PRESS PHOTOGRAPHY

By
JAMES C. KINKAID

BOSTON
AMERICAN PHOTOGRAPHIC PUBLISHING CO.
1936

Printed in the United States of America
by The Plimpton Press · Norwood · Mass.

CONTENTS

		PAGE
PREFACE		1
CHAPTER		
I.	THE PRESS CAMERA	3
II.	THE LENS	11
III.	THE SENSITIVE MATERIAL	13
IV.	THE PRESS OUTFIT	19
V.	THE DARKROOM	25
VI.	DEVELOPMENT	41
VII.	FIXATION	51
VIII.	WASHING AND DRYING	57
IX.	HIGH-SPEED PROCESSING	65
X.	REDUCTION AND INTENSIFICATION	71
XI.	PACKING AND SHIPPING	79
XII.	GETTING TO ASSIGNMENTS	89
XIII.	EXPOSURE	95
XIV.	PRINTING AND ENLARGING	113
XV.	THE LAW OF LIBEL	117
XVI.	COVERING ASSIGNMENTS	123
XVII.	COPYING	165
XVIII.	COMPOSITION	173
XIX.	FILTERS	177
XX.	FOCUSING	185
XXI.	USING PRESS CAMERAS	193
XXII.	FLASHES AND SPEED FLASHES	203
XXIII.	THE CANDID CAMERA	211
XXIV.	TELEPHOTO WORK	219
XXV.	AERIAL WORK	225
XXVI.	SPECIALTIES	233
XXVII.	GETTING ASSIGNMENTS	239
XXVIII.	SELLING NEWS PHOTOGRAPHS	245
XXIX.	WRITING CAPTIONS	253

CHAPTER PAGE

XXX. Credentials 259
XXXI. Ethics 263
XXXII. Psychology 267
XXXIII. History 271
XXXIV. What is to Come? 277
Conclusion 282

ILLUSTRATIONS

Coston Signal . . . . *Copyright,*	Alton Hall Blackington	11
A Leap from an Airplane	G. Lipskerov	15
A Typical Press Outfit	James C. Kinkaid . . .	20
Babies Eating	Margaret Bourke-White .	23
Plan of Darkroom Arrangement Using 9 by 10 Foot Room . . .	James C. Kinkaid . . .	27
Tank Designed for Press Processing	James C. Kinkaid . . .	28
Developing Tanks in Press Tank .	James C. Kinkaid . . .	29
Plan of Darkroom Arrangement Using 15 Foot Square Room . .	James C. Kinkaid . . .	30
Mrs. Ovila Dionne and Quintuplets	International News . .	33
The Bull Fight	Manuel Cervera . . .	39
Elevated Train Crash	Alton Hall Blackington .	45
Cabaret Scene	Remie Lohse	49
President Franklin D. Roosevelt and Mrs. Roosevelt	"Don"	53
A Winter Weather Feature . . .	James C. Kinkaid . . .	55
George Arliss	Avery Slack	59
Portrait of a Cricket	Alton Hall Blackington .	63
Fire!	Franklin I. Jordan . . .	69
Paris Riots	Acme	75
Night Impression of Coney Island .	Gordon H. Coster . . .	81
Mirage in the California Desert .	Edward P. McMurtry . .	85
Stranded Fishing Vessel	W. R. Henry	87
A Typical High-Speed Exposure . .	James C. Kinkaid . . .	97
Three-Fifty an Hour	James C. Kinkaid . . .	103
A Hydroplane Spill at 48 Miles an Hour	Harry L. Ahlborn . . .	107
A Silhouette Study of Horse and Rider	Alton Hall Blackington .	111
Fire Boat	Joseph Palladino . . .	119
Sinking of the Audacious	. . . . .	125
A Social Event	James C. Kinkaid . . .	127
A Country Fire Scene	Alton Hall Blackington .	131
The Dog Came Back	Alton Hall Blackington .	133
Second-Day Fire Picture	James C. Kinkaid . . .	137
Mussolini . . . . . *Copyright,*	Severo Antonelli . . .	141

Falling Wall	Alton Hall Blackington	143
Plane Crackup	James C. Kinkaid	145
Truck Strike Riot	Acme	147
Strolling on the Summer White House Lawn	Alton Hall Blackington	149
His Smile of Welcome	Alton Hall Blackington	149
President Coolidge	Alton Hall Blackington	151
President Coolidge	Alton Hall Blackington	151
Football	James C. Kinkaid	155
Shamrock V	G. L. A. Blair	159
Death Cracks Down	Acme	161
The Winner Says "Hello"	James C. Kinkaid	163
Copy Camera Set-up	James C. Kinkaid	166
Teamwork	William M. Rittase	169
Lined Up	James C. Kinkaid	171
Ski Jump	Franz Ullrich	179
Smoke and Water	Alton Hall Blackington	187
The Four Horsemen	William M. Rittase	195
Tornado	G. Pickwell	199
Using a Speed Flash	James C. Kinkaid	207
Coast Guard	Alton Hall Blackington	213
Morro Castle Fire	International News	217
Infra-red Pictures	F. F. Wetherill and R. F. Davidson	223
The Special News-Camera Airplane of the *Detroit News* in Flight	John P. Gaty	227
Attaching the Film Magazine in the Wing of the Airplane	John P. Gaty	227
A Typical Oblique Airshot	James C. Kinkaid	231
World's Fair	John Paul Pennebaker	241
Identification Badge	James C. Kinkaid	260
Midsummer Night on the Esplanade	Harold Orne	269
Four Alarm Fire	From Blackington Photo Service, Photo by Herbert Steir	275
The Fire Fighters	Alton Hall Blackington	279

PREFACE

SINCE time immemorial, pictures of notables and important events have been made for the purpose of saving for future generations some representation of life in a given era. Today, through the development of the modern newspaper and improvement in photographic equipment, there has come into being a new field of work known as press or news photography. Historians in generations to come will, in all probability, use the newspapers of today as guides in interpreting the events of modern life. Through the newspapers, they will also be given a pictorial panorama of life in this generation, in past generations, and in generations to come. The making of such pictorial records is the work of the news cameramen.

" Headline shooters," as they are often called, lead an adventurous life. However, my purpose in writing this book is not to make it a guidebook to an occupation which, in many cases, offers thrills which no other vocation can give, but rather to set forth in complete detail the knowledge that is necessary in order to become a successful news cameraman. I do not pretend to be able to teach news photography from a book, but I do feel that a complete and detailed recapitulation of the knowledge necessary will be helpful to the average news man.

In the following pages will be found a good deal of useful information. Some of it is used in other fields and is to be found in photographic literature. It has never before been collected, however, in a treatise on press photography. I have endeavored to make this book the most complete text on press work available. Every formula presented herein has been tested again and again and is selected only because it has passed these tests with a higher rating than others.

I wish to thank the various people who gave me helpful suggestions during the writing of this book. I also wish to thank two friends who assisted me considerably in the preparation of the manuscript, Walter Bordas of the Central Press Association staff and L. T. Gard-

ner, my present partner, both of Cleveland. Without their help in preparing illustrations, testing formulae, and reading copy on the preliminary drafts of this book, it would probably never have reached the press.

If any reader wants advice or has any questions concerning any details of press photography I shall be glad to hear from him.

JAMES C. KINKAID

Cleveland, Ohio
January, 1936

Chapter I

THE PRESS CAMERA

THE MOST important thing in press photography is to get the picture. The ability to do this comes from a broad experience that includes everything from an elementary knowledge of photography to a smattering of the law of libel. This series of chapters is being written especially for amateur and professional cameramen who wish to become press photographers and to learn more about their chosen profession. Many of my friends helped to teach me what I know about the technical and practical sides of the business. If it were not for them such a book as this would never have come into existence. My object is to follow in succession the many paths upon which press photographers must tread during their experiences. Some of the information given should be known to everyone who ever has stepped inside a darkroom, and for that reason, is included for those who may not know it.

Much has already been written on the matter of cameras. Their selection is largely a matter of personal choice in the final analysis, but there are certain features that should be included in every press camera. Always remember that there is no perfect press camera. But there are some that are very nearly perfect.

In the first place, the press camera should be equipped with a first-class, high-speed anastigmatic lens. This will be discussed in detail in the following chapter.

What else should the press camera include? Every photographer has his own opinions on this question, but my idea of an ideal combination would be something like the following. It should be substantially constructed, yet should be compact. It should accommodate a good-sized plate and should have a double or triple bellows extension, a high-speed shutter, a good-sized lens board, and dependable finders. It should permit the use of plates, films, and film packs; should allow of rapid focusing, and be simple in operation. It should have a spring

back, and a ground glass for focusing. In addition to these it might also be well to include a rising and falling front and a horizontally moving lens board. These, however, are not absolute necessities and may be omitted. Let us take up these requirements point by point.

First of all it is amazing what punishment a press camera is compelled to take. The commercial or portrait photographer can exercise reasonable care when he is working with his equipment, but the news gatherer must, at times, subject his camera to every possible strain. The camera, then, must be able to stand up under hard usage. Therefore it is essential that it be of solid construction, either of metal or of hardwood, with metal reinforcements, to be able to withstand the jolts that it will undoubtedly get in its career in the hands of a photographer on general assignments.

Compactness is another important point in which a press camera differs from that used by the average commercial man. View cameras can be and have been used in news work, but it is almost impossible to carry a view camera up a narrow ladder or to use it on many of the varying assignments that crop up in the day's work on a metropolitan daily or photo-service. In addition to this, the weight of a view camera makes it undesirable for this type of work. There are many excellent cameras on the market today, compact, light and strongly built, suitable for use by newspaper men, some of which will be mentioned later.

We turn now to the question of plate area. It is quite possible to take good news photographs with a miniature camera. Good news photographs can be made with almost any kind of a camera. I have even used a box camera for such work at times. But miniature films always require careful processing, and since in newspaper work speed is generally an important factor, it will be seen that miniature cameras are not likely to endanger the field of larger cameras for the general run of news work. They are excellent, however, for candid camera work, and they will be discussed in a chapter devoted solely to that special field.

The weight of plates and cameras above four by five in size makes an uncomfortable burden on assignments when perhaps as many as three dozen plateholders may have to be carried. In addition, the larger cameras require sturdier tripods. Therefore, a four by five or

even the smaller and popular 3¼ by 4¼ size will be found the most convenient for general press work.

A double or triple extension bellows is another feature that almost every press camera should contain. It is remarkable how often a close-up is wanted of some small object. It is impossible to get this unless the bellows extension is at least twice as long as the focal length of the lens. The double and triple extensions permit, among other things, the use of long-range telephoto lenses and the use of a single section of a doublet lens if the latter is designed for such purposes.

Be sure that the bellows is constructed of a good grade of leather. There are few, if any, more important points in the press camera, when one stops to consider what may happen if there is the slightest light leak. Press cameras have to be able to withstand the ravages of the elements. Rain or shine, the press photographer must get his assignments. Water, particularly, has a bad habit of playing havoc with rubber bellows and they should be absolutely avoided. Leather bellows stand up well and this is the best material for this purpose.

We now come to the question of shutters. On one point, the Compur shutter has many advantages. It may be used with Photoflash synchronizers with the assurance that if the bulb works satisfactorily the exposure will be made. It also possesses what might be described as a slow-speed action. The average focal-plane shutter has a range of from 1/3 to 1/10 second up to 1/500 to 1/2000 second. The Compur range is generally between one second and from 1/200 to 1/300 second.

There are two types of focal-plane shutters, the curtain type, such as is used in the Graflex and the Graphic, which, by the way, is one of the finest press cameras on the market, and the self-capping shutter used on many foreign cameras. There is little to choose between the two, although the curtain type is generally considered less likely to get out of order.

Many press cameramen use two shutters on their cameras. It is not an unfamiliar sight to see the modern news picture hunter equipped with a focal-plane camera with a Compur shutter on the lens. This is a very practical arrangement for the man working on general assignments, because in this way he has a speed range from one second up to speeds high enough to take care of the fastest action.

What might at first be considered a minor point is the warning to equip the press camera with a good-sized lens board. Seldom does a press photographer need a lens larger than *f*:4.5, but when he does, he needs it very badly, and a small lens board makes it impossible to put a lens of large aperture on the camera. The minimum size of lens board for a four by five plate camera should be three inches square, and it can be as large as four or five inches on a side without being too big. Not only does this permit the use of a lens as large as *f*:2.5, but it will also allow the use of a high-speed lens of long focus. It will also permit the photographer to carry but one camera with a battery of lenses rather than a number of separate cameras each with its own particular lens.

Good view finders are an absolute necessity for the press camera. The prismatic finder usual on box and hand cameras is virtually useless for press work, especially on poorly lighted subjects. The wire frame finders which have recently gained favor are an improvement and permit the photographer to know exactly what is included in the field at any given bellows extension with the particular lens with which the camera is equipped. For general all-around use, however, the direct view finder, with its cross-hair to show the center, is probably the most practical, permitting the photographer to aim for the exact center of action. That is important in the average news photograph. Many cameras designed to be used by newspaper men are equipped with both types of finders, giving the user an option as to which he prefers. This, like the combination of a focal-plane and Compur shutter on a single camera, is an excellent idea.

The use of roll films in the press cameras has always been frowned upon in favor of plates, cut films or film packs. Until the depression forced economies, plates were preferred, but recently films have come into their own. One of the outstanding reasons why roll films have never become popular for news work is that the entire contents of the spool often could not be used before development. If there is only one exposure on a roll of film and that exposure is needed for immediate publication, the remainder must be wasted. Films have the advantage over plates of being light and unbreakable. At the present time, they have been improved to such a degree that it is now possible

to obtain emulsions of the highest speed and their use is becoming more and more widespread. The use of film packs is convenient, particularly to the free-lance cameraman, as one film may be removed from the pack for development if necessary without destroying the remaining film as in the case of rolls. Chief among the disadvantages of film packs is that the variety of emulsions available is somewhat limited. This will also be discussed in a later chapter.

The need for rapid focusing may readily be seen when one considers that many of the assignments covered by news photographers are in the sports field. Here the scene of action changes rapidly and the photographer must be ready to cope with these changes and yet be prepared for the unusual.

Probably the simplest of all means of focusing is that by which the lens is moved forward and back by means of a rack and pinion. The gear and pinion should be loose enough to be moved without force, yet tight enough to hold in position without having to tighten a second adjustment. Many photographers use the ground glass exclusively when focusing. Others use this and also a scale, either engraved or scratched into the bed of the lens rack. Either method may be used if care is taken. To make your own scale on the camera bed, sight the camera on an object a certain number of feet away, marking the distance on the bed. When this is carried out for a complete scale, its accuracy in use depends upon the accuracy of the photographer's eye for distance. Ground-glass focusing is by far the most accurate and eliminates the need of guessing the distance between the lens and the subject. It should be used whenever feasible. It should always be remembered that editors demand sharp pictures. Therefore, guessing should be kept to a minimum.

A press camera, if equipped with a ground-glass focusing back, should have a spring back. If it is necessary to remove the back of the camera to insert a plateholder, valuable time is lost which might be sufficient to make the picture if the back could be sprung, a plateholder inserted and the slide pulled, without waste of time.

The point of ground-glass focusing has already been mentioned. The glass should be of the finest quality, as the matter of focusing is one of the most important points in good news photography. It is well to test the position of the ground glass frequently to be sure

that it is in the exact plane of the emulsion. A fraction of an inch difference in the plane will result in out-of-focus negatives.

A rising and falling and horizontally moving front should be had if it is possible to obtain them without sacrificing any of the major points. These adjustments are sometimes desirable when reduction of foreground or background or inclusion of material to one side is wanted. Very similar results may be obtained, however, by carefully placing the camera, if it does not possess these adjustments.

A similar adjustment of a secondary nature is the swing-back. This is a quite common adjustment in view and commercial cameras, but is by no means a necessity in the press camera. The same result can be secured, in most cases, merely by inclining the sensitive paper when an enlargement is being made.

We now come to a discussion of some of the leading cameras used in newspaper work. Probably the outstanding and most popular American press camera in use today is the compact and sturdy Speed Graphic. It possesses every essential feature outlined above, including a rising and falling front. Another popular camera, particularly in the eastern section of the country, is the Zeiss Orix. This camera, however, does not possess a focal-plane shutter. This is the only point on which the two cameras differ.

The reflecting cameras are generally excellent for press work, although most of them have limited bellows extensions and are usually furnished with built-in lenses. There is, however, one outstanding Graflex camera which not only allows of long bellows extension but also for using various lenses by means of a removable lens board, and that is the Auto Graflex. This camera, although not extremely compact, is one of the finest of all the reflecting cameras for press work. Another excellent reflecting camera is the Graflex Series C, which has an *f*:2.5 lens. This is the fastest lens equipment ever placed on a reflecting camera of standard make. The photographer should have considerable experience before attempting to use this lens, as it requires careful focusing at all times. For working under poor light conditions, a lens of this speed cannot be excelled.

Chapter II

THE LENS

THERE ARE many types of lenses on the market today, but not all of them can be said to be ideal for press work. Of course, the perfect press lens will never be built. It is impossible to construct a lens of ultra-large aperture which will have a great depth of field. Inasmuch as we cannot have the perfect press lens, we must choose a lens that will fit into the work as nearly perfectly as possible. Somewhere between the ultra-rapid lens and one of smaller aperture giving greater depth of field, we can find a happy medium. Such a lens will serve most purposes in press photography.

For press photography, the following points concerning lenses should be borne in mind. The lens should have a large aperture, though not so large as to preclude a substantial depth of field. It should be free from stigmatism, spherical aberration, and chromatic aberration. It should be well and substantially constructed and should have good covering power. An iris diaphragm should be an integral part of the lens. If the lens is of the cemented type, a high quality colloid should be used in its construction. The glass should be of highest quality and without serious flaws. With these points in mind we can now take up the discussion in detail.

Arguments as to the ideal aperture for a press lens have been heard for years. They probably will continue to be heard for years to come. In the final analysis, however, it may be said that the lens should have as large an aperture as practical. It is almost impossible for the press photographer to use anything slower than *f*:6.8 if he is going to do really serious work. Although *f*:8 may be used at times or even *f*:16, a lens that is limited to these small stops is next to useless under difficult lighting conditions. The ideal lens may be said to have an aperture of between *f*:6.3 and *f*:2.5. There are advantages to be had in the use of both small and larger apertures. The former gives a good depth of field which makes focusing very easy, and permits, practically speak-

ing, the guessing of distances between lens and subject with a fair degree of success, the depth making up for slight error in judgment.

Nevertheless, as has already been pointed out, an *f*:6.3 lens is comparatively limited in its light-gathering capabilities and as a result the photographer may be handicapped seriously when he comes up against a poorly-lighted subject. On the other hand, the *f*:2.5 lens, while capable of passing sufficient light for an instantaneous exposure even under extremely poor light conditions, is badly handicapped by a very limited depth of field in the focal lengths generally used in press photography, say between 5 and 10 inches. As a result, great care must be used in focusing. The most popular lens is one that works at *f*:4.5. However, the *f*:3.5 lens is being used more and more. This is the largest aperture that can be used with success for news work. Regardless of the aperture of the lens or its focal length, it is impossible to get well-defined or sharp negatives unless care is taken in focusing. As editors demand sharpness and detail, the news photographer must learn to take care in focusing from the start. You can never make a sharp print from an out-of-focus negative.

The following table gives the minimum and the customary focal lengths of lenses which will properly cover the plates with which they are used:

Size of plate inches	*Minimum focal length inches*	*Preferred focal length inches*
3¼ by 4¼	4½	5¼
4 by 5	5¼	6½
4 by 6	6	7
5 by 7	7½	8½ to 10

It will be found in most cases that the minimum size of lens will cover the plates, particularly at the smaller stops, without difficulty. However, the preferred lengths given above should be used if possible, as they will give better perspective and insure that the plate corners will not be cut. Many press photographers use a 5¼-inch lens on four by five plates with good results. The greater depth of field made available by the use of the shorter focus permits the photographer to gauge the distance between the lens and subject with more assurance of having a sharp negative than when he is using a longer lens.

COSTON SIGNAL *Copyright, Alton Hall Blackington*

A remarkable photograph, both pictorial and dramatic, made with a time exposure, with most of the illumination coming from the brilliant red flare. The trail of light running from the flare to the ground was made by pieces of the flare as they dropped. Three of them can be seen burning on the sand. The wind was blowing so steadily that the beach grass and coats of the surfmen moved very little during the exposure.

There are two methods of mounting the lens now in common practice. They are mounting in a between-the-lens shutter or in a barrel mount only. The latter can only be used with success in a camera equipped with a focal-plane shutter. As was pointed out in the previous chapter, many press photographers use the Compur shutter on Graphic type cameras, thus affording themselves the advantages of both the Compur and the focal-plane shutters.

It would be an oversight if a chapter on lenses failed to mention convertible lenses. In these lenses the front or rear component may be used separately if so desired, giving a focal length of approximately twice that of the complete lens. These lenses are not popular for press work because the maximum aperture is usually *f*:6.8. When a single component of the lens is used the aperture of that component is approximately half that of the combined lens.

Supplementary lenses are frequently used. These are used to shorten or lengthen the ordinary focal length of the lens. Supplementary lenses which lengthen the ordinary focal length of the lens at the same time reduce the effective aperture of the lens, resulting in a lengthening of the exposure. On the other hand, the supplementary equipment that shortens the focal length of the regular lens gives a larger effective aperture, thus permitting the exposure to be shortened.

In ordinary practice, the purchaser of a press camera and lens should be certain, except in the case of a reflecting camera, that the bellows of the camera permits the lens to be used at infinity and at the same time be racked out far enough (twice the focal length of the lens) to permit objects to be photographed full size. It is surprising how many cameras on the market today will permit one of these operations but not both! This requirement may be waived in the reflex cameras, however, as they are seldom used for extreme close-up work.

A lens cap is a good investment for the press photographer and it will not only protect the glass from dust but will also serve to protect it from possible destruction from a direct blow. The lens is a delicate instrument and should be kept in good condition. It should be removed from the camera occasionally and cleaned very carefully. The camera should also be cleaned thoroughly at the same time so that it is free from dust.

Chapter III

THE SENSITIVE MATERIAL

THERE IS on the market today a wide variety of sensitive materials, photographic emulsions, which may be used in press photography. These are divided into four general classes: roll film, film packs, cut films, and glass plates. At the present time, cut films are the most popular with press photographers. There are several reasons for this. However, we will take up each classification separately, pointing out the advantages and disadvantages of each type.

Roll films, although extremely convenient, are, for most news work, entirely too wasteful. In candid camera work, however, the roll film is used extensively because it is possible to change the film rapidly, making a series of exposures within a few seconds. Another fault of the roll film, from the press standpoint, is the fact that the variety of emulsions available is limited. There are many emulsions on the market in cut films and plates, but in roll films there are only the ordinary orthochromatic emulsion of approximately par speed, two speeds of faster orthochromatic emulsions, a fine-grain panchromatic and a fine-grain orthochromatic emulsion, as well as a supersensitive panchromatic emulsion for work under artificial light. Film packs, although looked upon with more favor by news men than roll films, are likewise retarded in their adoption by the comparative narrowness of their emulsion range. The types of emulsion generally available are about the same as in roll films. An entire pack of film need not be destroyed if only one or two in the pack have been exposed. A single film may be removed from the pack in a darkroom and developed, while the remainder of the pack may be reassembled with little difficulty for further service until entirely used. It should be pointed out here, however, that I am not condemning the use of roll films. Where exposures do not involve a time element, that is, where the negative is not for immediate use, the roll film may be used freely

by the free lance. Some of the best newspaper pictures in history have been photographed on roll films, but the general run of news shots are made on either cut films, plates, or film packs.

Cut films have enjoyed a tremendous gain in popularity in recent years. Picture agencies, seeking to lower expenses, began using this lower-priced negative material, and this has resulted in the almost universal adoption of cut film in general assignment work. There are many advantages in the use of cut film and no serious disadvantages. The first cost is lower, they are safer to handle, there is no danger of breakage, and only slight possibility of their tearing or crumpling. They are much cheaper to ship and their light weight and compactness make them much easier to file away for future reference. The cut film today has a range of emulsions extending from slow process through to supersensitive panchromatic emulsion. In only two fields, the ultra-fast orthochromatic and special infra-red panchromatic, must they be replaced by plates.

