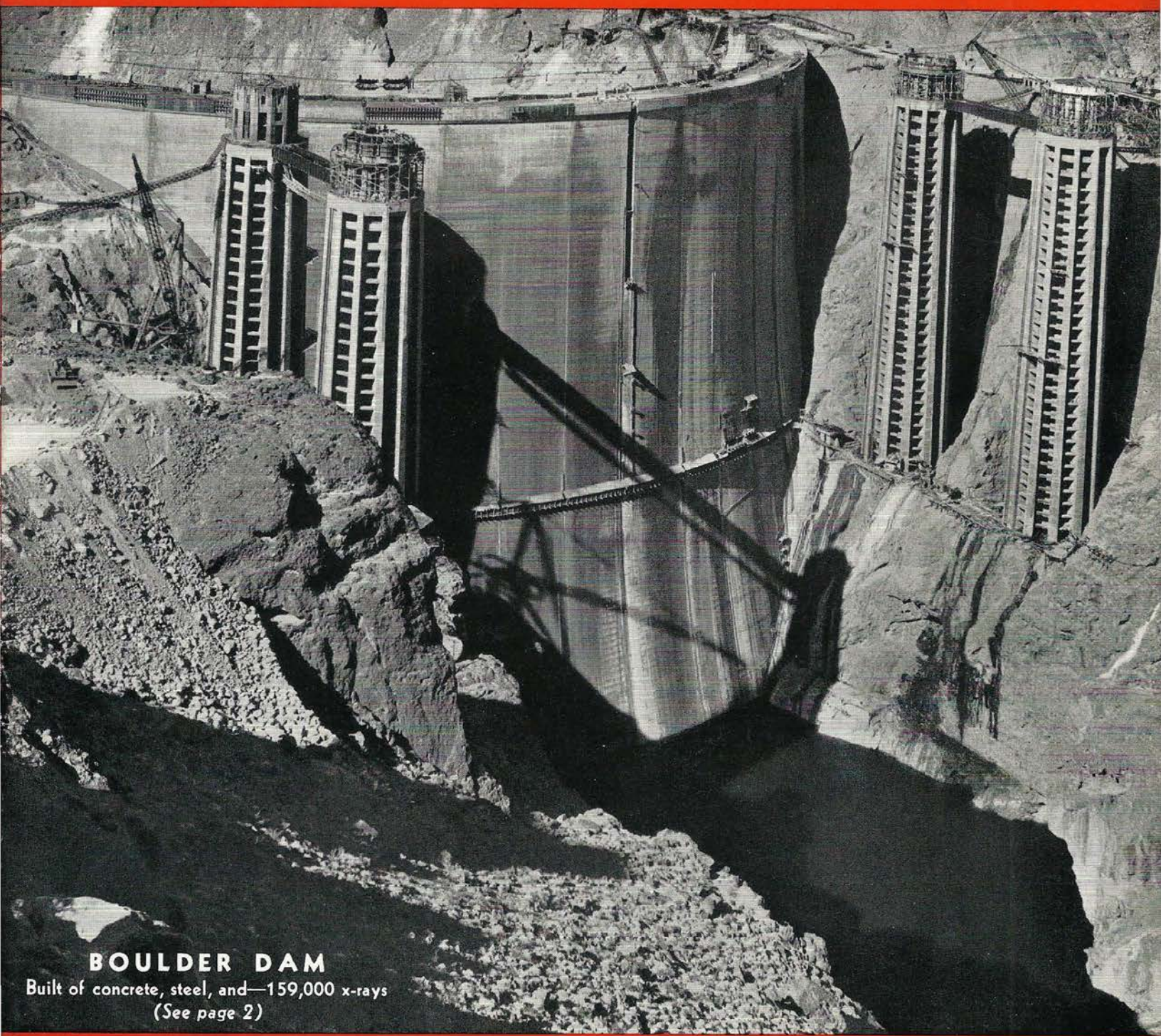
KODAK

A MAGAZINE FOR EASTMAN EMPLOYEES



BOULDER DAM
Built of concrete, steel, and—159,000 x-rays
(See page 2)

JUNE 1935

NEW YORK—Photographed from 26,300 feet above Staten Island

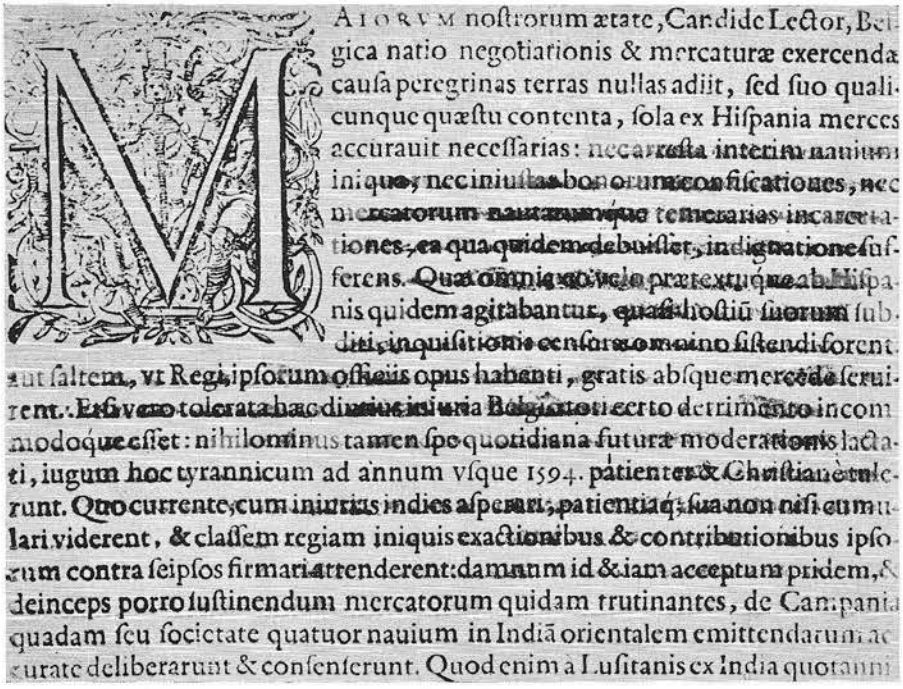
Official Air Corps photograph, by the courtesy of the "National Geographic Magazine"

THE CONTENTS

KODAK

Volume 14 JUNE 1935 Number 1

Photography Explores Our World's Secrets


MORVM noſtrorum ætate, Candide Lector, Belgica natio negotiationis & mercaturæ exercendæ cauſa peregrinas terras nullas adiit, ſed ſuo qualicunque quæſtu contenta, ſola ex Hiſpania merces accurauit neceſſarias: necarreſta interim nauium iniquo, nec iniuſtas bonorum confiſcationes, nec mercatorum nauiumque temerarias incarcerationes, ea qua quidem debuiſſet, indignatione ſufferens. Quæ omnia uelo prætexturæ ab Hiſpanis quidem agitabantur, quaſi hoſtiũ ſuorum ſubditi, inquiſitionis cenſura omnino ſiſtendi forent aut ſaltem, vt Regi, ipſorum officijs opus habenti, gratis abſque mercede ſeruirent. Eſſ vero tolerata hæc diutius iniuria Belgarum certo detrimento incommodoque eſſet: nihilominus tamen ſpe quotidiana futuræ moderationis lædati, iugum hoc tyrannicum ad annum vſque 1594. patienter & Chriſtianè tulerunt. Quo currente, cum iniurijs indies aſperari, patientiaq; ſua non niſi cum ludi viderent, & claſſem regiam iniquis exactionibus & contributionibus ipſorum contra ſeipſos firmari attenderent: damnum id & iam acceptum pridem, & deinceps porro ſuſtinendum mercatorum quidam trutinantes, de Campania quadam ſeu ſocietate quatuor nauium in Indiã orientalem emittendarum accurate deliberarunt & conſenſerunt. Quod enim à Luſitanis ex India quotanni

Specially sensitized plates from the Kodak Research Laboratories made legible this historically useful document that had been censored about three hundred years ago with heavy, black ink

KODAK—as we may "point with pride," all of us who help to carry on its activities—provides important assistance to scientific exploration into the secrets of this world of ours; and shares, in the bargain, an occasional look-in on other planets.

Photography is on the front line, these days, of scientific progress and the assault on the unknown and the impossible. The Eastman Kodak Company, in turn, is at the forefront of photography with specialized materials for making pictures to be used as scientific tools, as well as with materials for the familiar photography of home and Hollywood.

We may, as individuals, nitrate cotton or coat emulsion or make cameras or lenses or paper, or sell photographic goods—or do any of the hundreds of jobs necessary to the success of Kodak. Every job contributes to "the big job": providing materials for the photographic needs of the present—and of the future—no matter how extraordinary they may be.

Super-sensitive Panchromatic Film, we know, has revolutionized Hollywood's movie technique; has given treasured indoor snapshots to hundreds of thousands of families. We are less likely to know that Captain Albert W. Stevens, of the Army Air Corps, carried a roll of Super-sensitive "Pan" to a point 26,300 feet above Staten Island and took a picture of New York (see the opposite page) in which the whole great city appeared. Part of New Jersey showed in the photograph and the State of Connecticut to a point beyond New Haven Harbor, identifiable eighty miles away.

Yet so well did the film do its job under the control of Captain Stevens' skill—and with a lens made at the Hawk-Eye Works—that individual buildings may be discerned in the city far below the airplane. Look for the Empire State Building, appearing below the right-hand side of Central Park, and for the Yankee Stadium, just above the Harlem River, with Fifth Avenue pointing to it after going up the right-hand side of the park.

That is a spectacular example of what aërial photography can do. Daily, as well, it is doing its round of useful work.

Photography is impartial, on the ground or in the air. Big taxpayer, little taxpayer; it's all the same to the camera. A number of towns and small cities have taken that cue and have had tax maps made from the air by photography. With what results?

