeault	7411	Roman Galinski	9-8600	Lillian A. Feeley
115	Boleslaw Sienkiewicz	2-1973	Armand Turgeon	3-5188	Stanley Gadomski	8607	Elizabeth Burleson	9-8601	Marion E. Gombatz
159	Paul Proietti	3-1942	Amelia Kush	4-5107	Anna Kurylio	8609	Cynthia Warren	8707	Frank J. Ritchie
402	John I. Hamilla	3-1969	Quentin Beitel	4-5167	Mary Zaiko	8666	Mary Plocharczyk	8737	Clarence Coon
406	Alex Dobrowolski	3-1972	Edria Shilosky	4-5171	Sam Fazzino	8681	Mary Conlin	8741	Joseph Martin
415	Frank Dobrowski	3-1997	Fernande LaPointe	4-5177	Jeanette Brockway	8684	Laurette Kenefick	8743	John Fearnley
419	Peter Anop	4-1968	Anna Karas	6-5111	Zaven Najarian	2-8605	Philip Eagan	8746	Henry Hubbell
434	Edmund Reiss	21-1931	Eva Sadey	7-5105	Rudolph P. Lundell	2-8614	Lucy Majewski	8768	Carl T. Hewitt
436	Leo Dobrowolski	21-1956	Alfredo Chabot	7-5106	Philip Levesque	2-8634	George M. Garrity	8769	John Gierochowski
439	Anthony Cutler	21-1961	Stanley Parzych	7-5108	Adolf Simonides	2-8636	Emil J. Herzog	8771	Harcourt F. Schutz
444	Thaddeus P. Wojcik	21-1969	Mary Filewick	7-5117	Agnes Malinowski	2-8637	Richard Hube	8787	Gustave A. Ahlquist
467	Robert Start	22-1928	Valentina Tonene	7-5118	Alexander Laing	2-8645	David J. Beloin	8796	Clarence Avery
468	James D'Errico	23-1923	Elsie Sarrantonio	7-5136	Douglas Schlilm	2-8647	Thomas J. Leonard	1-8708	Joseph Mysliwicz
496	George Saxon	2113	Roland Lussier	7-5148	Irving Thomas	2-8654	Edmond Gauron	1-8709	Sylvio Pepin
512	Jozef P. Rydel	2304	Anthony Borawski	8-5109	William Griffin	4-8607	Anna F. Crowley	1-8713	Burton Davidson
519	Joseph Pegolo	2309	Stanislaw Duke	8-5124	Eugene Sorel	4-8621	Eleanore McFarlane	1-8719	Paul Fletcher
548	Stanley Bialek	2343	Victoria Kazmierczyk	8-5128	Philip J. McKeon	4-8628	Florence Majewski	1-8749	Don Hilles
555	Sammy Lombardo	2367	Violet Olivia	8-5135	Ebbe W. Johnson	4-8662	Anne Begay		Warren Teigeler
564	John Borawski	2373	Anna Timko	9-5136	Carolyn Young	5-8609	Ann Morrissey		*Fred J. Arrigan
10-541	Frank Marietta	2376	Joseph Kordek	9-5194	Mildred Diehl	5-8622	Merrill Hunting		*Jacob Gabany
20-550	Louis Marietta	2396	Emilie Whitaker	10-5155	Henry Vibert	6-8609	Franklin Atwater		*Robert Smith
713	John W. Mead	1-2367	Thomas DeDomizio	10-5199	Ethel Leupold	6-8610	Richard F. Cooper		
715	John H. Staub	5-1900	Stanley Mierzejewski	12-5108	Ralph Williams	6-8611	Clarence Hofher		
723	William L. Kelly	5-1905	Lottie Suess	12-5127	Salvatore Failla	7-8601	Elizabeth Cutter		
741	Harry Popper	5-1916	Michael Belfiore	12-5132	Louis M. Ceglowski	7-8608	John F. Zotter		
775	Conrad F. Garrick	5-1926	Chester J. Gloski	12-5142	Paul Morin				
10-171	Victor Stasky	5-1931	Teddy Orzechowski	12-5191	Raymond Bosso				
1000	Anthony Saiu	5-1937	Elizabeth Baranowski	12-5192	Gladys Gidrites				
1012	Ben Katz	5-1950	Cassie Soroka	13-5127	Marjorie Nye				
1246	Wincent Moroziewicz	5-1961	Stanley Turek	5267	Mary Sacosky				
1256	Merle Brown	5-1966	Mary Hoczyk	5271	Albert L. Frisk				
1515	Mariano Picciotta	5-1971	Lottie Domijan	5279	John Kelley				
1522	Carl Symcko	5-1996	Lawrence Buscaino	5299	Archie Luke				
1539	Harold F. Judd	6-1909	Josephine Szczepanik	1-5222	John J. Stawski				
1545	Roswell Vincent	6-1950	Joseph Renaud	1-5227	Florence Donati				
1556	Carl Haskell	6-1972	Mary Iskra	2-5214	Jane Budrejko				
1558	Ludger Huppe	6-1976	Connie Catanzaro	5-5286	Alfred Moore				
1565	Peter Rossi	6-1990	Estelle Fendel	5538	Harry Herman				
1569	Carl Yanke	6-1995	Stanley Satkowski	5554	Walter Sikora				
1572	Victor Scaringe	7-1908	Joseph Boudreau	5573	Lucy Palleschi				
1574	Gerald W. Baker	7-1911	Salvatore Tranchida	5575	Katherine Faulkner				
1585	Arthur Briggs	7-1904	John Grocki	3-5515	Rosalie Lysiak				
1586	Michael Sawczynsym	7-1965	Albert Covini	3-5536	Anna Gontarz				
1-1505	Benjamin Dionne	7-1975	Eva Sikora	22-5508	Alice Hickey				
1-1531	Philip Graves	7-1977	Minnie Funari	5802	Phillippe Rousseau				
1-1548	Pasquale Cammarota	7-1992	John Bulawa	5808	Robert Kayser				
1-1562	Anthony Jones	8-1905	Stanley Adamowicz	6007	Russell A. Bieber				
1604	Salvatore Coco	8-1932	Georgia Lane	6014	Howell Potter				
1609	Raymond A. Chagnon	10-1922	Ethel Yankowitz	6022	Edwin Mount				
1612	Valeria Romireo	10-1950	Josephine Socik	6146	Milton Redfield				
1619	Thomas J. Maloney	10-1965	Lottie Gajda	6169	Russell Fletcher				
1622	Henry Martel	10-1996	Josephine Touwsma	6189	Raymond Riggott				
1625	Anthony S. Bulawa	2201	Harland Newberg	6195	Stephen Riggott				
1643	Alcide Fillion	2206	John Laser	1-6114	Robert Filon				
1649	Stanley J. Potkay	2227	Ruth Carroll	1-6118	Henry Bozzak				
1652	Leonard Jameson	2241	Phyllis Alderman	1-6122	John Kozta				
1653	Russell Hobson	2256	Marguerite Smith	1-6143	John Valengavich				
1654	Phoebe Conway	2268	Frances Jurewicz	6212	Julio Trotta				
1662	Edward Ptacosky	2269	Alice Guel	6215	Vincent Pierce				
1663	Ralph Sacre	2280	James Marchesi	6217	Harold Ferguson				
1665	Norris Salley	2286	Muriel Stubbs	6223	Paolo Cassalino				
1667	Paul Smith	2292	Ira Millette	6226	Raymond Milton				
1668	William Kraut	1-2252	Leocadia Kloczko	6235	Joseph Burrell				
1672	Richard Bolles	2543	Gladys Rogala	6252	Domenico Rozzi				
1674	Raymond Martinsen	2560	John Ganem	6254	William G. Albrecht				
1684	James Marut	2565	Helen Maczko	6258	Leonard Lindgren				
1692	Sylvio Michaud	2591	Samuel Levy	6262	Frank Pogltisch				
1-1615	Rose Sansone	1-2525	Casimir Bochra	6268	John Neurath				
1-1618	Bertrand Fortier	5-2534	Ella Koegl	6283	Milton Schwartzberg				
1-1625	Roger B. Wall	5-2537	Allan Hunting	1-6204	William Ralph				
1-1628	George Petrisko	5-2551	Walter Waskiewicz	1-6205	James McNamara				
1-1643	Stanley Makucin	5-2566	Mary Ferre	1-6211	Llewellyn Forker				
1-1660	Frederic Hanscom	3004	Clara Wasinski	1-6221	Philip Burkart				
2-1611	James Conway	3084	James Hedger	1-6221	William Flynn				
2-1640	Eugene Turbide	1-3005	Florence Martinez	1-6230	Hubert Royce				
1705	Leon Bissonnette	3325	Fernando Pons	1-6232	Joseph Zapor				
1725	Rosaire Beaulieu	3336	Andrew Fascendini	2-6204	Harold Berberich				
1731	John Jankowski	3347	Morris Gardner	2-6233	Bruce Harris				
1750	Adam Lulavage	4021	Vincent Matus	6303	John J. Fitzgerald				
1754	Gerald LaMontague	4022	Frank Nipert	6314	Vincent Gorlewski				
1763	Joseph Szot	1-4010	Lionel Guerin	6320	Edward Szymanski				
1766	Daniel Jaspavich	1-4023	Otto Rullman	6705	Frank B. Connelly				
1771	Raymond Kessell	1-4027	Joseph Pierro	6806	Jennie L. Drobinski				
1773	Angelo Tedesco	1-4039	Stanley Salamon	6817	Richard Lord				
1792	Stephen Toth	1-4077	Raymond Melander	1-6868	Philip McCarthy				
1-1708	Joseph Melechinsky	1-4082	Ursula Riccio	2-6803	Odilon Proulx				
1-1728	Louis J. Moriano	1-4084	Carmine Fuccella	3-6820	Elmer Bates				
1-1742	Herve Roy	11-4014	Stanley Czech	3-6837	Isabelle Statchen				
1-1773	Henry Touwsma	11-4059	Carl Reindel	3-6854	Julian P. Routhier				
1-1778	Salvatore Catanese	11-4070	Stella Wojculewicz	5-6818	Elose Baker				
1-1779	Yves Huet	3-4025	Victor Lugli	7-6815	Stanley Dabkowski				
10-1707	Aime Roey	4-4062	Ida Barnes	1181-6800	Verrill Gilmore				
1913	Anthony Doucett	4-4073	Bessie Karlames	11-6819	Harold Olson				
1921	Joseph Bigor	4250	Nona Walasiewicz	23-6809	Grace Canzonetti				
1923	William A. Stevens	5133	Margaret Riley	7209	James S. Beach				
1934	Dominic Francolino	5140	Carl Johnson	7215	Edward Kapica				
1940	Tony Perone	5157	Edith Mazurick	1-7204	Alyson Baker				
1-1915	Rose Nonewicz	5162	Mary Kennedy	1-7207	Olive Corbin				
1-1924	Leo Chupron	1-5114	Beatrice Burghardt	1-7215	Grace Vibberts				
1-1926	Estelle Klewicki	1-5189	John Gazi	1-7216	Lillian M. Anderson				
1-1927	William McGrath	3-5100	John Ceskavich	1-7217	Helen Bassette				
1-1953	Walenty Parzych	3-5102	Alice Bourgault	1-7221	Ann M. Flukes				
1-1998	Joseph Timko	3-5123	Martha Campbell	1-7224	Rita M. Luddy				
2-1924	Mary Czerwinski	3-5131	Walter Marszalek	1-7226	Ennice Pratt				
2-1942	Florence Chojnicki			1-7230	Arthur Maltman				