There is no necessity to go to a great deal of expense to change from plates to cut films and this has also been to the advantage of the cut-film invasion of the press ranks. Plate holders may be adapted to the use of film at a cost of but a few cents per holder, and at the same time still permit the use of plates. This is done by the use of film sheaths. The use of films also lightens the burden of a press photographer on assignment. This is particularly true in cases where the news man may be on the road for days or weeks at a time and have to carry perhaps as much as a gross of plates. The difference in weight is astounding.

Plates, until a few years ago, held first place in the favor of newspaper photographers. Their biggest disadvantages, however, are their weight and the danger of breakage. Plates, however, are still necessary for two- and three-color work because the expansion and contraction of a film base would make exact registration impossible.

We now come to the matter of emulsion types. These may be classified according to speed and color sensitiveness. The process emulsion is slow and can be subdivided into orthochromatic and panchromatic. These are used mainly for copying. For general copying of black and white objects, such as photographs and line drawings, the ordinary orthochromatic process emulsions will suffice. For copy-

A Leap from an Airplane *G. Lipskerov*

An air view of breath-taking and unusual interest, showing mass descents in parachutes, which are currently reported to be most popular events in the Soviet Republics of today.

ing a subject in color, a panchromatic process emulsion, with a suitable filter, should be used. Where extreme contrast is desired, a process emulsion should be used, the material being developed after exposure in a developer intended to bring out maximum contrast in the negative.

The orthochromatic emulsions have a long range of speeds from the slow process film up to ultra-fast materials, the speed of which is equal to or higher than that of the supersensitive panchromatic emulsions in daylight. Similarly, panchromatic emulsions also range from process to ultra-high speed materials and also extend far into the infra-red field of the spectrum. Infra-red plates have recently found uses in press work, particularly in England where it is necessary to eliminate atmospheric haze.

For general assignment work, most press photographers are using ultra-rapid orthochromatic emulsions. These materials are sufficiently fast to get good exposures in anything but extremely weak light. There is a growing trend, however, at the present time, to use panchromatic emulsions with suitable filters. By this method, the photographer is able to reproduce the colors in his subject in their relative visual intensity. In other words, red objects do not come out absolutely black and blue objects white. There is a greatly improved scale of tones available when a panchromatic film and a filter are used.

During the summer months, it is possible to use a par-speed orthochromatic emulsion for all general assignments during the brighter hours of the day and also until quite late in the afternoon as well as early in the morning, if a sufficiently fast lens is used in conjunction with the material. During the spring and autumn, when the actinic light is somewhat less intense, faster material is required. The average press plate may be used during the brighter hours of the day during this period. The press plate is somewhat faster than the par-speed emulsion. When only extremely poor light is available, as during the winter months, there are orthochromatic emulsions of extreme high speed which can be used. These, however, are somewhat more expensive and are used only in emergencies, because of their higher cost. When working under artificial light, panchromatic emulsions are the best material to use. For all general assignments of this nature, supersensitive panchromatic materials should be used, inasmuch

as the main reason for a press photographer using panchromatic material is to reduce the exposure time. In candid camera work, the use of supersensitive materials is also essential, because very short exposure is necessary. It is possible, by using a material of this kind and a K-2 filter, to show all tones of color in their relative brightness, something which has, as yet, not been done by press photographers generally.

The press photographer must often cover assignments where high speed is essential because motion must be stopped regardless of the light. In such cases, high speed orthochromatic emulsion and a very rapid lens will usually be sufficient, although in the late autumn when football games are being covered, an *f*:3.5 lens speed is none too fast to get the fleeting details of a fast reverse or line play.

A question often asked is, " Shall I use a magazine or a holder? " It may be answered only by saying that each has a very important place in the kit of the well equipped press man. For general assignments, it is usually easier and simpler to use film or plate holders. The knack of changing film sheaths in a magazine is sometimes hard to acquire, but it is always a simple matter to slide a holder into the camera.

For aerial work, however, it is better to use the magazine. Here it is possible to slide a sheath, which holds the film or plate, from the front to the rear of the pile. There is no danger, when working with a magazine, that the wind will tear a film or plate holder from your hand and send your work crashing to destruction hundreds of feet below. The magazine is heavier than a single plate holder, though the difference is not great when a half dozen holders are compared with the magazine. The holders are generally considered to permit a better balance of the camera.

There are many means of saving money in working with any type of sensitive material, particularly where speed is not essential. Until a comparatively short time ago, it was general newspaper practice to use five by seven plates for copying purposes. When the depression struck, means had to be devised to save money. Four by five inch kits and, in some instances, even smaller ones were purchased to fit the five by seven holders which were being used, and, as a result, considerable savings were effected.

In one office, when two copies were to be made, one was made on half of the plate and the second on the other half. This system might well be used in any photographic darkroom where economy is a necessity. Where two photographs of the same size or approximately the same size are to be copied, they may be arranged side by side and copied on a single plate without losing detail.

Mention has been made of the infra-red emulsions and it might be well to add something more on this before closing. Infra-red materials, sensitive to light beyond the eye's range of sensitivity, have found little use in this country up to the present time outside of the freak picture field. There has been a growing use of these emulsions, however, in aerial work, where it is necessary to eliminate aerial haze, and in telephoto work at long distances for the same purpose. This is a wide field for press men who like to experiment with something new, a field which will undoubtedly grow as results of work of this nature become more widely known.

Just a word in closing. Remember that it takes light to make pictures. Expose as long as is necessary unless, in an emergency, you are compelled to do otherwise. Remember the old adage that has been handed down for years by veterans, " Always expose for the shadows, and develop for the highlights." You won't be able to do that all the time. It is not possible to wait for light to improve when pictures are demanded by the editor.

Chapter IV

THE PRESS OUTFIT

IN THIS chapter the fundamental necessities of the outfit which the press photographer needs to make his pictures will be discussed. Stripped to essentials, we might say that a press outfit could consist of a lens, camera and sensitive material. This will suffice for general work in daylight, but it will not be sufficiently flexible for general assignment work.

Let us begin with this elementary outfit and start building up from there. The great majority of press men in this country use one of the four following types of camera: the Speed Graphic, the Zeiss Orix, the Graflex of some type or another, or a Zeiss Miroflex, the two domestic cameras being most popular in this country.

The lens should have a focal length sufficient to cover the sensitive material being used without cutting the corners. It should be fast enough to permit short exposures even under poor lighting conditions, and it should be well constructed. The favorite of most press men is the Zeiss Tessar. This lens, however, shares popularity with many others. Among these are the Eastman, Goerz Dagor, Cooke, Bausch & Lomb, Schneider, Hugo Meyer, Voigtlander, Ross, Steinheil and a few others not so well known. The lens should be a fast, sharp cutting anastigmat and be corrected to a fine degree. Whatever the selection, the lens should be mounted in such a fashion that it will be absolutely rigid on the camera.

Any sensitive material of fair speed can be used in press work on general assignment work. Inasmuch as almost every photographer has his own particular favorite, I will not make any recommendation here as to the brand. The most popular brands, however, are Agfa, Eastman, Gevaert, Defender, Hammer, Ilford, and Illingworth. With this as a starting point, we can begin building.

Probably the next accessory to be added to this fundamental outfit is a tripod. It can be used when long exposures are required on in-

A Typical Press Outfit *James C. Kinkaid*

teriors or on outside assignments which take in too much territory to be covered by a flash light. The tripod should be of solid construction, yet light enough to be carried without too much exertion. It should be compact and yet sufficiently high when extended to get the camera a good distance off the ground. The Crown tripod, No. 2, is probably the most generally used today, although there is a growing tendency among press photographers to use light motion-picture camera tripods with or without a panorama head. The latter type of tripods are rather expensive, however, and somewhat more cumbersome than the demountable Crown types. They do have the advantage, though, of being ready for action more rapidly because they do not have to be set up but are merely extended. It should be remembered, however, that the demountable tripods can be stowed into the case in which the camera and plate or film holders are being carried and thus make a more convenient method of carrying the equipment.

The next addition to the outfit should be a Photoflash lamp. There are any number of these on the market, some designed so they may be folded into a very compact space. For general work, one of these

should be used, as it does not occupy much space in the carrying case. If the photographer has sufficient funds, he should also purchase a Photoflash synchronizer which makes it possible to make speed flashes with short exposures. There are several good ones on the market and all of them are about equal in positiveness of getting the picture.

A focusing cloth is a very handy thing to have in the case and should be included in the outfit if possible. A simple dodge by which the use of a focusing cloth can be avoided in many cases is by placing a film or plate holder in such a position as to shield the ground glass from as much light as possible while focusing. Another method of focusing without a cloth is by having someone hold a match on a plane with the subject and focusing on its light.

Unless a film pack or film or plate magazine is being used, a large number of film or plate holders may be required. Half a dozen double holders or a dozen single holders should be available and twice that many is not an excessive supply. Many photographers use plate holders exclusively, using film sheaths when necessary. This gives them the equivalent of twice as many holders by providing them with a film holder for every plate holder.

Although many press photographers scoff at the idea of using an exposure meter, one should be available for use on unusual subjects where lighting cannot be judged accurately, and there are many of those in press assignments. When purchasing a meter, however, buy a good one, either of the photocell type or one similar to the Justophot or Bewi. The photocell meters are the most accurate, although more costly. The exposure meter becomes particularly useful where landscape photographs are being made in the late afternoon or when filters are being used. They are also handy when working under unfamiliar lighting conditions.

The carrying case should be of rugged construction. It should be roomy enough to carry all the equipment without crowding, yet designed so that the camera and other pieces of equipment will not be shaken up while being carried. A compartment can be constructed in the case to hold the camera and tripod separately, another compartment can be designed to hold the plate and film holders, while smaller pieces of equipment can be fitted into the case in some manner or

other. The type of case is not important. The main thing is that it be large enough to hold all of the equipment the photographer generally carries on assignments.

A lens shade should be in every photographer's case, whether he is a press man or not. The ability to make the negative just a little more brilliant by using a lens shade is of great value. The type of lens shade to be used must be left for the photographer to decide, although I recommend one that combines a filter holder with it.

This brings us to the question of filters. Should they be carried as regular pieces of equipment? They should. Although they are not always essential, their use makes it possible to get better negatives in many instances. In selecting filters, get good ones. Unmounted gelatine filters are inadvisable except for experimental work. A mounted filter should be purchased, as that is the only type that can be depended upon. If only one filter is used, it should be the K-2 type. Although one filter will not always give perfect color correction on all kinds of panchromatic plates and films, the correction given by a K-2 filter is better than that obtained by a lighter filter. Additional filters that may be added are the X-1 and X-2, K-1 and A types. These filters and their uses will be discussed later.

Many news photographers carry a tilting top for the tripod. This is a useful device and will come in handy very often. With it, the camera can be tilted to any angle in a few seconds.

Other handy articles which some press men carry are devices such as the Optipod and Kodapod, which, for lack of better description, may be termed emergency tripods. The former is a clamp with a screw at one end which fits the tripod socket. The Kodapod consists of a similar arrangement, except that the clamp is replaced with spring-toothed jaws.

When the photographer is given assignments taking him away from home, a changing bag should also be included in the outfit. The bag should be roomy enough to make handling of the plates easy and also to prevent excessive perspiration of the hands. It is also invaluable to save exposed material when the plate holder or magazine gets out of order.

A telephoto lens is an excellent piece of equipment for the press photographer. For a four by five camera, the telephoto lens chosen

BABIES EATING *Margaret Bourke-White*

A feature picture, full of charming human interest, of a state nursery in the Soviet Republic, made by Miss Bourke-White on a recent trip to Russia. Similar subjects can be found in any of our own city orphanages and day nurseries.

should have a focal length of at least eleven inches. Any length up to twenty inches, providing the bellows extension on the camera is sufficient, may be used successfully.

Should there be sufficient funds available for the purchase of more than one camera, the division should be between the Graphic and Graflex type, one of each. The Graphic is generally preferable on most general assignments, although the Graflex is more adaptable to sports work.

By making judicious purchases of second-hand equipment, the cost of the outfit can be kept down. The purchase of a complete new press outfit runs to several hundred dollars. If you do purchase used equipment, buy because the article is good, not because it is cheap.

Chapter V

THE DARKROOM

PRESS PHOTOGRAPHY consists of a series of many important details all of which are considered with the idea of increasing speed of production. Darkrooms have been designed and redesigned until the highest possible speed is attained. Wasted steps mean wasted time, which may mean an edition missed. Therefore, it is necessary to design the press darkroom with every possible means of saving steps. There must be, however, sufficient space for two men to work with comparative freedom. In addition to this, storage space should be available for chemicals, papers, cameras, and all the various other essentials which will be discussed later. All of these things can be stored in a relatively small space if care is taken in designing the room.

Although much has been written on the subject of the darkroom for studios doing portrait and commercial work, the literature of photography includes very little about press work in any of its divisions. In almost all these writings it is suggested that chemicals should not be kept in the darkroom. Yet, fully seventy-five percent of the newspaper darkrooms in the nation today provide storage space for chemicals. If ordinary care is taken in handling the chemicals and mixing solutions, and sensitive materials are kept covered as much as possible, there will be little chance of any ill effect. Chemicals which give off fumes that affect the emulsions should be kept away from the storage cabinets. Few such chemicals are needed in press photography at any time.

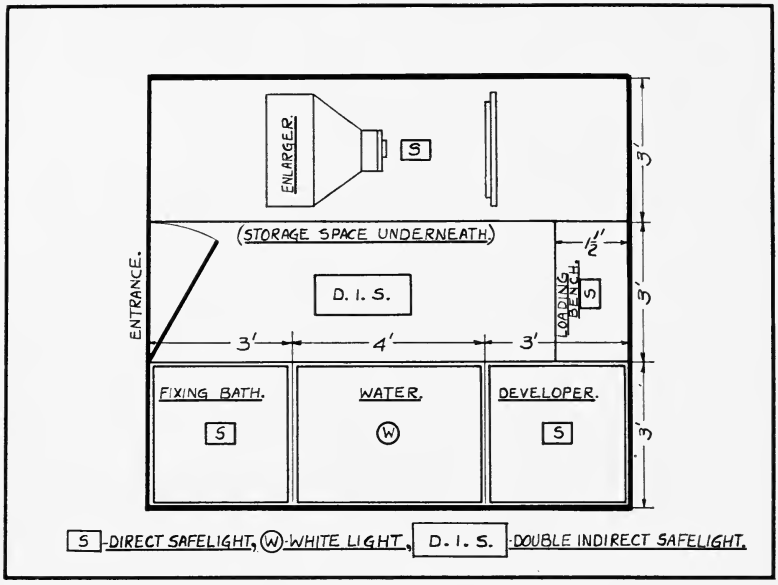
Of course, the volume of work to be turned out will govern a great many details of the darkroom. If the room is to be used only for an occasional print or two, where speed is not essential, as in the case of many free-lance photographers, no particular care need be taken in planning. Usually in such cases, the photographer does his work in his home with the means available. The darkroom may be a

darkened bathroom or a cellar. But we are more particularly interested in the problems affecting the working press man. He must have a darkroom, well equipped and well designed. Space may be at a premium, or he may have plenty of it. The minimum space should be one hundred square feet. Some darkrooms have less space than that, but the majority have more. There should be some means of ventilating the room and, at the same time, excluding all actinic light. This problem can be solved in a number of ways, either by vents or by a blower system. The latter is probably the most efficient and insures a constant supply of fresh clean air. Running water is essential, both hot and cold. Running ice water is an additional luxury during the summer months or in the south, where temperatures are usually above normal. The pipes should be arranged in such a way that outlets can be had at two or three different points along the sink which is used for development, washing and fixing. There should be as much storage space as possible in keeping with the size of the darkroom. This should not be construed as meaning that any necessary working space should be sacrificed to storage room, however.

Above all, the darkroom should be light-tight. Light traps are easily arranged, although many darkrooms still do not have them, even in recently designed plants. If the space and money are available, it is a simple matter to construct a light trap, either by an L- or U-shaped entrance to the processing room, or by means of a double door arrangement. Both are in common use. The design varies considerably in accordance with local conditions.

Many newspaper plants, where a large staff of photographers is employed, have several darkrooms, with separate rooms for loading films and plates. This is almost essential where developing and printing operations might conflict with loading. The loading room may be a separate room by itself, or it may be a partitioned section so arranged that the brighter light from a printing department will not hamper the work.

As to the layout of the darkroom, it should be borne in mind that the space available will vary in almost every case. However, two typical darkrooms used by photo-service men are described in the following paragraphs.



PLAN OF DARKROOM ARRANGEMENT. USING 9 BY 10 FOOT ROOM

James C. Kinkaid

The first plan is one where the darkroom had to be installed in a limited space. The enlarger was installed along one side of the room on a bench approximately ten feet long. Beneath this, two storage cabinets were built, each about five feet long, three feet high and three feet deep. On the top of the bench, two strips of wood an inch square were fixed, running almost the full length of the bench, as a guide for the easel upon which the enlarging paper is mounted.

On the opposite side of the room, a wooden tank seven feet long, three feet wide and ten inches deep was installed. This tank is divided into three sections. The first partition was placed two feet from one end, and the other three feet from the opposite end, thus giving three tanks two, two and three feet in length respectively.

These partitions are built in, with their tops recessed about an inch below the top of the tank. Between the partitions a wooden rail is arranged on either side of the tank so that a wooden frame holding the developer tray can be moved from one end to the other. Each of

TANK DESIGNED FOR PRESS PROCESSING *James C. Kinkaid*

the tanks thus created is entirely independent of the others. The first is given over to developing, the second to washing and the third to fixing.

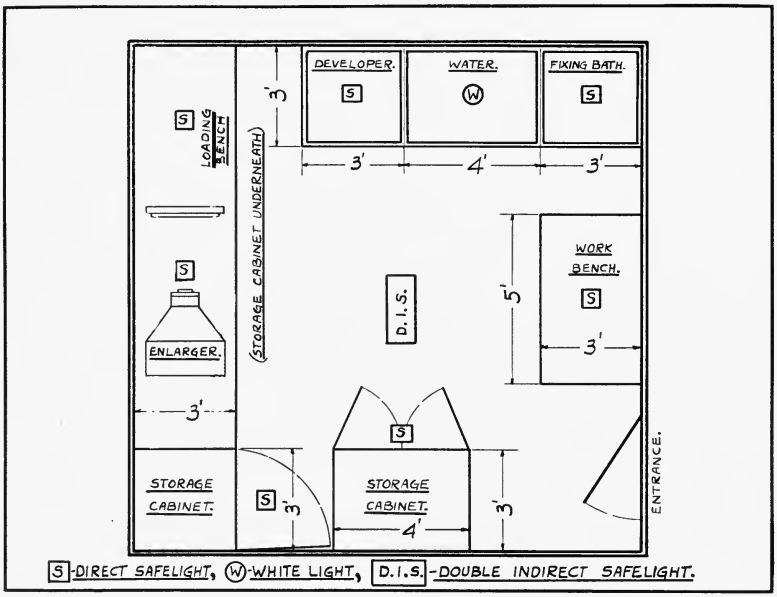
Three hard rubber developing tanks are placed in the first tank for developing plates and films, washing them and fixing them. A three-inch length of pipe is fixed over the water outlet to provide a means of cooling the solutions. The second compartment, that devoted exclusively to washing, is provided with a six-inch length of rubber tubing over the water outlet. The third is provided with a stoppered outlet to allow for cleaning the tank. Probus paint was used on the interior of the tanks, which are constructed entirely of cypress wood.

At the far end of the darkroom, a bench is built from wall to wall. This is generally used for loading purposes, although it also provides space to rest prints before developing them. Above this bench is a three-compartment rack to hold film and plate holders, while on either side of this are storage cabinets for paper, plates and films. In this tiny darkroom two men have turned out more than one thou-

Developing Tanks in Press Tank *James C. Kinkaid*

sand prints in an eight-hour day, that time including washing the prints, drying them, packing and dispatching. The entire space occupied is less than one hundred square feet.

From this extreme, we go to another. Here almost three hundred square feet are available. The enlarging equipment is set up along one wall, extending the length of the room from a cabinet built in a corner to a partitioned tank which occupies the adjoining wall. The tank is of the same general design as the one described above, although somewhat larger in size. The enlarging equipment also occupies slightly more space, while the storage cabinet is sufficiently large to hold all paper, plates, films and chemicals used in more than a month in the bureau. Work benches and storage cabinets occupy the other two sides of the room. Loading facilities are arranged on one of these tables. The work tables are all constructed to a height of forty inches from the floor, a good height when working while standing, which is the usual procedure. A most important aim in designing the newspaper darkroom, as can be seen from the above descriptions, is to keep the enlarging equipment and processing



PLAN OF DARKROOM ARRANGEMENT USING 15 FOOT SQUARE ROOM *James C. Kinkaid*

tanks as close together as possible without hampering the work of either.

The question of enlarging equipment now occupies our attention. Any kind of enlarger may be used if only occasional work is being done. It may even be an arrangement where the camera is fastened to a lighting attachment. Where a large volume of work is being handled, however, some form of enlarger which can be adapted to high-speed work should be available. Auto-focus enlargers are looked upon with scorn, generally, as far as newspaper photographers are concerned professionally. The most generally used enlarger now is the revolving back type, capable of taking any size negative up to eight by ten inches. This type of equipment can be mounted on the wall of the darkroom with the lights outside. Another method is to have a case holding the lights inside the darkroom. Naturally, the case must be light-tight. The lights used for this type of equipment are usually high-power tungsten lamps, diffused by means of flashed opal glass mounted between the lights and the negative.

Vertical enlargers are sometimes used, but the great majority of news darkrooms are equipped with horizontal types. These are somewhat more convenient to work with where dozens of prints are being made in succession.

Another enlarger in common use today is one in which the light of a thousand-watt lamp is concentrated in a small circle of illumination, just sufficient to cover a four by five negative. This is used only for enlarging on chloride papers. Bromide papers, unless very slow, will be overexposed in a fraction of a second on this equipment. These enlargers are not available for general distribution, being sold only to certain newspapers.

The type of enlarger easel varies considerably. Some are suspended from an overhanging track so that they hang in a plane exactly parallel with the negative. Others are attached to an upright arranged to slide along the bench. The latter form is probably the more common.

Methods of holding paper also vary, ranging from simply pinning the paper to the enlarging easel, to the use of a spring-back contrivance holding a gross of single weight paper. The latter is most convenient. It is necessary only to put the desired number of sheets of paper in it and start exposing them one after another, peeling off the top sheet after exposure.

Any dependable enlarger, therefore, may be used in press photography and the final choice is usually a matter of preference. The revolving-back type, though, is preferable if it can be afforded, as is the spring-back paper holder for the easel.

The sink is usually constructed of two-inch cypress. A very satisfactory method of construction is to have the front and back bolted together at each end by means of long iron rods. This will insure keeping the joints watertight. The size of the tank will, of course, vary according to the space available. All joints in such a tank should be mortised, preferably one inch deep. This includes the side and bottom mortises at the ends and also at the partitions.

For developing plates and films, three or four hard rubber developing and fixing boxes are needed. These should be labelled according to the solution used therein. Usually one tank may be used for two sizes of plates, such as four by five and five by seven. Covers of some kind should be supplied, so that the developing tank may be covered

if necessary. These may be simply pieces of wood large enough to cover the tank sufficiently so that light cannot reach the emulsion.

For developing films, a supply of film hangers or racks should be available with which to suspend them in the solutions. These should be of monel metal. If preferred, racks may also be used for developing plates.

One or more enameled trays should be available for developing prints and for working up negatives which may have been over- or underexposed or over- or underdeveloped. Three is not too many.

A rack for drying films and plates should also be included in the darkroom. This may be arranged before an electric fan, with or without a heating unit, to speed drying of the developed emulsions. This rack should be sturdy enough to withstand rough usage and be capable of holding a dozen or more plates or films.

Facilities should be provided in the darkroom for keeping various grades of papers used in enlarging. This may simply be by leaving the boxes of paper on the enlarging bench or by using a drawer with slanting slots deep enough to take the paper without creasing.

Drying facilities are usually better placed outside the darkroom unless prints are to be ferrotyped and dried before an electric fan. Negatives, of course, can be dried in the darkroom, but where large quantities of prints are being turned out, the drying machine should be outside.

Engraved graduates from one of two ounces to one or more of sixteen or thirty-two ounce capacity are needed for measuring solutions. They should be made of high quality glass and must be accurate.