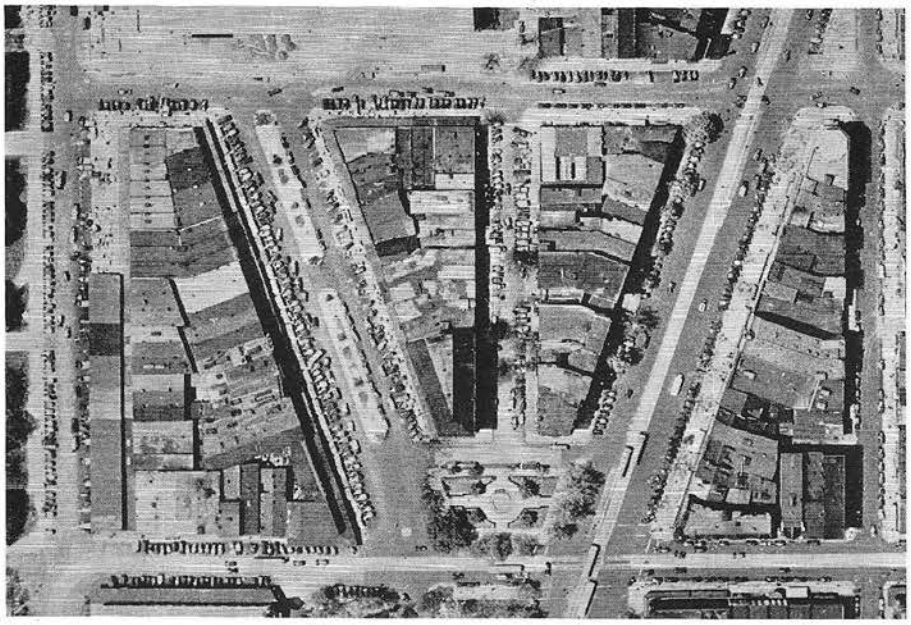
A tax map of a New England manufacturing town, made by photography from an airplane, revealed buildings, lots, improved pieces of land, and similar taxable properties, to the number of 1,896, that had not appeared at all on previous tax maps. Forty-nine of these untaxed properties were on the main street. The camera said so and the fact was therefore quite incontestable.


MORVM noſtrorum ætate, Candide Lector, Belgica natio negotiationis & mercaturæ exercendæ cauſa peregrinas terras nullas adiit, ſed ſuo qualicunque quæſtu contenta, ſola ex Hiſpania merces accurauit neceſſarias:

mum vſque 1594.

mercatorum quidam trutinantes, de Campania quadam ſeu ſocietate quatuor nauium in Indiã orientalem emittendarum accurate deliberarunt & conſenſerunt. Quod enim à Luſitanis ex India quotannis

The same sheet, photographed on an ordinary plate, with the censor's ink obliterating a passage



One section of an aërial traffic survey of Washington, the capital city: a surer way to determine the density of parking and movement than sending Boy Scouts to count the cars

In consequence, the assessment roll of this town of 16,000 population jumped from about $20,000,000 to a figure beyond $30,000,000; the tax rate was reduced 20 per cent; and yet taxes collected were $60,000 higher than before.

The tax map made by an aërial camera cost the town $162 a square mile and required two months in the making. A neighboring town's tax map had cost, at the end of four years' work on the ground, $3,692 a square mile.

"Certain as death and taxes." Well, here's a case where photography seems to have made taxes more certain but more equitable. It shows, at the same time, one thing that is never certain. We can't always know the uses of the materials on which we work.

Aërial photography's great future is in rapid process of becoming a very important present. Photographic mosaic maps are proving essential for city planning and zoning, for traffic-control planning, for the routing of highways, for exploiting real-estate developments, for geological and archæological exploration.

Sometimes it is necessary to photograph from the air to understand things right in our midst. Such a case is the aërial photography of cotton fields to indicate definitely the areas infected with root-rot. Fields of cotton stricken with this blight appear on a photographic print like a pock-marked face, so clearly do the infected areas show from the air.

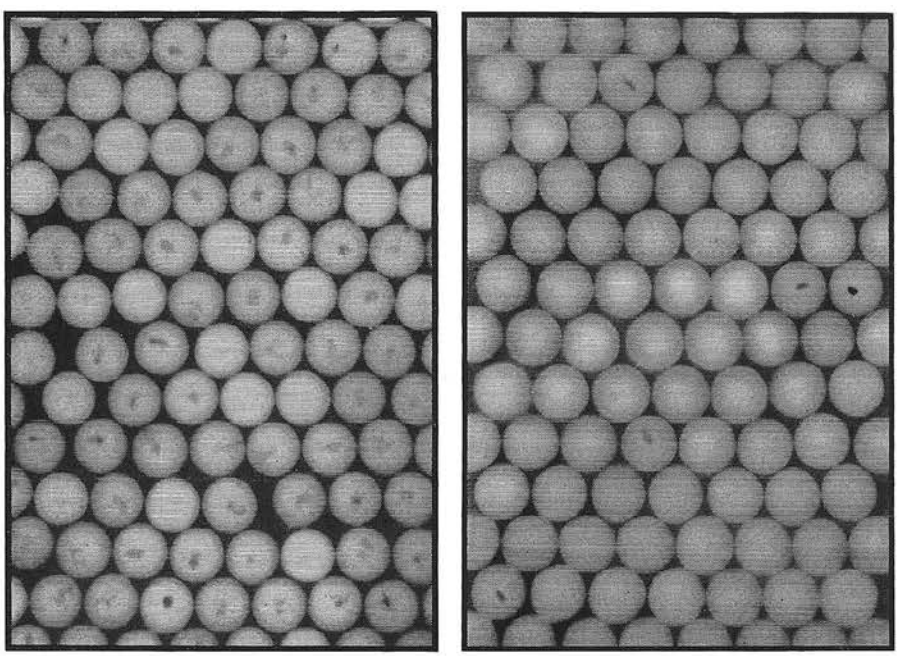
There, now, is a curious thing. Photography contributes to the raising of better cotton crops—while photography depends on cotton as the essential raw material of its film base.

We know the job that x-ray has done for medicine and dentistry for several decades; but we are less likely to know the important uses to which the x-ray is now being put in industry. The great national project of Boulder Dam, for instance, depends on x-ray pictures as one link in the safety of its construction. The specifications called for x-ray examination of 75 miles of steel welds in the huge water tunnels—an undertaking that required at least 159,000 separate x-ray exposures (see the cover).

In designing metal articles for various uses, there was a time when gas cavities or other flaws in castings didn't greatly matter, because enough extra metal, beyond the requirements of the design, could be included to compensate for loss of strength through flaws. Modern designs, on the other hand, prohibit large excesses of metal. Reliance on any such factor of safety is no longer permissible. There simply must be no flaws. That's where photography comes in—by means of the x-ray, which is merely photography *through*, instead of photography *of*.

It is usual foundry practice to make "pilot castings" of new parts. Ordinarily the examination of these preliminary castings has been made by cutting them apart; but an x-ray photograph—a "radiograph"—can probe inside a casting better than a saw can. If the casting is perfect, it is saved for use, since only radiation has gone through it and not a saw. If the casting is imperfect, the x-ray picture will probably reveal defects that the saw cuts would have missed.

A list of industrial products that have been submitted to x-ray examination would easily crowd everything else off this page. Not only castings, but also such finished and semifinished products would appear on the list as airplane parts that might fail in the air, grinding wheels that might fly apart if there were defects, golf balls that might have their cores off center, switchboard-panel slate that might contain metallic veins, oysters that might contain pearls—these and many other uses have been found, in addition to the time-hon-



X-ray inspection of ball bearings, "before and after": the first film (on the left) revealed many flaws in balls that appeared perfect, but the second "shot," after change of the manufacturing process, showed only five to be imperfect

ored medical applications of x-ray photography.

Once the parts of a machine have been proved flawless, modern industry, building complex devices that operate far faster than the eye can see, still has need of photography's help in discovering if any of the parts move erratically.

The way to make those discoveries was to devise an eye that actually could see quickly enough to find the reason for any defective operation.

Kodak supplies such an eye in the form of a 16-millimeter movie camera that can take two thousand pictures a second. Rapid indeed would be the mechanical operation that could elude this apparatus—when a motion picture of an electric-light bulb being smashed shows the broken pieces of glass drifting to the floor as slowly as the down of milkweed on a summer breeze.

Any piece of material or equipment produced by Kodak might find itself the turning point of a legal case. Photography is increasing in importance as a medium of legal evidence.

The right photographic materials may well be the prosecutor's best friend in forgery cases. Three years ago a letter was written by hand:—

"Dear Tom: Is there any employment you can give this man? He is a good worker."

With a flourish the note was signed.

Not long afterward the benevolent signer died. Somebody saw the value of that innocent signature to make the signer appear benevolent in a way that he had not intended. With a little care, it was possible for the plotter to bleach the handwriting away, except for the name, which thereupon became the signature of the perfectly plausible typewritten will printed on this page—plausible because Pennsylvania law, it appears, does not in all cases require the signatures of witnesses.

But then ultra-violet photography was brought into the case and revealed the deception. Imagine a jury's response to the lower photograph at the bottom of this column, reproduced from a photographic plate that had caught the bleached handwriting as well as the visible, forged typewriting.

There are other uses of photography in recording papers as they don't appear to the eye. Documents charred black by fire need not be considered destroyed. Left for several weeks in contact with photographic film, such charred papers will reproduce their appearance as it was before the fire. Emanations of gas from the paper affect the film, over a prolonged period, except where the original ink obstructs the emanations—and thus the image is formed.

(Please turn to Page 14)

Incas, Pa., January 23, 1932.
This is my will made this day because I am not well. I give all of my property of all kinds to my friend, Jacob C. Grustig. He is to settle my estate and can either sell the house or keep it as it is. I do this for Jake because he is my best friend and has done so much for me.

Signed. L. V. Darnoff, Seal.

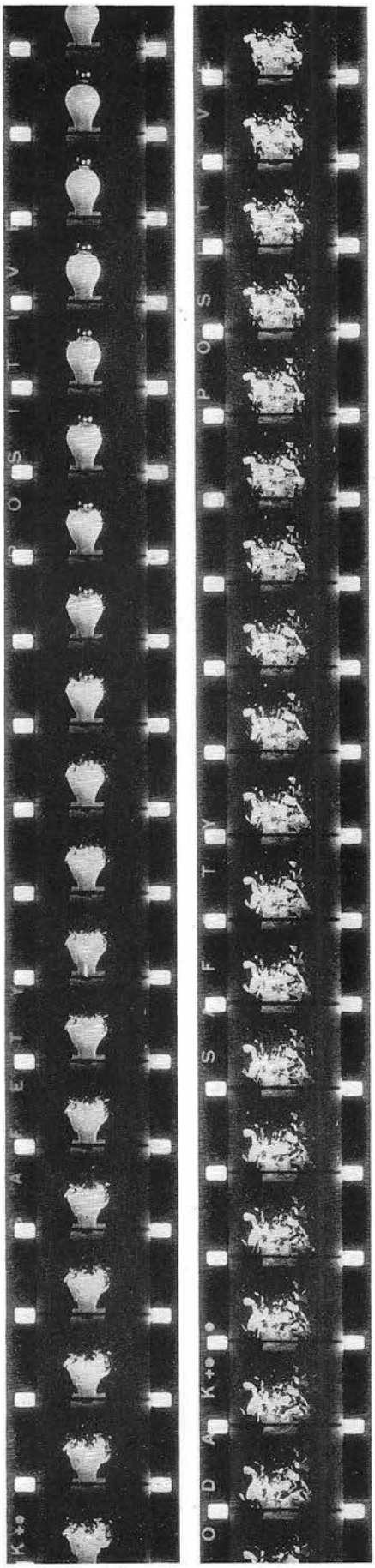
What's wrong with this will? Nothing . . .