*These three men came to deliver ice cream, stayed to deliver a pint of blood each.

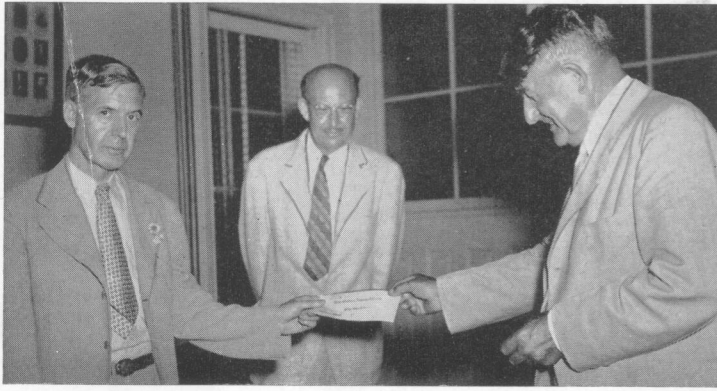
FLYING MILLETTES

(Continued from page 7)

front Ira guesses that a lot of bending and touching the floor will be necessary before he is in condition again to take to the high spots, upside-down.

Joining the Fafnir war-winning effort some time after her husband, Ira's wife, Mrs. Ruth Mae Millette, came after a period of retirement from a great circus career. For years she was one of the famed Codonas, performing with the troupe a dazzling flying return act that left the audience gasping. At least three years of her life were spent touring in Australia and other distant places, before she gave up the world of the three rings for the prosaic career of a housewife. But for 22 years before that retirement she had been a performer before thousands, most of those years with what has been humbly called The Greatest Show on Earth. As her husband comes on duty at Fafnir, she also comes on, to inspect, the two of them and Penny having had an early breakfast in their trailer home. They have a son, James, and he is doing his part in the war, too. He's in the Navy.

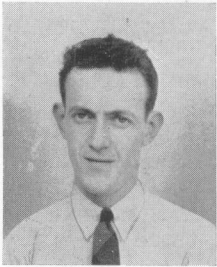
So they are all part of a bigger act than any in their four generations of circus life, are all playing in the mightiest drama the world has ever known. And as they quit their roles daily, they have an inner satisfaction as great as they ever experienced after a brilliant performance in the air, and as they head for their trailer home the rumble of Fafnir machinery must have for the five Millettes some element of the applause they have known so well.