A number of brown wide-mouthed bottles should also be available for holding stock solutions of developers, and other solutions. A crock may be substituted for the bottles if large quantities of developer are being used. The crock should have a spigot about one inch from the bottom. This will permit drawing off developer without disturbing the sediment, which lodges on the bottom of the container. The brown bottles may be used for holding stock solutions of special developers, or reducers and intensifiers. Above all, their corks should fit tightly.

Thermometers for determining the temperatures of solutions and

Mrs. Oliva Dionne and Quintuplets *International News*

One of the outstanding events of 1934. These famous youngsters have faced the camera many times since this first lucky news photographer got this portrait of the newborn sisters and their mother.

hydrometers for testing the specific gravity of fixing baths are other necessities in the darkroom.

Scales are another necessity. Any kind weighing grains or decigrams may be used providing they will register minute changes in weight. Whether they are avoirdupois or metric system scales makes little difference. Formulae of all important solutions are available in both forms.

An interval timer may well be added to the equipment in the press darkroom for developing plates and films by the time and temperature method or for estimating the time a negative has been developing.

Back in the dim, distant past of press photography there grew up an idea that darkrooms must be painted black. Consequently, this became standard and it still is in many processing departments. No advantage is gained by black walls in the darkroom, whether it be for press, commercial or portrait work. On the contrary, there are many disadvantages. Painting darkroom walls black results in waste, for higher powered lamps are required to give the same amount of illumination because of the absorption of light. Although it is sometimes considered a small item, the efficiency of workers in a black room is not on a par with that of employees working in a room of light color. Traces of hypo solution splashed on the wall will show up more distinctly (which is, perhaps, an advantage). Nevertheless, it is easy enough to conclude that a light color, even white, should be used in finishing the interior of the processing room. Of course, the room to be treated in this manner must be light-tight. If white light seeps through cracks, it may be reflected in all sorts of directions when striking a light surface and then anything may happen. So be sure the darkroom is light-tight.

Two or three coats of paint should be put on the walls. The lower section of the room can be painted a dark brown or black, so as not to show dirt. The ceiling should be painted white. This is particularly true when indirect safelights are being used. Some darkrooms, in which the indirect lights are used, have a white-painted square extending about three feet on each side of the indirect lights. However, the all-white ceiling is better.

Cabinets, unless they are already finished when purchased, can be painted the same as the walls. The benches, however, should

be given a couple of coats of dark stain. Tanks may be painted if desired, although the usual procedure is to leave them unfinished on the exterior, coating the interior with a good waterproof paint.

There should be as much safe light in the room as possible. It should not be necessary to change from one safelight to another in order to work with different types of materials. Lights should be easily accessible, and there should be plenty of white light available when it is needed.

The first problem is usually the hardest to solve. An ideal arrangement, however, and one being more and more widely used, is combining indirect safelights with regular safelight lamps. In the most modern darkrooms, two indirect lights are used, one fitted with a bright orange safelight, such as the Wratten & Wainwright Series O, the other being a safelight made up of yellow and violet glass with deep red paper in between, such as the Wratten & Wainwright Series 2. A white light for general lighting in the darkroom is also usually provided, with or without a reflector. This should be hung in such a manner as to avoid casting a shadow of the hanging safelights on the working areas. Over the enlarging table is a hanging safelight, such as the Eastman Safelight Lamp, fitted with a Series OA screen, if bromide papers are used in enlarging. If chloride papers are used, either a small amber bulb is used, or a yellow safelight, such as the Wratten & Wainwright Series OO.

Another safelight of the same type used in the lamp above the enlarging table should be hung over the tank. There should also be a white light in a reflector hung over this. General practice in press darkrooms also calls for a vertical safelight, such as the Wratten & Wainwright No. 1 or No. 2 lamp, to be hung on the wall adjacent to the tank. This should be equipped with a safelight designed to be used with the negative material most frequently used. There should be, however, a safelight available for use with any type material used in making negatives.

Some of the more recently installed press darkrooms have an ideal arrangement of lights along the wall of the darkroom just over the tank. In these installations, there are usually four lights, one equipped with a safelight for developing orthochromatic plates, an-

other for use with panchromatic plates, a third for developing paper and the fourth fitted with a sheet of flashed opal glass, so that negatives and prints may be examined under white light without having to turn on the general light. This series of lights is wired individually and any one may be used independently. In at least one such set-up the wiring has been done in such a way that when the safelights are in use the white light cannot be turned on. This is a valuable safeguard, although it is not entirely necessary. The wiring becomes quite complicated in such procedure and adds to the cost of installation. The entire lighting circuit in the press darkroom should be wired through a master switch, controlling all circuits within it. This switch should be located inside the darkroom near the door.

Never take a chance with safelights being safe, however, not even when the finest available are used. Always test them before using by placing an unexposed plate or film of the type generally used in a holder, and holding it a foot away from the light. Draw the slide about half an inch and expose the plate to the light for about one minute. Then draw the slide another half inch and expose for another minute. Repeat this until some portion of the plate has been exposed for five minutes. Then develop it. If there are traces of fog, steps must be taken to make the light safer. This test should be repeated every three months for safety purposes. Remember it takes an unsafe light only a few seconds to destroy a first-class negative. On a big story, one negative may mean your job. At such times, safe light leaps to an inestimable value.

Panchromatic plates should be loaded and development started in total darkness. This is not hard after one becomes accustomed to working without light of any kind. After development has progressed for a minute or two, the plate may be taken from the bath and examined by a safelight composed of yellow and green glass with green paper in between, such as the Series 3 light of Wratten & Wainwright. Other concerns, such as Agfa, Ilford and Illingworth, manufacture reliable safelights.

There is no reason to use a larger bulb than that specified by the manufacturers of the lamp in use. Press photographers often use lights more powerful than those specified. There is sufficient light transmitted, however, by the smaller bulbs, and the more powerful

ones merely consume additional electric current, with additional danger of fog.

The Series 1 safelight can be used only with non-color-sensitive material such as the Commercial, Commercial Matte and Process films or Eastman 33 and Process plates, but as the Series 2 safelight, such as is used for orthochromatic films (including Verichrome), will do just as well, there is really no need for a Series 1 unless a considerable amount of work is done, such as copying, with process or other non-color-sensitive plates or films.

To recapitulate the type of safelight to be used with each emulsion with which the press photographer comes in contact, the following list is presented:

Emulsion	*W. & W. Safelight*
Bromide paper	Series O. Gives a bright orange light.
	Series OA. Gives a greenish yellow light.
Slow Chloride paper	Series OO. Transmits a yellow light.
Non-color-sensitive emulsions	Series 1. Transmits an orange light. Series 2 light can be substituted.
Color-sensitive emulsions (ortho)	Series 2. Transmits a deep red light.
Panchromatic emulsions	Series 3. Transmits a faint green light which grows stronger as the eyes become accustomed to it.

Drainboards should be constructed at the rear and at each end of the tank. These will serve a double purpose, protecting the floor from solutions and providing a place to rest prints if necessary. There should be a rack directly above the tank on which miscellaneous equipment can be placed, such as graduates, stirring rods and other things which may be needed at any time. Tongs for handling prints are sometimes used in press darkrooms, although most newsmen continue to work with their hands. Rubber gloves or rubber finger tips are frequently used, however.

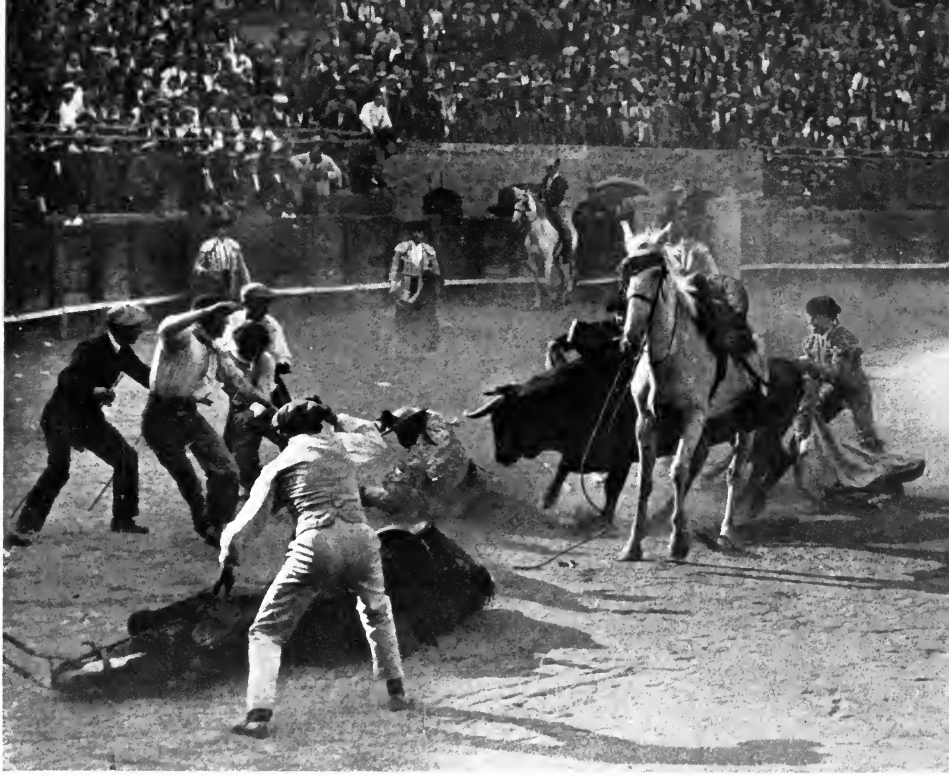
There should be a regular place for everything and everything should be in its place. This is most important in press work, where minutes wasted in searching for some needed material may mean the difference between catching and missing an edition. Chemicals

should be stored in one place, papers and plates in another, while other apparatus should be kept separate. Contrary to popular beliefs, chemicals which do not emit deleterious fumes (ammonia, hydrochloric acid, sodium sulphide) may be stored in press darkrooms without danger. Chemicals and paper, of course, should be stored in a dry, cool, dark place. This is usually not hard to find in modern buildings.

Chemicals should be bought in as large a quantity as is convenient without having them deteriorate. This gives the advantage of quantity discounts, while avoiding waste through the chemicals losing their properties. Only reliable brands should be purchased. Chemicals for press photography must be pure.

In setting up a darkroom for press photography, the following chemicals should be on hand; metol, hydroquinone, sodium carbonate, sodium sulphite, potassium bromide, acetic acid, chrome alum, potassium alum, borax, potassium ferricyanide, potassium permanganate, sodium bisulphite and hypo. Where large quantities of negatives are being turned out and where batches of prints run into the scores, the following recommended list of original and renewal supplies is given.

Chemical	*Original order*	*Renew when supply on hand is*
Sodium carbonate	25 pounds	5 pounds
Sodium sulphite	25 pounds	5 pounds
Metol (Elon)	1 pound	¼ pound
Hydroquinone	5 pounds	1 pound
Potassium bromide	1 pound	¼ pound
Acetic acid (28%)	1 gallon	1 quart
Potassium alum	5 pounds	1 pound
Chrome alum	1 pound	¼ pound
Borax	1 pound	¼ pound
Potassium ferricyanide	1 pound	¼ pound
Potassium permanganate	¼ pound	1 ounce
Sodium bisulphite	1 pound	¼ pound
Hypo	100 pounds	10 pounds
Ammonium chloride	3 pounds	1 pound



THE BULL FIGHT *Manuel Cervera*

A good shot showing lively action, with the subjects so placed that the intricacies of the combat can easily be seen.

For smaller shops this list may be reduced proportionately. Such a list of chemicals will supply the worker with everything needed for press processing. Formulae for various processes will be given elsewhere. In mixing chemicals always follow the directions given with the formula. If there are no directions given, mix each chemical in order as it appears in the formula.

If it is possible, the floor of the darkroom should be sloped so that a sewer outlet is available in cases of a tank overflowing or some similar difficulty. A false floor raised about an inch from the true floor will assure the worker a dry place to stand. The false floor may be of simple design, preferably of slats of wood about an inch wide with half-inch spaces between. It should be long enough and wide enough so that the worker will not twist or break an ankle if he should make a sudden step.

Keep the darkroom clean. It should be swept out at least once every day and the floor should be scrubbed well once a week. In sweeping out the processing room, use a hair floor brush dipped in a floor oil of some sort, if possible.

Chapter VI

DEVELOPMENT

DARKROOM WORK in press photography is a very important item in the making of news photographs. On the man in the darkroom depends the answer to the question, "Is the picture going to make an edition?" In the news service photographic departments, the question changes slightly. There it becomes a question of making trains or planes. In both instances, speed is an essential. But speed cannot be put ahead of quality. The prints must be of the highest type, regardless of the negative available. The print must have good contrast, with highlights and shadows, and with good tonal gradation in order to make a good halftone illustration. Of course, a good print cannot be obtained unless the negative has been exposed correctly. Yet news photographers do wonders with negatives which have been incorrectly exposed. This is partly due to the range of papers available upon which prints can be made. A great deal depends on the handling of negatives in the developer.

There is one thing to remember, though, in development. If insufficient light has reached the emulsion, no amount of development can bring out details. Therefore, whenever it is possible, give sufficient time. If there is any question about it, it is always better to give too much rather than not enough.

Successful development, which is a chemical reduction of the silver grains that have been exposed to light, does not require the use of any particular developing agent. Pyro was once the stand-by of practically every photographer. This, however, tends to produce a stain on the negative which has come to be looked on as unsatisfactory among the newspaper photographers. Because of this, the combination of metol and hydroquinone has become the popular favorite. This combination does not as readily stain the hands and clothes, and has gained in popularity because of this also.

The metol-hydroquinone combination (known familiarly as MQ) gives a finer grain, generally, than solutions containing pyro, and therefore allows of greater enlargement, an important item when large prints are to be made. This has become a frequent occurrence recently, with newspapers using halftone illustrations that cover half or more of a standard newspaper page. But the list of reducing agents now in use does not stop with these three. Photographers in the news game are using such developers as glycin, amidol, Rodinal and many others.

By using various metol-hydroquinone formulae, very fine results can be obtained without difficulty. In the press darkroom, the only two developing agents really needed are metol and hydroquinone. With them, every kind of development can be done, whether it be for finishing negatives of line drawings or for fine-grain results from candid camera negatives of the miniature type.

There are three necessities in press development. The first of these, as has already been pointed out, is speed. Secondly, the developer must give a negative with good contrast and gradation. The third requirement is that the developer be flexible. The most flexible developer for newspaper photography is, without question, the Eastman D-72. Familiar to almost every photographer who has ever mixed his own solutions, this formula is used by more newspaper men today than any other. With it any plate, film or paper the news photographer may use, with the possible exception of color plates and miniature negatives, can be developed. This developer has plenty of speed, gives good contrast and gradation, and is flexible.

Another advantage of this formula is that it can be kept for a time in stock solutions. It should be remembered, when using stock solutions, that, although the developer may keep well for weeks at a time, fresh developer is always more reliable. Therefore, if you use only a quart of stock solution a week, do not mix a gallon because it will last a month. One of the most efficient newspaper darkrooms in the country has an infallible rule that fresh stock solutions of developer must be mixed at least once a week. This plant uses a minimum of five gallons of developer (stock solution) a week and has often been known to use as much as twenty-five gallons in a seven-day period when big news was breaking.

I have found that the most reliable alkali for use in developers where sodium carbonate is called for is the monohydrated type of this chemical. It is the only kind that can retain its strength under all circumstances of storage. Crystals lose water until they become monohydrated and the dry or desiccated type will absorb moisture until it changes to monohydrated. For this reason all the formulae given here have been converted to the monohydrated type of sodium carbonate. This may be easily done in formulae calling for desiccated or dry sodium carbonate by increasing the amount called for by seventeen per cent. Nearly all modern American formulae are given in either monohydrated or desiccated carbonate, the crystal type having gradually fallen into disuse because of its instability.

The D-72 formulae, using monohydrated sodium carbonate, for one quart, one gallon and five gallon batches of stock solution are:

	One quart	*One gallon*	*Five gallons*
Water (about 125° F.) (52° C.)	16 oz.	64 oz.	2½ gal.
Metol (Elon, Pictol)	45 gr.	180 gr.	2 oz.
Sodium sulphite (dry)	1½ oz.	6 oz.	1 lb., 14 oz.
Hydroquinone	175 gr.	1 oz., 260 gr.	8 oz.
Sodium carbonate (monohydrated)	2 oz., 275 gr.	10½ oz.	3 lb., 2 oz.
Potassium bromide	27 gr.	¼ oz.	1¼ oz.
Cold water to make	32 oz.	1 gal.	5 gal.

Should desiccated sodium carbonate be used in this formula, the quantity given in the above should be decreased to 2¼ oz. in the quart formula, 9 oz. in the gallon formula, and 2 lb., 13 oz. in the five-gallon formula.

In developing plates and films, this stock solution should be diluted one part of stock solution to two parts of water for average density. If extreme density is required, the stock solution should be used without dilution. For the development of News Bromide and Novabrom papers, the two most commonly used in press work, the dilution is generally one part of stock solution to four parts of water. For Velox paper, the dilution is one part stock solution to one part of water. Azo

type papers are developed in a mixture of one part stock and two parts water, although for colder tones on Azo the dilution may be one to one. Many press workers use the developer without dilution, when speed is required in the processing of either plates and films or paper. This will give satisfactory results, but the material must be watched carefully against overdevelopment. This single stock solution formula can answer almost any development requirement in the press darkroom. However, there are many newspaper men who insist upon using other developing agents. Metol poisoning affects some workers who insist, for that reason, on using some other formula. The irritation caused by metol may be avoided generally by using rubber gloves, or by using a pair of print tongs to avoid coming into contact with the solution.

For workers who prefer a formula containing pyro, the following has been tested and found to be the most satisfactory from the news workers' standpoint. It is the familiar Eastman D-1 formula:

Stock Solution No. 1	
Water	16 oz.
Sodium bisulphite	70 gr.
Pyro (pyrogallic acid)	1 oz.
Potassium bromide	8 gr.
Stock Solution No. 2	
Water	16 oz.
Sodium sulphite (dry)	1¾ oz.
Stock Solution No. 3	
Water	16 oz.
Sodium carbonate (monohydrated)	1¼ oz.

For one gallon of developer, take nine ounces of each stock solution and add water to make one gallon. Any other amount may be used in tank development in the same proportion. The developing time is about twelve minutes at 65° F. This may be reduced slightly by using the developer in a tray, taking one part each of the stock solutions and seven parts of water. The development time will then be about seven minutes. The slow action of the developer is the greatest drawback to using this formula in press work. It cannot be used

ELEVATED TRAIN CRASH *Alton Hall Blackington*

Unlike fire or shipwreck pictures a train crash can be made many hours after the excitement and still be spot news, especially if the smash is a bad one or the cars are telescoped. A high viewpoint always adds to the effectiveness of an accident picture.

for paper, which is also a disadvantage, inasmuch as a second developer must be used for this purpose.

There has been a general trend recently to the fine-grain developers in press work in developing negatives received from correspondents taking their photographs with miniature cameras. I have investigated more than a hundred formulae designed to give fine-grain results. After this probe, which was conducted with news photography as the paramount governing factor, the use of amidol was dropped because of its poor keeping qualities. Only three formulae were found that satisfied the most important points in news photography: speed, flexibility, fine-grain, and keeping qualities, as well as proper contrast and gradation of tones. These are the Hübl-glycin formula, which will keep for weeks if necessary, and the D-76 and DK-76 formulae of Eastman. The latter are for use only with negatives. However, it was found that in the glycin formula more contrasty results could be obtained by substituting sodium carbonate (monohydrated) for the potassium carbonate called for in the original formula. The revised glycin formula is:

Boiling water	4 oz.
Sodium sulphite	2½ oz.

When this is dissolved, one ounce of glycin is added, and then, in small quantities while stirring constantly, three ounces of monohydrated sodium carbonate. A large mixing bowl should be used in compounding this formula, as a great deal of carbon dioxide is liberated. The result will be a creamy substance of thick consistency. It will keep well even when the container is only partially filled. To use for development of negatives of normal exposure, the stock solution should be diluted with fourteen parts of water. Further dilution should be made if the negative is known to have been underexposed, while if overexposed the dilution should be about one to ten. In the latter case, considerable potassium bromide should be added. Underexposures may also be saved by adding about three grains of sodium hydroxide to each sixteen ounces of diluted solution. The developer may be used for bromide paper in the same dilution as for normally-exposed negatives, while for contact papers the dilution should be one part of stock solution to eight or ten parts of water. This developer

gives an exceptionally fine grain and very good gradation and contrast, and its flexibility is satisfactory, inasmuch as it can be used for both negatives and prints. For this reason, it surpasses the Eastman formulae which, although faster, cannot be used with papers. The glycin developer requires about thirty minutes in which to bring out details on a normally-exposed negative.

The Eastman formulae are:

	D-76	DK-76
Elon	116 gr.	116 gr.
Sodium sulphite (dry)	13¼ oz.	13¼ oz.
Hydroquinone	290 gr.	290 gr.
Borax	116 gr.	———
Kodalk	———	116 gr.
Water to make	1 gal.	1 gal.

It will be noticed that the formulae are identical with the exception of the alkali.

Underexposed negatives must often be developed so that a good print can be obtained from them. In such cases a maximum-energy developer may be used. This differs from a contrast developer in that it is designed to bring up both highlights and shadows to their best brilliance despite drastic underexposure. The following developer has been tested on every commonly-used press plate with excellent results, particularly in the field of candid camera work where extreme enlargements were not required. The formula gives a grain which does not become bothersome with reasonable enlargement. The developer keeps only a few days and no attempt should be made to keep it in a stock solution. It is known as the Eastman D-82 formula and follows:

Water (about 125° F.)	24 oz.
Wood alcohol	1½ oz.
Elon (metol)	200 gr.
Sodium sulphite (dry)	1¾ oz.
Hydroquinone	200 gr.
Sodium hydroxide (caustic soda)	125 gr.
Potassium bromide	125 gr.
Cold water to make	32 oz.

So far we have discussed only standard formulae, which I have found to be the best for press work. The formulae are intended to turn out a print capable of being made into a halftone engraving that is satisfactory for publication. Nothing has been said in this chapter about extreme high-speed work where a finished print must be on the editor's desk within a few minutes after the negative reaches the darkroom. This will be discussed later. It can be done without difficulty. No thought is given under such circumstances to the permanence of the print. The only desire is to get a print that will last for perhaps an hour or two. Where rapid work must be done, with regular formulae, the D-72 formula given above used without dilution will serve. It is possible to finish a print within eight or nine minutes, using this solution.

Another important branch of work in press photography is copying. Reproduction work generally does not require a separate formula. The D-72 formula will serve in almost every case. If a line drawing or some similar object is being photographed, a special contrast developer should be on hand in the darkroom. The best one for such work is the Eastman D-11. The formula is:

Water (about 125° F.) (52° C.)	16 oz.
Metol (Elon)	15 gr.
Sodium sulphite (dry)	2½ oz.
Hydroquinone	130 gr.
Sodium carbonate (monohydrated)	365 gr.
Potassium bromide	73 gr.
Cold water to make	32 oz.

The time required for developing will be about five minutes. This formula is excellent for use with Process and Process Panchromatic emulsions. If less contrast is desired than that obtained by using the straight solution, it should be diluted with an equal volume of water.

There are other developers which give even more contrasty results, but they are not desirable because of their use of sodium hydroxide. In mixing such formulae, the worker may add the caustic soda too rapidly and be seriously burned as a result. All of the formulae given have been thoroughly tested in press work and all are recommended for the purposes for which they are listed.

CABARET SCENE *Remie Lohse*

A candid camera shot in a Harlem cabaret, with just ordinary stage lighting. An achievement for the miniature camera and supersensitive film.

In breaking into press photography, learn how to standardize your handling of negatives in the darkroom as much as possible. Outside, use your brain to the limit of its capacity in working up assignments, getting the news angle of the story portrayed in the picture, and getting away from the stereotyped methods of making photographs for newspaper consumption. Work fast always, but never so fast that you sacrifice quality.

Chapter VII

FIXATION

FIXING an emulsion is merely dissolving out of the emulsion all the unexposed silver. Upon this depends success or failure in photography, for without it there can be no lasting image. Yet, despite its importance, fixing is the cheapest process in photography. Sodium thiosulphate, the correct name for the chemical usually known as " hypo," costs but a few cents a pound.

