# KODAK

A MAGAZINE FOR EASTMAN EMPLOYEES



SEPTEMBER 1941



"PASTORAL"

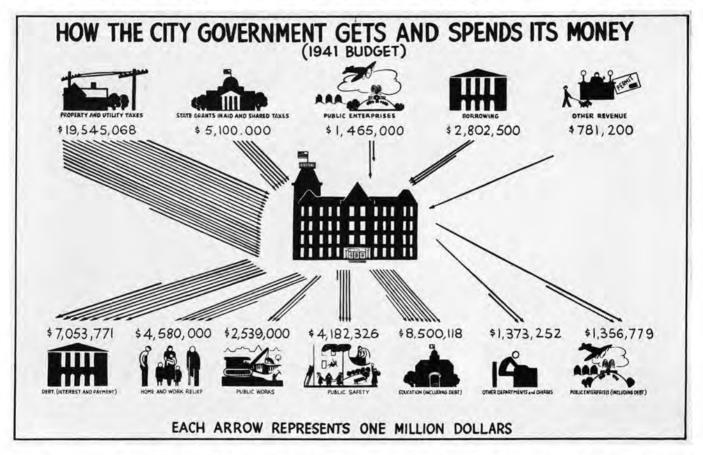
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# KODAK

Volume 20 SEPTEMBER 1941 Number 9

# In Charge of the City's Money



# The Department of Finance Is Custodian and Disburser of The Revenues for Local Government

IN ARTICLES appearing over the past year and a half, Kodak has endeavored to take its readers behind the scenes of Rochester's city government and to show how that government operates. These articles have discussed the general structure of our council-manager form of government, its various departments, and the services that it renders to its citizens.

Democratic government implies the development and maintenance of certain conditions that benefit all citizens. These conditions result from the execution of special servicesservices necessary to a happy, safe, healthful, and dignified existence. Rochester's city government, like all forms of democratic government, is a service organization created by the people and managed by elected representatives of the people. It provides its citizens, as previous articles have pointed out, with such services as fire and police protection, street maintenance, an educational system, playgrounds and recreational facilities, and safeguards to the public health. These services and many others are vital to the welfare of our community. At the same time, they cost a great deal of money. In fact, Rochester takes in and pays out around thirty million dollars a year to provide for them.

This article, 17th of the series, will consider the agencies which have been created to administer the fiscal policies of the city and to handle this vast annual sum.

# Three Divisions

A comptroller, appointed by the city manager, is in general charge of all fiscal affairs of the city. As head of the Department of Finance, he appoints the heads of the various divisions making up that department. It is by examining the activities of these divisions—the Division of Audit and Accounts, the Division of the

# A Snapshot from Palestine



For this picture showing a Kodak dealer in Beersheba, Palestine, we are indebted to a member of the Australian forces, Lance Corporal George H. de Fraga. "It is typical of Kodak representatives that are patronized by the Aussies in Biblical towns and cities," he writes. Beersheba is a very ancient town, mentioned frequently in the Old Testament. The picture is enlarged from a 35-millimeter negative

Treasury, and the Division of Purchase and Supply—that we learn how the money for running the city of Rochester is taken in, paid out, and accounted for.

Because the amount of money to be taken in and spent by the city depends upon the requirements set forth in the annual budget, we would do well at the beginning to consider this important fiscal document.

Once a year, each of the city departments estimates the amount of money it will need for operating expenses during the coming year. The superintendent of schools makes a similar estimate of what money the schools are expected to require. Finally, the comptroller computes the requirements of the public debt.

# Estimates Reviewed

These three estimates are reviewed by the city manager while the Board of Education is considering the super-intendent's report. After making such changes as seem desirable, they sub-mit the estimates to the City Council. The Council then makes any changes it deems fit, combines the city and school estimates into a single "current expense" budget, and, at the same time, adopts the comptroller's estimate as a "debt service" budget.

These two budgets indicate the amount of money which, it is estimated, will be required by the city during the coming year to meet its financial obligations. To raise this money, the Council subtracts from the total amount such revenues as it expects to receive from the State and other sources and then provides for raising the remainder by levying a tax or special assessments on private property.

### Major Sources

Most of the city's revenue comes from property and utility taxes, from state grants and shared taxes, and from borrowing in the open market. From whatever source it is derived, it is collected or received by the Division of the Treasury, which has "the care and custody of all city moneys."

The city treasurer is, therefore, the receiving officer for the city, and he holds all city money until it is disbursed. But before he can disburse it for any purpose whatsoever, he must receive authorization to do so from the Division of Audit and Accounts, in charge of the city auditor, which examines all claims against the city. If these claims are found to be accurate and legal, and

if adequate funds are available for their payment, the treasurer is authorized to honor them.

The Division of Audit and Accounts, to fulfill its duties properly, must keep a great many records. It keeps an appropriation ledger which shows how much money has been allowed by the budget for each department and how much of this allowance has been spent. By keeping this ledger up to date, the division can release monthly statements showing how closely the city is operating within its appropriations.

# City Pay Rolls

The Division of Audit and Accounts also keeps ledgers to record all money held by the city in trust; and it prepares the city pay rolls, which are made up from the departmental time sheets. These pay rolls are carefully checked against a file that includes all necessary data concerning every city official and employee.

All purchases of materials and supplies for the city are made by the Division of Purchase and Supply, which is headed by the purchasing agent. It is his duty to purchase "all real property, materials, supplies, equipment, and work needed by the city," and he is also entrusted with disposing of real and personal property that the city no longer needs.

All purchases made by the purchasing agent are paid for by the treasurer after the auditor has approved their payment. Thousands of orders are handled every year in this way.

It can be readily seen how the interlocking duties of the various divisions of the Department of Finance serve as a valuable check and balance on all civic fiscal matters. Careful accounting of revenue and disbursements in this department, together with a wisely prepared budget, are Rochester's surest guarantee that it is getting its money's worth from the civic services that its government provides.

# Quality First

EVERY CINÉ-KODAK is "shot" at strongly lighted "pie charts," and the film used is inspected with a magnifying glass after development to insure that focus, at all distances, is needle sharp, before the camera "passes."

# Forty Years of Kodak Service

Company's General Manager Is Interviewed as He Reaches The Four-Decade Service Point

Kodak Park had just rounded out its first decade of operation when a young chemical engineer was added to the small staff of the Chemical Laboratory, on August 1st, 1901.

"Yes, I've seen the Park come up from the time when it was just about getting under way," says Albert F. Sulzer, now general manager of the Company and a 40-year service veteran. "The growth has been phenomenal indeed, and there have been many changes. The Chemical Laboratory—old Building 4—is now the headquarters of the Kodak Camera Club, which has more members than there were employees when I came to work for the Company."