PRESENTING GIFTS FOR 300 SOLDIERS

With some little pride, we at Fafnir can look back on a bit of fund-raising the first week in July. In cooperation with the Mayor's Citizens Committee, which arranges sendoffs and gifts for local service men, the Fafnir nine played the Wesleyan Flight Prep team in an exhibition game, tickets for the event being distributed throughout the plant, some going to the city at large. Under the able direction of Gordon Ely and Logan Page, pictured above with Mayor Quigley, the project netted \$610.30, sufficient cash to provide sendoff kits for 300 boys, 86 per cent of the money having been raised in the plant.

The game? Oh, we lost it, eight to four.



By this time, Bill Smith of the Purchasing Department, with Fafnir during the past seven years, is well on his way to service in far places, and adventure. Not accepted for military service, he joined up in the American Field Service, on July 6 started moving to some faraway spot, possibly on the other side of the globe where he will be an ambulance driver. Quiet, unassuming, he has a great many friends in the office.

We Broke a Record — But

By working 946 of every 1000 scheduled hours during the week ending July 8, we at Fafnir broke our own previous best weekly attendance record. We did things to the Axis that week, all right.

But

Since then the situation has taken a bad turn for the worse. We all know why, — extended vacations, unauthorized vacations.

Only this week we have been told by representatives of the War Production Board, the Army and the Navy, that we at Fafnir must bear a very large part of the responsibility for supplying enough bearings for every item of combat equipment, planes, instruments, tanks, gun mounts, to mention a few. We were promised all possible aid in securing the necessary increase in number of employees.

One point in particular was emphasized — the paramount necessity of every man and woman at Fafnir **BEING ON THE JOB** every moment of the day or night when our schedule demands it. If vacation ends Thursday night, don't wait until Monday to report for duty.

Is it playing the game the AMERICAN way to be AWOL on our sector of the fighting front, our posts unfilled, our comrades up front unprotected, because we of the rear guard must have our fun?



NEGOTIATED TRANSFERS

As new a product of the war as the amphibious jeep, but in a far different field of operations, is the Negotiated Transfer. Miss Margaret Halliday, pictured above, is typical of a goodly number of men and women who have come to Fafnir under the negotiated transfer plan.

During July, one of our neighbor war-plants, the New Britain Machine Company, found that it could release some of its skilled workers in several branches of war production. We at Fafnir could use them. So, through the local branch of the United States Employment Service, a negotiated transfer was arranged.

Mr. Frederick M. Senf, representing Fafnir, interviewed men and women being released, found that about two-thirds of those leaving their former place of employment were glad of the opportunity to join us, welcoming the lack of red tape and fussing connected with the whole move from one job to another. They welcomed, too, the fact that they would lose little time, if any, from earning and from war production.

HOW'RE WE DOIN'?

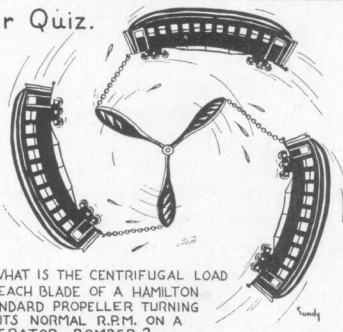
The following list of baseball scores to date will show why the Fafnir nine is leading the New Britain Industrial League by a wide margin:

Fafnir 1	N. B. Machine 0
Fafnir 6	New Departure 2
Fafnir 5	Stanley 1
Fafnir 1	Hardware 1
Fafnir 1	N. B. Machine 9
Fafnir 4	New Departure 1
Fafnir 3	Stanley 1
Fafnir 8	Hardware 0
Fafnir 2	Hardware 1
Fafnir 2	N. B. Machine 1
Fafnir 6	New Departure 8
Fafnir 2	Stanley 0
Fafnir 4	Hardware 2