There is more standardization in fixing bath formulae than in developers. The average fixing bath consists of hypo dissolved in water in the proportion of about one part to four or eight parts of water. The former is the general strength for plates and films, while fixing baths for papers range from one to four to one to eight. Practically every manufacturer of negative emulsions gives a fixing bath formula which is similar to the following, the Eastman F-1:

Sodium thiosulphate (hypo)	1 lb.
Water to make	64 oz.

To this is added the following hardening solution, which is added to the cool hypo solution after it has been brought to room temperature:

Water (about 125° F.) (52° C.)	5 oz.
Sodium sulphite	1 oz.
Acetic acid (28%, pure)	3 oz.
Potassium alum	1 oz.

The chemicals are dissolved in the order given.

It is usual to keep the hardener in a separate stock solution. The following formula, adapted from the Eastman F-1a formula for speedier mixing, will be found satisfactory for all purposes in the press darkroom where speed is not required, or where excessive temperatures are not encountered:

	One gallon	*Five gallons*
Water (about 125° F.) (52° C.)	64 oz.	2½ gal.
Sodium sulphite (dry)	8 oz.	2½ lbs.
Acetic acid (28%, pure)	24 oz.	3 qts., 24 oz.
Potassium alum	8 oz.	2½ lbs.
Cold water to make	1 gal.	5 gal.

Many newspaper offices use glacial acetic acid in the darkroom, diluting this in the proportion of three parts of acid to eight parts of water. Commercial acetic acid, known as No. 8, is usually 28 percent acid. There is a great deal of acetic acid on the market at 56 percent. This may be converted to 28 percent simply by adding one part water to each part of acid. This fixing bath and stock solution hardener can be used with every plate, film or paper with which the newspaper photographer comes in contact. There are, however, methods of speeding up fixing so that the time will be materially reduced. The simplest of these is by adding ammonium chloride, more familiarly known as sal ammoniac, to the fixing solution. By adding one part of this chemical to four parts of hypo solution, the fixing time will be cut in half.

Where rapid fixation is required, the following formula has been tested and found to be the best. It is suitable for all plates and films:

Sodium thiosulphate (hypo)	2 lb.
Warm water	1 gal.
When this is dissolved, add:	
Sodium bisulphite	3 oz.
Ammonium chloride	12 oz.
Chrome alum	2 oz.

This fixing bath will clear a plate in a fraction of the time usually required and it also has the advantage of washing out of the emulsion more rapidly. It is not particularly suitable for paper, however. If it is desired to use but one formula for each process, the D-72 formula is the best for developing and the F-1 for fixation.

There has been, in recent years, a growing use made of an intermediate bath between developing and fixing. It is used both for negatives and for prints. In the case of negatives the bath is known as

President Franklin D. Roosevelt and Mrs. Roosevelt *"Don"*

The President and his wife leaving their first church service after arrival in Albany when the President was Governor of New York. Celebrities are always good material for press photographers.

a " hardening bath " and in the case of prints, as a " short-stop bath." Hardening baths are used mainly in hot weather when it is desirable to harden the emulsion before the negative is placed in the fixing bath.

A good intermediate bath for plates and films is the chrome alum hardening bath, the Eastman SB-3 formula:

Water	32 oz.
Potassium chrome alum	1 oz.

This is an ideal bath to use in hot weather when regular hardening solutions which are added to the fixing solution do not harden sufficiently. The negative, on removal from the developing solution, is immersed in the chrome alum solution for a minute or so. During the first few seconds of immersion, it should be well agitated, to avoid surface markings. After remaining in this solution for about a minute, the negative can be placed in the regular fixing bath without fear of blisters forming on the emulsion. The chrome alum bath should be renewed frequently, as it soon becomes alkaline, from the developer solution acting upon it.

In processing prints, however, the chrome alum bath is not satisfactory. Nevertheless, developing solutions cut down the effectiveness and life of a fixing bath substantially. As a result it has become common practice to use a short-stop bath as an intermediate step in processing prints. The solution instantly checks development, and prevents uneven streaks and spots when the print is immersed in the fixing bath. The simplest short-stop bath and one which is most effective in press work is the familiar Eastman SB-1:

Water	32 oz.	1 gal.
Acetic acid (28%)	1½ oz.	6 oz.

A quart of this bath will serve for about eighty, four by five prints before it becomes alkaline. When the bath loses its acidity it should be discarded. Prints should be left in the short-stop bath between ten and fifteen seconds to insure neutralization of the alkaline developer by the acid in the bath. A fairly good indication that the negative hardening bath should be discarded is when it changes color in use. When freshly mixed, it is a violet-blue color. When it turns a

A Winter Weather Feature *James C. Kinkaid*

yellow-green, it ceases to harden and should be discarded. This bath, by the way, when used in conjunction with a developer containing sodium sulphate, may be safely used at temperatures of 85° F. (29° C.). When higher temperatures are encountered, four ounces of sodium sulphate crystals added to the chrome alum solution will allow working in solutions up to 95° to 100° F. (35° to 38° C.). By using short-stop and hardening baths, the fixing bath will be given a longer lease of life.

There is some question concerning the time required for fixing a negative and print. In press photography, where the main objective is to get a print to the art editor's desk as soon as possible, the rules of photography are violated as far as fixation is concerned. A rather general practice in the processing of negatives is to leave the plate or film in the fixing bath only until it has been cleared of unexposed silver. The negative is then sponged with a piece of water-soaked cotton, inserted in the enlarger, a print made and the negative immediately removed and replaced in the fixing bath. It is left there until thoroughly fixed and then washed thoroughly before it is finally dried.

As far as I have been able to determine through exhaustive tests, this method of procedure has no ill effect on the permanence of the final image. Fixing of prints which are for immediate shipment and immediate use is another point where rules are violated by the news man. The object here is to produce a print that will stand up for two hours at the most. The print is swished around in the fixing bath for perhaps half a minute, given a quick rinse in water, blotted, and rushed to the art editor's desk. Of course, these are exceptional cases. Where prints are to be filed in the morgue (the newspaper library), the fixing of both negatives and prints is carried out along standard lines. So is the washing.

To the free-lance photographer, the fixing of negatives and prints is of the utmost importance. Renew your fixing baths frequently. A picture may be worth a thousand dollars or more to a newspaper or a news service. The average fixing solution costs less than a quarter of a dollar to compound. Is there any premium quite as great in the photographic industry? The answer is, emphatically, " No! "

Remember, too, that an improperly finished negative or print has cost many a photographer his job, so a good knowledge of fixing baths and their capabilities is an asset to any news man.

Chapter VIII

WASHING AND DRYING

THE IMPORTANCE of washing can not be overlooked in press photography any more than it can be slighted in any other branch of work. Water is generally the cheapest chemical used in photography. In some localities, however, particularly in the tropics, water is at a premium, especially when it is cooled. For all washing purposes, ordinary tap water may be used. In the mixing of photographic solutions, however, the water should be tested before using. If there is much organic matter in the water or if it has been chemically treated, as is the case with many inland water supplies, it is safer to use distilled water for solutions.

The manner in which prints and negatives are to be washed depends on whether or not the darkroom is equipped with running water. Where running water can be piped directly into the darkroom tanks, one of the most tedious and important tasks in photography is greatly simplified. All modern press darkrooms are so equipped, but many free-lance men are not so fortunate. Thorough washing, even under the most difficult circumstances, however, is necessary for the permanence of prints. The washing of a photographic emulsion consists of two actions which proceed concurrently. These are: the diffusion of the chemicals out of the film into the surrounding water, and the renewal of water in the vessel in which the washing is conducted.

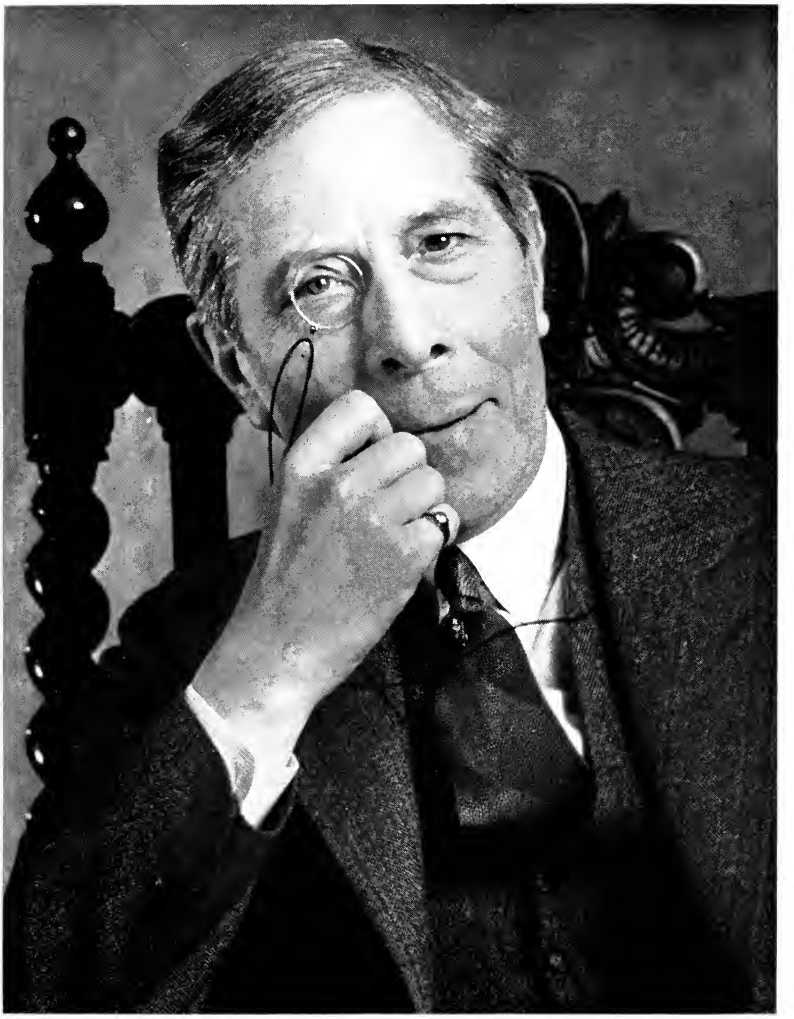
The actual rate of washing varies for different materials. Generally speaking, if half of the dissolved chemicals are removed in a definite number of minutes, say two, after four minutes in the wash water the amount of chemicals remaining will be one-quarter of the original amount. The amount remaining will be reduced one-half every two minutes until, after a short time, the amount remaining can be said to be infinitesimal; this reduction of the amount of chemicals remaining in the emulsion is based upon the assumption that it is being continually exposed to fresh water. The clearing of the emul-

sion of its chemicals will not proceed at this rate where the material is not submitted to successive changes of water. There are two methods of washing negatives which I have found to excel all others. The first of these is the familiar negative washer, in which the water is piped into the bottom of the washing tank, whence it rises slowly, flowing out of the top of the tank. By this means, the water is circulated over the whole interior of the tank and insures uniform washing of the plates.

There is an even better method available. This is to construct a cascade washer consisting of a series of slanting steps upon which the negatives are placed. The water flows over the topmost negative and tumbles down to the next step where it washes the next negative and so on to the bottom. The number of steps which can be assembled in one cascade unit is unlimited, although tests show that it is most efficient when only four to six steps are incorporated in the assembled unit. When this system is used, the topmost emulsion will be thoroughly washed in less than ten minutes, while those on the lower steps will be washed in slightly more time, about two minutes additional for each step. In other words, the last negative in the system will be thoroughly washed in twenty to twenty-five minutes. It should be remembered that the negatives should be laid on the washer emulsion side upward.

After the films or plates have been washed in the cascade system, they should be rinsed in the water tank so as to remove any sediment which may remain attached to the back of the plate or film. This is merely a matter of seconds. All plates and films, after being washed, should be sponged off with a piece of water-soaked cotton or viscose sponge before drying. The cotton should be damp, but not dripping wet. This will insure even drying and prevent breakdown of the gelatine emulsion through the presence of too much water in parts of the negative.

In the washing of prints a slightly different procedure may be followed. Many press darkrooms use special print washers of the centrifugal type such as the Ingento, Lenz and Halldorson. A cheaper method is possible where a good tank has been installed in the press darkroom by using a pipe running along all four sides of the tank in which small holes have been drilled. This pipe, placed on the bottom



GEORGE ARLISS *Avery Slack*

Press photographers are often called on to make indoor portraits of famous persons. If the subject is made to feel at his ease, a natural, characteristic portrait will be the result.

of the tank, will insure the prints being separated and moving as the water rises from the bottom of the tank to the outlet at the top. If this can not be done, a length of rubber hose should be attached to the water outlet and extended to the bottom of the washing tank. The water will, if directed in the proper way from the outlet of the hose, serve to keep the prints separated and moving.

In washing prints, water should never be allowed to splash into the top of the tray or tank as it is much too easy for the water thus reaching the tank to simply run out of the top again, leaving the prints at the bottom soaking in a fairly strong solution of hypo. Always get the water to circulate from the bottom of the tank to the top, and preferably have at least part of the water flowing into the tank reach it from the side opposite to the outlet.

Where running water is not available in the darkroom, the negatives or prints may be soaked in successive changes of water. They should be put in one tray, left there for a few minutes and then transferred singly to fresh water. This should be repeated several times until the emulsion has been thoroughly washed. It will require from six to a dozen changes of water to eliminate the chemicals from the emulsion effectively.

If it is absolutely necessary to insure virtually complete elimination of hypo from the emulsion, a simple test may be made by allowing water from the emulsion to drip into a small glass containing a very weak solution of potassium permanganate and water. This solution need not be more than one-half of one percent in strength. The presence of hypo in the wash water is seen by a change in color of the permanganate solution from a pink to greenish-yellow or brown. In such cases the prints should be returned to the wash water.

When prints are to be used immediately, there is no need to wait for complete removal of hypo from the emulsion. In fact, a quick rinse is all that is required of prints which are to be used within an hour or two. The same thing is true with negatives where a rush print is required. The negative, as soon as it leaves the fixing bath, is given a quick rinse and sponged, printed wet, and then returned to either the fixing bath or the wash water, as the case may be.

No serious effect will be apparent to either the negative or the print under such circumstances for at least an hour — plenty of time for

an artist to retouch the print and for the engraving department to make the exposure for their negative.

Another method of washing prints, where large numbers are being turned out, as in division headquarters of photo-services, is the rocker system. This consists of a large wooden tank mounted on a rocker in such a fashion that water flows into one side of the tank until it outweighs the other side, when it tips to the other side, the water then flowing into the other half of the tank. This method of washing is most efficient, insuring a change of water very frequently, usually once a minute or oftener. Under these circumstances, as many as five hundred or more prints can be washed in fifteen or twenty minutes, depending upon the size of the tank.

Be sure that every print you make which is to be kept for reference purposes is thoroughly washed and so there will be no trace of hypo remaining, as even very small traces of hypo in the print will result in fading of the image.

After washing the emulsion we come to the problem of drying the negative or print. Probably the simplest method of drying a negative is to place it on a rack before an electric fan after it has been thoroughly fixed, washed and sponged. The air from the fan may be heated by placing a small heating unit before it. There are several of these designed especially for use in the darkroom and one is quite as practical as another.

If the negative has been properly hardened there is no need to fear that the emulsion will melt from the heat. The use of the chrome alum hardening bath will accelerate the drying of negatives. If the negative has been thoroughly washed and fixed, the drying may be still further accelerated, in emergencies, by dipping the negative in alcohol for a few seconds before putting it up to dry. By this method the negative will be ready for use in a very few minutes, particularly if heated air is used. The method of drying roll films is somewhat the same. The film is hung before the fan and the warm air is allowed to blow against it. A weight should be attached to the lower end of the length of film to keep it from twisting as it dries.

There are any number of ways to dry prints. Those with which news men should be familiar are the methods using alcohol, ferrotype or chromium plates, blotters, and electric or gas dryers. The alcohol

method is used more frequently in England and other nations abroad than in this country. However, every news man should know how to use it, for the time will come when an editor will want a dry print on his desk as soon as possible. A quantity of ethyl or methyl alcohol is poured into a pan and the print, which has been taken from the wash water and squeegeed, is immersed in this for about fifteen seconds. The print will dry by itself in a very few minutes. If the print is needed immediately, the alcohol may be ignited with a match, care being taken that the print does not ignite. By using this method of drying a print, it may be completely desiccated in less than a minute after leaving the wash water.

Probably the most general method of drying prints is to place them on ferrotype or chromium plates. The latter, although more expensive, will save considerable time for the worker, inasmuch as it is not necessary to polish them frequently as in the case of ferrotype plates. In using these plates, the surface of the print must be properly fixed and hardened or it will adhere to the tin. The prints will also adhere if the temperature of the air striking them is too high, or if there is insufficient circulation of air. The prints should be thoroughly wet when placed on the tins and then squeegeed to the tins so that there is absolute contact between the plates and the prints.

Placing the prints before an electric fan with a heater attachment will dry them in a few minutes. Some plants turning out large numbers of news prints use drying cabinets capable of holding a number of plates in a hot air blast. In using ferrotype plates, the temperature of the air striking the tins should be kept under 150° F. or the enamel will be checked and it will begin to have the effect of ground glass.

If economy or other circumstances force the use of blotters, thoroughly hardened prints may be inserted between sheets of good quality white blotting paper, with a substantial weight upon them to insure flat prints. It is much better to dry the prints first, then sponge the backs with a moist sponge until they are slightly limp, and then dry between blotters under pressure. With this procedure, there is little danger of the prints sticking to the blotters. A print press such as the Willo Drying Press may be used for this purpose.

Electric and gas-heated driers are used in most newspaper and

PORTRAIT OF A CRICKET — *Alton Hall Blackington*

A horde of crickets descended on a city, and pages were written about them, but only one enterprising photographer thought of picturing one, which effort was rewarded with considerable revenue.

syndicate plants at the present time. There are any number of these on the market today, some using two belts and others only one belt. Either type is satisfactory for press work, as is the type that uses a polished drum for turning out extremely glossy prints. If a belt drier is used it is advisable to wax the surface of the belts from time to time to insure the best possible gloss obtainable. These belt driers can handle an enormous number of prints in an hour and can keep pace with the average press darkroom for hours on end.

The final selection of a drying procedure is fundamentally based on cost requirements. If only half a dozen prints are to be turned out daily, it would be wasteful to purchase an electric drier. However, where as many as a thousand prints are handled in a day, and this is not an enormous number of prints for a news service to turn out, such a drier would be a good investment.

When the Lindbergh baby kidnaping story first "broke," one picture service printed more than five thousand prints the following day in its New York plant. This did not include several thousand other prints made from telephoto negatives transmitted to branch bureaus in every section of the country. Neither did that figure include the run-of-the-mine news pictures which went out in that service's regular mails that day.

Learn all the ways of drying prints and negatives. You never can tell when one will prove superior in an emergency. As a parting suggestion for drying, if you have no drier and need a dry print quickly, wax the window pane, polish it with a soft cloth, squeegee your print against it and wait until it dries. If you choose a window upon which the sun is shining, it won't take long. That shows just what can be done if one will stop to think in the news game. When you stop thinking, get out of the business. You'll be run over by the boys who do!

Chapter IX

HIGH-SPEED PROCESSING

NO BRANCH of news photography is more fascinating than high-speed processing for one who is in the game for the thrills he can get out of it, and you would be surprised how many of the working press photographers are in that select group. They are the boys who insist upon standing at the rail on the outside of a curve at a dirt-track automobile race on the chance that some reckless driver will blow a tire or lose a wheel and crash through the rail near where they are standing or where they were standing. They are the lads who climb to the top of a bridge to make a shot. The same type of youth will go into the middle of a riot to pick out his scene of action or go into a burning building where an explosion may occur any moment, to get real action shots. In a word, they are the photographers who will make a name for themselves in the news game where action photographs are wanted by the public.

Most of these boys are in news photography primarily because they like to have the blood run a little bit faster in their veins occasionally. Their "art," the usual slang term for all pictures in the newspaper field, makes the front page consistently. They are the unsung heroes of the newspaper game. They take their lives in their hands daily in order to give the newspaper public a little chill up and down the spine by looking at the work of some daring photographer.

The pictures that these photographers make are of exceptional news value only while the story is fresh in the mind of the public. This statement can be proved by the circulation figures of any progressive daily newspaper when it has an exceptionally newsy picture prominently displayed. Circulation on such occasions may jump thousands over normal figures.

Because of this factor some pictures must be supplied to the editor's desk in a minimum of time. That minimum can easily be under five minutes. Such processing requires a photographer working in the

darkroom to be on his toes from the time he enters it until the time he has a finished print. Luckily, under such circumstances, the editor does not demand a picture that will last for years. All he is interested in is getting his hands on a picture that will last long enough for an artist to retouch it slightly and the engraving department to get a negative of the picture.

For this high-speed work, the best developer I ever found was a two-solution developer in which the negative is completely and fully developed in a minute or less. The solutions are both mixed without difficulty and may be kept as stock solutions for some time. If any high-speed processing is necessary in your darkroom this formula and the others given in this chapter should be kept on hand for use in emergencies. There is little danger of overdeveloping the negative when using this formula, if any degree of care is used. The formula is:

Stock Solution A	
Water	32 oz.
Sodium sulphite (dry)	3½ oz.
Metol	150 gr.
Hydroquinone	150 gr.
Potassium bromide	30 gr.
Stock Solution B	
Water	32 oz.
Sodium carbonate (monohydrated)	8 oz.

The solutions are used separately. They are poured into trays without dilution. The negative to be developed is then immersed in Solution A and soaked for thirty seconds. It is then rinsed for a few seconds in plain water and then immersed in Solution B.

Although the image is still latent when the negative is removed from Solution A, it figuratively " jumps up " when immersed in the second solution. The time required in the second solution to bring the image to normal contrast is between fifteen and thirty seconds. If the negative has been underexposed, it may be allowed to remain in the second solution for ninety seconds without fear of fogging. Ninety seconds in the second solution will give the maximum density possible with any but a maximum energy developer from any plate or film. This developer is an excellent one for underexposures and it may be

used without modification in this work. It can not be considered, in any sense of the word, a " tricky " developer. It is designed to give good development in the least possible time.

When development is finished, the negative is removed from the second solution and given a quick rinse in water (a matter of about five seconds), and then immersed in a rapid hardening and fixing bath. The formula for this bath is:

Water	64 oz.
Sodium thiosulphate (hypo)	2 lb.
Sodium bisulphite	3 oz.
Chrome alum	3 oz.
Ammonium chloride (sal ammoniac)	12 oz.
Cold water to make	1 gal.

This fixing bath will clear unbacked plates in approximately a minute, while the hardest plate to clear which I have ever used, the Press 2000, will be ready for a fast trip through the wash water and enlarger in about two and a half or three minutes. Inasmuch as the triple-emulsion materials of the Press 2000 class are seldom used in general work, the average negative material will be cleared in a minute or two.

Immediately after the negative has been cleared it is given a quick rinse in the wash water, then dipped into the following solution, known as a hypo eliminator:

Water	16 oz.
Potassium persulphate	65 gr.

After the negative has been in this solution for about ten seconds, it is rinsed again in water, and sponged with damp cotton. The hypo elimination can be skipped if desired and the negative merely rinsed in water and sponged with a bit of damp cotton before it is placed in the enlarger. After the desired prints are made, the negative should be returned to the fixing bath for ten minutes and then washed thoroughly, sponged again and dried.

With the wet negative sponged, we are ready to proceed with enlarging. The negative is placed in the enlarger carrier and focused carefully and an exposure made. The print is developed in undiluted

stock solution of Eastman D-72 developer. This will develop the image fully in from thirty to forty-five seconds. The developed print is either given a quick rinse in the wash water or in an acid short-stop bath and immediately placed in the fixing bath. Here it is well agitated for thirty seconds. It is then removed and rinsed in the wash water again for a few seconds, squeegeed and blotted, a matter of ten or fifteen seconds, and then rushed to the art editor's desk.

Perhaps the reader will question the statement that all of this work, from the time the negative reached the darkroom to the time the final print reached the darkroom door on the way out, took less than five minutes. Let us recapitulate each step with its time:

Negative development	60 seconds to 90 seconds
Negative fixation	60 seconds to 90 seconds
Rinsing and sponging	10 seconds to 15 seconds
Enlarging (focusing and exposing)	60 seconds to 90 seconds
Development of print	30 seconds to 45 seconds
Fixation of print	15 seconds
Rinsing of print, squeegeeing, etc.	15 seconds to 30 seconds

This will show that a finished print can be made from a negative in from four minutes, ten seconds to six minutes. That is fast work and it requires concentration, especially when the rasping voice of an editor bellows through the door of the darkroom, " How long do we have to wait for that print? "

There is, it should be remembered, no effort made to insure permanency either of the negative or the print when working under these circumstances. If the negative is to be filed, it should be returned to the fixing bath as soon as the enlarging is finished. If the finished print is to be shipped to some newspaper, it should be placed between blotters, placed in an envelope and it is ready for whatever disposition is to be made of the package. Should a dry print be insisted upon by the editor, the print, when taken from the wash water, should be placed in a tray of alcohol for a few seconds, hung on a clip and the alcohol ignited. The print will be dry in another few seconds.