### Assistant Chemist

A graduate of the Massachusetts Institute of Technology, Mr. Sulzer began his career with Kodak as assistant chemist. "I was the only graduate chemist in the laboratory, and one of about a half-dozen in the entire plant," he remembers. "Compare that with the Park today and its many hundreds of chemists and chemical engineers."

Soon, Mr. Sulzer was placed in charge of the Chemical Laboratory, and he remained there until 1905, when he was appointed head of Powder and Solutions—"a job that was distributed between Kodak Park, State Street, and Hawk-Eye, and had me hopping all over the place." Then he became superintendent of the Chemical Plant; and in 1913 he was named general superintendent of Film Manufacturing.

"The Chemical Plant was separated from the rest of the Park by an orchard, and it was surrounded by a fence as well," Mr. Sulzer relates. "The fence was all right, but in season that orchard was always a temptation."

In 1920, Mr. Sulzer was made assistant general manager of Kodak Park. Nine years later, he was appointed general manager of the plant. He was elected a director of the Company in 1932 and vice-president in 1934. In 1936 came his appointment

as assistant general manager of the Company; and in May of this year he was named general manager, succeeding Mr. Lovejoy in that office.

Sooner or later, in talking with Mr. Sulzer about Kodak Park a chimney will be introduced—with a smile. No ordinary chimney, this. It's the north chimney, which towers



Albert F. Sulzer, vice-president and general manager of the Eastman Kodak Company, has passed the fortyyear service mark. Mr. Sulzer joined Kodak in 1901

366 feet. "Built in 1906 and, for that year, the tallest in the United States," he says. "We had to give it plenty of height so as to dissipate any fumes from the nitration operation, as well as to be sure of a good draft. I've been to the top of it many a time, and I've even taken a couple of snapshots or so from it." (See page 13.)

During the 1914–1918 war days, as now, Kodak was doing its bit for defense, Mr. Eastman himself making a survey to see just what the photographic industry could contribute.

### Wartime Work

"We built a new plant to produce cellulose-acetate for the Government, to be used as a noninflammable coating on airplane wings," Mr. Sulzer relates, "and we turned out special emulsions and apparatus for aerial photography, including the first aerial camera using film instead of plates.

"We also established a school of aerial-photography for the Signal Corps. The Paper Mill was just completed at that time, and the Company turned the fourth floor over to the Government as barracks and darkrooms for the men. For a time, the Company supplied the instructors, training about a thousand men a month."

Most dramatic development in photography since Mr. Sulzer's early days with the Company was, he believes, the introduction of Kodachrome in 1935. "Even back in 1901, color photography was very much in people's minds," he says, but I doubt if any of us envisioned anything so realistic as our present color film. However, that's the way real progress works out. I well remember the days when most Kodak Park employees came to work on their bicycles-I lived near enough to walk over each morning-and we had huge bicycle sheds for their convenience. Lake Avenue near the Park was simply filled with bicycles at quitting time. all in a rush for home. Sure, you saw a few automobiles now and again, with the driver all wrapped up in a dust coat and hanging on to the wheel for dear life. But it would have taken quite a bit of imagination to picture what lay ahead-the streamlined cars of today."

And at this point, Mr. Sulzer admits that, when it comes to recreation, he's very old-fashioned indeed. His hobby, dating from 1920, is horseback riding. "I don't ride during the summer months—prefer to garden then," he reveals, "but during the rest of the year I'm out all I can."

### Photos and Forests

OLD PHOTOGRAPHS can be of much value to botanists and foresters in studying the rate of growth that heals up old scars left in the forests by fires long ago. "Such a series," says the New York *Times*, "taken at intervals from 1872 to the present has been studied by Roland L. Ives, of Fort Worth, Texas, as a byproduct of several geological field trips into the high country of Colorado." . . . Mr. Ives has figured a replacement schedule for the region.



# Reaction

A TRULY AMAZING PLANT is Kodak Park. Its very size alone is a constant source of wonder to us. And had our expression betrayed our feelings on each of the several times when it's been our good fortune to "tour" the plant, we'd surely have been popeyed as an inquiring toad.

So, we understood perfectly when Dr. Walter Clark, of the Research Laboratories, told us the other morning of a recent English visitor. Quite a chatty fellow, for a Britisher, was Dr. Clark's first impression.

But for a couple of hours or so, while he was being shown various departments, the visitor maintained an even more than British silence. Then, with almost frightening suddenness, he turned to Dr. Clark and said:

"You know, next time I buy a roll of film I'm going to feel awfully guilty about the trouble I put you people to."

### War Words

EVERY YEAR new words and new phrases are incorporated into the British language, already rich in words naturalized from every quarter of the globe. Some of these are kept and grow into regular usage; others, after an experimental phase, are dropped.

The First World War added many words to our language, and after this war it is likely that men of the British Commonwealth stationed in Britain will take back a large new vocabulary to their own countries.

Many such words already in use were born in the fighting services far from the home of the English language. "Khaki," for instance, comes from the Hindustan word meaning dust; "jodhpurs," the name of the riding breeches now the pride of the English tailor, comes from the same language; so do "bungalow" and the word "pukka."

In this war, it will probably be the Air Force which will give us most of the new words. In this service one never hears about a pilot who flies or takes a ship, he always aviates, and he never aviates a crate or a kite, which are civilian slang words, he aviates either a Daffy (Defiant), a Wimpy or Spit (Spitfire) a Lizzie (Lysander), a Blenburgher (Blenheim), an Old Faithful (Ausan), or a Maggie (Miles Magister). If he lands, he "hits the deck"; if he damages his plane when landing, then he "bends" it—more or less.

All the services have their own pet words:tanksarealways"rollerskates"; and an Italian plane is never called anything but an "Eye Tie"; while in the canteen, one never has several beers, but a "couple of jugs"; and, if one has a friend in the navy, he always manages to "force one down."

# Stickpin

From Armin S. Baltzer, general manager of South American subsidiaries, comes the picture that is reproduced below—a photograph of a stickpin with an unusual history. Owner of the handsome stickpin is Alberto Spangaro, manager of Kodak Argentina, Limited. And the story:



Alberto Spangaro, manager of Kodak Argentina, Limited, has proudly worn this stickpin forty years

Buenos Aires in July, 1890, The government of President Juârez-Celman is wavering, Great crowds demonstrate on the streets. The outburst becomes uncontrollable and the cavalry, sword in hand, are ordered to charge upon the people.

"My father," writes Mr. Spangaro, "who was in the crowd, saw himself surrounded by a wave of people that was backing up from the shining sabers. In the confusion, he felt a hard blow on the foot. As soon as he could manage, he bent down to see if he was hurt. Close to his bruised foot was this stickpin. My father grabbed this 'war booty' and years later he related the episode to me and gave me the pin. Ever since that time I have used this stickpin in my tie almost daily—some forty years."