FAFNIR FAMILY

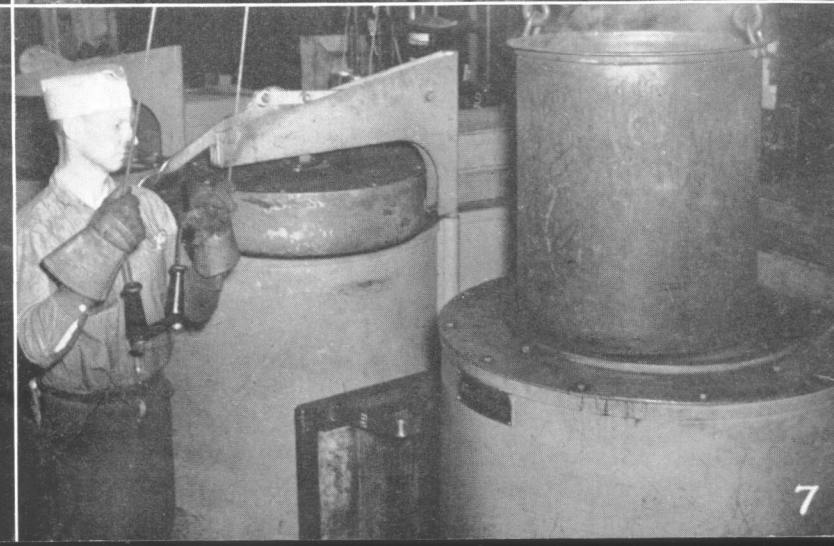
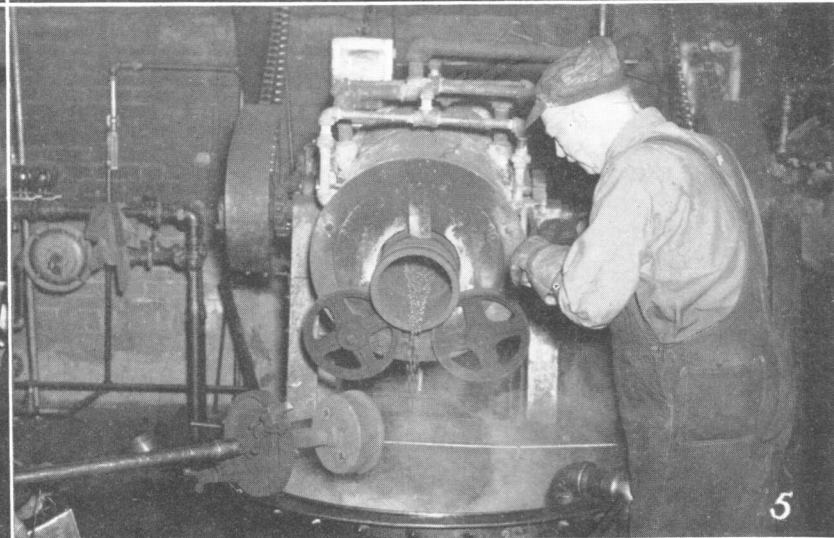
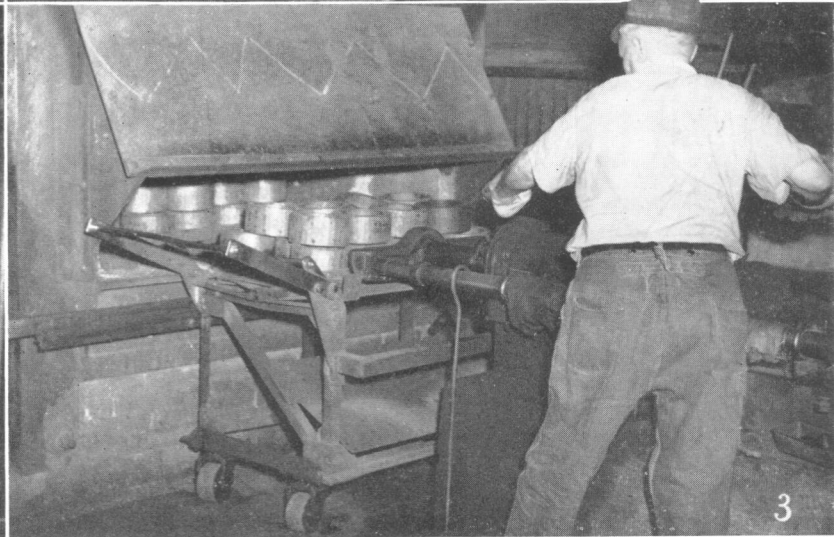
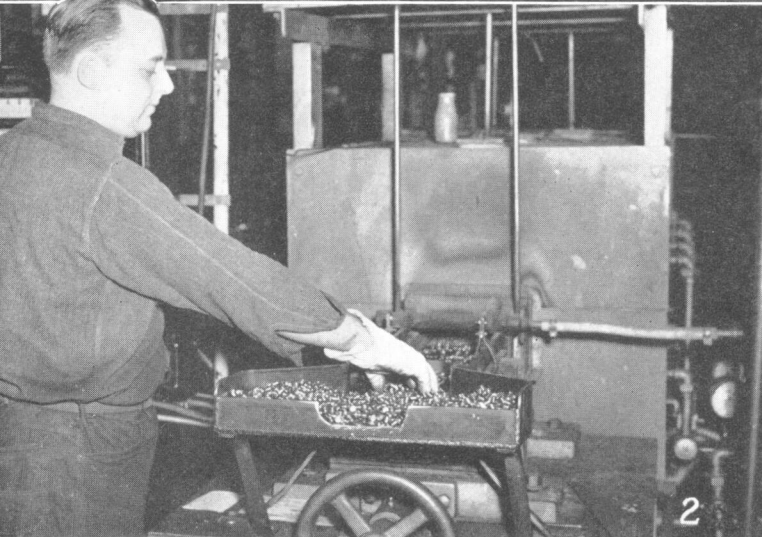
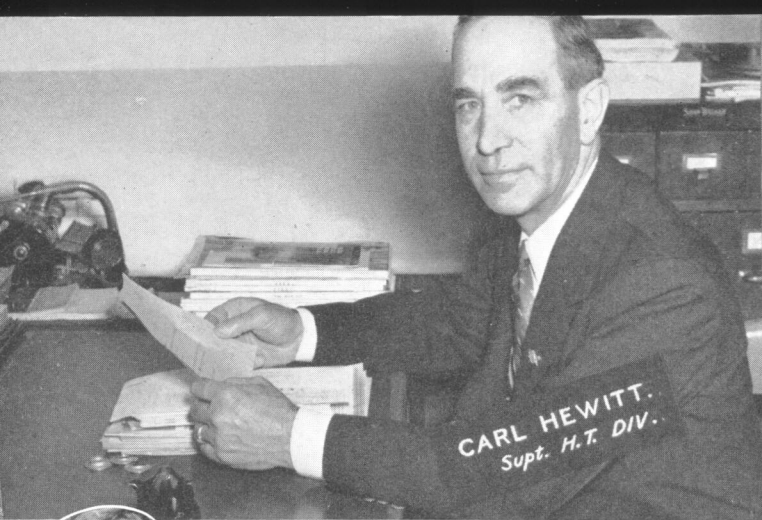
Facts + Fables

Air Quiz.



Q. WHAT IS THE CENTRIFUGAL LOAD ON EACH BLADE OF A HAMILTON STANDARD PROPELLER TURNING AT ITS NORMAL R.P.M. ON A LIBERATOR BOMBER?

A. ABOUT 153,000 POUNDS, OR THE WEIGHT OF A STANDARD PULLMAN CAR. THESE PROPELLERS ARE ALL EQUIPPED WITH FAFNIR BEARINGS.





EVOLUTION OF A FAFNIR BALL BEARING

The subjects underlined have already been printed.

1. Introduction.
2. Employment.
3. Tool.
4. Raw Material.
5. Forging.
6. Machining.
7. Heat Treating.
8. Grinding.
9. Balls.
10. Inspection.
11. Shipping.



Heat Treating

Last month we saw how the inner and outer rings of Fafnir Ball Bearings are machined roughly to size from annealed steel. After the careful inspection which follows every

quenched in water. The bolts are used to fill tapped holes to prevent hardening of threads. *Operator: Edward Zujko.*

9. Shows girl operator feeding rod-end outers into a continuous fixture that carries the part to be hardened through a high-frequency inductor block that heats that portion to the proper temperature for hardening. The parts are quenched as they leave the inductor block. *Operator: Marie Pelletier.*

10. Removing a pot-full of carburized bearing parts from a carburizing furnace. Here the parts are subjected, at 1,700° F., to the carburizing action of gas, which increases the carbon content of the surface so that it can be hardened, while leaving the core soft for toughness. The parts here shown will be quenched in oil.

Operators: Frank Gianoli; A. Veneziano, a former employee.

stage of manufacture, the rings are ready for the Heat Treating Division.

As received by this department, the annealed rings are too soft for the exacting service to which high grade ball bearings are subjected. They would wear rapidly and lack durability, especially under high speeds, heavy loads, and shock. Consequently, they must be hardened, not in hit-or-miss fashion, but to an exact degree which is determined in advance. This requires scientific hardening methods, with complete control of temperatures, time cycles and furnace atmospheres.

The rings are usually heated for hardening in gas furnaces, though in some instances it is done in electric furnaces. In either case, the rings are brought to a specified temperature in a specified time, and are then quenched, not rapidly in water, but slowly in oil since this alloy steel hardens fully and deeply when oil-quenched.

However, this is not quite the end of the steps taken to condition the structure of the steel. There is one more operation known as tempering by means of which the steel of the rings is given the correct degree of hardness and toughness and also to relieve all hardening strains.

From start to finish, all of these operations — hardening, quenching, and tempering — are scientifically performed on the basis of laboratory tests to produce planned results. They are now too hard for further machining, and the comparatively small amount of stock which must be taken off to bring them to size is removed by grinding, which is our subject next month.