Incas, Pa., January 23, 1932.
Dear Tom, This is my will made this day because I am not well. I give all of my property of all kinds to my friend, Jacob C. Grustig. He is to settle my estate and can either sell the house or keep it as it is. I do this for Jake because he is my best friend and has done so much for me.

Jan 4, 1932 Signed. L. V. Darnoff, Seal

By the courtesy of Elbridge Walter Stein

. . . until it is photographed by ultra-violet rays!



Here's what a high-speed camera caught when a marble dropped on the top of an electric-light bulb

PANORAMA

"Got to Trust Your Organization"

ONE DAY Mr. Eastman was showing movies of his first African trip—movies that he himself had taken—to dinner guests at his home. By all odds the most exciting scene came when a rhinoceros charged down upon the camera and fell only a few feet from it.

The charge was terrific; finished before time for thought—yet the photographer didn't flinch. He stood his ground while the rhino in a flash loomed larger in the finder and while the hunter beside him waited to shoot.

The dinner guests were shaken as if they themselves had been charged by the rhinoceros.

"But, Mr. Eastman," they said, "that was extremely dangerous. Why . . . how close was the rhinoceros when the hunter fired?"

"About fifteen paces."

"How close was he when he fell?"

"About five paces."

"But, Mr. Eastman, just think of the things that might have gone wrong. The rifle might have jammed, . . . the cartridges might have been no good, . . . the hunter might have lost his nerve or become ill—and you would have been killed. . . ."

"Well," said Mr. Eastman, gently, "you've got to trust your organization."

Largest Portraits

KODAK PEOPLE live and work under many flags. While those in the United States were reading dispatches about the Jubilee of King George and Queen Mary, and sharing the dramatic occasion in imagination, several thousands of their fellows in Great Britain and Canada and Australia and in other parts of the British Empire were engaged in the celebration.

On the front of the office of Kodak, Limited, in London, the English company displayed a unique contribution to the Jubilee decorations: photographs of the King and Queen, each measuring 36 feet by 16—the largest camera portraits ever made. Thirty-six feet is as tall as a four-story house (if you can find a four-story house). Sixteen feet is as wide as three automobiles.

The pictures were printed on bromide paper, each being formed of fifteen sections 12 feet by 40 inches in size. Both together weighed, with their mounts, more than a ton. They were sprayed with lacquer for protection against the weather.

Road Signs

DRIVING along the road, the car's headlights pick up the word, "SLOW," and it becomes more brightly illuminated the closer the headlights approach. A warning to night drivers that the road bends sharply. Little balls of glass, forming the word and reflecting the headlights, make the signal loom out of the night.

But in some localities not glass balls but lenses stud the warning signs. They reflect more light than glass balls because they are lenses, and still more because carefully designed concentric rings are molded on the surfaces. A distinct improvement.

They are fabricated by a process similar to finder lenses—and Hawk-Eye makes them, by the millions.

Did You Realize

. . . that Kodak Park refrigerating machines could cool ice boxes in a million homes? The large amount of refrigeration produced is for air-conditioning, process-cooling, preservation of sensitized goods in storage.

. . . that Kodak Park uses five tons of silver a week, which is more than any other industry in the world uses? It's for making emulsions.

. . . that Kodak Park uses more than eighty tons of cotton a week? It's for making film base.

. . . that Kodak Park uses as much water in one day as would be required to fill a quarter of a million bathtubs or to fill a dry dock to float the new *Queen Mary?* It's for cooling and for various uses in the processes of manufacture.

. . . that Kodak Park burns five hundred tons of coal a day? That sounds even warmer than the refrigeration produced sounds cold.

It's Done With Mirrors

AN ENTERPRISING London camera shop has devised a novel adaptation of 16-millimeter movie projectors—to throw motion pictures on the ceiling of a sick room. The patient can see a show without sitting up.

The projector stands on a table over the bed, and an arrangement of mirrors sends the rays upward.

Brawn Abroad

IT TAKES brawn as well as brain to represent Kodak in the export territory: Latin America and the Far East. Consider the cases of four of our sentinels on the edges of civilization—civilization as defined by the ability to get on a train and go places.

Robert E. O'Bolger is manager of the Shanghai Branch, which distributes our goods in China. When it becomes advisable for him to call on the trade in one of the interior provinces, he boards a train, it's true, and he rides a long way. But at last it's the end of the line, and passengers who wish to go farther have to find their own ways of doing so. The ways Mr. O'Bolger found on one trip were wheelbarrows, chairs carried by coolies, his own feet—and even the backs of men who carried him across streams.

In the Philippines, William P. Lane, the manager, sometimes travels by canoe and by two-wheeled cart.

It is not extraordinary for our men in South America to fly across the tall Andes; but not so very long ago William E. Barr, our technical man in that region, had to do it—because the Trans-Andine Railroad couldn't "make the grade."

But the most notable sequence of hardships recently recorded befell Joseph D. Aponte, of Rochester, who makes a trip every year to countries surrounding the Caribbean Sea—and no luxurious cruise is it for him under even the best of circumstances.

The hardest Aponte day descended upon him in Venezuela, when he set out in a hired motor for the interior town of Barquisimeto. Two tires and a policeman did their bit to delay the journey, but it was not until after a smash-up that Mr. Aponte gave up that vehicle and managed to hail a tobacco truck. The tobacco truck didn't break down for an hour—and then came a truck loaded with *aguardiente,* which sounds suspiciously like "fire water" (and is, so the Export Sales Division confirms).

It was 2 a.m. when Mr. Aponte reached his destination—but that didn't prevent him from calling on the trade the next day.

Thus do our representatives afar—and the men mentioned here are only a few of them—keep up Kodak's friendly relations with the dealers who sell our goods in those territories.

Where There Isn't a Will There's Still a Way . . . .

Consult the Industrial Relations Department for Help in Making One Before the Emergency Arises

"BUT MY HUSBAND always said that if anything happened to him this property would go to me."

Such a statement has been made all too frequently by widows of Kodak employees, who have come to the Industrial Relations Department for assistance. More often than not the answer has to be that the husband was mistaken—because of his failure to make a will.

Under the laws of New York State, in case of the death of an individual who has made no will and who leaves his wife and children surviving, the widow is entitled to one-third of her husband's property and the children are entitled to two-thirds. No exceptions can be made to this rule, and the division of the property is absolutely arbitrary in the absence of a will.

Avoiding Complications

The matter of the precise division of the property, however, is only one result of the failure to make a will. If it happens that there are no surviving children, the complications are usually not great; but when there are children, and especially when there are young children, the widow is frequently put to needless inconvenience and expense.

Under such circumstances the first requirement is that an administrator be appointed by the Surrogate Court before any disposition may be made of the property. The usual method is for the widow to petition through an attorney for such an appointment. Upon being appointed, she becomes responsible for the disposition of the children's share of the estate.

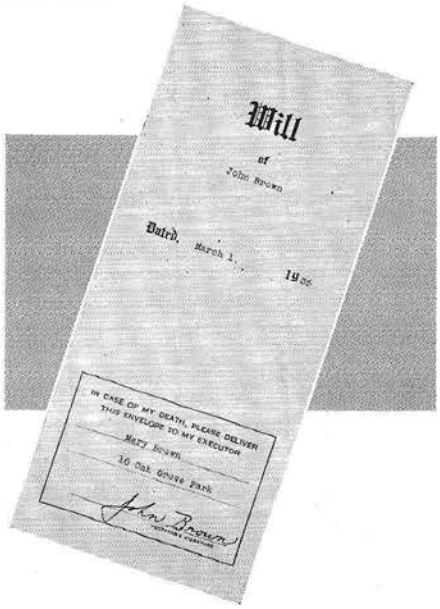
The children's share can not be paid to them until they have reached 21 years of age. If they are younger than 21, the administrator must take care of their share until that time and must make an accounting to the Court.

Usually a bond for the amount of the children's share must be furnished by the administrator. If relatives or friends owning real estate are willing to sign a bond making themselves responsible for any irregularities in handling the funds, that is usually sufficient. If such an arrangement can not be made—and frequently it is difficult—the only recourse is to secure a bond from a surety company, for which a premium must be paid. Such an arrangement must be kept in force until all the children are of age. That may be for ten or fifteen years, or even longer, depending on the ages of the children.

In most cases of small estates, use of the property is imperative for family maintenance and for the care and rearing of the children. Under such circumstances there are frequently perplexing questions as to whether the children's share in the estate may be used for their benefit during their minority.

Most of these complications may be avoided by making a will. It is true that some expense is involved in settlement of an estate where there is a will; but all the difficulties attendant upon the matter of a bond may be avoided.

While making a will in ordinary cases is a simple matter, the law requires that it be executed—that means signed by the person making it and by the witnesses—in a very particular manner. If any printed form is used, therefore, specific instructions on this point should be obtained.



The Kodak Employees Association undertakes the safekeeping of wills for employees and provides, for the purpose, envelopes like this. Other valuable papers may also be deposited with the Association for preservation. There is no charge for this service. Further information may be obtained from plant employment or pay-roll departments or from the Employees Association at the Kodak Office.

Advice on these matters—concerning the making of a will, as well as on other legal questions—can be procured by any employee without charge through the legal-aid service afforded by the Kodak Employees Association. Appointments to see Donald S. Westfall, attorney, who spends part of his time at the Kodak Office for this purpose, can be made through the plant employment offices or, for Kodak Office employees, through the Industrial Relations Department.

Insurance Beneficiaries

Another method of avoiding complications is to have property held jointly, so that upon the death of one of the owners it passes to the other irrespective of any will. This is frequently done with real estate and with bank accounts, and it may be arranged with most personal property. The existence of a will, however, is also necessary to take care of personal effects, and as a safeguard in case some items should be overlooked. The will, of course, need not be probated if at the time of the death it is found that all the property is jointly held.

In addition to the matter of making a will, thought should be given to the proper designation of beneficiaries under insurance policies—including the group life insurance of the Company. Under the New York law, proceeds of life insurance are not considered part of an estate, and they pass directly to the beneficiary named in the policy without having to go through the formalities required in the case of other property. Except for very large amounts, there are also no inheritance-tax complications.