### Names

Nor so long ago, we happened to read of a storekeeper who had received court permission to assume a polysyllabic tongue-twisting Polish name because his customers—Poles, for the most part—couldn't pronounce or remember his simple two-syllable English name. Its simplicity, we were informed, was much too great a linguistic obstacle for these people to overcome.

We were strikingly reminded of this penchant of the Poles for amazingly long—and to us, unmanageably intricate—names when we were hearing the story of Mr. Dellas (page 15), a former employee of Kodak in Poland. Our subsidiary there, inactive since the German invasion, bore the official title: KODAK Spółka Z Ograniczoną Odpowiedzialnością.

But then, we number among our acquaintances a man who hails from Llanrhaiadr yn Mochnant. That's a town in Wales.

# Printing Note

Last year, 20,960 American printing establishments manufactured products totaling more than two billion dollars. The industry employs approximately 375,000 men and women.

# Cameras Click and Capture Clouds

Fall's Bright Blue Weather And Cloud-Decked Skies Offer Many A Pleasing Picture Possibility

CLOUDS IN THE SKY? Of course! Once you've become really conscious of their picture value, you'll never like "bald" skies again. Clouds are magic transformers; and well-chosen, complementary formations are often the real secret of appealing shots. If the clouds are distinct, they'll register on most films, we know, but filters help a lot. Let's look at a few samples—and see what we can see.

Is the first picture, right, just a group of weeds? That's all. But a little breeze bends the heavy heads; movement and direction are repeated and emphasized by the diagonal line of clouds in the background; and an otherwise commonplace shot becomes a thing of beauty. (A color filter held back the strongest rays from the sky, giving the clouds chance to register on the film in pleasing contrast. See Kodak, May, 1941.)

In the far right we see a good example of cumulus or "woolpack" clouds, with their domelike summits and rather flat bases. These are the story-telling formations in which we delight to build our castles in air. Notice how the cloud masses repeat that of the tree, and how the sharp contrast in tone values adds emphasis. (Super-XX Film, 1/50 second, at f/8, with a red filter.)

Snapped on Super-XX Film, 1/50 second, at f/11, with a "G" filter, the man in a boat is another good example of repetition of shape with contrast of size. Notice how clouds complement the range of hills.

Have you ever considered adding a few "sky pictures" to your album—for variety, and for the sheer beauty of the pictures themselves? The dramatic sky pictured next was caught on Panchromatic Film. An "A" filter helped, as well as the fact that the clouds themselves shielded the lens from the sun's direct rays.

Finally, not content with looking up at the clouds, we actually got above them. Then, with Verichrome Film, a 3A Kodak stopped down to f/22 (to give greater depth of field), a snapshot exposure of 1/25 second caught the full beauty of the scene.



Page 6 K O D A K

# Westward to the Isles of Spice

Magellan Set Out, 422 Years Ago this Month, On the Most Notable Voyage in all History

TINY PORTUGAL, clinging to the western shores of the Iberian Peninsula, had become the foremost nation of 15th Century Europe. Great wealth and power she owed to an intrepid band of navigators-Diogo Cam, Bartolomeu Dias, Vasco da Gama, and others-who had sailed their tiny ships farther and farther into uncharted seas until they reached the fabulous Indies. There, these adventurers took aboard the spices and perfumes, the silks and porcelains of the East-treasures that brought great wealth to the merchants and nobles of Portugal.

Among the thousands of obscure soldiers and sailors who had helped to establish Portuguese domination within the Malay Archipelago was a young nobleman of minor rank, Fernando Magellan. Like many another, he had fought gallantly, suffered cruel wounds, and returned penniless and unrewarded from the lands beyond the sea. But Magellan, a man of great ability and courage, refused to allow the cloak of obscurity to settle permanently over his shoulders. Consumed by a fanatical faith in the existence of a westward route to the Isles of Spice, he entreated his king to fit vessels for a voyage to America where, he insisted, a passage opened to the South Seas.

### In Spain, Success

King Emanuel scornfully denied the request and Magellan, refusing to let his great dream die, crossed the border into Spain. There, his supreme knowledge of navigation, his organizing genius, and his boundless assurance won the attention of influential merchants and, finally, of the Crown. King Charles I, later to become Charles V, Holy Roman Emperor, saw in this stern strong-willed adventurer the man who might elevate Spain's prestige to a level with that of her small but powerful neighbor.

At Charles's order, five old galleons were repaired and made ready for Mrgellan's use. Painstakingly, the young navigator superintended their fitting-up and provisioning for the



The great quest: when Fernando Magellan was yet a boy, scientists were studying eagerly to find a new route to the East Indies. In this illustration, after a copper engraving by Stradanus, a scholar is seen at work surrounded by his instruments of navigation. By the courtesy of Bettmann Archive

long journey ahead. After months of heartbreaking setbacks, during which Portugal did her utmost to prevent his departure, the gallant captain general cast off from San Lucar on September 20th, 1519, and headed southwest with two hundred and sixty-five companions aboard.

Nearly two months later, the little fleet reached the coast of South America. Immediately, Magellan began a tedious coast-long search for the paso—the water passage—which he so faithfully believed to exist. Fruitless weeks and months of searching dragged by until the southern winter caught the explorers off the bleak coast of Patagonia. Weary of their task, Magellan's officers and crews urged him to turn back. But the captain general was obdurate. He piloted his boats into Port San Julian and made preparations to wait out the stormy winter months. There, discontent grew into open mutiny and Magellan only saved the expedition by superb strategy and severe punishment.

After four months of idleness, in August, 1520, the fleet set out once more, sailing southward. Eight weeks later, when Magellan himself was losing hope of success, a break in the coast line, which we now know as the Strait of Magellan, was sighted. Hope flared again. For a month, in the course of which one of the

five ships deserted, Magellan explored the tortuous channels and passages between the mainland and Tierra del Fuego—land of fire, whose primitive inhabitants kept fires burning perpetually against the cold of that barren land.

# The Pacific!

Finally, on November 28th, the fleet had forced its way through, and the Great Navigator guided his ships into the Pacific Ocean. The brilliance of Magellan's feat in passing the Strait can hardly be described. During the four centuries since his voyage, few ships have traversed this dangerous passage, most mariners preferring the longer and less dangerous route around stormy Cape Horn.

Provisions were running low as Magellan headed westward across what he supposed to be a narrow sea. But weeks stretched into months, and his men grew gaunt from starvation while the horizon was fruitlessly scanned for signs of land. Finally, after passing two desert islands and with his crews close to death, Magellan landed on inhabited islands which he named the Ladrones or "Thieves Islands" after the quick-fingered propensities of their inhabitants.

Abundant food, fresh water, and rest soon restored most of his men to health, and the journey was continued. Island after island was now sightedmany of them being members of the Philippines—but the Moluccas or Spice Islands were still to be found. Then, on the microscopic isle of Mazzava, Magellan found the natives speaking the language of Malay, and he knew his great adventure to be a success. What now remained to be done was indeed trifling compared to the hardships that laid behind. He would proceed to the Spice Islands, load his ships with precious freight, and take the route he knew so well —across the Indian Ocean, around the Cape of Good Hope, and homeward along the west coast of Africa.