1. Annealing of forgings is done in large car-bottom type electric furnaces. Forgings shown are for Hamilton Standard thrust washers. Loads average 5,000 lbs. Annealing cycles are about 44 hours total time.

Operators: Ben Katz, Edward Farina, Tom Butler.

2. Rolls for Hamilton Standard thrust bearings are heated for hardening in a continuous-type reciprocating hearth furnace. Fed in at one end, they continually progress through the furnace and are discharged into quenching oil.

Operator: Edward Polgroszek.

3. All bearing steel forgings are normalized at 1,700° F. before annealing. This is accomplished by pushing trays containing the forgings through a long furnace maintained at the proper temperature. Illustration shows a tray of cold forgings being pushed into the furnace by an air-operated pusher.

Operator: Thomas Hogan.

4. Small and medium size rings are heated for hardening in reciprocating-hearth furnaces. This shows the charging end of one of these furnaces, as well as the automatic temperature control equipment. These furnaces are of the continuous type.

Operator: Mike Kaszycki.

5. Small balls are heated for hardening in horizontal rotary furnaces, followed by oil quenching. Illustration shows a batch of balls being quenched after the proper heating period.

Operator: Henry Grayson.

6. Shows the discharge end of the atmosphere — controlled bright annealing furnace where retainers, shields and caps, made from low carbon cold rolled steel, are annealed. Notice how bright the parts are as delivered from this furnace.

Operator: Andrew Johnson.

7. Tempering, or drawing, is done in air-drawing furnaces in which the heated air is circulated through the work under high speed. Illustration shows a basket of work being removed from the furnace.

Operator: Axel Hultgren.

8. Railway housing that has been in the carburizing furnace for forty hours at 1,700° F. is being withdrawn and will now be

R7
P.F.C. Anthony Malinowski, 3102521
APO 25, c/o Postmaster, San Francisco,
Cal.

Dear Sir:

The *Fafnir News* is the first paper I have seen in 18 months of foreign service that had anything to do with the acquaintances I made while I was with the Fafnir Company. Somewhere in the Southwest Pacific.

★

MR51
From Amerigo Nappi, ASN 6144578,
A.P.O. No. 460, c/o Postmaster, Los
Angeles, California.

To Whom It May Concern:

I am just writing a few lines to let you know that I was transferred from my original outfit for back injury.

I do appreciate reading the Fafnir paper. I am always looking forward to the next paper.

★

R15
From Corp. A. Botteon, Btry. A226,
A.A.A. SL. BN, Camp Haan, California.
May 24, 1943.

Dear Sir:

Before I left for the desert I was promoted to Corporal T/5. I'm proud of the stripes that I'm wearing, and I'm proud to hear that the Company has been awarded a Star. Keep those bearings rolling and we'll have them on the run.

Wishing you all lots of luck and greater production.

★

R19
From Cpl. W. Orzechowski, A.P.O. 43,
San Francisco, California.
April 27, 1943.

Dear Mr. Ely:

I was laid up with a touch of fever here in the Pacific when I received your letter and the *Fafnir News*, and believe you me, it made me feel much better to know that your old friends still remember you.

★

R17
From Corp. Andy Surowilcki, A.P.O.
No. 43, c/o Postmaster San Francisco,
California.
May 3, 1943.

Dear Friends:

We would love to send you some pictures of ourselves but there isn't a photographer within thousands of miles of us so our words will have to take care of our looks and feelings. By the way, we all sure miss those big bonuses Fafnir is paying.

Say Hello to R17 and R51 and also to the First Aid Department which I visited quite often and miss very much the touch of those nice nurses.

★

R19
Aviation Cadet David M. Attie, 57th
A. A. F. F. T. D., Ocala, Florida.
May 24, 1943.

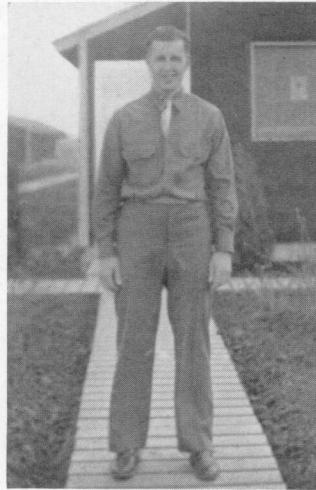
My dear Mr. Ely:

We all in the service are curious to know where the boys, yes and the girls too, that we worked with are serving. Also we like to know about all those on the home front.

No one can realize more than the pilot himself how vital a part of his powerful ship is the bearing. Keep 'em rolling as fast as we fly 'em and you'll be doing all right.

Love to all (especially all my ex-girl friends).

P. S. Enclosed is a photo which will undoubtedly be appreciated by my girl-friends if printed in the *Fafnir News*.



Pvt. Alfred Yukna, 509th BFTS., Independence, Kansas. Formerly of Dept. AR19.



Lieut. Robert J. Ely who worked with us at Fafnir several summers, now flying in the Mediterranean area, was recently forced down on a North African mountain top, had to ride his way to a village on a borrowed burro.



A. C. David M. Attie (See letter).

RULER OF

By Captain Walter L. Coss

When you read this War Department release, bear in mind that the P47 Thunderbolt is one of the many American War Planes in which Fafnir Bearings are used. You have a right to be proud of the fact that through your workmanship and loyalty, you have much to do with the remarkable performance of these War Planes in action.

I have a heavy score to settle with the Axis, and I hope to settle it — with the help of you men and women who build the P-47 and the parts that go into it.

I was serving as a fighter pilot in the Philippines when the Japs swooped down on Pearl Harbor, but I never even knew about it until they had completed their bombing and sneaked back home. I was on a routine patrol flight that day, and the Nips destroyed the radio station on which we depended for directions. When we landed, we heard what had happened.

We started hitting back right away, and on December 13 I was sent out on reconnaissance to look over the Jap landing field at Aparri. We had strafed the field the day before and I wanted to find out just what damage we'd done. But the Japs were on the alert. They had two Zeros sitting up there in the clouds, and as soon as I showed up they dove on me. We traded punches with our machine guns, but they finally shot me down in flames. I managed to bail out at 800 feet and landed in a river. The Japs kept after me with their guns, but I got away. I walked through the jungle and hills for eight feverish days, and arrived back at Clark Field just in time to be evacuated to Bataan.

I spent a week with that heroic garrison. Then six other fighter pilots and myself were sent off in a little Beechcraft transport to pick up some fighter planes in Australia. We were supposed to fly them back, but we never did because by the time we got to Australia there were no flying fields left on Bataan.

The next few months were a nightmare. We never had enough planes or pilots or equipment. We flew out of jungle flying strips axle deep in mud. We were outnumbered ten and twenty to one. I remember one day

THE UPPER AIR

Army Air Forces

in Java when seven American fighters went up against seventy-two Jap heavy bombers and forty Zeros.

Things didn't begin to look up until the Spring of 1942. New equipment began to arrive — more planes, more spare parts, more tools. For the first time we began to fight the Japs on something like even terms. But even then we didn't have a good high altitude fighter to watch their Zeros.