If, on the contrary, a person designates his estate as beneficiary, by so doing he makes the insurance part of the estate; and in the event of his death it must be handled as such. If minor children are named as insurance beneficiaries, no money can be paid to them until they reach the age of 21 unless a guardian is appointed by the Court. That procedure is attended by difficulties similar to those outlined above in connection with the duties of an administrator of an estate.

There are cases—it should be said —where the designation of the estate

(Please turn to Page 13)

That's the Way the Printing Press Evolved

IN NEWSPAPER SHOPS all over the land, compositors at keyboards set type almost as rapidly as a typewriter operates. Then a sequence of mechanical operations that are miracles of perfected ingenuity: the page-forms—made up of thousands of pieces of type metal—take the form of solid, circular plates fitting the presses . . . and those great machines that can roll off 35,000 newspapers an hour commence what William Allen White once called "the soothing diapason of the whirring wheels."

That is now.

Fifty years ago it was different. Printing was slow and cumbersome. Yet the best of the old-time printing hands—men of skill and resourcefulness—were not dulled by those limitations. It was they who paved the way for the great modern newspaper business.

Here's how the beloved Mr. White, one of our greatest small-town editors, described such a printer, a man hired to do twelve hours a day of setting type, piece by piece, and putting it back in the case, piece by piece; days of tending a primitive, balky printing press.

He could, among a variety of accomplishments, "make paste that would never sour. . . . He could whittle out a line of wood letters. . . . He could make rollers that would print a hair line of script, or bring out the dapple in the flanks of the iron-gray stallion for the livery-stable job. . . . He could go to the nonpareil case and set up a piece of poetry for the first column from memory. He was a guide, philosopher, and friend to the editor"—this man whose tedious job was simply setting type and coaxing along an unwilling press.

Debt to the Printers

Did all that count?

The ingenious devices by which this man and fellow craftsmen improved the presses they worked on—wrote Mr. White—those devices, "perfected and carried to their ultimate conclusions, have become great inventions of this printing craft."

Yet the improvements rigged up from string and wire and wood were not great inventions when they were made. It took many ingenuities to make an invention—but through the years the inventions came. Now we can read our newspapers half an hour after the news has happened, and we can read a great deal more news for two or three cents. Much of our debt is to those unsung printing hands who saw better ways of doing their jobs.

In goes a suggestion—always room for improvement

There is room in any industry for all the thought that can be given to improvements. Some of our fellow members of the Eastman organization—indeed, some whole departments—are employed for the specific purpose of thinking out new products, better methods. But hundreds of others, taking advantage of the Suggestion System, have shown that a mind awake to the job being done can produce improvements worthy of adoption.

Those printers of the 'eighties had no reward for their ingenuity but satisfaction. Those of us who make acceptable suggestions at Kodak in the 'thirties have the additional reward of payments for ideas.

To be worth while, an idea need not be large. It must merely be sensibly thought out to the best of one's ability. Observation and "horse sense" are the best equipment for making useful—and therefore remunerative—suggestions.

For instance, L. B. Rich, of the Paper Emulsion Department, suggested that the truck used to carry bottles in that department should be lined with a corduroy-rubber mat to prevent bottles from slipping off and breaking. That idea wasn't one to be published in the scientific journals—but it kept bottles from breaking, and that was the need.

Similarly, William J. Phillips, of Hawk-Eye, received an award for a new method of fastening clips to developing hangers by spot welding. The old method was good enough; but Mr. Phillips' method was better, and a point was gained in the steady improvement of our methods of manufacture.

In the Dope Department at Kodak Park, William Kondolf was annoyed because the pins used on filter plates broke off and loosened. A healthy annoyance may be useful—if something is done about it. Mr. Kondolf put in a suggestion that locknuts should be used instead of the pins. The adoption of his suggestion means that annoyance, and time, will be saved. They are worth saving.

Time is money, and money conserved helps make for the success of any business.

Simple enough it seems for Charles Bertie, of the Emulsion Coating Department, to have proposed the use of adhesive tape $1\frac{1}{8}$ inches wide instead of the $1\frac{5}{8}$-inch width—but that means a lot of tape saved when the Company's extensive use of tape in packing sensitized goods is considered.

At the Camera Works, John Rutan, who works on Baby Brownies, studied the camera and found that a ratchet bushing was unnecessary; and that its elimination, furthermore, would not impair the quality standard of the camera. The idea was tried out and found satisfactory.

With a Ford Part to Aid

Ross P. Miller, of the Stores Department at the Park, turned waste into an income when he put into the Suggestion System the idea that wooden boxes received by the Finished Film Department with shipments of lead discs, lead foil, and aluminum foil should be sold back to the supplying firms to be used over again.

Speaking of improvements on printing machines, they aren't confined to the newspaper shops. Take a case at the Kodak Office. Howard Kittle, of the Advertising Printing Shop, assembled some crude tools—a Ford valve stem among them—and devised a machine part that eliminated frequent delays in his job of printing dealers' names on photo-finishing envelopes. The new part, which outside experts had been unable to supply, worked like a charm; and the output of the machine operated by Mr. Kittle increased substantially.

Honors—and cash—for mechanical development are not only for the

(Please turn to Page 15)

Employee Activities: Let's Investigate

WHERE TO BEGIN?

The time and place: a spring evening in the Kodak Office auditorium. Something's going on—and it doesn't seem to have much to do with the photographic business.

"No, no! 'Cantando' means 'in a melodious, singing style'—full of expression. Let's try it again." And try it again they do, as many times as Victor Wagner wishes.

They, in this case, are the members of the Kodak Choral Society that came into being not long ago at a meeting of more than two hundred employees in the Kodak Office auditorium. This newest activity is composed of interested employees of the three Eastman plants in Rochester and of the Kodak Office.

Mr. Wagner, the leader engaged by the Company, is well known to us as conductor of the Eastman Theatre Orchestra during the whole period of its existence. Trained in the Vienna Conservatory of Music, he has seen glamorous service as a cello-player at the Royal Opera in Vienna and at the Metropolitan Opera in New York. His fame extends also into the field of conducting radio orchestras.

The chorus is meeting weekly, and concerts are to be arranged later. A very auspicious beginning! And any of us who like to sing and haven't signed up yet are still welcome.

There are many other interesting activities at Kodak Office, conducted under the Kodak Office Recreation Club—but a good investigator always leaves something to uncover later; so let's look in on Kodak Park.

Baseball

"Home run! Zowie!"

"Get an eyeful of that boy's fast ball!" . . .

"What's all the shouting about?" we ask.

"Oh, nothing unusual. Our Kodak Park softball team's winning again," explains a chap near-by. "And can that Park team play!"

It played last year, so our investigation revealed, to the tune of winning—far from the famous fur-lined bathtub—the silver cup awarded in the City championship play-offs. Let's watch 'em this year.

Kodak Park seems to be baseball-minded, indeed. There are several noon-hour teams and there's an inter-department league, as well as the Kodak Park "varsity"; and they're all winners. . . . No, that can't be right. When Kodak Parkers play other Kodak Park teams, someone has to lose. Well, that's all in the game, and they are sportsmen at the Park.

Echoes of soccer with its special field, and of basketball, bowling, horseshoes, golf, and tennis indicate enthusiasm for many additional activities that would bear investigation—but a light in an upper window at the other side of the Park beckons.

Photography

"The competition is open to any employee in Rochester," says the genial gentleman addressing the group. "The work must be entirely your own from the time you press the button until you submit the finished, mounted print. Judging will be on the basis of originality and human appeal, composition and pictorial excellence, and technical perfection."

It's the James H. C. Evanoff Trophy Competition we're hearing about. It takes place each year, sponsored by the Kodak Camera Club—headquarters at Kodak Park. There's also an exhibition for beginners each spring. Both are fine practice, as well, for the increasing number of us who take a try at the Kodak International Salon in the autumn.

This Camera Club, by the way, turns out to be a very lively organization, indeed. It holds monthly meetings, open to everyone interested in picture-taking, at which talks are given by various persons who are expert in certain lines of photography. There are also numerous working demonstrations, at which one can see just what "makes the wheels go 'round."

Not satisfied with a meeting a month, and with sponsoring exhibitions, the Camera Club also organizes regular courses of study in photography. Last winter a course in photography for beginners was given, as well as an advanced course, and a course in the oil-coloring of prints.

All these activities sound very interesting—and certainly very well worth while. The folks at the Park evidently think so, for there are more than 6,500 members of the Kodak Park Athletic Association, under whose guidance these "doings" are carried on.

It's only a step to the Hawk-Eye Works. So let's step.

Hawk-Eye

Another large group of people, deeply engrossed. A pinochle tournament! Nearly a hundred persons, all with looks of good-natured concentration on their faces. They're out for a good time—and they're having it.

"Ping." "Ping." "Ping-ping-ping," breaks in on the silence. A little white ball flies to and fro. Intent eyes follow its flight.

"Out!"—and table tennis is "in" at Hawk-Eye, with its full share of devotees.

It ought to be mentioned, too, that the lens-makers have one of the largest delegations at the choral-society meetings.

(Please turn to Page 13)

Victor Wagner and the baton that leads the new Kodak chorus: the baton that conducted the Eastman Theatre Orchestra

THE EDITOR'S PAGE

To Begin With . . .

A NEW MAGAZINE without an opening "statement of aims" is as rare as weather that isn't talked about. We are fortunate to be able to substitute for the usual glowing—and meaningless—editorial utterance the letter from Mr. Lovejoy reproduced on the opposite page. . . .