Most newspapers and photographic services keep at least one photographer inside at all times to develop and print the work sent

FIRE! *Franklin I. Jordan*

Fire pictures constitute a big part of most press photographers' work. It is very often possible to incorporate a pictorial quality with a true representation of the facts, as in this against-the-light shot of a city fire.

in by other photographers working on the outside. When a big story breaks in which high-speed processing will be required in order to make an edition or a mail, the man inside should get his solutions ready while waiting for the negative to arrive. The two solutions should be poured into separate trays, the chrome alum hardening-fixing bath made ready, and some fresh print developer prepared. When the negative reaches the darkroom, he will be all set to go to work on it.

Just a note of warning here. If the finished print is to be sent to some newspaper in another city, a note should be placed in the envelope advising whoever opens the package to use the print immediately or to fix it further. This is a rather common custom these days where competition in the newspaper field has been made even sharper by the acquisition of telephoto service by one news service. However, with fast planes crossing the country in twenty hours, the present cost of telephotos seems to be somewhat out of proportion to their value to the newspaper. But when editions are to be made or important trains and planes caught with shipments of press photographs, it means rapid action on the part of the darkroom worker, and he must be able to do it and do it accurately. The most important thing about this branch of the work is to remain cool-headed despite the stress and excitement of having to work at top speed. Do that and you'll not find the editor dragging you on the carpet to discuss the seven imps of incompetence with you. Work at top speed, but don't try to exceed your top speed or you may make errors, something that just isn't excused in the newspaper game.

Chapter X

REDUCTION AND INTENSIFICATION

THE USE of intensifiers and reducers in press photography has been somewhat neglected, largely because of the necessity for speed in processing press negatives. When a press negative is very incorrectly exposed or processed it becomes necessary to modify it before it is printed. In some cases, it is essential to reduce a negative before it can be printed. This is frequently the case where negatives originally intended for contact printing are used for making enlargements. The formulae given in the following pages have been found to be the best for press work. They are fast, stable, keep well in most cases, and are easily mixed. They are also controllable while the negative is being processed and the final image can be depended upon to be permanent.

In almost every case where reduction or intensification of a negative is to be attempted, the negative should first be treated in a hardening bath of some kind. In most press darkrooms the usual procedure is to use either a chrome alum or potassium alum hardener similar to that used in the fixing bath. I have found, however, that better results can be obtained by using a formaldehyde hardener. This is mixed as follows:

Water	32 oz.
Commercial formalin (40 percent)	¾ oz.
Sodium carbonate (monohydrated)	½ oz.
Water to make	64 oz.

In using this solution, the negative should be immersed in it for from two to five minutes, and then immersed in a fresh acid fixing bath for about five minutes. After being fixed, the negative should be thoroughly washed to insure the absence of silver compounds and hypo. Films so treated may be reduced or intensified before drying. This hardening of the emulsion will in no way impair the action of

the solutions used in treating it. It will, however, prevent frilling and other troubles which may damage or even ruin the negative during the processing. Although it is possible in many cases to give further treatment to the negative without preliminary washing, it has been found that more uniform results will be obtained if the negative is first washed.

Where a negative is overexposed it may be corrected by using a subtractive or " cutting " reducer. This type of reducer removes an equal amount of silver from shadows, half-tones and highlights, thus giving a negative of proper gradation. The typical " cutting " reducer is that known as Farmer's reducer. I have found, however, that the single solution reducer as generally used deteriorates altogether too rapidly for satisfactory use in press processing. Potassium ferricyanide-ammonium sulphocyanide solutions, although more satisfactory than the single solution Farmer's reducer, still fall below the par requirements of press work.

After much experimentation, I have found that the following two solution Farmer's reducer is the most reliable and the most efficient. This formula is:

Solution A	
Potassium ferricyanide	150 gr.
Water to make	32 oz.
Solution B	
Sodium thiosulphate (hypo)	8 oz.
Water to make	32 oz.

The negative is first immersed in solution A for a period of from one to five minutes, depending upon the amount of reduction desired, and is then immersed in the second solution. The action is carefully watched until the proper degree of reduction is obtained. The negative is then thoroughly washed and dried. The image after reduction is permanent. Solution B will keep well in a stock solution, but solution A is very unstable in strong daylight or white light. Both solutions, however, will keep for a long time if kept in a cool, dark place in amber-colored bottles.

Although the Farmer's reducer is well known in most newspaper darkrooms, the two solution variation of it, with its wide advantages

over the single solution formula, has been recognized by only a few newspapermen and it has enjoyed little popularity, although its use should be frequent. This formula is also very handy for use where local reduction is desired. In this work, it is recommended that equal parts of the potassium ferricyanide solution and the hypo solution be mixed together in a separate vessel, as the action of the two solution formula is not as positive in such instances as the single compound.

When a negative is too contrasty, it is necessary to use a super-proportional or " flattening " reducer. This type of reducer attacks the deposit in the highlights more vigorously than in the half-tones and shadows, where there is already an insufficient deposit. The reducer has little or no effect on the thin shadow portions of the negative.

The most important reducer in this field is ammonium persulphate. This attacks the silver deposit, and the attack is further quickened by the silver salt which is produced, the rate of reduction increasing continuously. It is necessary, therefore, to remove the negative from the solution a few moments before it is sufficiently reduced, as the action will continue for a short time after it has been removed and may thus ruin the negative. One of the best formulae for the super-proportional reducer is the following:

Ammonium persulphate	1 oz.
Sulphuric acid (C. P.)	74 min.
Water to make	16 oz.

The solution is ready for use when mixed. Although the solution keeps fairly well in a stock solution, a fresh solution should be mixed quite frequently to insure stability.

When a negative has been correctly exposed but overdeveloped, it is necessary to use a reducer that will reduce the amount of silver in all parts of the negative in proportion to the amount of silver present there. Such a solution, therefore, exactly reverses the action of development.

Many investigators advise that reducers of this type should be compounded by combining the potassium permanganate of the subtractive reducer and the ammonium persulphate of the super-proportional type. There is a risk of staining the emulsion when using such a mixture, and I have found that better work can be done with a so-

lution of ferric ammonium sulphate, which eliminates the risk of stain. This formula, described by J. I. Crabtree and L. E. Muehler, is known as Eastman R-7. It consists of:

Ferric ammonium sulphate	2 oz.
Sulphuric acid (C. P.)	1¼ oz.
Water to make	1 gal.

Although this formula was originally designed for use in motion picture work, it has been found to give very satisfactory results in press photography. Although this formula does not give absolutely proportional reduction, the results are so nearly so that it is very satisfactory.

Although mercury, silver and redevelopment intensifiers are frequently used in press work, the best formula is not always selected in many cases. I have found that the chromium intensifier is a most flexible and convenient intensifier for the press darkroom. There are several other intensifiers, however, that may be used with good results in press work and these also will be listed in the following paragraphs. The use of the chromium intensifier in press work is recommended because it is easily compounded, it may be kept in a stock solution, and the process may be repeated indefinitely until the image is finally intensified sufficiently. Another advantage of the chromium intensifier is that it is not necessary to make up a separate developer for use in redeveloping after bleaching. The process calls for the Eastman D-72 formula, which is standard in most press darkrooms. In using this process, the negative is first bleached in the following bleaching bath:

Potassium bichromate	3 oz.
Hydrochloric acid, concentrated	2 oz.
Water to make	32 oz.

For use, add one part of stock solution to ten parts of water. The negative is thoroughly bleached, then washed for five minutes and redeveloped in a non-staining developer. Many developers are available but inasmuch as the D-72 formula is used in the majority of darkrooms, its use is recommended. The formula for this developer is given in the chapter on developers (see page 43). The negative, after

PARIS RIOTS *Acme*

Riots are one of the hardest assignments that a press photographer can get. He is concerned not only with his personal safety, but with the safety of his equipment, which is very likely to be smashed by rioters or police. A distance shot in an open section gives a graphic story of the events.

it has been intensified, is fixed for five minutes and then washed thoroughly. The time of redevelopment controls the degree of intensification. If the negative has not been intensified sufficiently, the negative may be treated again and again, a greater amount of intensification being secured each time.

Although the silver intensifier is used most consistently in motion picture work, where it is necessary to get proportional intensification in both shadows and highlights without any perceptible change in the color of the negative, it is not generally adopted in press work, because of the necessity of keeping four stock solutions on hand. It is, nevertheless, an excellent method of treating negatives which have been greatly underexposed. The formulae are therefore given here.

Stock Solution No. 1	
Silver nitrate	2 oz.
Water to make	32 oz.
Stock Solution No. 2	
Sodium sulphite (dry)	2 oz.
Water to make	32 oz.
Stock Solution No. 3	
Sodium thiosulphate (hypo)	3½ oz.
Water to make	32 oz.
Stock Solution No. 4	
Sodium sulphite (dry)	220 gr.
Metol	350 gr.
Water to make	96 oz.

For use, take one part of solution No. 1 and add it slowly to one part of solution No. 2, stirring to obtain thorough mixing. The white precipitate thus produced is then dissolved by the addition of one part of solution No. 3. The mixture thus made is allowed to stand a few minutes until clear, when three parts of solution No. 4 are added while the solution is stirred. The intensifier is then ready for use. If the desired intensification is not secured after the negative has been treated in this bath, another new bath should be mixed and the treatment repeated. By repeating the process a total degree of intensification of almost 150 percent can be obtained.

If it is desired, after intensifying the negative, to reduce it, the

ordinary subtractive reducers may be used where general density is too great, or a proportional reducer employed where there is too much contrast. It is, however, impossible to get exactly proportional reduction in reducing negatives intensified with the silver formula.

One of the most popular methods of intensifying now used in press work is the common Monckhoven's intensifier of the mercury type. The bleaching bath in this process is composed of:

Potassium bromide	¾ oz.
Mercuric chloride	¾ oz.
Water to make	32 oz.

After the negative is bleached until it is white in this solution, it is redeveloped in any one of the following solutions: ten percent solution of sodium sulphite, a metol-hydroquinone developer, or ten percent ammonia. If a great increase in contrast is wanted, the bleached negative should be redeveloped in the following solution:

Sodium or potassium cyanide	½ oz.
Silver nitrate	¾ oz.
Water to make	32 oz.

In mixing the solution, the cyanide and nitrate are mixed separately. The silver nitrate solution is then added to the cyanide until a permanent precipitate is just produced. The mixture is allowed to stand for a short time and then filtered. The solution is then ready for use.

Because of its simplicity, I recommend the chromium intensifier for intensifying press negatives.

Where only a slight degree of intensification is required, many press men use the formula used for the sepia toning of prints. This process admits of but one treatment of the negative, and the intensification obtained is due mainly to the change in color of the image. Any of the sepia toning methods using bleaching and redevelopment of the image may be used in this process and these can be found in any handbook. The disadvantages of this process are the odor of the sulphide solution and the danger of the fumes spoiling photographic materials which may be in the vicinity.

I have found that the chromium and silver intensifiers are the best

for press work, with the advantage leaning to the former because of its simplicity. The single stock solution used in the chromium intensification formula will not deteriorate rapidly if kept in a well-stoppered bottle of an amber color. For all-round newspaper work, it has been found that the chromium intensifier and the two-solution Farmer's reducer will answer in ninety percent of the cases. The solutions recommended in this chapter will stand up for at least three months if kept as just advised. Good results may always be insured, therefore, if the solutions are renewed every few months. It will take but a few minutes to mix new solutions and will pay big dividends in the saving of negatives.

Chapter XI

PACKING AND SHIPPING

THERE IS probably no branch of photography which makes more extensive use of various means of transportation in getting negatives and prints from one place to another than newspaper work. The print or the negative must be well packed and shipped by the best means available. For repacking negatives, the boxes in which films and plates are bought should be carefully opened and put away for future use. In news service plants this is a common rule and at least a dozen or two empty film and plate boxes are kept on hand ready for immediate use. This is not so important in newspaper darkrooms, where prints and negatives are usually made for home consumption. But even so, a few empty boxes should be put aside for possible emergency use.

Photographic material to be packed for shipment includes undeveloped plates, films, film packs, roll films and prints, and also the same materials after they have been developed. Packing glass plates is the most difficult, because they must be protected against breakage. For packing undeveloped plates, a plate box of the right size should be used. If only one plate is to be shipped, it is usually wise to place a clean glass plate or waste negative against the emulsion side of the negative to protect it from possible scratches from paper or cardboard used in packing it. If two plates are to be despatched, they should be packed emulsion to emulsion. Should there be no clean plate of glass available, use a sheet of black paper placed against the emulsion to protect it. Be sure, however, that this will not affect the plate being packed. Some emulsions are sensitive to chemicals used in paper and will fog if placed in direct contact. Never pack a negative between sheets of printed paper, as the ink has a strong fogging effect on plates. The black or red paper used in wrapping sensitive material can be used for packing plates without danger. Note how the plates are packed when unwrapping them and, when pack-

ing them for shipment, follow the same procedure if possible. In packing plates in a box for shipment, a sheet of corrugated cardboard should be placed on the bottom of the box, then a sheet of ordinary cardboard, then a sheet of black paper. The plates are then placed in the package and these are then covered with another sheet of black paper, a piece of cardboard and a sheet of corrugated board. If this does not fill the box, additional corrugated board should be added until the box is filled. When this layer-by-layer assembly is completed, there will probably be some space on each side of the box around the plate. This space should be filled with crumpled paper stuffed between the built-up sections and the sides of the box. This will serve as a cushion and prevent possible chipping or breakage of the plate. The cover is then placed on the box and wrapped with plain paper. This is either glued or taped together. The wrapping should be labeled: "Caution. Undeveloped plate. Open only in photographic darkroom." If the negative is of the panchromatic type, this information should also be included on the wrapping so that the proper safelight will be used in the darkroom, or no light at all, as the case may be. This will prevent a plate being fogged from the use of a red light when a green light should have been used. It seems needless to add that the undeveloped plate must be packed in the darkroom. If the plate has been developed before shipping, be sure that it is quite dry before it is packed. The same procedure in packing should be followed as in the case of an undeveloped plate.

In packing films, the corrugated card may be used or several sheets of ordinary cardboard such as is used in packing film originally. These should be placed above and below the film to prevent possible damage to the film in the mail. The same precaution about labeling the wrapping should be followed in packing undeveloped films as in plates.

Packing of film packs is not difficult. If there has not been time or occasion to expose all of the film contained in the pack, the remaining tabs should be pulled and torn off so that the safety cover which protects the film when all are exposed will be in position. The film pack should then be repacked in its original tinfoil wrapper (there should be several kept in the storage cabinet) and placed in a film pack box. This is then wrapped, either with or without cardboard for protection, and sealed. There need be no note on this wrapping

NIGHT IMPRESSION OF CONEY ISLAND *Gordon H. Coster*

Night feature pictures are becoming more and more popular with city editors. A night shot of a famous resort such as this, with the exposure just right so as to get the fireworks as the eye sees them, will sell itself.

as the pack is self-protected from light. Roll films should be handled in the same way, i.e., packed in tinfoil with which it was wrapped and inserted in its original box and wrapped securely. Developed film packs should be packed the same as cut film. Roll films which have been developed should be cut into separate negatives and shipped like cut film.

Shipping undeveloped prints is seldom necessary now. If an undeveloped print is mailed, the envelope should be sealed tightly and conspicuously labeled both on the front and on the back of the envelope to the effect that it should be opened only in a photographic darkroom. In packing an undeveloped print it should first be inserted in a black envelope, which is then inserted flap downward in either a second black envelope or in the final envelope. If it is inserted in a second black envelope, this second one should be inserted in the mailing envelope flap downward also. This will insure no light reaching the print accidentally, even if the package is partly opened accidentally in transit.

The packing of a developed print is simplicity itself. It only needs to be inserted in an envelope and sealed. In packing a print or negative, a cautionary note should be included on the face of the envelope to the effect that it should not be folded. A sheet or two of cardboard should be used to protect the print.

In sending negatives or prints anywhere, always include a note as to what the picture represents. There is nothing more exasperating to an art editor than to get a news picture and have no explanation of what the picture is about. Keep the note or caption as brief as possible. Let the picture tell the story. If the picture doesn't tell at least part of the story it is not a news picture. This does not, of course, apply to pictures of persons who are figuring in the news. Otherwise, the picture should tell as much of the story as possible.

We can now turn our attention to the shipping of negatives and prints. Having packed the material, the next question is getting them on the way to the consumer. In every darkroom there should be kept a list of trains, busses, and airplanes serving the community in which the darkroom is located. This list should be made out so that key cities served are listed separately. A typical schedule of this type can be designed thus:

To Chicago	To Detroit
12:20 P.M.–U.A.L.	5:40 P.M.–N.Y.C.
12:25 P.M.–N.Y.C.	6:00 P.M.–P.A.L.
To Pittsburgh	**To New York**
1:00 A.M.–P.R.R.	6:00 P.M.–N.Y.C.
1:50 A.M.–P.A.L.	6:40 P.M.–U.A.L.

Every plane, train and bus operating between the community in which the darkroom is located and the important points thus served can be listed on these schedules so that they'll be handy when they are needed. The schedules should be made out so that the arrival times at the destination are in sequence. This means that there will be planes, if they serve your community, leaving hours behind the trains, yet arriving at the destination hours ahead. If you do not care to make out such a list, be sure and keep timetables of the various routes handy. Make it a point to memorize, at least approximately, the time of departure for the best connections.

Practically every air line in the country today carries air express. This is the fastest method of shipping press photographs or negatives for long distances, with the exception of specially chartered planes. It is faster than special delivery air mail in every case. If the negatives are to be taken to the airport by the photographer or a driver, a further gain in time is made, and if the plane is met by a man from the newspaper or news agency to whom the package is sent, the gain is still greater. Most air express systems operate a pick-up and delivery service which is very reliable, although more time is required to reach the addressee under this method of handling. It is always a somewhat more expeditious service than air mail, special delivery service. However, it is an expensive service for small shipments. On lines which do not carry express, arrangements can usually be made with the management for the pilot to carry the package to the destination.

If the package is being shipped via air mail, be sure that special delivery postage is also added so that the benefit of the fast transportation between cities can be used to the fullest advantage. If the special delivery service is not paid for, the material will be held for regular deliveries. For instance, if a print is air mailed from some middle

western city to New York, it may arrive in the afternoon after the last regular delivery has been sorted. This package is then put away for delivery the next morning, thus nullifying the effect of having been shipped by air. However, if the package has been stamped for special delivery, also, it will be sent to the destination within an hour after it reaches the postoffice.

Regardless of the speed of air mail, it should not be used for short haul traffic unless it reaches the community for which it is consigned at least an hour ahead of a train. Remember that it takes from an hour to two hours for mail to get from the postoffice to the airport and again to a postoffice in the distant city. Instead, send the material via regular mail, special delivery, or better still by train messenger. The latter is the best method of handling important news photographs on short hauls. Arrangements can generally be made through the management of a railroad in your city to have any baggageman, conductor, or brakeman on passenger trains carry emergency shipments of news pictures. They are usually glad to cooperate. If they won't cooperate, it is simple enough to find a Pullman porter or brakeman who is willing to listen to reason — the reason being a generous tip, usually a dollar or two. When attempting to bribe a Pullman porter into carrying photographic material, be sure there isn't a conductor or railroad detective standing near by or you may find yourself facing charges of trespassing on railroad property. It usually is a simple matter, however, to get to a porter. If he is willing to carry the material, tell him he will be paid at his destination. Some, but not many, will balk at that idea. In that event, you'll have to pay him yourself, but it is always collectible on an expense account, particularly if the train messenger service has been ordered.

When you send material by air express or train messenger, be sure and wire the information to the newspaper or agency to whom it is consigned, via day or night press rate collect. This rate is one third and one sixth the regular service charge and is, in addition, tax free. Do not, under any circumstances, attempt to send any personal message in this fashion, as you will then be guilty of violating the federal tax laws, a serious offense. The message should be worded something like the following:

In the case of train messenger service:

Mirage in the California Desert *Edward P. McMurtry*

Although many photographers have observed a mirage, most of them have been of the opinion that it can not be photographed. That this is erroneous is conclusively proved by this picture, although the shot had to be made from many miles away, and only a portion of the negative used. Nature freaks are always good sellers.

" Porter car eighty-four arriving pennrr eight ten pay (name amount) " or,

" Brakeman arriving train forty-four has pix pay nothing."

The second type of message can be used regularly where there is but one train serving the city to which the picture is consigned and where the party carrying the picture is paid at the start. Where there are two or more railroads serving the same city, always designate in some abbreviated but legible form the name of the road.

Where a package is sent air express, the message can read something like this:

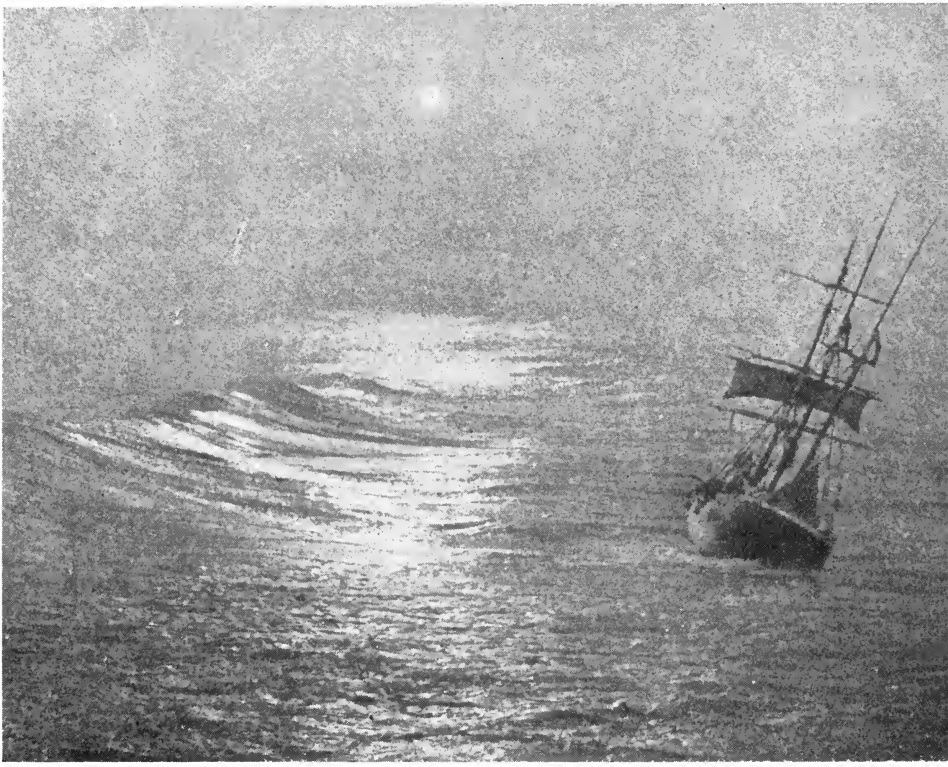
" Meet (name line) plane arriving (name time) has pix."

Most bus lines today operate a small package carrying service which is excellent for short hauls of fifty to one hundred miles. Their speed is so slow, however, that trains or planes will usually beat them to the destination on longer hauls. A similar message should be sent to the consignee in such cases as when air express or train messenger service is resorted to.

Always keep your telegrams as brief as possible consistent with clarity. Don't punctuate the telegram. Punctuation, even a comma, counts as a word. Don't waste a lot of words describing the picture in your telegram. That should be in the package containing the material. And remember that even the big picture agencies are just as anxious to save a few pennies as you are.

If the picture is being sent through on your own account and not on an order from the paper or agency, it is well to say, in one word if possible, just what the picture is going to be so they can be prepared to handle it. For instance, if you are sending them a picture of an explosion, the one word " explosion " or " blast " will describe what the shipment contains. " Crash pix " will tell the editor you have an airplane crash picture on the way to him and " wreck art " will tell him you have a train wreck or an automobile collision picture on the way. Remember that the news agencies and newspaper editors keep a constant eye on leased wire reports of leading press associations which have the news just as rapidly as yourself — or perhaps faster.