The first time I flew a plane like that was when I was recalled to the States last September and was placed in command of a squadron of P-47 Thunderbolts. They can operate at ceilings 10,000 feet higher than the fighter planes we flew in the Southwest Pacific and they can probably fly 100 miles an hour faster. The P-47 has greater fire-power and it's easier on the controls than the ships we were used to. With the Thunderbolt we'll be able to meet, and beat, the Nazis and Japs on their own terms — above 30,000 feet. There is no question in my mind that the P-47 can and will rule the upper air.

A big part of the credit for that goes to the workers who build it. They have made it tough and dependable. You can knock it all to hell, but the P-47 will stay put together. It has a fine landing gear and you don't have to worry about ground looping when you set it down. Its cockpit and instrument panel are fixed so that you can get at things without fumbling or losing precious time.

My squadron is winding up its training now. Soon the men I trained will be in the thick of it, slugging it out with the Nazis or Japs. If my luck holds, I'll be out there with them. I want to get in a few licks with a plane that can swap blows with any high altitude fighter the Axis can put in the air. But it is going to take more than one squadron of P-47's to do the whole job. It is going to take more than a dozen squadrons. It is going to take all the P-47's we can get. That puts a big responsibility on you in the factories turning out the thousand and one parts without which the Thunderbolt wouldn't be the plane it is. We know we can count on you. Believe me, you can count on us.



Sebastian V. Juliano, S 2/c, formerly in the Tool Dept., is at Memphis, Tenn.



R16 L. F. Donovan S 1/c, Fleet Post Office, San Francisco, Cal.



John Zajac from R67, Shipping Room, is now in England.

HR51

From Alfred W. Miller, So. M. 3/c, c/o Fleet Postmaster, New York City, N. Y. May 13, 1943.

Dear Mr. Ely:

Since joining the Navy I've traveled over 8,000 miles and the *Fafnir News* has followed me like a shadow. It is difficult to put into words what it means to hear from home, the factory and the gang all in one newspaper, so all I'll say is thanks a lot. Just in case these few lines land in the *News* I'd like to say hello to a few of my old shipmates. To the Gang down at John Street, George Russell and Zeke. To J. Deters and his old inspectors from three and four years back.

So, until the next edition of the *Fafnir News*, good-bye and don't stop producing either (the newspaper or ball bearings).

P. S. How does the ball team look? They better finish first or I get a salt water bath over the "fantail."

★

AR25

From Pvt. G. Martinsen, Bldg. 1420, Ft. Eustis, Virginia. May 21, 1943.

Dear Mr. Ely:

There isn't much to say except that all the fellows here are doing their part and most of them cannot wait to get into action.

My very best regards to the gang in AR25 and AR19 and also to Louie L. the night boss and his assistant Bill.

★

R17

From Stanley M. Szot, BM 2/c, c/o Fleet P. O., San Francisco, California. April 28, 1943.

Dear Mr. Ely:

I've been here for the last 5 months. Somewhere in the South Pacific. That's all I can say. They may scratch this out. I hope not. We play baseball and go fishing — that's all.

Say Hello to my brother and sisters. Hope to see you when it's all over. Keep 'em rolling.

★

AR19

From P.F.C. Joseph Ouellette, 31099409, APO 301, c/o Postmaster, San Francisco, California. May 2, 1943.

Dear Sir:

Just a few words to let you know that I received the *News* from the *Fafnir Bearing Co.* two weeks ago and one more today. I enjoyed reading them. Give my best regards to all my friends. Oh Yes! I am somewhere in Australia and driving a truck.

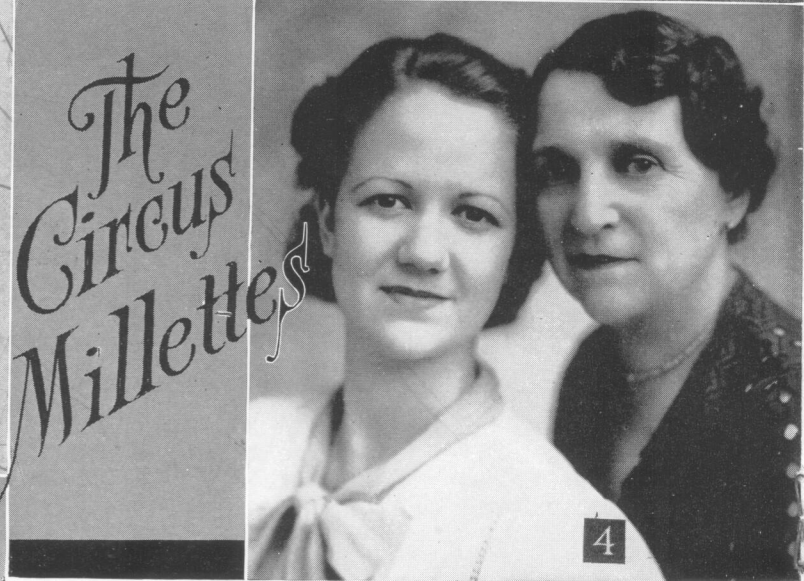
★

R67

From P.F.C. John Bartosiewicz, 11033437, A.P.O. 848, c/o Postmaster, New York City, N. Y. May 5, 1943.

Dear Sirs:

I am now an aircraft armorer and radio operator and I find *Fafnir* bearings a major part in the successful operation of planes. All the fellows down here know what a swell job you are doing. Until some other day, I remain.



1. Here are Ira and his daughter, Penny, way up in the air. Their act sometimes took them up as high as the top of a 10-story building, well over 100 feet.

2. On the lot. The upside-down Millettes and Mrs. Ruth Mae Millette, who before her retirement from the Big Top, was with Ringling Brothers 22 years. Here are, left to right: Ira Millette; his wife, Ruth Mae; their daughter, Penny; their son, James, now in the Navy.

3. A la Hollywood. Back a few years, in their professional togs while with Ringling Brothers, James, Penny and Ira Millette.

4. When Mrs. Maud Jennier Millette was wardrobe mistress with Ringling Brothers and her daughter, Mildred Maud Millette was one of a troupe of girl aerialists, a few years ago. Mildred broke her leg, had to retire from the circus.

5. Nice work if you can do it, and Ira can, or could before temporarily giving up the high spots to help fight the war here at Fafnir. Born to the circus, he was the first of the Millettes to come to us, after many years with the world's biggest traveling shows.

6. Ira 7. Penny 8. Ruth M. 9. Mildred 10. Maud

THE FA





Ladeez and Gentlemen!!!

Right this Way!!!

Flying Millettes Quit Big Top to Enter Fafnir Arsenal



Resolutely turning their backs on the world of the sawdust ring, blaring band, flying trapeze and pink lemonade, the world that has been theirs from childhood, the Circus Millettes have joined us at the Fafnir Bearing Arsenal.