# Fatal Fight

But one miscalculation in the shrewd plans of this great leader was to rob him of a final triumph. Eager to show the power of Spain and to leave the islands under control of the Rajah of Abu, who acknowledged himself a subject of the Spanish king, Magellan led a punitive expedition against the rebellious chieftain of a near-by island. As fate would have it, his small boats were held from landing by a coral reef, and his tiny band had to face a horde of savages without the use of their deadly arguebuses and crossbows. A fierce hand-to-hand fight ensued, and Magellan fell mortally wounded.

His surviving followers withdrew in confusion and made haste to leave the islands where the prestige of Spain had received so rude a blow. Deprived of their leader and harassed by the emboldened natives, the dwindling band finally reached the Moluceas. From there, a single ship, the Victoria, set out on the last long lap home. When, finally, on September 8th, 1522, the gallant ship limped into her home port, only eighteen sick and exhausted men remained of the band that had departed three long years before.

Though Magellan did not live to receive the ovations of the crowds lining the water front "to admire this famous ship whose voyage was the most wonderful and the greatest thing that had ever happened in the world since God created it and men to people it," his fame was securely established. It was his patience, his organizing genius, and his tenacity which had alone made possible the most magnificent voyage in history.

# The Kodak Choral Society



Director Harold T. Singleton was in the midst of some intensive coaching when our photographer stopped by last season. At the piano, and doing a spot of warbling too, is Harold O. Smith

WITH ADVANCE bulletin-board announcements of time and place for its opening rehearsals to be posted, the Kodak Choral Society will soon enter upon its eighth year.

This music-loving group rehearses weekly from the first Thursday in October through April and gives several concerts during that period. Last year, the society sang before the K.O.R.C. girls' party, the Foremen's Club of Kodak Park, the 25-year-medalists' dinner, and the new-citizens' dinner at the Rochester Chamber of Commerce.

"Not only because we believe in the old adage, 'the more the merrier.' but also because we know from our own experience what grand fun choral work can be, we hope for increased membership this season," says Homer L. Moore, president of the society. "The dues are only a dollar a year, and we most emphatically do not give voice tests to prospective members before accepting them. All we ask is that you really have a desire to sing."

Plans are well under way for an active season, with several engagements already scheduled, Mr. Moore reports. The group has been on the air six times in recent years, and they hope to do at least two broadcasts this year.

The Choral Society is under the direction of Harold T. Singleton, music director of John Marshall High School and of Asbury First Methodist Church, Accompanist is Harold O. Smith, of the Eastman School of Music.

Officers of the society, besides Mr. Moore, are: Fred Writz, vice-president; Jane Fineberg, secretary; and Thelma Burgess, librarian. New officers will be elected at the second fall meeting, with Mr. Writz automatically becoming president.

# Calendar of Recreation Activities

September 13-K. P. A. A. girls' golf tournament, at Lake Shore Country Club Kodak Office girls' golf tournament, at Lake Shore Country Club

September 15—K. P. A. A. girls' bowling leagues open, at Ridge Bowling Hall

Mid-September—Camera Works men's golf tournament

September 18—Camera Club pictorial section competition, black-and-white prints

September 20-Kodak Office men's golf tournament, at Locust Hill Country Club

September 27-Interplant golf tournament, at Brook-Lea Country Club

September 29—Kodak Camera Club photographic courses open

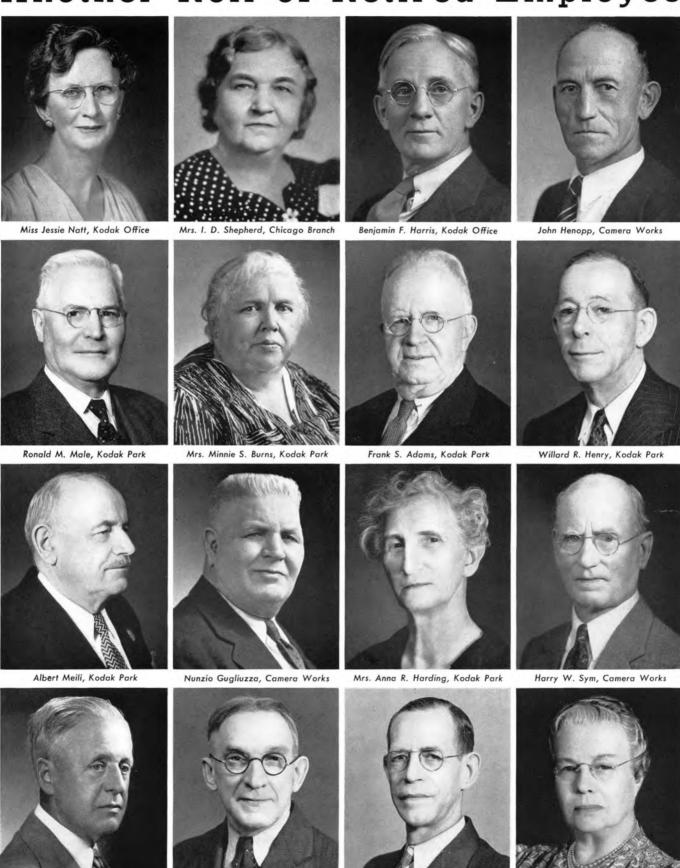
—Kodak Office Bridge Club, first fall meeting and beginning of lessons on the "New Culbertson System," by Mrs. Bradford Noyes, Jr.

October 2—Kodak Camera Club monthly meeting, and illustrated talk by Mr. Larry Penberthy, of Hawk-Eye, on "High Mountaineering in the Pacific Northwest" October 6—Kodak Office Bridge Club, open-pair tournament commences

October 10-Kodak Camera Club ciné section regular monthly meeting

Page 8 K O D A K

# Another Roll of Retired Employees to



Charles W. Goodrich, Kodak Office

Alfred J. Schlitzer, Kodak Park

Charles H. Nichols, Kodak Park

Mrs. B. W. Litzenberger, Kodak Park

# Each of Whom Go Our Best Wishes



Henry J. Ganue, Kodak Office





R. A. McFarlane, E. K. Stores, Omaha Mrs. M. V. Macomber, Camera Works



Mrs. Ethel K. Heinz, Kodak Park



William H. Jostmeier, Kodak Park



Henry J. Lindhorst, Kodak Park



Miss May N. Gambee, Kodak Office



Abraham Brulee, Kodak Park



William Weston, Kodak Park



Mrs. Frances Morath, Kodak Park



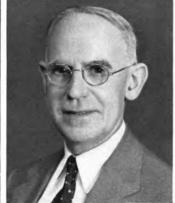
John D. Piper, Kodak Park



John Young, Kodak Park



Mrs. Lauretta S. Welch, Kodak Park



James R. Payne, Kodak Park



John T. O'Hara, Kodak Park



Alonzo C. Horton, Camera Works

# THE EDITOR'S PAGE

# Notable Career

More than forty-seven years' service in one company is a record to be proud of. To achieve the highest position that company has to offer is an additional cause for just pride.