One more point in conclusion. Never send material or plates, whether they are developed or undeveloped, through the mail as parcel post. Doing this subjects them to postal inspection. Send them



Stranded Fishing Vessel — *W. R. Henry*

A lucky snapshot of a sinking vessel. Such a picture as this is apt to be pleasing to editors and will probably bring a good price.

first-class mail, three cents an ounce, and be sure to label them " photographic materials " or some similar notation describing the contents. Above all, use the most efficient means of transportation in keeping with the importance of the materials. If it is really hot news, air-express it, or train-messenger it. If it is a feature that has no spot news story, send it regular mail, either with or without special delivery stamps affixed. Don't make a nuisance out of yourself by sending the editor air-express package after air-express package of photographs which are of no news value. Learn to judge news as news and handle it accordingly.

Chapter XII

GETTING TO ASSIGNMENTS

ONE OF the most frequent problems encountered by the average news photographer is that of getting to his assignment. The photographer on the big daily newspapers or one who is working with a news-service bureau is usually not hampered by this problem quite as much as the free lance. Yet both have their problems. They can not be eliminated completely. The best that can be done is to simplify matters as much as possible.

Newspapers usually operate within a radius of ten or fifteen miles in small communities. This distance may extend for fifty to one hundred miles in big cities, although most of the work is confined to a radius of twenty or thirty miles from the home office. Free lancers, generally speaking, cover a radius of ten or fifteen miles. Some handle a territory of fifty miles radius but these men are exceptional. The free lancer, however, is not confined to any one district. He may work in one community one day and another the next. There are many photographers today who do nothing but cruise about the country, taking news and feature pictures as they go. The most remarkable part of it all is that they make money doing this. Of course, they may take a portrait here and there or otherwise ply their trade, but essentially they are free-lance news men at heart.

One photographer I know has cruised about the country for a period of years and has made money doing it. He manages to arrange his travels so as to be at important sports events when they are scheduled. That means money in his pocket. This man exercises all of his activity east of the Mississippi River, but charts his course so he is in the north during the summer and in Florida during the winter. He has good newspaper contacts in each section and his clients number some of the biggest newspapers and syndicates in the country. At times, of course, the profits are small, but then he manages to pick up a few dollars selling photographs to owners of boats, horses, etc. In

the spring, he tours the training camps of the big league teams and sells enough pictures to pay his expenses, or at least most of them, on his tour in the north. A similar scheme could be worked out by almost any photographer, if he is a go-getter. The thing to decide, if you are free lancing, is just what size field you will cover. Once that is decided, you can proceed on the same basis as though you were working for a newspaper or news service.

The four most important ways of getting to assignments are by automobile, airplane, train or boat. There are some assignments which take the photographer on horse, burro, mule or, in some instances, on foot. The problem is to make the best selection of what is available and then do as well as you can with it.

Automobiles are most frequently used. Some of the bigger newspapers are using motorcycles with sidecars, but this is done more for speed than for economy. The main thing is to get to the assignment as fast as possible, speed laws notwithstanding. One photographic agency employs a driver who guarantees an average speed of a mile a minute, regardless of road or traffic conditions. His best records are seventy-two miles an hour for a run of one hundred and eighty miles, and sixty-eight miles an hour for a run of more than three hundred miles. The first of these records, by the way, was made on heavily traveled highways. But for the average assignment such speeds are not required. Drive as rapidly as consistent with safety, is the rule of most of the newspapers and news services.

In what radius is an automobile the best mode of transportation? That is a question often asked. If the car available is reliable and speedy and there is no convenient airport within a few minutes drive, the radius of operations in an automobile is extended somewhat. In most metropolitan centers, with the exception of Kansas City, airports are usually located in the outskirts of the city. This means a drive of from fifteen to thirty minutes. For the most part, the advantage of an automobile over an airplane is limited to between fifty and one hundred miles. This, of course, applies only when flying conditions are favorable. If they are not, the use of an automobile can be extended indefinitely.

After having decided in what radius you can profitably use an automobile, equip yourself with road maps, good, reliable ones, showing

the main roads and the condition of them in your district. Keep informed about detours in that territory. This can be done either by checking with your automobile club or by consulting the state highway department. Most of the state highway departments issue regular weekly bulletins giving a list of all detours in the state. These are generally supplemented by special bulletins issued in emergencies.

Know the territory in which you are operating, so that you know the routes to the larger communities and learn, if possible, how to avoid large cities in going from one place to another. Large cities mean, in most cases, bad traffic conditions. In inclement weather, it is generally a good policy, unless you know the road is in satisfactory condition, to check with your automobile club as to road conditions over the route you expect to travel.

The photographer should carry liability insurance as well as property damage insurance, to protect his pocketbook in case he is involved in an accident. There is additional protection in collision insurance also, but this costs a great deal. If it can be afforded, it should be carried. But never sacrifice your liability insurance in favor of collision insurance. A slight accident may mean a suit involving thousands of dollars, and a jury's respect for a driver who does not carry insurance is notoriously poor. Ordinary liability insurance policies do not cost as much as a case of plates.

Another thing to remember is never to travel at excessive speed unless you know your car is in good condition. Driving at sixty miles an hour with poor tires is an excellent method of committing suicide, particularly if the bad rubber is installed on the front wheel of a car.

If you can get permission to use a siren on your car from the local police department, it is an excellent piece of equipment. This can be arranged in most cases if you promise to use it only in emergencies. In most police departments, the officers have an excellent habit of not seeing violations of minor laws where a newspaper man is concerned, providing he does not abuse the privileges granted him.

Airplanes are used more and more by modern newspapers and news services in getting to and from assignments. The plane used should be fast and dependable. But despite its speed it should be capable of landing on and taking off from small fields. More than one news-

paper photographer has ordered his pilot into a small field, only to find out that there is insufficient room for a take-off. Despite his fast means of transportation, the photographer is then stranded. Always be sure you have plenty of space for a take-off in any direction when landing. If a landing is made upwind in a narrow field and the wind suddenly veers to a quarter, it means a take-off with a crosswind and it takes an experienced and competent pilot to take a plane off the ground under such circumstances. A map showing the location of airports in your district should be kept in the office, so that decisions can be made as to which one should be used as a base of operations if it is necessary to land at one.

The type of plane used is incidental, although if pictures are to be made from the air, the choice should be one where the windows of the ship can be lowered or removed. If such a ship is not available, it is better to take an open ship or a cabin ship from which the door has been removed. Be sure that the airplane used has a land speed low enough so that a long run is not required to bring it to a stop. Nevertheless, the ship used should have a top speed of at least two miles a minute or more. It should also have a reasonable take-off speed and good climbing ability.

Trains are infrequently used these days, except where the photographer is on an assignment where there is no great rush. Nevertheless, timetables of every road operating through your community should be kept on hand. If you are to take a train, it is a simple enough matter to look up the best one for your purpose.

Boats offer, in many cases, the only means of getting to an assignment. In the case of ship disasters or other water assignments it is usually possible to charter some kind of a boat. In covering regattas this is also the usual procedure unless the photographer can go aboard the judge's boat.

The choice of transportation to an assignment should always be made with the following points in mind; practicability, cost, convenience and speed. Usually, the final selection can be made without any trouble. Travel as light as possible. Don't take a dozen shirts and three or four suits along. Pack two or three shirts in a bag, an extra pair of trousers, a few socks and handkerchiefs. Most hotels can furnish one-day laundry service and there is no need of

burdening yourself with a lot of useless clothing. Don't try to impress people by your wardrobe. Rather, try and impress on your boss that you can turn out the work he wants.

The matter of equipment while traveling is another question. The regular camera outfit and its accompanying equipment, plus a few dozen plates or films, should be sufficient for almost any trip. Always carry enough plates or films so you won't be caught short. Remember, that in many smaller communities you can not purchase a very great selection of plates and films. I have found that a small safelight lamp such as the Brownie is an asset. It can be packed in a suitcase without any difficulty and will convert any hotel bathroom into an emergency darkroom if necessary. If developing of plates and films is to be done by the photographer on the road, a few trays can be packed in the bag. By using Tabloid developers and a few small packages of an acid fixing powder there need be no danger of a bottle of solution breaking. A small ferrotype tin, for drying prints if they must be made, may also be put into a suitcase without any difficulty, while a printing frame can be fitted into a case without trouble, giving the newsman a complete darkroom if necessary.

In most communities, a photographer can usually be found who will let you use his darkroom for a small payment. Still it is a good idea to carry the emergency equipment with you, just in case you can't make connections. Here is the list, for plates up to four by five inches, of all the necessary equipment to turn a hotel bathroom into an emergency darkroom:

Three small trays (composition trays will serve the purpose).
One safelight lamp (such as the Brownie).
One four by five printing frame.
One package of Tabloid developer (whatever type preferred).
One or more packages of acid fixing powder.
A few dozen sheets of printing paper (any developing-out paper will do).

For mixing chemicals, a spoon can be obtained from the hotel where you stop and water used in mixing chemicals may be measured with sufficient accuracy with a water glass, which usually holds ten ounces. The technique of developing by tray and the usual routine of process-

ing is so well known, it is not repeated here. Details of the technique of developing and printing can be found in any elementary photographic book.

Changing bags are handy things to have on an assignment where more exposures may be made than can be handled by the number of plate or film holders the photographer possesses. These bags may be used for unloading and loading plates even in the open and give you a portable darkroom no matter where you may be. Film packs can also be carried in such emergencies to do away with the danger of running short of film. It is always a good plan to carry a pack or two of films with you for emergency use.

Despite all the equipment here listed, the photographer can get along with nothing more than the case containing his camera and auxiliary equipment, and a suitcase for clothing and processing equipment. If many assignments are received that take the photographer on the road, it may be well to have the suitcase fixed in such a manner that the equipment will always be in its place. The one cardinal rule is — when you travel, travel light.

Chapter XIII

EXPOSURE

PRESS PHOTOGRAPHY, as the reader has seen, is made up of a number of links all of which have an importance in themselves. Exposure is one of the links that go into the chain which finally becomes press photography when all are forged into one continuous whole.

The importance of correctly exposing the photographic negative in press photography can be realized instantly when a little thought is given to the type of subjects which the press man is required to portray. Although he may be up against an assignment requiring the picturing of a speeding airplane or automobile or a police raid in which action is moving at a break-neck pace or a riot in which the photographer may be looking for suitable subjects and dodging tear gas and bullets at the same time, he must get the picture, and be sure he has it. Such subjects, which are the ones of real spot news value, don't come back to be remade. They have to be made on the spot, and one exposure must guarantee that the image is on the emulsion.

Frequently the choice of shutter speed and lens opening must be made on the spur of the moment with no time given to thoughts about exposure meters. Such exposures are based upon experience, and the decision is usually fairly accurate; at least the latitude of the negative emulsion and range of papers available will make up the difference.

Many newspaper photographers look with scorn upon such contrivances as exposure meters. Generally, the exposure can be estimated with sufficient accuracy to get a fairly decent looking print. Modern emulsions have a very great amount of leeway in this matter, though it is always better to get the exposure as nearly accurate as possible. Yet an exposure meter is a useful piece of equipment. It will be found most useful, of course, in assignments where the light can not be judged accurately. Such assignments are numerous in the newspaper world. Fires are possibly the most frequent assignment

where the available light can not be judged accurately, particularly when it is a big fire at night. The difference in the color of the flames will make a formidable difference in the exposure in much the same way as a filter will change the exposure required.

Exposures are based upon four fundamentals; the light available, the emulsion being used, the shutter speed, and the diaphragm or stop that is used. Although high-speed lenses are recommended for press photography, they are not used at their full aperture all of the time. In fact, the full opening is rarely used, but when it is needed, it is needed badly.

There is one really important rule in all photographic exposures. Expose for the shadows. If you will do that, you will be sure to have a usable negative. The highlights may be overexposed but this can be controlled in development.

Taking the first of the important points, light, it will be seen that this will vary from hour to hour, from day to day and from season to season. One learns to judge light with practice, but there are times when even the best worker will err. If you have any fear of not being able to judge the light correctly, use an exposure meter. There is more light reaching the earth's surface at noon in any one particular locality than there is at dawn. Similarly, there is more light available in June than there is in January. Exposures should be made accordingly. Give more time in January than in June or use a considerably faster plate or film.

Second in our list comes emulsion. These vary very considerably in speed. Exposures will vary for each different type.

Shutter speeds and the size of the aperture are usually thought of together, although they are two different adjustments. For any given light, increasing the shutter speed requires increasing the size of the aperture, and *vice versa*. There is no cut and dried rule to apply here, the subject invariably dictating the way in which these adjustments are to be used. For instance, it is foolish to use a shutter speed of 1/500 or 1/1000 second in photographing an ordinary street scene, building or group. In such cases, a speed of about 1/100 will be found to be more nearly correct, while at the same time it gives the operator a chance to use a smaller aperture and consequently secure greater depth of focus. Don't attempt to stop the action of a speed-

A Typical High-Speed Exposure *James C. Kinkaid*

With the modern fast emulsions and wide aperture lenses now available for press cameras exposures such as this can be made with full detail.

ing automobile, a racing airplane or a running horse with such an exposure. The result will be a blur on the negative from which no print for newspaper use could possibly be made. The distance of the moving subject from the camera is another point which must be considered. Where a lens of short focal length is used, the exposure may be longer at any given distance from the subject than that required when a longer focal length is used. This rule may also be reversed.

It is when such high speeds are employed that lenses of large aperture are necessary. With the high-speed emulsions now available, which are faster by two hundred percent and more than par-speed materials, it is often possible to reduce the size of the aperture from its maximum, even when exposing at 1/1000 second. These instances are rare, however, and it is usually necessary to use the largest possible aperture.

For portraits, group work or other close-ups, when the subject is in shade, or for near subjects under a dull or cloudy sky, the lens will probably have to be used at full aperture in order to use a shutter speed sufficient to prevent movement, if the camera is held in the hands. Some persons can not hold a camera in the hand steady enough to allow a picture to be taken at speeds slower than 1/50 second. Others experience no difficulty in holding the camera steady enough to enable a picture to be taken at 1/10 second, although it must be said that such persons are few and far between. Nevertheless, where the camera is being used in outdoor work with a breeze blowing, anything below 1/40 or 1/50 second is risky. For slower exposures than can be made safely by holding the camera in the hands, a tripod should be used, or the camera mounted on some other firm support.

When using a camera of the focal-plane type, the only lenses that can permit the camera's use in all its flexibility are those of large aperture, *f*:4.5 and above. For average work, including exposures in moderate speed work under favorable conditions, stops as small as *f*:5.6, *f*:6.3, and *f*:8 may sometimes be used without difficulty. Smaller stops than these are not usually recommended for instantaneous work.

Under practically all conditions indoors where auxiliary lighting is

not used or when working under very adverse conditions, even larger stops, such as those possible with an *f*:3.5 or *f*:2.5 lens, are desirable.

It is a good habit to practice using, at all times, the slowest shutter speed practical under the circumstances. This will permit a smaller stop to be used, and the smaller the stop, of course, the greater the depth of focus. Naturally, where a very limited depth of focus is wanted, the order of things should be reversed, i.e., a larger stop should be used and the shutter speed increased. For example, if you desire a limited depth of field in a negative which would normally be made at 1/50 second with the lens stopped to *f*:8, the lens may be stopped to *f*:4 and the shutter speed stepped up to 1/200 second. The exposure would be approximately 1/180 second with an *f*:4.5 lens.

Whatever shutter speed and lens stop is used, the one thing to remember is that the exposure should always be ample to insure a fully timed negative. Remember always, it is far better to overexpose a negative than it is to underexpose it.

The actual diameter of the stop opening does not determine the speed of a lens. This depends entirely upon the relative aperture or the relation that exists between the actual aperture and focal length of the lens. Two lenses may have the same actual aperture, yet be entirely different in speed. For example, we can have two lenses with an actual aperture of one inch, one a four-inch lens and the other with a focal length of eight inches. In the first instance, we will have a lens with a relative aperture of *f*:4, while the eight-inch lens will have an aperture of only *f*:8. In this case, both lenses have the same actual size of aperture yet the one with the shorter focal length is exactly four times as rapid as the eight-inch lens, if both are constructed with the same types of glass. If the four-inch lens is stopped to *f*:8, or an effective aperture of one half inch, both lenses will have the same speed. This example holds true with all lenses.

With these points in mind, we can continue our discussion. If a lens does not give sufficiently sharp images of objects at different distances, it can be made to do so by stopping down or by getting farther away from the subject.

All three of these points, the focal length of a lens, the speed of the lens, and the shutter speed, are illustrated in the next few paragraphs.

Suppose we are required to work at a short distance, say fifteen to eighteen feet. The subject is a group, and although there is a little movement, we decide to give an exposure of 1/160 second, thus obviating any possibility of blur either from movement of any person in the group or from possible movement of the camera. The photograph is being made shortly after noon in bright sun, so that we can easily stop our lens to *f*:8 without fear of underexposure, with the particular emulsion we are using. But should we desire more depth of focus, we can stop down the lens to *f*:11 and reduce the shutter speed to about 1/80 second, and obtain approximately the same result.

But supposing we are required to make a photograph of a similar group late in the afternoon and in addition the sky has become clouded. To expose at the same shutter speed and stop we used in the first example would mean that our negative would be badly underexposed. In such cases, the reserve speed of our lens is called into use. We make the exposure with the lens at *f*:4.5 and with the shutter set for 1/160 second. The result is a negative which will give an excellent print. Here, however, we would have to arrange our entire group so that it is in focus and we could not expect detail in the foreground or background to be sharp. The essential thing is to get the principal figures in exact focus.

For our last example, we have a similar group which must be photographed still later in the afternoon, but in this instance we are not working in cramped quarters as we were before. We know our emulsion will require an exposure of 1/80 second at *f*:4.5 to insure a good negative. We would like to have as large an image of the group as possible, with good depth of focus. If we work too close we have to stop down the lens, getting serious underexposure, or otherwise get only a portion of the group in good focus, using the lens at its full effective aperture. We decide that it is unwise to chance either of these results. The only alternative is to get farther away from the subject. Instead of working comparatively close to our subject, we must move back to perhaps twenty or twenty-five feet from the group. Although each of the figures in the group will be smaller, the entire group will be in sharp focus. With all of the group sharply defined in the negative, it is a simple matter to correct

the smallness of the image through enlarging. Not more than sixty percent of the area of most press negatives is ever used in making the final print, so a small image is not a serious disadvantage. In fact, even with little care in processing the negative, an enlargement of five linear diameters should not be beyond the range of any emulsion. The usual press enlargement will not be more than three linear diameters, if that large.

For much press work in the late afternoon, or at almost any time of day during the winter months, in the United States, very slow shutter speeds or time exposures are required. In such cases the camera must be placed on a firm support, preferably a tripod. When mounting the camera on the tripod, be sure the lens board is directly above one of the tripod legs. This will serve to support the weight of the camera more evenly and obviate movement of it, and also make leveling of the camera easier. It also makes it possible for the operator to move the tripod more easily, by grasping the two rear legs in his hands near the top and holding the front leg with the index fingers of both hands. In this way, the tripod may be moved without any difficulty and without fear of toppling it.

For photographing a subject in deep shade, for portraiture at close range, and for indoor portraits in exceptionally good light or wherever there is no movement or only very slight movement, a shutter speed of 1/25 or 1/40 second is recommended in most cases. However, if the subject requires such an exposure with an *f*:4.5 lens, it is usually wiser to make the photograph with a Photoflash bulb when working for the press.

For ordinary photographs of street scenes and other general out-of-door hand-camera work where action is not excessive, exposures of from 1/160 to 1/110 second are usually about right. For general all-round work, shutter speeds in this range will probably be the most frequently used in outdoor press work. Where people are moving briskly in the range of the lens or for street scenes with automobiles, the exposure must be cut down to from 1/250 to 1/350 second. This also applies to the making of exposures from a moving object, such as the deck of a boat. In fact, this exposure range will cover all work where action is brisk.

If you are using a focal-plane camera, it is better to use a narrow

slit in the shutter curtain with a larger stop in the lens rather than a wider slit and a smaller lens opening. The curtain tension may also be varied in such cases. This will tend to avoid distortion on rapidly moving objects. For extreme speed, such as is encountered in athletic sports, the shutter speed will range from 1/350 second up to the capacity of the shutter, whether it is 1/1000 or 1/2000 second or faster. In such work, always compute the shutter speed to be used from the standpoint of the possibility of movement in the subject. This rule can be applied to all photographic press work.

No set rules can be established for photographing subjects of any type at any given time during the day. This will be decided by the season of the year, the hour of the day, the emulsion used and other factors. For general assignments, however, where light is good, say between ten in the morning and two in the afternoon in the winter and between nine in the morning and four in the afternoon in the summer, the lens may be stopped down to *f*:8 without difficulty. When the light is exceptionally good and where shutter speeds are not in excess of 1/350 second, stops as small as *f*:11 may be used. It is seldom, however, even when using high-speed emulsions, that smaller stops can be used. Large-aperture lenses are particularly useful when the light is dull and weak, or where the light is tinged with red. Such lenses are also of great value when photographing children, particularly when they are actively at play.

Regardless of all that may be written concerning exposures, all rules that may be laid down for the use of any camera are subject to exceptions and variations, and the worker will have to learn when to make exceptions to those rules.

The day when automobiles of the racing variety and airplanes or for that matter, even boats, were capable of speeds of only sixty miles an hour is past. Today, the news photographer is required to photograph planes roaring through the air at speeds of upwards of three hundred miles an hour, racing automobiles ripping along a track at more than two hundred fifty miles an hour and speed boats splitting waves at two miles a minute. Yet the news photographer will hear his editor tell him: " I want a clear picture of that plane."

Here the photographer is up against a problem. The average press camera shutter has a maximum speed of from 1/1000 to 1/2000

THREE-FIFTY AN HOUR *James C. Kinkaid*

The photographer has successfully stopped motion in this high-speed shot, by following the airplane with his camera, which caused the blurred background.

second. With this, he must make a photograph of a plane roaring along at say five miles a minute or more. As a result, it is impossible to stop the action of the moving subject without blur, if the camera is held absolutely immovable in the hands or on the tripod.

In making such pictures, however, the news photographer is generally more concerned with showing the main object in the photograph clearly and distinctly than in having the entire negative unblurred. With this in mind, the speeding airplane can be photographed. So can the speeding automobile and speeding boat. The secret of this work is to follow the object with the camera throughout the exposure. If this is not done, the object will take on a weird slanting appearance on the negative and print. It is also usually necessary to take the photograph from a slight angle to the actual line of travel in which the object is moving, the nearer head-on, the better. For all high-speed work, a lens of short focal length can be used at a more acute angle than one of longer focal length at any given exposure speed.

The distance from the object to be photographed also has a great deal to do with the shutter speed necessary to stop motion in the subject. This can easily be seen when a little consideration is given to the speed of an object crossing the negative at varying distances from the subject. Suppose, for instance, that an image crosses the ground glass at the rate of one inch in a second when the camera is twenty-five feet from the object being photographed. If we get back twice the distance, i.e., fifty feet from the object, the rate of travel across the ground glass will be reduced to one half inch every second. At one hundred feet from the object, the image will move at the rate of one quarter inch a second, while if the camera is two hundred feet away, the movement will be at the rate of only one eighth inch a second. When taking a news photograph, though, it is necessary to have a good-sized image on the negative in most cases. Therefore, it is not advisable to get very far away.

When the object is moving at extremely high speed, it is necessary to follow the subject with the camera throughout the exposure. The best means of doing this is to use a direct-vision view finder, sighting the subject exactly in the center of the finder. This is easy enough, because such finders invariably have hair lines crossing in the center.

In making an exposure in this manner, it is absolutely necessary to keep the moving object directly in the center of the finder without movement either horizontally, vertically or diagonally from this position. If the camera does not follow the plane exactly in its path, the negative will be blurred even more, in most cases, than if the camera were held still. The background and foreground in such pictures will be blurred, but as has already been said, this is usually immaterial in press work. The main thing is to get the important object defined sharply.