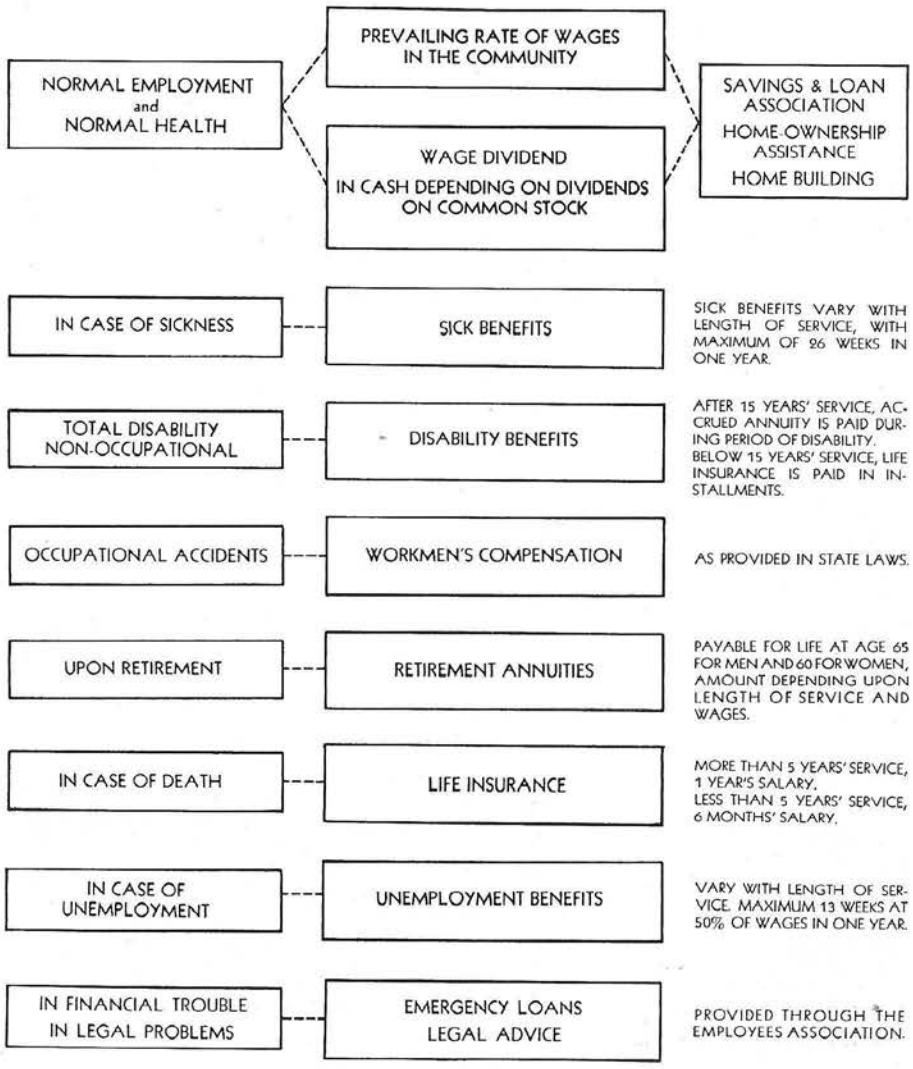
The Various Benefits

DIRECTLY BELOW these words is a chart of the benefit status of every qualified Kodak employee. The economic relationship of each of us to the Company is contained therein.

The benefits are not all easy to understand. They apply whether we understand them or not; but it is worth while to comprehend them. It's a satisfaction to know what we possess—and it's "good business" from a personal viewpoint.

It seems, therefore, that this magazine can do a useful job by presenting clear explanations of the various provisions: what each benefit plan means to every one of us; how to figure out the protection involved in terms of money. A series of articles will be printed. The first, appearing in this issue, is a brief one on the wage dividend.

Status of a Kodak Employee



An Eastman Portrait

IN VARIOUS QUARTERS the wish has been expressed that a photograph of Mr. Eastman, suitable for framing, might be generally distributed within the Company. In response to that wish, such a portrait will be delivered as an insert with the next issue of KODAK, to be published in August.

The Suggestion System

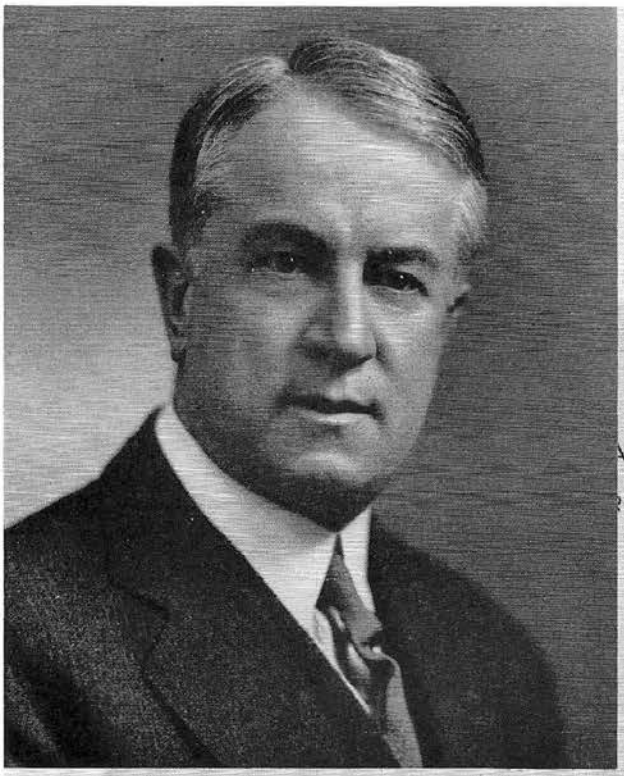
AN ARTICLE in this issue describes some typical ideas that have received awards under the Suggestion System. They make good reading.

The Company is keenly interested in affording the best possible arrangement for encouraging and handling and rewarding suggestions. One reason is that new ideas are useful. Another is that people who have new ideas are likely to increase their own usefulness. Certainly they will gain in understanding their jobs and in comprehending the Company's problems.

The management takes this opportunity to commend the suggestion principle to the employee body and to request the fullest coöperation of the supervisory force in fostering it.

So much for the principle. The question then arises, "Is the present Suggestion System the right one, or is there—in spite of the thought that has gone into forming the present one—another system that would be more effective?". . . There, now, is a chance for someone to win an award. Start off—if you have an idea that seems sound—with a suggestion for a better Suggestion System!

Meanwhile, unless or until a better plan develops, let's make the most of the present one. "You can't keep a good man down," or a good idea.



A LETTER
from
MR. LOVEJOY

AN KODAK COMPANY

ROCHESTER N.Y.

May 31, 1935

To Kodak Employees:

When in the fall of 1932 publication of the Kodak Magazine was discontinued, it was done for two reasons -- partly because it was necessary to cut down expenses, but mainly because we were not satisfied that the magazine, in spite of its merits, was up to the standard that should be set for the Kodak organization. We all, I think, have regretted the absence of such a magazine and have wished for its revival.

For some months, plans for a new magazine have been in the making, and with this issue of "KODAK" a new magazine for Kodak employees makes its bid for your approval. It is new in form, and very largely new in matter.

Among other things, "KODAK" will feature information concerning the Company; such significant news as it is thought will be of interest to the employees. Articles intended to be helpful in personal economic matters are to have a place -- for instance, the one on making wills that appears in this issue. In addition, there will appear, from time to time, articles by executives of the Company -- and perhaps sometimes by outsiders -- on public matters that affect the Company or its employees, or both.

As would be expected of a magazine which bears our Company's name, photographic reproductions of beauty and high quality will have a prominent place.

It is hoped that you and your families will welcome the new magazine and find it of increasing interest and value.

Yours very truly,

J. M. Lovejoy

President

Calculating the 23d Wage Dividend

FOR THE 23D TIME—on the 1st of July, 1935—a wage dividend will be paid to Kodak employees. The first was paid in 1912, and there has been one every year since then with the exception of last year.

The method of calculating the wage dividend, as applied to this year's payment, is as follows:—

For each dollar per share of dividends declared during 1934 upon shares of common stock of the Company over and above $3.50 per share, the wage-dividend rate is $5 for every $1,000 of salary or wages that were paid to each qualified employee during the period of the five years ended December 31, 1934.

Since the dividends declared last year amounted to $4.50 a share—$1 above the $3.50 required for payment of a wage dividend—exactly the rate of $5 per $1,000 will prevail, and the directors indicated in the annual report that a sum amounting to $605,243.29 had been set aside for the payment.

The rate of $5 per $1,000 is equivalent to ½ per cent of the total wages or salary received by any employee during the last five calendar years. To calculate the amount of the individual wage dividend, therefore, simply take ½ per cent of the total earnings in 1930, 1931, 1932, 1933, and 1934. Roughly, the wage dividend will be approximately equal to a week's pay in the case of persons who have been regularly employed since the beginning of 1930.

As before, all regular employees—not including those hired specially for part-time work—who have actually worked 26 weeks in the previous year (1934 in this case) will be eligible to receive the wage dividend on July 1st. The method of calculation is the same for those whose employment, at the end of last year, had been less than five years as it is for those with the full five years. Simply calculate from the wages actually received.

Increased Earnings in 1934

The reason for nonpayment of a wage dividend in 1934 was that the dividends declared upon the common stock in 1933 did not exceed the $3.50 level. Increase of the common-stock dividends declared in 1934 to an amount $1 above that level enabled the directors, consistently with their policy in past years, to vote the payment of a wage dividend this year.

Dividends to the stockholders and wage dividends to the employees are made possible only by the successful operation of the business. It was the Company's increased earnings in 1934 that permitted payment of this year's wage dividend. Maintaining this favorable situation will depend in large part on the continued effort of each member of the organization.

Miss Comstock on the 'Phone

Miss Laura Comstock, nutrition adviser to the employees of the Eastman Kodak Company; president of the American Dietetic Association, a countrywide organization with three thousand dietitian members

HELLO, JEAN! It's good to hear your voice. It's fine you are well.

And how are the children? . . .

How splendid! Not a cold or a stomach upset this spring! How do you account for their being so much healthier than they were last year? It seems to me that you kept telling me they had this or that most of the time. . . .

Oh, so that's it! A quart of milk for each of them every day. But how in the world do you manage to get them to take that amount when you used to have a struggle to have them drink just one glass a day? . . .

I see. You put it in their food and then they don't realize they are even getting it! I expect you use a good deal of it in their simple desserts like custards and puddings, rice, tapioca, and junket. But even so, those would use only a cupful at the most. How do you get the other three down? . . .

That's a splendid way, I would think: cook their breakfast food in milk instead of water. And of course they wouldn't tire of it if you varied the kind—oatmeal, dark farina, yellow cornmeal, and Cream of Wheat.

I believe they would especially love it if you added a few raisins or dates or figs in the cooking. They give more flavor and also they add some minerals and vitamins. You've read, I'm sure, in the women's magazines how necessary those two are for growing boys and girls—and, for that matter, you and Bob, too. . . .

You wonder about using evaporated milk? Surely. It's as nourishing as fresh whole milk—and it's cheaper, too. That's a real advantage, isn't it! Have you never used it in making puddings and white sauces? . . .

You would be surprised at the smooth mixture and the richness of it. Try it some day, but don't you dare tell Bob and the children anything about your plan. Surprise them. Maybe they won't even notice the difference. All the better.

But how else have you changed your meals? Milk is, of course, the first thing to think about; but other foods are necessary, too, in order to get in all the minerals and vitamins and proteins needed. . . .

You try to think of the color of vegetables? Green and yellow? That sounds interesting. Why? . . .

Well, that's an easy way to remember; and you do get more for your money when you buy for color. Yellow cream, yellow turnips, carrots, and the like, green cabbage and other greens. They make you think instantly of vitamins as well as Christmas, don't they! . . .

Central will be calling time on us if we're not careful. I am so interested in all you've told me. We've not visited like this for months. . . .