William G. Stuber, for nine years (1925–1934) president of the Company, for seven years (1934–1941) chairman of its board of directors, and now honorary chairman of the board, is proud of his service record and of his career with Kodak. But he is prouder still of the Company itself, of its continued progress, of the men and women who comprise this Company and who have made that progress possible.

Of himself, Mr. Stuber will say little; but even a quick review (thanks, largely, to his colleagues) of his work in photography, and with Kodak, tells of remarkable vision and tenacity of purpose, of hard pioneering and single-minded devotion "to the job."

Mr. Stuber was born in Louisville, Kentucky. His father, one of the state's first photographers, was also one of the first war photographers; he was attached to various regiments as a cameraman during the Civil War. But the photographic business was anything but flourishing in those early pioneer days, and Michael Stuber's death left his son, still a very young man, a studio that was more of a liability than an asset.

Young William G. Stuber was determined to make the business pay, and in the following out of this purpose he soon discovered that a prime necessity was better photographic materials than were then in existence.

To an effort at making such materials, Mr. Stuber devoted all the time he had free from his studio.

Followed a struggle that was only partially successful—a struggle that involved many nights when he and his young wife took turns in stirring batches of photographic emulsion that had to be kept in motion. And



William G. Stuber, honorary chairman of the board of the Eastman Kodak Company, whose retirement, after more than forty-seven years' service, is announced

then Mr. Stuber made a very important decision: he would go abroad and study under an expert. Dr. Hugo Smith, a Swiss scientist, was reputed to be a "wizard" at making photographic materials.

Thus it was that a young man who had already won considerable notice as a portrait photographer—Mr. Stuber was even then vice-president

of the American Society of Photographers—crossed the ocean and apprenticed himself to the Smith laboratory in Zürich for six months. Greater skill as a photographer was not his ambition. Instead, he saw a more attractive future in a career devoted to improving the materials used by the photographic profession or photographers generally.

After his return to the United States, his work in that direction attracted to him the attention of Mr. Eastman, whose own work along the same lines had produced photographic film and the Kodak, and who had already built up the substantial nucleus of a business. Mr. Stuber came to Kodak Park in 1894 to head the emulsion-making department. His ability in that specialized but basic function in the manufacture of photographic materials, plus the vision and business genius of Mr. Eastman, can be credited in large measure for the firm foundation of the Company.

# A New Director

OF INTEREST to a great many Kodak people in Rochester is the announcement that Don McMaster, manager of the Harrow Works, has been elected a member of the board of directors of Kodak Limited.

Mr. McMaster entered the Company's employ at Kodak Park in 1917, working in the Industrial Laboratory and the Film Emulsion Coating Department. During the War, he saw service with the Flying Corps, returning to Kodak Park in 1919. In 1920, he was appointed assistant superintendent of the Film Emulsion Coating Department. Eleven years later, he became assistant general superintendent of the Film Manufacturing Departments.

Transferred to the Kodak Office in 1933, Mr. McMaster went to Harrow in 1935 as assistant works manager. He was appointed works manager in 1939

Mr. McMaster was graduated from Cornell University in 1916. Always deeply interested in athletics, he was president of the Kodak Park Athletic Association for the year 1922–1923.

# FOR DEFENSE

# Buy United States Savings Bonds

(On sale now at the Eastman Savings and Loan office; the Cashier's office, Kodak Park; and the Employment offices, Camera Works and Hawk-Eye.)

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# New Color Processes Are Announced

# Kotavachrome Professional And Kodak Minicolor Prints Answer Needs in Many Different Fields

For decades, photographers, scientists, and researchers sought a simplified, direct method of full-color photography. Kodachrome—rendering color pictures as easy to take and as sure in their results as monochrome—was the answer to that quest.

The introduction in 1935 of Kodachrome Film for amateur movies was a gigantic forward stride in simplified color photography. This was followed in 1936 by Kodachrome for miniature cameras in 35-millimeter and Bantam sizes, and in 1938 by Kodachrome Professional Film ranging in size from 2½ by 3½ up to 11 by 14.

### Two New Processes

With the announcement of two new color-print processes—Kotavachrome Professional Prints and Kodak Minicolor Prints—at the National Photographic Convention in Chicago last month, Kodak steps still further into the lead in photographic and color research and development.

Kotavachrome Professional Prints are reproduced from Kodachrome Professional Film and must be made by the Company's Rochester laboratories. These prints will appeal to advertisers, commercial and industrial concerns that seek the highest quality of full-color prints for engravings, displays, convention exhibits, and other purposes. They lend themselves admirably to the storytelling, product-in-use type of presentations for sales portfolios; and architects, interior decorators, landscape gardeners will be able as never before to present full-color illustrations of their work.

For personal or private use, Kotavachrome prints of landscapes, seascapes, and general views on walls or tables will add much to the beauty of home interiors.

# Minicolor

Kodak Minicolor Prints are enlarged from either 35-millimeter or Bantam-size Kodachrome transparencies by a standardized process in the Kodak Laboratories in Rochester. They are made only from Kodachromes in 2 by 2-inch mounts with the standard central openings.

Enlargements are available in two sizes, "2X" and "5X." The 2X size is about 2½ by 3½ inches, with corners rounded and no margins. The 5X size is 5¾ by 7½ inches, and the prints are returned in mounts—for horizontals, 8¾ by 10¼ inches; and for verticals, 8¾ by 11½ inches—the picture opening, or area, measuring 5 by 7½ inches.

The "feel" of a Kodak Minicolor Print, particularly in the smaller size, is that of an unusually fine playing card, strong, attractive, and resilient. The print support, or base, however, is not paper or card but pigmented cellulose acetate.

# Bridges a Gap

It cannot be expected that Minicolor prints will supplant the projected Kodachrome transparencies, but this new offering by the Company bridges a gap that will be well traveled in the future because there are endless uses for these color prints. The smaller size will make attractive miniatures for use in desk frames. A Minicolor section can be created for a photographic album, or they may be

mounted on personal Christmas or greeting cards. For those who like to show friends examples of their skill in color photography, the Kodak Minicolor Prints 2X fit nicely into pocket billfolds or memo books. For protection, Minicolor prints are doubly varnished.

Just as many uses will be found for the Kodak Minicolor Prints 5X, but one immediately sees that they will be a means of beautifying the home when framed and hung, or when used in easel-type mountings.