Inasmuch as the Graflex and Graphic cameras are most generally used in the United States for news work, the following exposure and stop-motion tables are given for the shutter speeds available on these cameras. If you are using a different camera, use the nearest available shutter speed. All the tables are given for a lens stopped to *f*:8. For stops larger or smaller than this, the shutter speed should be halved for each succeeding larger stop or doubled for each succeeding smaller stop. The stops marked on the lenses generally in use in this country are *f*:4.5, *f*:5.6, *f*:6.3, *f*:8, *f*:11, *f*:16, *f*:22, and *f*:32. An *f*:3.5 or faster lens is used on many of the miniature cameras.

The first group of tables is for distant landscapes, mountains and vessels, very open beach views, snow scenes and river views, planes in flight comparatively high in the air, and open views from slow-moving trains. In this group, average exposures are in fractions of a second:

Northern Hemisphere	*May, June, July, Aug.*		*Mar., Apr., Sept., Oct.*		*Jan., Feb., Nov., Dec.*	
	9 A.M. to 3 P.M.	7 A.M. and 5 P.M.	10 A.M. to 2 P.M.	8 A.M. and 4 P.M.	11 A.M. to 1 P.M.	9 A.M. and 3 P.M.
Bright sun	1/350	1/160	1/295	1/135	1/235	1/110
Hazy	1/195	1/90	1/160	1/75	1/135	1/65
Cloudy dull	1/80	1/50	1/65	1/40	1/50	1/35
Southern Hemisphere	*Nov., Dec., Jan., Feb.*		*Sept., Oct., Mar., Apr.*		*July, Aug., May, June.*	

The second group of exposures is for open landscapes, roads and fields, snow scenes, nearby beach views and vessels, light buildings, and athletic events where action is not moving exceptionally fast. The approximate exposures are:

Northern Hemisphere	*May, June, July, Aug.*		*Mar., Apr., Sept., Oct.*		*Jan., Feb., Nov., Dec.*	
	9 A.M. to 3 P.M.	7 A.M. and 5 P.M.	10 A.M. to 2 P.M.	8 A.M. and 4 P.M.	11 A.M. to 1 P.M.	9 A.M. and 3 P.M.
Bright sun	1/195	1/110	1/160	1/90	1/135	1/75
Hazy	1/110	1/65	1/90	1/50	1/65	1/40
Cloudy dull	1/65	1/35	1/50	1/30	1/35	1/25
Southern Hemisphere	*Nov., Dec., Jan., Feb.*		*Sept., Oct., Mar., Apr.*		*July, Aug., May, June.*	

For open park views, snow scenes in which there are nearby objects, larger figures or groups in the open, vessels at wharves, medium light buildings, light wide streets, and similar subjects the following classification of shutter speeds is recommended.

Northern Hemisphere	*May, June, July, Aug.*		*Mar., Apr., Sept., Oct.*		*Jan., Feb., Nov., Dec.*	
	9 A.M. to 3 P.M.	7 A.M. and 5 P.M.	10 A.M. to 2 P.M.	8 A.M. and 4 P.M.	11 A.M. to 1 P.M.	9 A.M. and 3 P.M.
Bright sun	1/160	1/80	1/135	1/65	1/110	1/50
Hazy	1/90	1/50	1/75	1/40	1/65	1/35
Cloudy dull	1/50	1/25	1/40	1/20	1/30	1/15
Southern Hemisphere	*Nov., Dec., Jan., Feb.*		*Sept., Oct., Mar., Apr.*		*July, Aug., May, June.*	

Our next classification of exposure speeds takes in scenes in shady parks, figures in the shade of a building, or in direct light where there are dark figures in the background. These speeds are:

A Hydroplane Spill at 48 Miles an Hour *Harry L. Ahlborn*

A remarkable high-speed shot, which caught the unfortunate driver in mid-air just before hitting the water. The photographer has to be on his toes every minute to be ready to catch such chance shots as this.

Northern Hemisphere	*May, June, July, Aug.*		*Mar., Apr., Sept., Oct.*		*Jan., Feb., Nov., Dec.*	
	9 A.M. to 3 P.M.	7 A.M. and 5 P.M.	10 A.M. to 2 P.M.	8 A.M. and 4 P.M.	11 A.M. to 1 P.M.	9 A.M. and 3 P.M.
Bright sun	1/110	1/65	1/90	1/50	1/80	1/40
Hazy	1/65	1/35	1/50	1/30	1/40	1/25
Cloudy dull	1/35	1/20	1/30	1/15	1/20	1/10
Southern Hemisphere	*Nov., Dec., Jan., Feb.*		*Sept., Oct., Mar., Apr.*		*July, Aug., May, June.*	

Our final table includes the range of very poorly lighted subjects found in outdoor general assignment work. These are shady drives or views with overhanging trees, figures under pergolas, dark city streets, and all such subjects. The exposures are:

Northern Hemisphere	*May, June, July, Aug.*		*Mar., Apr., Sept., Oct.*		*Jan., Feb., Nov., Dec.*	
	9 A.M. to 3 P.M.	7 A.M. and 5 P.M.	10 A.M. to 2 P.M.	8 A.M. and 4 P.M.	11 A.M. to 1 P.M.	9 A.M. and 3 P.M.
Bright sun	1/50	1/30	1/40	1/25	1/35	1/20
Hazy	1/30	1/20	1/25	1/15	1/20	1/10
Cloudy dull	1/20	1/10	1/15	1/5	1/10	1/2
Southern Hemisphere	*Nov., Dec., Jan., Feb.*		*Sept., Oct., Mar., Apr.*		*July, Aug., May, June.*	

The above schedules of exposures are given for par-speed materials, these falling into the ratings of approximately 17°–18° on the Scheiner scale or about 400 H and D. They are also intended for use within about five degrees of a latitude of 40°. Farther north, the exposures will need to be longer, while farther south, they may be shortened. If a faster emulsion is used, these exposure speeds may be increased accordingly.

When it is considered that there are now on the market negative materials rating at 27° Scheiner, it can easily be seen that if an ex-

posure on par-speed material at *f*:8 is 1/50 second, an exposure of 1/250 second is possible with an extremely fast emulsion at the same stop, while if the lens can be opened to *f*:4, 1/1000 second may be given and the negative will be fully exposed.

We can now turn our attention to the means of stopping motion in making a photograph in which the subject is moving. Our tables are for the most frequently used lenses in press photography, as far as their length of focus is concerned.

For five miles an hour at right angles to the camera:

Distance from camera to object	*Focal length in inches*				
	4 1/2	5 1/2	6 1/2	7 1/2	10
25 feet	1/110	1/135	1/160	1/235	1/440
50 feet	1/90	1/110	1/135	1/160	1/235
100 feet	1/90	1/110	1/135	1/160	1/235

Minimum speeds for exposures in which the object is moving at ten miles an hour with the camera still at right angles to the subject:

Distance from camera to object	*Focal length in inches*				
	4 1/2	5 1/2	6 1/2	7 1/2	10
25 feet	1/235	1/295	1/350	1/440	1/680
50 feet	1/110	1/135	1/160	1/235	1/440
100 feet	1/90	1/110	1/135	1/160	1/235

Our exposure speeds must at least be the following in order to stop motion in objects moving at twenty miles an hour:

Distance from camera to object	*Focal length in inches*				
	4 1/2	5 1/2	6 1/2	7 1/2	10
25 feet	1/440	1/550	1/680	1/825	——*
50 feet	1/235	1/295	1/350	1/440	1/825
100 feet	1/110	1/135	1/195	1/235	1/440

* The ten-inch lens can not stop motion of an object at this speed or higher unless it is so placed that the object is coming toward the camera or at an angle

At speeds of thirty miles an hour, we find that only the three smaller lenses listed in these charts are capable of taking pictures of moving objects at right angles at twenty-five feet. The 7½ inch lens is capable of taking pictures at this speed if placed at a 45° angle to the path of the subject, at twenty-five feet distance with a shutter speed of 1/825 second. For right-angle exposures, the following shutter speeds are required:

Distance from camera to object	*Focal length in inches*				
	4 1/2	5 1/2	6 1/2	7 1/2	10
25 feet	1/680	1/825	1/1000	——	——
50 feet	1/350	1/440	1/550	1/680	1/1000
100 feet	1/160	1/235	1/295	1/350	1/680

We now step into the high-speed division, where we encounter speeds of sixty miles an hour. Here we come up against such speeds that it is impossible to make our exposures at right angles to the subject, unless we are using a lens of very short focal length. However, at a 45° angle with the subject, the 4½ inch lens is capable of stopping motion with an exposure of 1/1000 second at twenty-five feet. Right-angle exposures can be made with this size lens at fifty and one hundred feet by using exposures of 1/680 and 1/350 second, respectively.

The other lenses in this class must be used with the object moving toward or away from the camera at twenty-five feet. The exposures are; 5½ inch lens, 1/550 second; 6½, 1/680, and 7½, 1/825.

At fifty feet, we must place the 7½ inch lens at a 45° angle to the object in order to stop motion at 1/825 second. The ten-inch lens cannot stop motion even with the object coming toward it, at this distance. However, right-angle exposures may be made at this distance with the other lenses we are discussing at exposures of 1/680 second with the 4½, 1/825 with the 5½, and 1/1000 with the 6½ inch.

---

from the path of the object. In order to photograph an object in this category with a ten-inch lens it is necessary to operate the shutter at 1/1000 second while standing at less than a 45° angle from the path of the subject.

A Silhouette Study of Horse and Rider *Alton Hall Blackington*

Finding the hour late and a speedflash out of the question, the photographer utilized a flaming sunset sky for a background and got such an unusual picture that both the sporting editor and the rotogravure editor used it. Another photographer with no imagination, might have left the scene without making a shot.

At one hundred feet, we can take right-angle exposures with each of our lenses, at the following speeds; 4½, 1/350 second; 5½, 1/440; 6½, 1/550; 7½, 1/680; and 10, 1/1000.

In each case where the figures are given for right-angle work, one-third of that exposure will stop motion in objects moving toward the camera or away from it, while two-thirds of it will stop motion at an angle of 45°.

Just a word as to what each class of speed includes in the way of subjects before we close this discussion of exposures. Pedestrians, cattle, and average views will usually be included in the five mile an hour class. Street traffic in congested areas, children playing and slow boats can be classified as ten mile an hour subjects. Almost all athletic events and auto traffic can be classified in the twenty mile an hour section although the latter may often range into the thirty mile an hour group and higher. Horse racing, diving, and views from trains can generally be made in the group of thirty mile an hour subjects. Automobile and motorboat races, motorcycles, slow airplanes and trains, except the new streamlined expresses, can be gathered under the sixty mile an hour heading. Many of the board and brick track automobile events travel at paces far in excess of these figures, although the dirt track drivers usually are near this speed.

The whole thing is to have a general knowledge of just what speeds your lens is able to stop and to make the best of it. But always remember that light cannot affect a negative and form an image unless it is given enough time to do it. Therefore, if there is any question in your mind about the exposure time, overexpose the negative or use a good exposure meter.

Chapter XIV

PRINTING AND ENLARGING

ALL THE KNOWLEDGE and skill of a news photographer in getting his picture and all his care in processing the negative may be wasted if the final print will not make a satisfactory halftone. Care should be taken in printing or enlarging to produce a print that will make a good halftone engraving. The print must be sharp and have good gradation and contrast. Highlights and shadows must not be blocked up, i.e., over- or under-exposed. There should be detail in both and a wide range of tones between them.

In order to make satisfactory prints from various types of negatives, papers of varying contrast are available. There are two essentials in turning out good prints, by contact printing or by enlargement; the first of these is choosing the proper grade of paper and the second is correct exposure upon the paper. Both of these are governed by the negative. Contrast in the negative is measured by the difference in density between the shadows and highlights. The density of the blackest highlight in the negative determines the correct exposure for printing.

The various contrasts available in papers make it possible to counteract, to a great extent, variations in the exposure and the time of development of the negative. In contact papers, there are as many as six different contrasts to choose from, ranging from extremely contrasty emulsions used in printing negatives where there is little range in contrast, to very soft papers, used where the highlight density is far greater than that of the shadows. Soft negatives are printed on hard papers and hard negatives on soft papers.

Between the extremes of soft and hard negatives there is a long range of differing contrasts, which can only be recognized by experience. Difference in density of highlights will also be judged with ease after a few weeks' experience in printing and, inasmuch as ex-

posures vary in almost every enlarger and on every different type of paper, no set rules as to exposures can be given.

In all photographic work, the print is the final and supreme achievement and the only positive test of a print as far as news photography is concerned is the kind of halftone it will make. If the halftone is flat and colorless and has little gradation, the print has not been correctly made. The same applies to halftone engravings in which contrast is intense, with shadows without detail and highlights blocked up.

Papers suitable for the production of news photographs range from slow chloride papers to very rapid bromide papers. Some news syndicates, using special enlargers, use chloride paper of a good grade; others use bromide paper. Most of the news prints are made on a few popular papers. These are Eastman News Bromide, supplied in four grades of contrast, Gevaert Novabrom, Wellington Press Enammo, and Agfa Brovira.

The usual choice of a printing paper should be a single-weight, glossy paper. This is the most satisfactory for news work and is liked best by engravers. Double-weight papers make the working up of layouts more difficult, when one print overlaps another. Buff and other colored papers are not well liked by most engravers, although good halftones can be made from them. The chief disadvantage in using buff paper is that it requires an increased exposure in the engraving room, but all the details can be brought out just as well in a buff print as in a glossy white-surfaced print. Eastman D-72 formula, given in the chapter on developing, can be used for developing press prints, whether they are on bromide or chloride papers. Use the ordinary fixing and hardening bath for fixing prints as given in a preceding chapter.

What size should the final print be? Strictly speaking, a news print does not need to be eight by ten inches, as is the popular belief. A good print, four by five, with plenty of detail, will generally be accepted if it is of sufficient news value. If you have no enlarger and are using negatives four by five or smaller it is better to send the negative to the newspaper or news service. This will permit the editor to decide whether to use the print as it is or make an enlargement, as in copying a small print there is a slight loss of detail.

Even if you have an enlarger, it is not always necessary to submit eight by ten prints. Six by eight may be used instead of eight by ten. The difference in cost of the paper is more than two dollars a gross, which is a substantial saving. The photographic news services sometimes use five by seven or six by eight prints. Five by seven is used mainly for printing heads and other subjects to be used in a single column. The larger sizes are generally used when a print will probably occupy two or more columns. Always use the larger size paper in printing a group of persons or any picture where the interest is spread over a comparatively wide area in the negative.

Generally, the negative is put into the enlarger or printer with the emulsion side toward the paper. However, in enlarging a rush job the negative may be reversed and the glass or shiny side of the negative face toward the paper. This will give a reversed image on the print, but it will save time in the engraving department. As much as ten minutes may be saved by printing a negative in reverse in this fashion. If, however, you submit a print made in this manner, be sure and tell the editor about it so that he will get names and identifications correct in the captions.

There is very little in the literature of printing that can not be applied to press photography. Dodges of all sorts are employed, such as adding a little extra metol to a developer to increase the softness of the print or adding hydroquinone to increase contrast. The addition of bromide tends to increase contrast, and prevents fog while forcing the print by long development.

In making an enlargement it is often necessary to give one part of a print more exposure than another. This can be done by using the hand or a piece of cardboard to shield the part that is to be held back. At times, both hands may be required to do this, but it is very easily learned and no trouble is experienced after the knack of doing it has been acquired.

The other dodge is to have a piece of cardboard large enough to cover the entire print, with a small hole in it, holding it directly over the part of the print that needs longer exposure. By varying the distance of this sheet from the paper, the size of the beam of light can be controlled and a longer exposure given where the highlights are blocked up, while, at the same time, the shadows will

not be getting too much exposure. These dodges save scores of prints every day.

The only way to decide whether a print is satisfactory for newspaper use when it is finished is to ask yourself these questions: Is the print contrasty enough? Does it have sufficient gradation? Is the range of tones sufficient? Does the picture tell all or only a part of the story?

If you answer those four questions in the affirmative, send it to the editor's desk. You'll probably make a sale, if somebody else hasn't beaten you to it. Remember, speed counts a great deal in news work and the work may as well not be done at all, if you are going to take days or even hours to get the picture into the editor's hands. But a good print is absolutely necessary in spite of the necessity for speed.

Chapter XV

THE LAW OF LIBEL

THERE IS NOTHING that is more carefully avoided in the newspaper world or which is given more careful thought on the part of editors than what is implied in the single word, libel.

Nothing is more feared in the newspaper world than libel. Yet, a newspaper without libel suits is a newspaper that does not give the public all the news. Sometimes, even a paper that does gamble frequently with the law of libel can not print all the news. Some things must be kept out of the newspaper because of that law which haunts the editor like a nightmare.

Any article or illustration published in a newspaper is libelous if its natural effect on the reader is to make him think worse of a person referred to. It does not matter whether the effect of such a statement or illustration is accidental or intentional. The only question is the actual effect of what was printed.

The libel, as far as the photographer or the editor are concerned, may occur in the illustration itself, in the headline, or in the body of the story or caption accompanying the photograph.

In most newspapers and news agencies, the photographer does not write the headlines or captions, referred to as the cut lines. This work, in the case of a newspaper, is handled by the art or picture editor or by the news editor. However, in branch news bureaus and where free lancers write the captions, it becomes the duty of the photographer to watch out for libel.

Where the law of libel is concerned, one can not be too accurate. Every fact must be correct, every name must be correctly spelled, and people must be correctly identified. Even then you may find yourself involved in a libel suit. But if you have made no mistakes and the facts you stated are true, you can not be found liable under the law, in a civil court. However, if true facts are printed in a malicious at-

tempt to harm the person to whom they refer, you can be found guilty of criminal libel.

There are three important sources of libel suits; cases of mistaken identity, abuse of privilege, and the writing of headlines and cut lines. The abuse of privilege angle of libel is the only one which does not affect, to any great extent, the news photographer. But the photographer must always be on his guard where the other two branches of libel are concerned.

The most common source of liability where the news photographer is concerned is an error in identifying the subject of a photograph. Always carefully check names of persons appearing in your photographs, particularly when one or more of them is charged with a crime. Always be sure that the persons shown are clearly identified by the accompanying lines of type or writing.

A very important point in newspaper work is to take care in writing the caption. Always, under all circumstances, give nothing but the facts. Never imply anything. Such tactics will lead only to trouble. If you have an opinion on a story don't include it in the caption. The editorial writers of newspapers are paid to state opinions; the reporters and photographers are paid to state and portray facts.

When writing captions on pictures when there is a controversy at issue always give both sides of the controversy. If one of the persons involved in a dispute refuses to make a statement, say so, for it is a very reasonable method of insuring you against a libel suit based on abuse of privilege.

In every instance when a woman is involved in a story, treat her with as much respect as possible. On this point, it is wise to remember that any newspaper that publishes any imputation of unchastity in a woman is liable under the law. However, if the charge of unchastity can be proven in a court of law, publication of the imputation is not libelous inasmuch as truth is an absolute defense in most states to a libel suit in a civil action, whether the publication of the libel was with or without malicious intent.

Almost three-fourths of the suits brought against newspapers today charging libel result from cases involving criminality. To charge a man with a crime he did not commit is a serious offense. Publication of such a charge may ruin the man's career. Even when a man has

FIRE BOAT *Joseph Palladino*

This is not only a news picture of value, but would also appeal to the rotogravure editor. Made from the top of a high bridge on a rainy day.

been charged by police with having committed a specific crime, he may not be guilty of that crime. If he is acquitted, he has grounds for a suit against a newspaper using the story that he had been charged with a crime, particularly if the newspaper did not publish news of his acquittal. In the latter event, the newspaper may be charged with having abused its privilege by not giving a fair report of the affair. At the same time, the publication may also be charged with having had malicious motives in publishing a report of the man's arrest without giving space to his acquittal.

There is a general feeling in the mind of the public at large that ridicule is a basis for libel. This belief, almost entirely false, persists also in the minds of many newspapermen. Ridicule, if it is nothing more than that, is not libelous. Creating a laugh at someone's expense, regardless of how great that person's discomfort may be, will not support a libel suit. In order to form the basis of a libel petition in a civil court, the ridicule must carry with it such a sting that it will be injurious to a person's reputation.

For instance, in the south, courts have held that the calling of a white man a negro constitutes libel. In the north, most courts have held that calling a white man a negro simply holds that man up to ridicule and does not carry with it any statement injurious to the man's reputation.

Similarly, if an error in writing a caption identifies a man as a woman, it will not support a libel suit, as it serves merely to hold the person up to ridicule. However, identifying a man as a criminal damages his reputation and he has recourse to libel proceedings.

New York state appellate courts have held that the report of a man's death prematurely does not constitute libel. This ruling is based upon the fact that although the man may have suffered somewhat from ridicule through the publication of such a report, his reputation is not damaged.

In all libel actions it is necessary for the publisher to supply the burden of proof of a defense throughout the litigation in the case.

Almost everywhere, proof that the report is true is an absolute defense of libel. In suits involving the abuse of privilege it also must be shown that the report was not only true but fair as well. In a criminal libel action, truth is also a defense, but this defense will be

defeated by proof on the part of the plaintiff that publication of the truth was done with actual malice.

Libel is often used as a gag during political campaigns. Such suits, although they may appear to be serious, are seldom pressed after the campaign is over, and are dropped as soon as they have served their real purpose as an attempt to quiet the press. Many suits of this nature are on record and few have ever been brought into open court. They are usually dropped before the newspaper involved files its bill of defense.

In many cases against newspapers, the suits are dropped when the defense is able to show that the plaintiff's reputation was not as delicate as the filer of the suit would have the world at large believe. There are innumerable instances where former criminals have brought suit against newspapers, charging that their lives have been ruined by their re-arrest for some new crime of which they were acquitted. Generally, a little investigation will show that the instigator of such a suit has not been leading an entirely righteous and honorable life.

Almost every large city is infested by attorneys of the ambulance-chasing type, who watch newspaper stories like a hawk in order to get suits in the libel class. These parasites are less numerous now than formerly, although they still exist to a certain extent. The reason for the decline of such practice is that libel suits are given but little publicity in the press and in addition to this, an attorney filing such a suit will find himself involved in one of the bitterest fights of his career which the newspaper will insist upon carrying to the highest courts.

Few libel suits ever reach the litigation stage. If the newspaper sees it has little chance of winning a court battle, it will generally attempt to settle the case out of court with a cash award to the party damaged.

However, regardless of all that may be printed about libel, statements of a libelous nature still find their way into print. This occurs even after the stories pass through the hands of a number of editors. Is it due to carelessness on the part of these men? Do they all slip up at the same time? Just what it is that causes men to miss a libelous statement when each is an expert at spotting such statements, nobody can say.

The only way libel can be avoided is by checking everything that

is printed. Until every reporter and photographer knows the laws of libel and how to avoid it, there will continue to be libel actions.

This short discussion of libel must necessarily be very general in nature, but the reader may continue his study of libel laws for the state in which he is working at any good public or law library.

Libel, regardless of its many dangers, may be disregarded if accuracy is constantly kept in mind. When you are careless about accuracy you have to begin worrying about libel. So always keep accuracy and the law of libel in mind, and you will never become one of those persons in the newspaper business who seem to be beset by libel troubles. But don't be afraid of libel. If you can prove that your statements and pictures are true, you will also find that your work will be free from the fear and haunting bugaboo of libel.

Never regard accuracy as of secondary importance. If you do, you will lose the confidence of your editor, he will lose the confidence of his publisher, and the publisher will lose the confidence of his readers. He not only will lose that, but circulation and advertising will drop off, and the paper may have to suspend operations. One news service has a one-sentence rule about libel. It sums up the entire situation in the fewest possible words, as follows: "Remember that no story is worth a libel suit."

Chapter XVI

COVERING ASSIGNMENTS

WE HAVE LAID the groundwork upon which the business of news photography is based. We are now ready to turn our attention to the actual problems encountered in getting pictures that will be usable.

Many amateur photographers labor under the delusion that news pictures are nothing more or less than snapshots made at random by a newspaperman. These same people wonder why they are never able to sell the " news " photographs which they turn out in their free-lancing activities. News photographs must tell the story. If the picture does not tell the story with a minimum number of words of explanation it is not a news photograph.

Yet strange as it may seem, a picture need not show the actual happening. In fact, such photographs are rare. There are a few instances in which the actual happenings have been shown in a news photograph, but these occasions are few and far between.

For instance, one of the most striking news photographs ever made was that obtained by a pantryman aboard the sinking steamship Vestris who had the presence of mind to photograph the desperate crew and passengers making ready to leave the ship in lifeboats. The *New York News* was glad to pay the sum of $1,200 for this single photograph. That photograph will live forever in the annals of news photography as an outstanding example of first-class press work. That single picture told the story with little explanation. It showed the panicky expressions on the faces of crew and passengers alike; it revealed the list of the ship in its death throes, and it showed, in a story without words, the desperate activity which accompanies disaster at sea.