Yes, that's a good daily formula. A quart of milk each for Bill and Nancy, with a quart to be shared by you and Bob. An egg used in some way for everyone, if possible. A green, leafy vegetable and another one. Some raw fruit, or fruit juice, every day.

But how do you expect the hospitals to get any patients if all families were to plan like that, Jean!

Kodak Products: A Survey

What is the Retina?

What does cardiographic film show?

What is the connection between Kodak and nail polish?

There's a certain "Believe It or Not" quality about the wide range of the Eastman output. Even many long-service employees probably do not know how diversified the operations are and how completely they supply the photographic needs of the world.

The annual-report booklet, recently distributed to stockholders, contained a survey of the products. Approximately 4,600 persons employed by Kodak are stockholders as well, and therefore have seen the product-survey; but many others have not. For that reason, a similar outline is printed here.

Although this version is somewhat fuller than the original survey, it is still no more than a list—with just enough description to suggest the nature of each class of product. The most interesting products will be treated separately from time to time in KODAK *with more detail—for the germ of many a fascinating story is hidden in this outline.*

Kodaks and Roll Film—A complete line of hand cameras is offered to its customers by the Eastman Kodak Company, extending from the dollar "Baby Brownie" to the best equipped apparatus of the standard Kodak Six-20 and Six-16 classes. The needs of advanced amateur photographers are further provided for by the so-called Continental types of camera made by the Company, such as the Recomars and several miniature instruments. In the latter group, the Kodak Duo Six-20 and the Kodak Retina are the newest.

Roll film for the various cameras is supplied in four types: regular Kodak Film, Verichrome, Super Sensitive Panchromatic, Panatomic. The growing popularity of snapshots by electric light, and the increasing demand for proportionately great enlargements from small negatives, made price reductions possible in 1934 in the most popular sizes of "SS Pan"—the abbreviated amateur name for Super Sensitive Panchromatic—and Panatomic, the films especially adapted to those uses.

Ciné-Kodak—Again, in the Ciné-Kodak line of home-movie cameras, there is a wide range: the Ciné-Kodaks Eight at one end, low in price and in film cost, yet capable of making excellent motion pictures; and at the top the versatile "custom-made" Ciné-Kodak Special. Between these is the Ciné-Kodak, Model K.

The Kodascopes, for projecting movies at home, are as serviceable and well established as the Ciné-Kodaks.

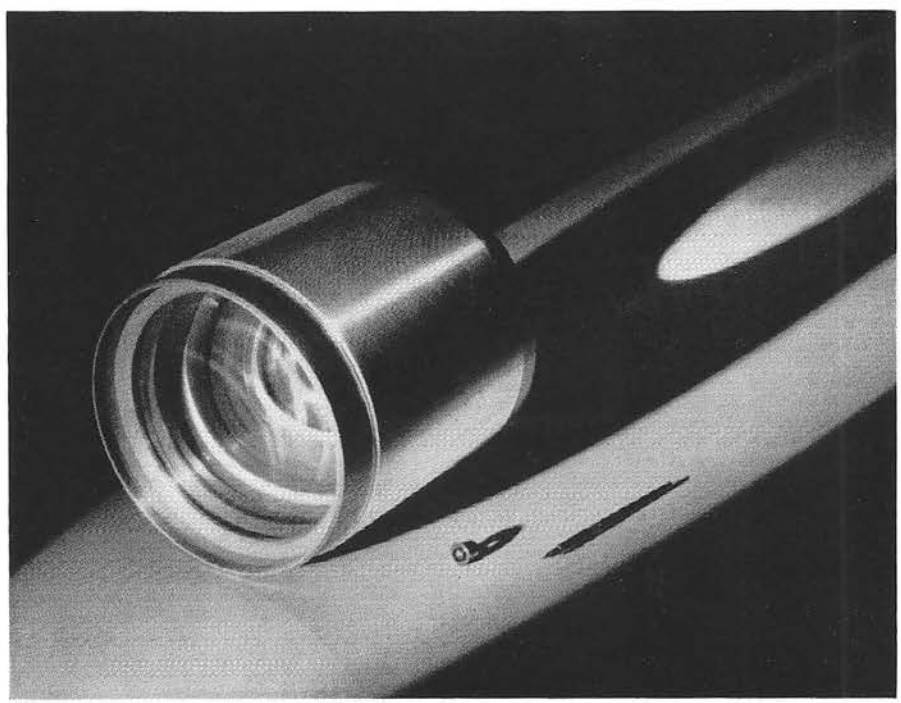
Ciné-Kodak Film of several types is supplied, including the new Kodachrome Film for natural-color movies. Processing Ciné-Kodak Film is an important Eastman service all over the world, with fifty stations operated by the Company to do that work.

Motion-Picture Film—A large part of the film, both negative and positive, used in Hollywood and in other professional motion-picture enterprises is supplied by the Eastman Kodak Company. This volume of business, amounting to several hundred thousand miles a year, has been attained by preserving a high standard of quality, by the work of our selling and service organizations, and by introducing improved products to meet the developments constantly taking place in the motion-picture industry. Super X Film, with a "speed" excelling that of any material ever available to the cameramen, is an example within the past few months.

X-Ray and Clinical Products—Any requirement for sensitized goods in medical and dental x-ray work or clinical photography is met by the complete Eastman line in those fields. The x-ray has become an indispensable instrument of diagnosis. Industrial radiography is also a growing market for x-ray film (see page 2). Intensifying screens to shorten exposures of x-ray film are provided as an accessory. A clinical camera, and cardiographic film to record electrical impulses indicating heart action, are products for clinical use.

Professional Goods—To portrait and commercial photographers, the Company offers cameras, lenses,

(Please turn to the next page)



Eastman lenses: an aerial lens, a Recordak lens—and a pen for comparison of size

Kodak Products

(Continued from the preceding page)

enlargers, printers, and lighting equipment, as well as a very complete line of negative materials. Greatly increased use of photography in such commercial pursuits as advertising has broadened the field for the Company's products. An additional source of professional business is news photography, for which ultra-"fast" plates are provided.

Accessories, Albums, Mounts—Accessories needed by amateur photographers, amateur movie-makers, professional photographers, and the commercial finishers of amateur pictures are supplied by the Company. A subsidiary, Taprell, Loomis & Company, in Chicago, is engaged in the production of a wide selection of photographic albums and a complete line of mounts for photographic portraits.

Photographic Paper—The 250 types of photographic paper made by Kodak—distinguished by purpose, degree of contrast, color, weight, texture, and action under development—supply the requirements of photographers of all classes, professional and amateur, including the commercial photo-finishers. New kinds of photographic paper are continually being developed.

Scientific Materials—By devising and supplying highly specialized materials, Kodak research has been the means of bringing photography to the assistance of scientific investigation in diverse and important fields. Plates sensitive to "far" ultra-violet radiation have been useful particularly in spectroscopy. Plates and film sensitized to infra-red have made important and interesting revelations (see "Photography Explores," beginning on page 1). Aero Film, prepared in wide rolls for airplane cameras, is a standard product among our materials for fact-finding purposes.

Graphic Arts Materials—Special sensitized goods and chemicals are manufactured for the use of photo-engravers, lithographers, offset workers, planographers, and roto-gravure plants. Last year, Kodalith Plates and Kodalith Stripping Film Super-Speed were added to the previously existing materials of the Kodalith line for this group of trades that serve the printing industry with reproduction plates. The stripping film makes possible the elimination of the old wet-plate process, which has been in use since the discovery of photo-engraving fifty years ago.

Motion-picture film ready for shipment

Photographic Chemicals — Nearly a hundred Eastman Tested Chemicals for photographic processing are sold in large and small quantities, providing for all needs of professional and amateur photography and of the motion-picture industry. Of the chemicals stocked, the Company manufactures all the developing agents and a large proportion of the other chemicals.

Lenses—The operations of the Hawk-Eye Works extend from the molding of finder lenses for inexpensive cameras to the construction of precision lenses for long-range aërial photography. Exact work by machinery in this field has been an important factor in reducing the price of Kodaks and Ciné-Kodaks over a period of years, thus expanding their market.

Recordak—In addition to the services long rendered to banks in the photographing of checks, the Recordak Corporation, a subsidiary, has expanded its activities to the commercial and mercantile fields and to the newspaper business. Photographic records of valuable documents, customers' bills, and other papers, and of complete files of newspapers, are made possible by the Recordak.

Teaching Films—The Eastman Teaching Films Division of the Company produces and distributes pedagogically correct classroom motion pictures in the 16-millimeter size, to be used by schools and colleges for the purposes of visual instruction.

Related Industrial Materials—Chemicals related to the manufacture of photographic film at two stages of that process, sold to industrial users, form a substantial by-product business. In solution form, these materials are purchased by the makers of such things as artificial leather, lacquers, adhesives, airplane-wing coatings, nail polish, artificial flowers. In the form of sheeting, the product goes into automobile side curtains, transparent ticker tape, and unbreakable watch crystals, as well as many other articles. A related product sold in finished form is Kodapak, a transparent wrapping material.

Synthetic Organic Chemicals—More than 3,000 synthetic chemicals are prepared and stocked by the Kodak Research Laboratories. For hundreds of universities and research institutions, this stock is the principal source of supply of small quantities of complex organic substances to be used in experimental work.

Tennessee Eastman Products—The Tennessee Eastman Corporation makes cellulose acetate for use in the manufacture of safety film at Kodak Park, and methanol (wood alcohol) for use as a solvent of cellulose nitrate at the Park. From cellulose acetate, Tennessee Eastman also makes very large quantities of acetate yarn to be sold for knitting and weaving into textiles; and plastic materials for the manufacture of safety glass, automobile hardware, combs, cosmetic compacts, and costume jewelry, and for manufacturing a diversity of other articles. By-products are lumber, charcoal, wood oils, denaturants for alcohol, and certain other chemicals.

Boulder Dam on the Cover

The cover photograph was made by Margaret Bourke-White, who rose in a few years from a college girl interested in cameras to the highest ranks of industrial photography. Those who heard her speak at a dinner at Kodak Park several years ago will remember that she is charming as well as able.

Calendar of Recreation Activities

June 29—Camera Works annual family picnic at Seneca Park

July 13—Hawk-Eye annual picnic at Island Cottage

July 17—Kodak Park A. A. outdoor smoker and entertainment, for men and women members, on the athletic field

July 27—Kodak Park golf tournament for men at Locust Hill

Early August—Kodak Office Bridge Club annual picnic

Employee Activities

(Continued from Page 7)

The Hawk-Eye Athletic Association sponsors several other activities, as well, but we can only "hit the high spots"—so let's go on to the Camera Works.