# Minicolor Quality

The quality of the Minicolor print naturally depends on the quality of the Kodachrome transparency from which it is made. A good, properly exposed transparency that will project well should yield a good color print. While it is too early to predict the full scope of the use of Minicolor prints, it is certain that they have appeal to the *nth* degree and represent another great advancement in photography in general, and color photography in particular.

Kotavachrome and Minicolor Prints are made in a manner similar to Kodachrome transparencies. The white

(Continued on page 12)

# Brownie Reflex, Synchro Model

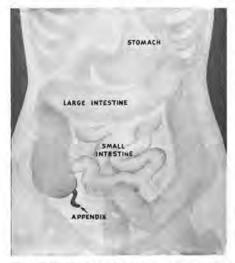


This handsome new addition to the Brownie line is ideal for outdoor picture-taking and, using the Brownie Flasholder, is also designed for synchronized, photoflash picture-taking. The camera alone retails at \$6. The Brownie Flasholder, available separately, retails at \$2.75

Page 12

# Don't Take this Gamble!

Appendicitis, While Sometimes Fatal if Ignored, Is Only As Dangerous as Victim Makes It



Charted: one best stomach, with arrow pointing to the appendix. Appendicitis or inflammation of the appendix is only as dangerous as you allow it to be, this Medical Department article points out—with reasons

We went to the movies one evening with a friend who began to complain of a slight and persistent pain in his stomach. It didn't seem serious, but our friend took no chances. Two hours later, a skillful surgeon had removed his inflamed appendix. In less than a week he had left the hospital and, in the following week, had returned to work.

His speedy recovery was in no way unusual. He had simply profited by his refusal to gamble with a dangerous ailment—appendicitis. Like many others, he was able to recognize its symptoms; but unlike some, he took immediate steps to do something about it.

For, as doctors will tell you, appendicitis is only as dangerous as you allow it to be. Given immediate attention, it usually calls for a simple operation which any qualified surgeon can quickly and safely perform. But if the victim, through ignorance or carelessness, allows it to progress or foolishly attempts home remedies, he invariably brings on a dangerous and often fatal condition.

Appendicitis is an inflammation of the vermiform appendix, generally induced by some local irritation. Pain comes on suddenly and since, at first, it may be localized at the pit of the stomach, sufferers often mistake it for a stomach-ache or indigestion. A slight fever is generally present, and the abdominal region around the appendix may be painfully sensitive to the touch.

These pains are nature's warning signal that something should be done at once. But don't try home remedies—don't take laxatives or sedatives, and don't use a hot-water bottle. Call your doctor, place an ice pack on your right side, and keep quiet. The cold of the ice pack will help to keep the organs at rest.

# The Great Danger

The great danger of appendicitis lies in delaying an operation until after the appendix bursts, as it is likely to do. In this event, the infection is free to spread over the peritoneum or abdominal lining. Peritonitis, the infection and inflammation of this lining, generally causes death. Speed in getting the appendix removed before this happens—and, remember no laxative—is the only way to save the patient from this danger.

If pain subsides suddenly, it generally indicates that the appendix has burst and an immediate operation is vital to the life of the patient.

Don't gamble with appendicitis. To a greater degree than with any other ailment, the safety of the sufferer depends on his intelligent and prompt response to its warning signals. Have the doctor remove your appendix immediately—and then brag about your operation.

# **New Color Processes**

(Continued from page 11)

pigmented base is coated with three layers of emulsion, the top one being sensitive to blue, the middle one to green, and the bottom one to red. When a print is made onto this material from a Kodachrome transparency, the same thing happens as when a photograph is made on Kodachrome Film in a camera. After exposure, the film is processed in special solutions known as "coupler developers," which form dyes when they develop.

The Company points out that both Kodak Minicolor Prints and Kotavachrome Professional Prints contain dyes which, in common with those used in printers' inks and artists' paints and other similar materials, may in time change. These prints, therefore, will not be replaced or otherwise warranted against any change in color. The dyes used in them are stated to be as stable as possible, consistent with their other requirements. It is important that the prints should not be exposed for long to direct sunlight. When they are used for display purposes, they should be shielded from direct rays of the sun.

KODAK

# Suggestion Scores

To remove foreign particles from dope before it is spread on the roll-coating machines at Kodak Park, the dope is run through high-speed centrifugal machines. After passing through a central cylinder revolving at 15,000 revolutions a minute, the dope emerges in a highly volatile state, giving off vapors which formerly penetrated into the main bearings and, by dissolving the lubricants, shortened the useful life of these costly bearings to 2 days.

But James Thomas, a maintenance operator in the Dope Department, studied the problem and produced a practical solution. By suggesting a change in the diameter of a ring and providing for tighter clearances, he prevented vapors from getting to the bearings and thus lengthened their useful life to 2 months.

For his excellent suggestion, Mr. Thomas received an award of \$225.



James Thomas: he changed rings, rang the bell

# Two Tax-Savings Plans

With Greatly Increased Rates A Certainty, It's Only Sound Sense to Put the Dollars By

THE STIFFEST TAX BILL in the history of the United States was passed by the House of Representatives last month. While the bill has not, at this writing, passed the Senate, in all likelihood the rates, when finally established, will be higher than those given below.

# Comparisons

In the following table, the proposed income-tax rates are compared with rates under the present law. The table was prepared by the Associated Press.

	SINGLE PERSON	
Net Income	Present Law	Proposed Bill
\$ 900	\$ 0.44	\$ 5.94
1,000	4.40	15.40
1,100	8.36	24.86
1,200	12.32	34.32
1,300	16.28	43.78
1,400	20.24	53.24
1,500	24.20	62.70
1,600	28.16	72.16
1,700	32.12	81.62
1,800	36.08	91.08
1,900	40.04	100.54
2,000	44.00	110.00
2,500	63.80	157.30
3,000	83.60	211.20
4,000	123.20	338.80
5,000	171.60	473.00

MARRIED	Persons-No D	EPENDENTS
Net	Present	Proposed
Income	Law	Bill
\$2,500	\$ 11.00	\$ 38.50
3,000	30.80	85.80
4,000	70.40	180.40
5.000	110.00	308.00

Married Persons-2 Dependents

Net	Present	Proposed
Income	Law	Bill
\$3,000	4444	\$ 11.00
4,000	\$35,20	101.20
5,000	74.80	202.40

Married Persons-4 Dependents

Present	Proposed
Law	Bill
(8)830.4	\$ 22.00
\$39.60	116.60
	Law

That goes to show, as plainly as figures can speak, the probable extent of the drain on our pocketbooks come March 15th next. And it goes, surely, without saying that the only wise thing to do is put something by, regularly, against that "drainy day."

### Savings Shares

Immediately obvious to Kodak employees as a means of "saving up"

in time will be the savings shares of the Eastman Savings and Loan Association. These shares may be subscribed for in any amount and at any time that is convenient to the purchaser. They pay dividends of 2 per cent a year, and they are, of course, withdrawable whenever needed. For a long time, many persons have found the savings-shares method a great convenience in providing for fixed expenses, such as insurance premiums. These shares will provide a similarly sound means of providing for the increased tax levy.