Mother, daughter, son, daughter-in-law and granddaughter, they have abandoned for the duration of the war the acts that have taken them to the far places of the world, but they are sending calling cards to these far places in the form of fine ball bearings in the country's fighting machines.

Youngest of the Millettes in the circus business, now in the Fafnir business, is Penny, pert, talented, representing the fourth generation of performing Millettes. Now she is doing a job as fine as any in her young life, as an expediter aiding in the movement of bearings to the fighting fronts of the world. It was with Penny's great grandparents that the performing abilities of the Millettes first became evident, those ancestors of the family here at Fafnir having made quite a name for themselves in the world of the Showboat. They were married, in fact, on a circus boat. The bride in that ceremony was a niece of Dan Rice, most noted circus man of his day.

To them was born Penny's grandmother, who has given most of her life to the show world. Her passports speak vividly of the far places to which her thrilling aerialist act traveled. She and the circus aerialist she married did a double trapeze, tight wire act, and in the early years of the present century they were in their greatest glory. Connecticut has always had a rather tragic connec-

tion for the Millettes because it was in this state, on a circus train between Hartford and New Haven, that Penny's grandfather died from a heart attack. His widow, who knew the circus world better than any other, stayed in that world and for a long period before retiring she served as wardrobe mistress with Ringling Brothers.

And where is she now? Right at her job here at Fafnir. She's Maud Jennier Millette, inspector in Department R22 between 3 and 11 p.m.

With her in that department is her daughter, Penny's Aunt Mildred Maud Millette, born to the circus as was Penny's father, Ira Millette, who is operating in R22 a fine precision grinding machine. He stays at his machine through the 7 a.m. to 3 p.m. shift, greets his sister as she comes in for the following shift, during which she inspects some of the work he has produced. The two of them, Ira and Mildred, learned the intricacies of the high wire and trapeze from their mother, although Mildred is much younger than her brother and did not start her circus career until much later than he. She played 10 years with Ringling Brothers, performing with four other girls in a trapeze act, until she was injured in 1938. She's still in her twenties.

And Ira's career under the white top? He grinned the other day as he recalled the story his mother has told him about his circus debut, at the age of two years. He made that first grand entrance before the public in the leg of a clown's pantaloons. His act was to scamper out of the pants-leg at a certain moment, to the glee of the audience and the ap-

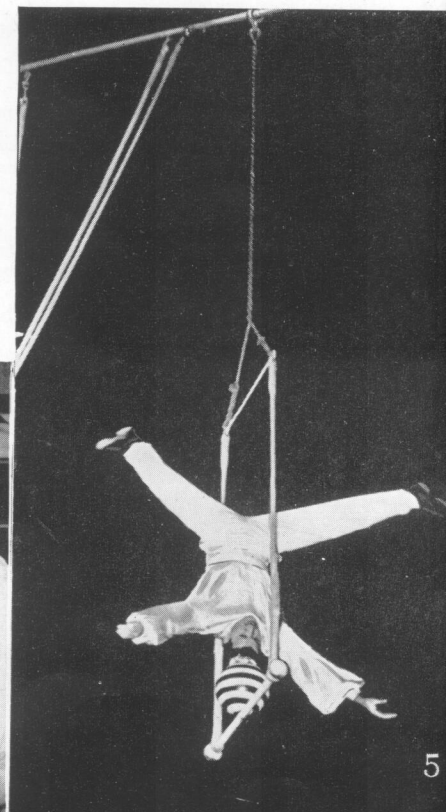
parent amazement of the clown. His real start as a performer did not come until a couple of years later when at the age of four years he took part in a riding act.

From that time on, his summers were given to the circus, most of them to Ringling Brothers and Barnum & Bailey, his other months to schooling and performing at fairs or in some of the great theatres of the world. He worked high in the air, sometimes 100 feet up, upside down on a trapeze, a feat which gave his act the name of Upside-Down Millettes. Twice he toured the countries of Europe. He was the first of the Millettes to come to Fafnir, has gradually gathered his family about him here. How did he happen to pick Fafnir? It seems that he was in New Britain on some business connected with an aerialist act owned here, mentioned to a prominent circus fan that if the opportunity were present he would like to do war work in this city. At once he was referred to Fafnir. He has never regretted his choice.

And after the war is won? Of course he wants to go back, with his two children, to the work to which all were born, but as he looks ruefully at his budding bay-window

(Continued on page 11)

AFNIR MILLETES



AR19

P.F.C. Euclid Jalbert, U.S. Marine Corps,
9th Br., C.C. Mess, Parris Island, South
Carolina.
April 27, 1943.

Dear Sir:

I received quite a few copies of the *Fafnir News*, and was very glad to read it. I have been an employee of the plant for a year, working in AR19. I would like to be working for you again today, but there is a big job for us fellows to do.

★

R17

Sgt. Rupert E. Wisell, 312 Station Hos-
pital, Camp Rucker, Alabama.
May 2, 1943

Dear Sirs:

My work in the Army is very interesting. I have been working in the office or in the headquarters office since I came to Alabama, and I find the administrative work in the Army very interesting. I hope to have the occasion to work for you people after the war, as I found you a very fair company to work for, and, to my mind, your cooperation with your employees was very nice.

★

MR51

Ruth Carol Terry, Boys' Dormitory,
Company B, Branch No. 1, WAAC,
Army Administ. School, Nacogdoches,
Texas.
May 1, 1943.

Dear Miss Quigley:

In order to keep us aware of the important war work that civilians are doing, on Thursday nights we're shown movies of farmers, factory workers and shipyard employees, as a part of our orientation course. It doesn't seem possible that so many people could be needed in such diverse places to keep our troops moving. I know that even though I enjoyed working at the Fafnir Bearing Company, I didn't then appreciate how much such a factory contributes to American protection. Your work is immensely important.

★

R68

Pvt. Bernard Kashdan, Flt. 4, T.D.,
AAFTTC, Brown University, Providence,
Rhode Island.
May 3, 1943.

Gentlemen:

I am now stationed at Brown University where I am training to be a meteorologist. The Army's new big training program at American colleges and universities is a very good thing. The pace is naturally fast, but the physical surroundings and the treatment given to us student soldiers is very fine indeed. We are actually taking two courses, because military training goes on side by side with our academic work.

★

R5

Pvt. Armen Jacobs, Station Hospital
A-16, A.P.O. No. 445, Camp Swift,
Texas.
April 27, 1943.

Hello Mr. Senf:

I'm getting along very well. I hope to be out of the hospital in a few weeks. My eyes are very weak. I may get a medical discharge but I don't want it. Boy, I got 4 needles in my spine today. One was 4 inches long. Please excuse my writing, as I'm still a little weak.



P. F. C. Jerry J. Salvio, Co. A, 351st Inf.,
A.P.O. 88, Camp Gruber, Okla., formerly
with Crotty Bros.



Pvt. William George, 31378745, Co. H,
289 Inf., A.P.O. 451, Fort Leonard Wood,
Missouri. Formerly of Dept. RR51.