Camera Works

These folks are interested in so many activities that it's pretty hard to select any one or two for description. Bowling seems to hold first place, however, with its three leagues and eighteen teams. And from all accounts the Girls' Bowling League makes the hardy men look to their laurels.

The girls are great swimmers, too. They have a club that meets two nights a week from November 1st to June 1st. (They're not polar bears. They use an indoor pool.)

It doesn't take clever sleuthing to learn about a girls' party, a men's smoker, an annual family picnic, and ever so many jolly Camera Works affairs; all directed, as you've probably suspected, by the Camera Works Recreation Club.

We are again so near to Kodak Office that we'll just complete the tour by popping in to see if anything has happened in our absence.

Bridge

It has. This isn't the night to hear the chorus practicing "in a singing style." We find, instead, row upon row of tables, with four pairs of feet under each. Contract, of course.

Many of these people are real experts—or at least they ought to be—for some of them have been studying under the direction of skilled teachers for three years. Others are just beginning. On tournament nights they play in "beginners" and "advanced" groups, but at any of the parties held so frequently—and these Kodak Office bridge fans have the same leaning for parties that prevails in the Camera Club at Kodak Park—they all play together. If turnout is any indication, there must be something to this bridge business.

All along the route we have heard interesting bits of information—about book clubs, golf tournaments, shuffleboard, volley ball, swimming, dancing, parties, movies, and so on—all activities worth investigating. One investigation deserves another—but this job of investigating is much too good to use up all at once.

Extra! Extra!!

Night baseball at Kodak Park!

Softball games under lights!

With seven towers circling the Park athletic field, the ball team will begin playing night games next month, according to an announcement by the Kodak Park Athletic Association. That fast infield work will be illuminated by 25 candle power for every square foot of ground. The outfielders will snare flies by the light of 16 candle power. Plenty of light for players and spectators!

Exhibition soccer games may also be played under the floodlights.

Illumination will be turned on for the first time early next month and the event will be celebrated with an exhibition game or two.

Where There Isn't a Will

(Continued from Page 5)

as the insurance beneficiary is advisable, particularly where the amount is sufficient to warrant the establishment of a trust fund. Other individual circumstances may likewise make such a designation expedient.

It should be remembered, however, and especially with reference to smaller estates, that such a designation will inevitably cause delay in the insurance settlement, and that the advantages provided by the law in eliminating insurance payable to an individual from the routine of the Surrogate Court are lost. Insurance payable to an individual is exempt from claims of creditors against an estate. As part of the estate, it is not so exempt.

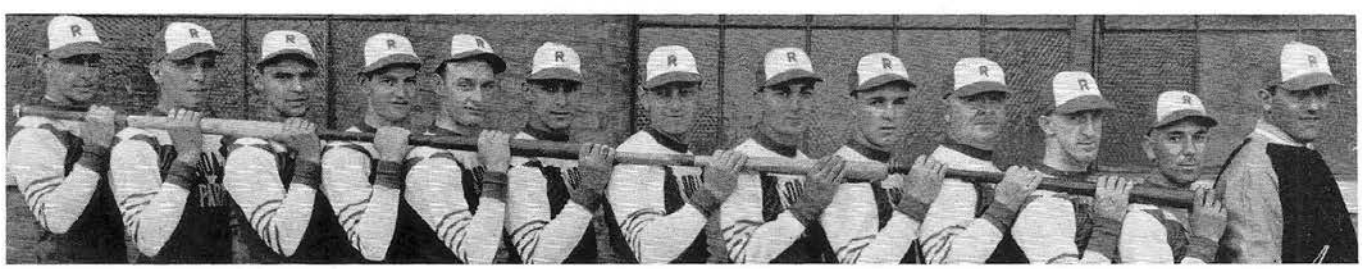
Look at your insurance policies today. Is the named beneficiary living? Have any other circumstances developed that would make a change advisable? Is there any reason for changing the beneficiary?

Not Only Married Men

The article on wills has been prepared primarily from the viewpoint of employees who are married men. Very often it is equally important for women and for men who are not married to make a will. Consultation on the subject, as described on page 5, is available to all employees.

If there is a reason to make a change of beneficiary for your group life insurance, the necessary forms are available in the plant employment departments; or they may be obtained from the Industrial Relations Department or the Employee Benefit Department at the Kodak Office. Representatives of these departments are always glad to consult with employees on any individual problems in connection with these matters.

The 1935 Kodak Park softball team, ready for action: left to right, Tinsmon, Yurgealitis, Dreschmidt, Cooney, Russell, Heckel, Gears, Leo Gallagher, Witzigman, James Gallagher, Coogan, Scheid, and Minella, the manager



Photography Explores

(*Continued from Page 3*)

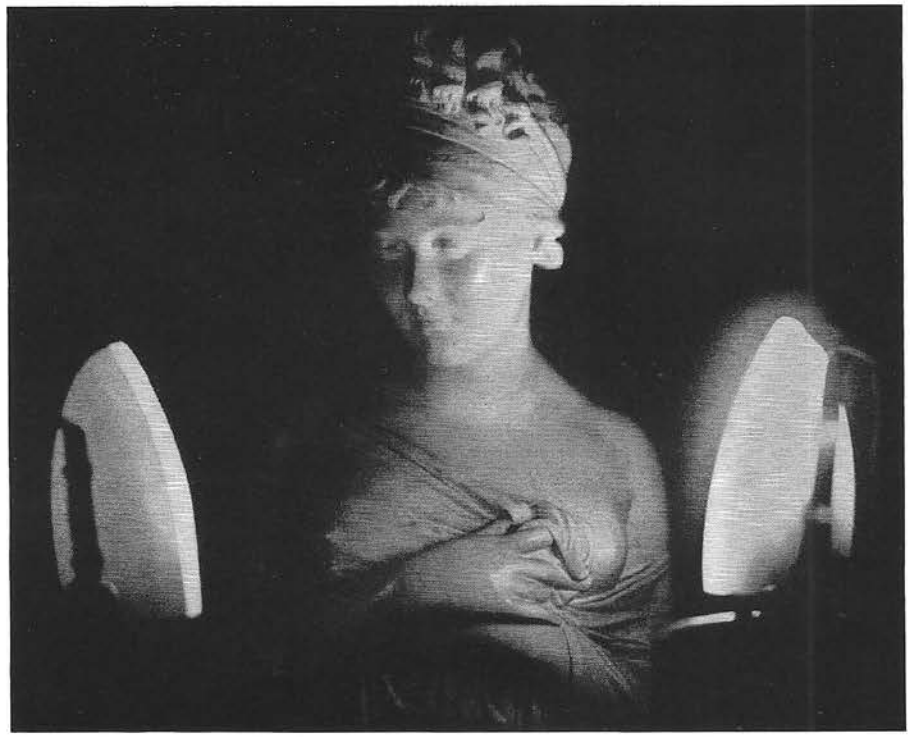
Sometimes it is ultra-violet rays that carry unexpected information into the camera. Sometimes, again, it is infra-red rays that solve the puzzle. In any case, Kodak's sensitized materials are silently ready to receive the information.

Here's another case.

We heard a lot about censorship in the War—yet there was really nothing new in it. A number of the world's great museums possess valuable manuscripts with parts made illegible by the heavy ink streaks of censors who wielded their brushes hundreds of years ago.

In his search for a means by which he could penetrate the censors' dense ink, Dr. L. Bendikson of the Huntington Library, near Los Angeles, came upon the possibilities of photography. If the pigment in the obliterating marks, he reasoned, were a different material from the pigment in the original printing ink of the manuscripts, it might be possible that the censor's ink would transmit infra-red when the original printing would not. That might be true, he thought, even though both inks absorb visible light so that in an ordinary photograph the deleted passages appear as nothing but dense black lines.

Dr. Bendikson acted upon the suggestion, and he was successful. The result: a photographic print of an original page with the censor's ink almost completely eliminated and with sentences appearing clearly that for three centuries had lain hidden (illustration on page 1). The infra-red plate "saw" the manuscript as an eye would see one that had been "censored" with only a clear red dye.



Mme. Plaster faces two electric irons in the dark and has her portrait taken in the Research Laboratories: a "picture by heat" on a plate sensitized to invisible infra-red rays

The Company's photographic materials sensitive to infra-red radiation —which is invisible to the eye—are responsible for numerous strange results.

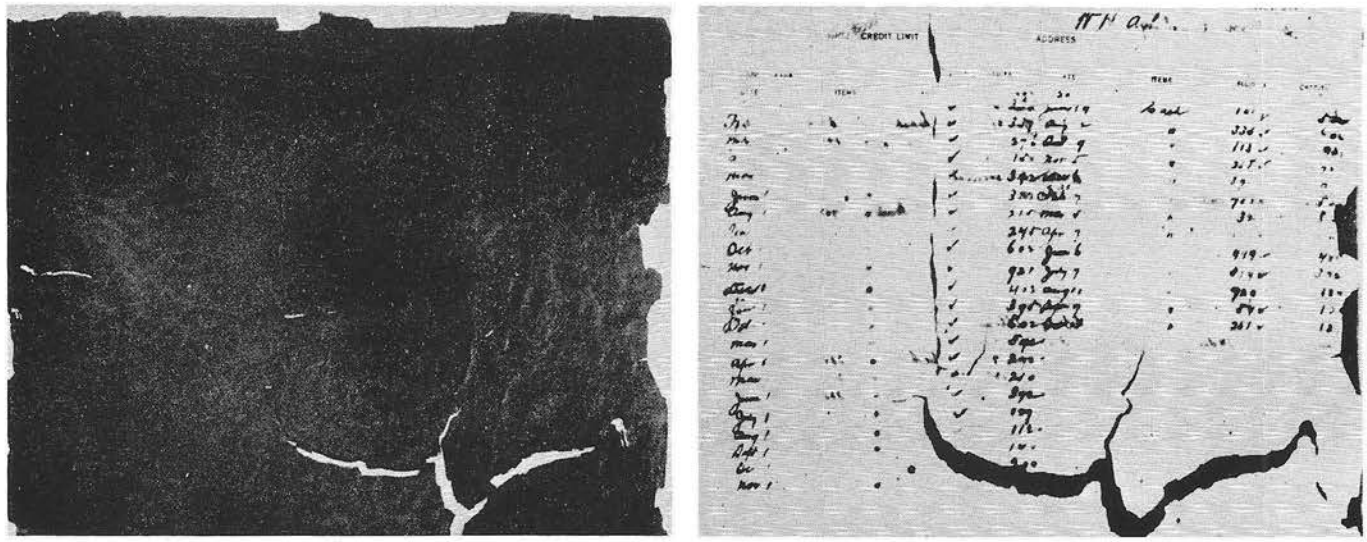
Photographs in the dark, and photographs taken by heat instead of light, are among the strangest.