# Treasury Notes

Then there is the U.S. Treasury Department plan, announced last month, whereby special notes—Series A in denominations of \$25, \$50, and \$100, and Series B in denominations of \$100 and upwards—are offered to be used in payment of Federal income taxes. These notes will be interest bearing-Series A, about 1.92 per cent a year and Series B, about 0.48 per cent a year—provided they are used for paying income taxes. They may be purchased through local banks, from Federal Reserve Banks, or direct from the Treasury Department, Washington, D.C.

There, then, are two handy ways of taking the "sting" out of income-tax "pay days" next year. We'll do well to make use of one of them.

# Kodak Milestones

1880—Dry Plates 1884—Paper roll film Stripping film

-Machine for coating emulsion on

paper First Kodak 1888-

1889--First transparent roll film on

nitrocellulose

First folding Kodak -Daylight loading

Solio Paper

First Pocket Kodak 1895-

1896--Motion Picture Positive Film 1898-First Folding Pocket Kodak

1899-Roll coating machine

1900--Brownie Camera

-Daylight Developing Machine -Non-Curling Film 1909-

1903-

1904-Improved Daylight Developing Machine

1905-Duplex Paper

Cellulose Acetate Film for motion pictures

ratten Panchromatic Plates and

Light Filters

Eastman Portrait Film

Panchromatic Motion

1914

Autographic Film and Camera -X-ray Film -X-ray Intensifying Screen 1923

Ciné-Kodak and Kodascope Spring-Driven Ciné-Kodak

Infrared Motion Picture Negative Film

First amateur motion pictures in

color-Kodacolor Recordak

1931 -Super Sensitive Panchromatic Film

1932-Ciné-Kodak Eight

Kodachrome, 16-millimeter 1935

1936--Kodachrome, 8-millimeter; and

for miniature cameras Sound Kodascope Special

New High-Speed Films Professional Kodachrome

Super Kodak Six-20 Kodak Precision Enlarger

Readymount Kodachrome Service 1940-

Kodak Ektra 1941--Kodak Medalist

Kotavachrome Professional Prints Kodak Minicolor Prints

# From Atop a Famous Chimney



When Albert F. Sulzer, general manager of the Eastman Kodak Company, took this snapshot from atom Kodak Park's north chimney some thirty-five years ago (see page 3), only a few buildings were to be seen from his 366-foot perch, and the bicycle and the trolley car still held sway along Lake Avenue

# TO MAK

# ACTIVITIES





A ringer? Snapped at the Kodak Camera Club picnic, held at the Camera Club cottage last month

KODAK PARK ACTIVITIES: The Softball Team is champion of the Rochester Major Softball League for the fifth consecutive year, winning both halves of this season's schedule and the play-off between the four top teams at the completion of the regular schedule. In each half the Park won eight games and lost two. The final play-off game against Camera Works saw George Sutphen pitching the first no-hit no-run game in the Major League this season. . . . The Browns, managed by John Donoghue of the P. & S. Department, are leading the second half in the Ridge Field Noon-Hour League. Finishing first will mean a play-off with the Indians, first half winners under the managership of John Bauer, Field Division No. 2. In the Lake Avenue Field Noon-Hour League, the Birds and Ridge teams are deadlocked for the secondhalf lead. . . . First half honors in the Trickworkers' League were won by the Building No. 5 team. Present leaders in the Twilight Leagues are the Film Developing and Ridge Construction. . . . Eddie Flynn's Industrial League team was off to a fast start in that circuit, holding first place with three victories and no losses. . . . The Kodak Park Tennis Team won the Industrial League by a big margin, being undefeated in 10 team matches. Of 60 individual matches, it won 49, lost only 9, and 2 matches were unplayed. The personnel of the team is as follows: John Hecker, John Schilling, Paul Glasoe, Stanley Marshall, Vernon Thayer, William Hearon, John VanAllen, Joseph Martin, William Tucker, captain, and George Eaton, manager. . . . Low-gross honors in the July 12th tournament at LeRoy were taken by J. M. Johnston of the Film Emulsion Coating Department, with an excellent 71. The final tournament of the season was staged at Lake Shore, August 16th, with over 150 entered.

Camera Works notes: In a play-off for second place in the Industrial Tennis League, Camera Works finished third, losing to Bausch & Lomb. . . . The Annual Elimination Tennis Tournament is in process with Elmer Booth, last year's champion, seeded No. 1. Ted Mosher holds the No. 2 spot, followed by Bill Eaton and Bob French. . . . The Major Softball League entrant finished in second place, losing in the finals to Kodak Park behind the no-hit, no-run pitching of George Sutphen, by the score of 6-0. Entered in the City Softball

Tournament, the Rochester Products team is the first hurdle for Camera Works, one of the two favorites to win the City Championship. . . . The Industrial Softball League contestant in the American Division is in second place in the second-half race, losing only one game to date. Billy Maslanka pitching for the Dusties has scored two no-hit, no-run games to date. . . . The third golf tournament is about to be held at Midvale Country Club. . . . The Sixth Floor team in the Plant League still holds the lead with two games to go. Carl Gerstner's hurling has been a big factor in the Sixth Floor team's lead. . . . The bowling season has commenced, Emma Cahill is president of the Girls' League.

HAWK-EYE HIGHLIGHTS: A 73 by Bud Habes and a 77 by Bill Weagley won first and second low-gross prizes in the H.E.A.A. Golf Tournament held at Midvale on August 9. Mike Powers and Walt Isselhard tied for low net. Bill Ferron and Vin Scarsella finished third and fourth, respectively.... The team which will represent Hawk-Eve in the Interplant Golf Tournament will be selected from the following players: Habes, Allen, Weagley, Merle, Springer, Lopez, Short, Gunn, Miller, Garafol, Pero, and Guider. . . . The Time Clerks finished the season with (Continued on page 15)

Communed on page 10



What's a picnic without a pie-eating contest: here's one in full swing at the Kodak Camera Club outing

KODAK Page 15

# Escape from Poland: a Tale of War

A Kodak Employee Tells of His Experiences in Making His Way To the Safety of His Homeland

War came to Poland on the morning of September 1, 1939. In Warsaw, 150 miles from the border, a Kodak employee had sat through most of the night listening to radio reports of the crisis.

"My first hint that war had started," Eugene Dellas relates, "came at 5:45 that morning, when an air-raid alarm awakened me. I bounded from bed and rushed to the window. Bombs were already falling on the outskirts of the city. In the next few minutes, as the full import of the situation dawned on me, I had a strange feeling that I was a different man than before—that everything, even myself, had changed."