BR51 Juel J. Esmail, S 2/c, c/o Fleet Post-
master, New York.

THE MAN BEHIND

You're a Fafnir Guard and your post is the Booth St. Gate House. It's kind of peaceful along about 9 o'clock in the evening and you're thinking that it's about time for you to relieve Fred up on the Orange St. Patrol. You lean back in your chair to stretch before getting up — and then you suddenly snap back into an upright position. There's a blast of noise! It's no ordinary noise, but one sounding like 20,000 angry Brooklyn fans giving the umpire the "razzberries." But you're used to that noise and you simply wait for it to stop. Then your hand instinctively reaches for the private phone connecting Fafnir with the air-raid report center.

You've done this before — dozens of times. Every few hours, day and night the noise of that horn blasts the air to announce a routine test call designed to check the equipment and the people operating it to make sure that both are functioning properly. You wait your turn on the list of factories to acknowledge the call and the message. You're thinking that this is just another test — but no, it's different! On this one the Army has ordered a blackout drill!

For a moment you're just a bit excited. Then you go into action and you're so busy you forget all about being nervous. You notify the Washington and John St. plants and keep them informed as each successive signal comes over the report center phone. You summon the key men in the main plant, announce the coming blackout over the loudspeaker to give those in the plant an advance warning. Soon you notify the electricians that the plant is to be blacked out and then sound the plant alarm bells.

In the meantime — if there is any meantime — you are making a log of all signals received and relayed, answering any calls on the regular phone. If ever you wished you were twins — well, this is it.

THE TELEPHONE

But you're not the only one who is busy about this time. The guards at the Washington and John St. plants are getting their plants set for the drill. Jack Fitzgerald and his men move on the double to their stations to take care of the lights when the signal is given. The key men who are off duty and are on call at the various plants — the chief electricians, the key maintenance men, plumbers, the men in charge of each plant's air raid organization, the bomb reconnaissance expert — all come in on the first public alarm.

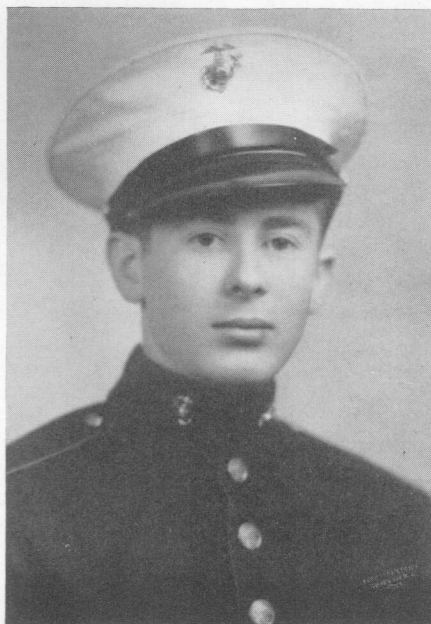
The 300 plant air-raid wardens are busy getting the personnel in the plant into areas away from windows and to spots where machines and other equipment would furnish some degree of protection against flying glass and other objects. They know that 98% of all casualties in a bombing result from flying fragments and debris, and only 2% of the casualties result from direct bomb hits. Hence they are careful to see that their people are properly placed.

Also, the plant firemen by pre-arranged signal meet ready to don their equipment and move into action instantly if needs be. Usually during a blackout drill, they test out their skill as firemen. Recently in the pitch dark of a blackout, the firemen under George Day and Ed. McMahon laid 350 ft. of hose ready for the water to be turned on in just under three minutes.

And all of this goes on about you during the short period of a blackout at the Main Plant. At the other Fafnir plants the activity is much the same. Sometimes you think that it's a lot of time and effort wasted. For that matter, you hope that it will prove to be. But then you think: supposing if before the War is over, a few of Hitler's henfruit drop on New Britain. How about the safety of all the people in the plant? And suddenly all of this preparation seems very much worthwhile.



Pvt. Caesar Gatta, Med. Det., 963 FA. Bri., Fort Bragg, North Carolina, is said to have been the "sheik" of BR51.



P. F. C. George D'Ambrosio, U. S. M. C. R. O. T. S., No. 8, Marine Air Station, Cherry Point, N. C.

MISSING IN ACTION

Staff Sergeant Edward T. Dzierzynski, 27, former inspector in RR51 who left Fafnir just a year ago to enter the Air Force, has been missing in action since July 16, the War Department has notified his family. He and all members of the crew of a big bomber on which he was the tail gunner, failed to return from a raid over Italy. The possibility that he may be a prisoner is being held.

R68
Cpl. L. J. Trudel 11038319, A.P.O. 959, c/o P.M., San Francisco, California. April 18, 1943.

Dear Friends:
I have been "Keeping 'em Flying" in this outfit for about a year now and it has really been a busy one. We have been over here in the Hawaiian Islands for six months now. We have four engine bombers, which really dumped quite a load on the Japs. I hope that don't make you mad!
Although I may be thousands of miles away from the factory, Fafnir bearings are all around me and I point to them with no little pride. We have had no trouble at all with them and they sure are doing a swell job out here. I'm proud of them and the people who do their part in making them.
Give my regards to Joe Bosch, Mr. Bernier, Ritchie, and Ziggy and all the old gang in R25.
Yours for Victory.



R30
Pvt. Hugo Cioli, 203rd Engineers Combat Br., Company B., 1st Platoon, Camp McCain, Mississippi. April 28, 1943.

Gentlemen:
Give the boys and girls in R30 my regards. Say hello! to Mr. Wheeler for me, and, of course, Mr. Van Dorn and Tony, my old boss. Keep smiling and Keep 'Em Flying.



R19
From Pvt. Benny E. Lukaszewski, H.Q. Btry. 638th, C.A. Bn. (A.A.), Fort Bliss, Texas. April 14, 1943.

Dear Mr. Ely:
We all want to go over and get it done. Then we can come home and catch up on some sleep. Now I want to tell you about one of the hardest drills that we have to go through. It's called an infiltration course. About a hundred yards from the guns we have to go out on the desert in front of ten fifty cal. machine guns and crawl on our stomachs towards the guns. Now those guns are firing real tracer bullets eighteen inches over our heads and those tracer bullets are not sparks from a slot grinder. We also have land mines that burst, sending showers of sand all over us, and that's so we won't get scared when we go across which won't be long. Just tell the boys to Keep 'em Grinding. So until later, I'll just say Adios.



AR25
Pvt. John E. Prange, Hq. & Hq. Co., 351 Inf., Camp Gruber, Oklahoma. May 7, 1943.

Dear Sir:
Sorry I don't have more time to write you, but they keep us very busy here. I have been transferred to regimental headquarters. I am now in the intelligence section. My address is on your blank form.
First of all, I don't have to walk, ride in a jeep and the new water jeep. My job is reading maps and getting information. I have already been to school to learn this job and it is very interesting. We have a little more time to ourselves but I use it for studying. I was married three weeks ago and my wife is still here. I am waiting for my furlough to take her back home.