Light and heat are closely related. Both are electromagnetic waves. The difference is that we see light and we feel heat. Photographic materials originally could not "see" even so much as an eye could. Since the War, however, dyes have been found that would sensitize plates so that they could "see" heat as well as light.

In the Kodak Research Laboratories, one day, a lady sat for her picture. She had to be a plaster cast rather than one of the many pleasing models who were available, because the sitting was to last an hour.

In place of the bright lights one usually finds in a portrait studio, Mme. Plaster faced nothing but two electric irons. They were carefully pointed in her direction. Then the current was turned on, the lights off.

The photographer's patience could not match that of his subject; but the hour passed. The plate was processed. Result: a softly illuminated portrait—a "picture by heat."



By the courtesy of Raymond Davis, U. S. Bureau of Standards

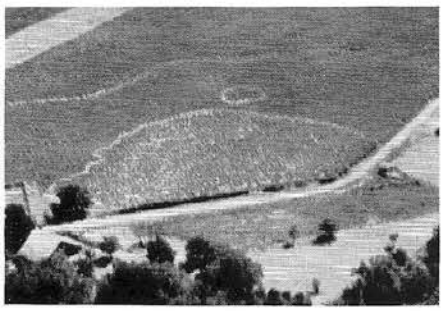
Valuable papers charred by fire need no longer be considered destroyed, for photographic materials can restore their contents

These few examples of unexpected things that photography is doing—suggesting to the imagination a bit of what it may do in the future—are of course only a fraction of the things being done by our science in this world's work. . . . But what about the other planets?

It really doesn't very much matter if rockets or radio messages ever pass between the Earth and our neighboring planets—as hard-headed scientists are inclined to believe they won't. Already we have our fair share of knowledge of our heavenly neighbors—and photography is the reporter.

Kodak has led the way with materials for astronomical photography; but with one planet and one discovery we have a particularly close relationship.

Venus, our "next door" neighbor, shrouds herself in an air of mystery: specifically, an unbroken layer of cloud. All the information that astronomers could record was indirect information, for the planet itself



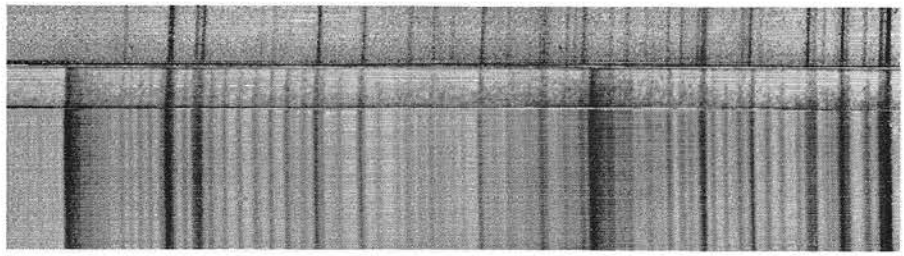
Root-rot in a cotton field: from the ground, indistinguishable; in an aërial photograph, two distinct patches—one large and irregular, one a small circle just beyond. The picture was taken by the Texas Agricultural Experiment Substation at Temple, Texas

could not be photographed. Therefore, any information gained became very important. Thus we get back to Kodak's infra-red-sensitive plates.

In recent years the Research Laboratories have been making emulsions that were more and more sensitive to rays from this "near infra-red" part of the spectrum. In 1933, some of these extraordinary plates went from Rochester to the Mount Wilson Observatory in California. Those simple glass rectangles, sensitized at Kodak Park, held an important key to the mystery:—

Venus' atmosphere contains carbon dioxide!

No astronomer before had been able to determine that; but spectrum lines on the plates proved it. Carbon dioxide on Venus! That may sound dull . . . or it may mean that there will be life on Venus in some distant future; for where carbon dioxide is present life may follow.



A "picture" of carbon-dioxide gas on Venus. . . . By turning the dial knob, a radio is tuned to different wave lengths. By treating photographic plates and films with various dyes, it is possible to make them respond to particular wave lengths of light: in other words, to "tune them in" to longer or shorter wave lengths. . . . The heavenly bodies can be likened to broadcasting stations giving out waves of different wave lengths. In the same way that a radio listener knows it is WHAM he has picked up because his set had been tuned to the right wave length for that station, so an astronomer can tell that a certain material is present in a star—by the wave lengths recorded on specially sensitized plates exposed in a "spectrograph" to light coming through a telescope. . . . But in the case of Venus, the situation is the reverse. Venus reflects sunlight, and therefore has the same spectrum; but between Venus and the spectrograph is the carbon dioxide in the atmosphere of the planet. This absorbs some part of the reflected sunlight, thus causing the appearance of groups of lines in the spectrum of Venus. It was by comparing these "absorption lines" in the "near infra-red" region of the spectrum of Venus—comparing them with absorption lines found when sunlight was passed through a very long tube containing carbon-dioxide gas under pressure—that the discovery of considerable quantities of that element in our neighboring planet's atmosphere was made. . . . The absorption lines denoting carbon dioxide in the illustration are marked with dots beneath. (The lower two strips are from Venus.) Notice that those lines are not found in the spectrogram of the sun, the upper strip. There is no carbon dioxide on the sun. . . . If you have fully understood this, go to the head of the class.

That's the Way

(*Continued from Page 6*)

male members of the organization. Miss Mary Sherlock, of the Camera Works, decided during the course of her work in assembling eyelets on an air-staking machine that the same air staker could assemble both the vertical and the horizontal finders. Following out her suggestion, assembling fixtures were altered and both operations were performed on the same machine.

Miss Evelyn Studley, of the Sundries Department at Kodak Park, likewise made a suggestion that would save time—and would eliminate the danger of scorched hands and damaged product. It was a matter of constructing a fine-mesh screen to cover the bottom of an oven so that cans and covers being dried in the oven could no longer slip through and have to be fished out.

A list of interesting ideas put into effect through the Suggestion System could go on almost indefinitely; but it must stop with one last instance of "thinking on the job."

The traditional ingenuity of good craftsmen permitted S. J. Amidon, of Kodak Park, to make a suggestion for prolonging the life of ball bearings and roller bearings. His idea—arising from observation during the course of his daily duties—was to lacquer or enamel the inside of all gear cases containing bearings. That, he reasoned, would prevent abrasive from becoming embedded in those surfaces during the process of cleaning, and later mixing with the lubricating oil.

The suggestion was adopted; the bearings are expected to last 50 or 75 per cent longer; and perhaps Mr. Amidon shares some of the satisfaction of the pioneer printers as he goes about his duties in Field Gang 2.

A Soccer Saga: Four Fierce Foes Flattened

'Ere they quit their mother's rocker
Kodak Park boys know their soccer.
Here's no story from a knocker:
Listen what they did.

First they faced the lurking dangers
Of the fast MacNaughton Rangers;
Yet they neatly beat the strangers—
Put 'em on the skid.

Celtics were the second victim—
Our lads needed goals, so kicked 'em;
Then took Syracuse and licked 'em
By a whopping score.

Now they tried to crack a tough nut:
Met the Simon Pures, and what glut-
Tons were they for punishment; but
Soon went back for more.

Sweet revenge our boys were wishing
When the Simons next came fishing.
Kodak's pail gave them a swishing,
Doused them down and up.

Yes, we paid 'em back with interest;
Trimmed them still another contest.
Now we proudly sport the Northwest
New York Challenge Cup!

Boy! What a successful season!
Any team that's skids need greasin',
Lead us to 'em. "There's a reason."
K. P. takes 'em all.

Play glad music on the oca-
Rina. Celebrate our soccer
Teamsters' very fancy flock o'
Victories with that ball.

The Memorial to Mr. Eastman at Kodak Park

Medals Recognizing 25 Years of Service Will Be Awarded Annually

When the memorial to the founder of the Eastman Kodak Company was dedicated at Kodak Park last fall, Dr. Rush Rhees said in his dedication address: "On this day, a bronze medal with George Eastman's portrait on the face, and on the back the name of the recipient, is being given to each employee who has been in the service of the Company for 25 years or more, as a constant reminder of Eastman's recognition of the part played in Kodak's success by the whole body of loyal colleagues in the factories, business offices, and sales centers, throughout the world."

Nearly a thousand medals were distributed to the 25-year employees in the United States and Canada at that time. In other words, one in every sixteen persons in the Kodak organization in the two countries had been an Eastman employee for the necessary 25 years.

Awarding of these medals—although the memorial-dedication was the occasion for commencing their distribution—will not, however, be confined to employees who had 25 years of service by 1934. Every year new medals from the same die will be struck for employees reaching the 25-year point during the year, and annually they will be presented to the employees thus qualifying to receive them.

Medals in 1934 were distributed on this continent only; but at the time of dedicating the memorial a bronze bas-relief portrait of Mr. Eastman was erected in each Kodak plant abroad.

June, the wedding month. . . . This beautiful and effective picture of wedding satin, typical of the best in commercial photography, was made to advertise the Eastman Acetate Yarn from which the fabric was woven.

The photograph is distinguished for its realistic reproduction of the delicate texture and for its play of light and shadow. The photographer's imaginative use of calla lilies and a wedding ring tells a vivid story-without-words.

Printed at KODAK PARK

貴下の目的に適ふイーストマン フヰルムをお選び下さい

室内 室内や夜間スナツプにもつて来いのフヰルムは**コダック**SS**パンクロ**です。其速度は人工光線の場合ヴェリクロームの三倍です。理想的な全整色性で完全なる感色性を有つて居りますから黒白の單色で被寫體の眞の色調を描出し印畫に美を加へます。ハレーション防止は綠色裏引によつてなされ綠色は現像の際溶け去ります。

室内スナツプ、戸外夜景等には眞先にこれが推奨されます。

戸外 **二重膜のコダックヴェリクローム**には暗部のディテイルを把える高速度乳劑と、光輝部のディテイルをとばさぬ遲速度の乳劑が引いてありますから露出の過不足の危險を防ぎ、また畫面全體の自然の色調の調和を保ちます、裏引によつてハレーションは理想的に防止。『ヴェリクロームと同じフヰルム』は他に絶對にありません。

小型原板から

引伸 若しヴェスト其他小型カメラ愛用の方がこの **コダック パンアトミック** フヰルムを お使ひになれば素晴しい引伸の出來る美しい原板を得られます。

それはこのフヰルムが極微粒子の特質を持つてゐるからでありその上理想的の全整色性で高速度を有つて居るからであります。

Kodak Film "gets the picture" in any language. This Eastman advertisement in Japan showed which film to use for what photograph.