For nearly a week, Mr. Dellas witnessed the bombing of the city, while its people moved from a state of lethargic disbelief to one of wild panic. Business was at a standstill.

### Grim Journey

On the sixth day, the Kodak branch in Warsaw was ordered by the government to deliver a consignment of film at Lwów to the east. With the company truck unable to carry the complete load, Mr. Dellas was asked to transport part of the assignment in his private car.

The next morning, after great difficulty in requisitioning gasoline, the little cavalcade of two autos started southeast on a journey that was to prove a nightmare of indescribable horror. The highways were jammed with terrified people fleeing by every means available.

### Under Fire

During the trip to Lwów and beyond, lasting seventeen days in all, Mr. Dellas' tiny European-built car was machined-gunned fifteen times while he and his passengers sprawled in ditches or gained the shelter of near-by woods.

During the ten long days required to reach Lwów, the little party ate such cold food as could be obtained, munching their scanty meals in the car as they crawled along. To avoid hostile planes, they drove mainly by



Eugene Dellas: his first hint, an air-raid alarm

night with lights out. Several times, parachutists were spotted.

The bridge into Lwów had been destroyed, but Mr. Dellas and his companions managed to cross over a rickety farm bridge some distance upstream and succeeded in reaching the city. There they delivered their load of film to the local Kodak branch and for four days, while bombs dropped incessantly, refreshed themselves as best they could with clean clothing, hot food, and sleep.

### Escape by Minutes

By now, with the German armies rapidly nearing the city, all plans for returning to Warsaw were out of the question. So, with his two companions, Mr. Dellas traveled southward to a small village where his party might wait in safety and observe the trend of the war. But there, amid the tempest of rumors that swept daily across the country, came a report that Russia had entered the war and was invading from the east. Escape from this pincers movement of the two armies became an imperative matter of minutes. Hurrying on from the village, the little group smashed through a company of revolting Ukranians who attempted to block their way and flew on to Krzemieniec, not far from the Rumanian border. Here, Mr. Dellas accompanied the American consul while he took photographs of that ancient and historic town. Two hours later, the place was blasted by German bombers, and the consul, retracing his picture-taking tour, photographed the crumbling ruins of the devastated town.

Continuing their journey, the three men were caught in an early morning raid while sleeping in the home of friendly strangers. As they fled from the house to a near-by orchard, a bomb completely destroyed the house, together with all their clothes, passports, and other belongings. Fortunately, the car was undamaged and they were able to continue, clad in their pajamas, toward the border.

Literally carried across the border into Rumania by an avalanche of refugees which swept the customs officials before it, the weary party followed bypaths and side roads to Bucharest where the Kodak branch provided them with clothes and living facilities.

# Home Again

Mr. Dellas now obtained temporary employment as a skiing instructor while awaiting credentials from America which would enable him to obtain another passport. In April, his American citizenship established, he was free to leave the country and soon had crossed Yugoslavia and Italy to catch the Manhattan, on its last trip from Genoa.

The return trip was enlivened by a stop at Gibraltar where British authorities took off several German subjects and by the sighting of two unidentified submarines not far from the coast of Spain.

"I could hardly believe it was true," Mr. Dellas concludes, "when the Statue of Liberty loomed up to mark our journey's end. I realized then, as I never had before, how precious our American citizenship really is."

# **Activities Notes**

(Continued from page 14)

a perfect record—10 wins, no losses—in the H.E.A.A. Departmental Soft-ball League. . . . Phil Michlin, who went through the Industrial Tennis League season without being defeated in the singles competition, has won the Western New York Singles title.

# OUT OF THE HAT

# Visitor from China

"One of the world's most cosmopolitan and colorful cities," is how Linden L. Farnsworth, Kodak's manager for China, describes Shanghai. "After an extended stay in one country, many of the things that at first seemed so exciting and different are apt to become almost commonplace," he says. "But that's not true of Shanghai, or of China."

"Farny," as he is popularly known, went to Shanghai in 1930, and this is his third visit to Rochester. He had an extra-special reason for making the trip.

"We have a baby boy," he says, with considerable pride, "but I didn't get a peek at him until he was five and a half months old."

The longish interval between "small piece's" arrival and his introduction to his father was due to the troubled international situation. "American wives were advised by our consulate to leave China, and our boy was born three weeks after Mrs. Farnsworth's arrival in California. You bet I was eager to see him!"

Shanghai has a sky line not unlike that of any large American city, but once within the city proper the similarity ceases.

"Along the modern streets you'll find stores that are nearly as up to date as any here," Mr. Farnsworth

relates. "But walk along any of the hundreds of cross streets and the scene changes immediately. Here, the little shops display colorful banners that describe the bargains you'll find within. In the famous International Settlement, the old world—and don't forget that China's history goes back to two thousand B.C.—is side-by-side with the new. Shanghai is literally where East meets West."

Even the street sounds are different in picturesque Shanghai, and the street vendors have their own unusually distinctive cries. "Chinese is a very musical language, and a very difficult one, too. There is a wide variety of dialects throughout the country, with such pronounced differences that a person from one district may have considerable difficulty in understanding a person from another district. However, most educated Chinese speak Mandarin, which is the chief dialect of the country, as well as the dialect of their native district."

And business? "The going is somewhat tough," Mr. Farnsworth reports. "Since the coast was blockaded, our goods have had to move through previously unused channels. But most of them reach their destination somehow, using anything from good old hand-portage to ships and donkeys, airplanes and canalboats."



Linden L. Farnsworth: don't forget that China's history goes back to 2000 B.C.

# Did You Know?

That occupations at which people in the United States work for a living have been listed by the Social Security Board at 25,000? So far, about 400 of the total have been classed as defense occupations.

That a 45,000-ton battleship requires some 20,000 tons of steel; an aircraft carrier, about 17,000 tons; and a cruiser, about 5,500 tons? The figures are exclusive of the steel in the ships' guns and armor plate.

That one large, four-engined bomber of the type American industry is now building for defense carries up to 11,000 gallons of gasoline when fully loaded for flight? This capacity is more than that of a standard railway tank car. And the gasoline used on a 24-hour mission is about equal to the amount an average automobile would require to make five trips around the world.

That there are more than 400 transports in our commercial air lines? In a recent month, our domestic air lines flew more than ten million miles—the equivalent each day of a trip to the moon plus four trips around the earth's circumference.

That in the last war seven men were required at home in the factories for every man under arms? Today, the ratio is eighteen to one.

That more than twenty operations are now performed in bringing a big gun to bear on its target? The electrical industry is today playing a big role in the manufacture of these guns by making the motors, controls, and calculating devices needed in them.

That 40 miles of continuous cotton cord, hand-tied with more than 181,000 knots, were required to manufacture a gigantic net used by one American company working on defense? The huge net will be used to hold "blimp envelopes," or gasbags, during their original inflation preparatory to flying.



"THE 'CHUTIST"