On the other hand, one of the best news photographs in existence showed no action. Instead, it was merely a picture of an empty baby carriage. In the center of its top, however, was a bullet hole, mute

evidence of the infamous baby massacre in New York City several years ago. That picture did more to arouse public indignation against gangdom and hoodlums than probably all the photographs ever made of racketeers lying dead in the gutter. That picture was, in every sense of the word, an excellent news photograph which showed the ingenuity of the photographer who made it.

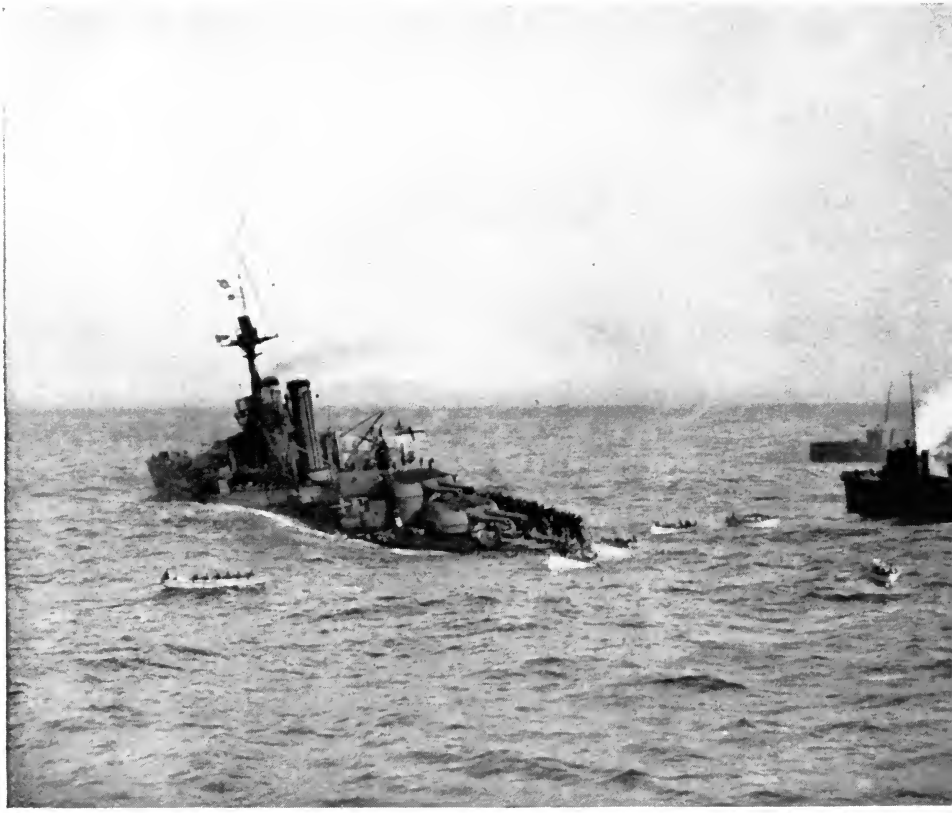
The main difference in press photography between working on a newspaper or for a news service or as a free lance is that in the first case the photographer will be instructed as to the manner in which the photograph is to be made before he leaves the office on an assignment. The free lance, being on his own, must be his own editor and must decide for himself just what angle of the story will make a good news photograph.

Probably the most frequently asked question is, " What is news? " Today, the definition is the same as it was years ago, " News is anything new or of general interest."

That definition covers a multitude of assignments and so, for our present discussion, we will content ourselves with discussing the more important news events that attract news photographers.

These events may range from a society ball to an air race. In between these extremes we run the gauntlet of accidents, murders, trials, celebrities, fires, features and general news stories. Each of these assignments will bring up problems which must be solved at a moment's notice. No hard and fast rules can be laid down in covering assignments. The photographer must use his own initiative and make up his rules as he goes along.

Probably one of the most important assignments in press work is that of covering society events. Here is demanded all the tact and diplomacy that a news cameraman possesses, for an error on his part means the loss of important circulation to his newspaper. Always remember that the advertisers aim for prospective purchasers with the greatest buying power. If you are covering a wedding don't attempt to ridicule the parties concerned by making a haphazard photograph. Make it as dignified as possible. The words of a famous New York editor should be remembered in such cases. He said: " The two most important events in the life of any woman are her marriage and her death. Neither should be treated flippantly."



SINKING OF THE AUDACIOUS

This English battleship was torpedoed during the war and the sinking was witnessed by a passenger ship which stood by. All cameras and films were confiscated in an effort to keep the news from becoming public. One passenger, however, succeeded in getting his exposed film out of his camera and hid it and not until this picture was published in AMERICAN PHOTOGRAPHY did this naval loss become publicly known.

In almost all cases where a wedding is to be covered it is possible to arrange with the bride and bridegroom to pose for a photograph immediately after the ceremony. One of the easiest methods of covering a wedding is to photograph the couple as they leave the church. Either a speed photograph may be made of them as they walk from the church, or a little more attention can be given if the couple will pose. If they are not able or willing to pose, the photographer should focus on a point near the entrance of the church and make the exposure as the couple reach this predetermined point.

Society dances and balls offer another type of assignment for the news photographer. The usual procedure in covering such jobs is to acquaint oneself with the guest list. This is usually done by the society writer covering the event. However, if no writer has been assigned to the event, it falls to the lot of the photographer to do this. The usual procedure is to pick out the names of possibly a dozen of the leading socialites attending. Make photographs of them, either posed or walking or chatting. Never make a photograph of a couple dancing unless ordered. Society people have a feeling that their private lives are being invaded too greatly to allow the latter. If the affair is a masked ball, take a few photographs of the outstanding social lions attending and add a few exposures of the outstanding costumes, regardless of who is wearing them.

The best method of covering these assignments is to use a reliable synchronizer with the lens and Photoflash bulb operating in unison. This obviates the necessity of a tripod which is usually unwieldy and cumbersome in such places. The prospective subjects also will be more willing to pose if a speedflash is used, as they feel that they will not waste much time under such conditions.

However, if the photographer does not possess a synchronizer, it is usually a simple matter to persuade the generally publicity-hungry socialites to pose, even though the newsman must focus his camera while it is mounted on a tripod. After a little practice, the photographer will have no trouble at all in setting up his outfit and making an exposure in a very few seconds.

Always thank the subject in such cases. It will give the person a pleasant remembrance of you and will appease him or her if the photograph for some reason or other fails to find its way into print. It will

A Social Event *James C. Kinkaid*

Such subjects are a daily part of the news photographer's work, and if he can catch his subjects at ease and smiling both his editor and the subjects will be pleased.

also make it easier for you to persuade him to pose for a photograph sometime again.

When a dance or some other function is being arranged, it is well to get a photograph of the leaders in the movement, posed as though they were discussing the plans they are making. This makes a much better photograph for newspaper publication than a portrait of the general chairman of the arrangements committee, because it is possible to get a little action into the picture, as well as get photographs of several persons into the paper. It is an old saying in the newspaper world that the more names that can be worked into it the greater will its interest be to local readers, the ones for whom the paper is published.

There is a growing tendency at the present time, particularly in newspapers emphasizing the pictorial type of journalism, to present the children of leading families in the district. This has also been carried to the field of picturing favorite nooks in the homes and gardens of socialites or other important people in the community, as well as using illustrations of their pets.

These assignments are always arranged in advance by the society editor, so that it is only necessary for the photographer to use his skill in arranging his equipment to set the subject off to the best advantage. In this work a good knowledge of home portrait lighting is an advantage, although much of the work may be done with Photoflash equipment.

Society benefits, opera, and concert openings are also frequent excursions for press photographers. In this work, the general policy is to get pictures of prominent people attending. Promenade scenes between the acts showing well-known people are also popular among the press men working on this type of assignment. Dress circle boxes are always attractive on the society pages and are easily arranged by the photographer working on the assignment. Never attempt to make such shots during the performance, however. Wait until an intermission. In the ten or fifteen minutes thus allowed you will be able to make all the pictures any newspaper can use, and by waiting you will disturb no one. On all occasions when a photographer is dealing with society people he should be as courteous as possible.

Feature stories are often adaptable to photography with good results. Features may be found in any and all circumstances if the

photographer has a nose for such things. Almost every man has a story to tell. The photographer can often illustrate it to good advantage. Many feature stories are developed around the activities of animals. A pet cat or some other pet may wander away from the home. In a number of cases of this kind, the pet will find itself in a dangerous position on top of a telephone pole or in the high branches of a tree or perhaps trapped beneath a garage or some other structure. Police or firemen may be called to rescue the pet and such occasions always are worth a place on the pictorial page.

Holidays offer a photographer plenty of opportunity to work up features. Thanksgiving Day is always a good time for pictures of turkey farms, showing thousands of turkeys being fattened for the festive board. Or a turkey may be pictured looking at an ax, or in the arms of a beautiful girl, or in some similar pose that will not only please the eye but also give the reader a laugh.

Christmas Santa Claus pictures can usually be worked up by the cameraman, or the Yuletide picture may show children gathered around a fir tree playing with their presents. Fourth of July offers opportunities, as does every other holiday. The most important holidays where the press photographer is concerned other than those already mentioned are Hallowe'en, St. Valentine's Day, Labor Day, Memorial Day, Easter, and New Year's Day. The free lance can often sell illustrations of this sort to advertisers who use photography, particularly if his idea is original.

Scientific and medical fields abound with feature stories that a photographer can portray without difficulty. Here, however, the field of straight news may overlap the feature value of a story so that the two can be combined to advantage. New methods of combatting disease, a new kind of operation, a new telescope for penetrating farther into the universe's deep secrets, new means of making steel or any of the thousand of other substances are always interesting as features. Watch your newspapers for new developments in these fields or, if you know some investigator in a research laboratory, cultivate his friendship. Remember that the more sources of information you have, the more valuable you will be to a newspaper or to yourself as a press cameraman.

Any veteran in public office is worth a picture when he retires be-

cause people are interested in the affairs of those who participate in the government. Veterans of thirty or forty years with one company are generally worth a photograph showing them turning in their retirement or resignation, inasmuch as it is rare that a man will serve a single concern for so long a period unless he is in business for himself.

A racing driver arrested for speeding is always worth a picture from the feature angle. So is a picture of a motorboat driver, if he can be shown in a canoe for relaxation or in some similar picture which carries out ideas of a similar nature.

Model airplane races or model boat races are possible features unless the sports department of a newspaper wants to use the story on its pages. The world of sports is filled with feature pictures if the photographer will go after them.

Pictures of twins born a day or two apart are always worth-while as are pictures of quadruplets and, even though the Dionnes are the first to live, so are quintuplets.

Pet and flower shows always offer pictures of feature value, although some photographers insist upon classifying these stories as straight news. Odd pets and flowers are always interesting to hundreds of persons. Pet shows are often handled by the sports departments and thus become news stories with feature angles.

Parades are always good features either for the news page or for a rotogravure section. Particularly colorful are pictures of big convention parades.

Bathing beauties and motion picture stars are always feature pictures despite their treatment in most cases as straight news. Other celebrities can generally be handled as features also. However, if there is a legitimate news angle possible in the picture, play it up in preference to the feature side.

There are innumerable types of feature pictures that can be made. Pictures at night, pictures with infra-red plates and all sorts of other stunts can be worked out by the news photographer or the free-lance man if he really puts his mind to the work at hand.

The big thing for the free lance to learn is just what makes a newspaper photograph worth-while. It will cost him several dollars in plates and paper and an untold amount of time before he finally can get the feel of news pictures.

A Country Fire Scene — *Alton Hall Blackington*

A decided contrast to the average city fire, is this shot of the destruction of a humble dwelling. The owner shielding his eyes from the heat as he stands helplessly by adds a touch of human interest.

Police headquarters are a key point for the gathering of news for any metropolitan newspaper. Here, too, are the headquarters for most of the really big news photographs, not that a photographer should quarter himself in the press room of a newspaper's police reporters, but because here he can get more tips on big news than in any other single place in the city. Here routine takes on a bit of glamour in that no one knows just exactly what is going to break next. An entire city may be turned into turmoil by the activities of criminals, a train wreck, or a speeding automobile. No one can tell definitely just when big news will be forthcoming. Some events cast their shadows before them, but most of them, particularly those which make big news, come with sensational suddenness.

There are any number of assignments which the photographer may receive that emanate from the police bureau of a large city. Probably the most sensational of these are big fires, startling murders, and accidents of one sort or another.

Fires are perhaps the most difficult of all assignments to cover, inasmuch as they invariably bring into play difficult lighting conditions. There is an old saying among police reporters that no two fires are the same. The same adage might apply to the work of news photographers.

In many cases, big fires can be photographed, even at night, with instantaneous exposures of less than 1/50 second. Others may require a minute's exposure. It may be necessary to lengthen the exposure to include clouds of smoke in the finished negative. Again it may be necessary to use a very short exposure to prevent overexposure of the film because of the flames. Most newspaper attention is given to the extra-alarm fire. Fires where a house is razed by the flames also are frequently seen in press work. Other fires may be covered simply because of some feature angle in the story.

Suppose a canary chirps out the warning to residents that a fire is destroying their home. That surely rates a picture because of the feature angle. The photograph should show the owner of the bird either petting it or feeding it or it may be simply a picture of the bird by itself. If the bird died, photograph the empty cage. It will probably make page one, and believe it or not, it tells the story. Where a dog barks out a warning, similar pictures can be made.

THE DOG CAME BACK — *Alton Hall Blackington*

A typical feature picture of a fire story. The little Cocker Spaniel returned to the ruins of his home and waited patiently for the members of the family to return.

Fires in which homes are destroyed are frequent occurrences. Photographs of the ruins are commonplace, together with pictures of the survivors of the blaze huddled together or quartered in a makeshift home arranged by themselves or neighbors. Such assignments invariably offer the photographer an opportunity to show his ingenuity in developing news and feature angles in a story.

If a store or building is badly damaged, it is usually worth a photograph in the area in which the fire occurred. A general picture of the store or building showing the damage is usually sufficient in such cases. However, if the occupant or occupants arrange their goods or offices in the street after the fire and do their business under these handicaps, the feature angle far outweighs the strict news value of the story. In such cases, a photograph of the ruins and the temporary establishments are usually sufficient to cover the story. If both can be shown in the same photograph so much the better. It will cut down the number of words required to explain the story. Remember that news photographs are based upon the axiom that a picture can tell more than a thousand words.

Perhaps the most exciting assignment that a photographer is called upon to cover is the big fire story, particularly if the fire occurs during freezing or sub-zero weather. The photographer, if he is employed on a big daily or in a news service, will probably arrive on the scene a few minutes after the fire has been discovered. Many newspapers in large cities send a reporter and photographer to the scene of a fire as soon as the second alarm sounds. If more alarms are rung in, these men are augmented by others, until perhaps as many as a score or more of reporters and photographers are covering the one story. In such cases, one man will usually take charge of all the men at the scene, acting as a city editor afield. He will instruct the photographers and reporters as to just what angles to cover.

However, for illustrating the coverage of a fire by a photographer, let us imagine that one man alone is assigned to cover the blaze. He arrives on the scene and takes a couple of preliminary shots showing in a general manner the extent of the fire. Such a shot can be made from either a nearby building or from the street. It should show, if possible, the building ablaze, smoke, fire apparatus and firemen engaged in fighting the blaze, the snake-like hose lines, and any crowd

that may be gathered nearby. This is easy to do if there is a tall building nearby where a general view of the scene can be made from above. If there is an apparent center to the blaze, frame your picture so it will be near the center of the photograph. In order to show all the essential news angles of the story, the building, smoke, fire apparatus, firemen, and crowds, several photographs have to be made.

If the story warrants, he has a cab driver deliver these shots to the city desk, where he will be paid for his trouble. Or he may call his city desk and tell them what he has, asking for instructions. The man in charge may tell him to return to the office with whatever he has and let other photographers cover the rest of the story, or he may tell him to give them to a reporter or a cab driver or other messenger to relay to the newspaper darkroom.

For the purposes of this discussion, let us suppose the photographer is told to remain at the scene and relay his negatives to the office. He then goes back to the scene of the fire, scouting for good news or feature human interest photographs. These vary with every fire and no set rule can be given for them. The following list, however, includes most of these angles of a fire; photograph showing a rescue, a victim being carried from the structure, a fireman being given first aid treatment, a victim being put in an ambulance, firemen drinking and eating refreshments supplied by a nearby restaurant, Salvation Army or Red Cross, a wall falling, firemen fighting the blaze from an extension ladder, a fire deluge or water tower wagon in action, the labyrinth of hoselines, fire apparatus cluttering streets, ice-coated buildings, firemen and apparatus, police squads holding back gathering crowds, a picture inside the structure if the photographer can get there, and traffic tie-ups as a result of the blaze.

If a news photographer cannot see beyond this list he has no business being in the game. A dog or other pet may be carried down a ladder by a fireman. That surely is worth a picture. A victim may be photographed as he leans out of a window screaming for help. There are a host of pictures available at any big fire which are not included in the above list but any photographer, if he has what city editors refer to as news sense or picture sense, will get them. To list them here would take up too much space.

If a man is in charge of the assignment, he will instruct the men

under him, including the photographers, as to just what angles of the story they are to cover. One may be assigned to crowd photographs, another to get a picture of a tottering or falling wall, a third to rescues and first aid, and others told to get whatever they can. As they get their pictures, these men take or send their plates to the man in charge of the assignment who will relay them to the office, or the photographer himself may be sent into the office with them to lend assistance in the darkroom in developing and printing the material.

Fires lend themselves more readily to what are known in newspaperdom as second-day illustrations than any other field. Second-day photographs are those made the day or a number of days after an event has occurred. In a big fire, the ruins of the destroyed structures may burn for days or weeks. A photograph of the smoldering ruins, with or without firemen continuing to pour water on them, is always a good second-day shot. If a fireman or other victim has been injured in the fire, a photograph may be made at a hospital showing him recovering, if the institution will allow it. Activities of victims after the blaze are always news, particularly when they have been injured. Big fires are almost always followed by investigation by fire wardens, marshals or underwriters. They may be pictured examining the ruins or discussing the blaze.

Learn to control your nerves when covering an assignment, particularly a fire or something similar. If you become excited, you will find yourself making photographs of irrelevant and immaterial matter which will be relegated to the wastebasket. You may also find yourself in a dangerous position under a tottering wall or falling debris. Remain calm always.

In covering a fire always remember that you are not on a Sunday school picnic. Keep in mind that your life is in danger every minute. Keep clear of wires. You may feel sure they are not alive, but nevertheless you might be mistaken. Never step into a pool of water near a fire. At the other end of it or nearby there may be an electric power line down. Don't walk on debris. Walk around it. Never walk in the path of a hoseline. The pressure behind a fire department hoseline is tremendous; enough to knock a grown man down without difficulty. Obey police and fire authorities when on the scene of a fire. They are thinking only of your safety in warning you. Never

Second-Day Fire Picture *James C. Kinkaid*

Removing the bodies of the victims after a fierce fire illustrates the second-day value of a fire story.

smoke or light a match near a pool of water at a fire. It may be gasoline or some other combustible fluid. Try to stay on the windward side of a fire to avoid smoke and fumes. A big fire in the winter time adds to the dangers encountered by the newsman. Ice is a dangerous substance on which to stand. Don't, if you can avoid it.

Always, no matter what your assignment may be, attempt to tell the story with the smallest possible number of pictures. One picture which tells the whole story is worth a dozen that do not tell it, and saves a vast amount of space for the newspaper.

Explosions are another source of news pictures. Ruins and victims should be pictured as well as a general view of the blast scene if it can be obtained. Many of the same angles can be developed here as in covering a fire story, as most explosions covered by newspapers are accompanied by a blaze. It is often possible to show where the fire or explosion originated and this may frequently be worked into an interesting picture.

Mine explosions and fires, although not as frequent in recent years as formerly, always produce a variety of news and feature photographs. Here the first duty of a photographer is to rush a picture to his office. Inasmuch as most mine explosions occur in out-of-the-way places, it is usually some time after the first report that a photographer reaches the scene. Therefore his first picture should be a good general view of the tipple and rescue crews, or possibly an exposure showing relatives of the entombed men waiting near the mine mouth. When mine investigators, police, or coroner arrive, they should also be photographed, together with officials of the company if they are there. Empty railroad coal cars lined up near the tipple will make a worthwhile second-day illustration if the proper caption is used, calling attention to the fire.

Murder mysteries are another important branch of news photography that originate on the police beat. Photographs of ballistic experts examining the murder weapon or of fingerprint men searching for clues also make interesting subjects for use in connection with a murder story. A photograph of the building in which the murder was committed should also be made. This will usually take care of the murder scene question, although if a picture can be obtained of the body being brought from the building, one should be made. If

there are any witnesses to the crime, they should also be photographed, together with any neighbors who may have heard any shot or outcry. Be sure of your identifications in working on a murder case. Always check and double check spelling of names and check and recheck occupations and addresses. This is to prevent possible libel suits.

These preliminary pictures are then sent or taken to the darkroom. The photographer then goes on to the rest of his assignment. Possibly his next step will be to go to the detective bureau of the district in which the murder occurred. There he makes pictures of suspects, if possible while they are being questioned. The ballistic or fingerprint expert at work in his laboratory is also photographed. If the murder weapon has not been photographed at the scene of the crime, it should be found and a photograph made of it, if it is in police custody.

If the police chief issues special instructions concerning the case, a picture of him should be made as he issues them, as also of the men heading the investigation. There may be all sorts of complications in an important case of this kind. Survivors of the victim, his or her sweetheart, and others who may be connected with the case should be photographed.

The above has been designed for photographers working on daily papers. The free lance or news-service man, unless he has been instructed to get all angles, or unless the story is of vital interest to some client, can get by with only a few pictures showing the murder scene and possibly a suspect in police custody. There need be no elaborate picture making, unless the story is apparently bound for the front pages of papers throughout the nation.

Without considering extenuating circumstances, it may be said that the murder of a girl of eighteen years is more important to newspapers than that of a man of forty. News value is governed by the method in which the crime was perpetrated, the background of the victim, and a host of other details which the photographer will learn only through experience.

In all murder cases, however, be sure to get a good photograph of the victim, the murder scene, suspects, and the murder weapon. Those pictures can cover all but the biggest of big murder cases for news services and can generally suffice for newspapers, at least for one

day. The pictures of the victim usually can be obtained from friends or relatives, if they are talked to by a glib reporter or photographer. Here is where a photographer is called upon to use all the psychology he can muster, as well as all his tact and diplomacy.

The photographer will often arrive at the victim's home before police have had an opportunity to break the news to his survivors. The newsman should never attempt to break the news of death to a family. It only means hysterical women to deal with and in many cases hysterical men. Under such circumstances, it is next to impossible to get a photograph of the victim until the first shock of the news has passed. By using diplomacy, however, the photographer can usually inveigle the persons concerned into releasing a picture of the victim. Sometimes it means placing your car at their disposal or out-and-out bribery. Nevertheless, the photographer must get the picture.

Suicides offer many difficult obstacles to the photographer, as relatives do not care to have a picture of the victim released to the press. In this case, friends who may have a picture should be found and a photograph of the victim asked for. If no picture is obtainable from this source, it is often possible to get one from the school or church which the person attended.

In all assignments, attempt to tell the story with the smallest possible number of pictures. Be sure that your photographs tell the whole story as far as pictorially possible. If one picture can not tell the story, take two, take three, take a dozen if necessary, but be sure the story is told.

In the foregoing paragraphs, I have said that pictures of bodies should be made whenever a story revolves around one. This is one of the most controversial issues in all journalism; whether pictures of bodies should be published or deleted. Many newspapers have a standing rule against such pictures. Others use them only occasionally. Regardless of their use, however, pictures of bodies in murder stories, unidentified deaths, accidents, and suicides are an important part of newspaper photography and, gruesome as the final print may appear, a picture showing the body should be made in all cases where the photographer is a staff man. If he is a free lance, he can use his own judgment on that score.

MUSSOLINI *Copyright, Severo Antonelli*

When a news photographer has an opportunity to photograph any prominent person he must call all his knowledge and wit to play as the subject is not likely to give him two chances to make the portrait.

The news photographer should take no part in any controversy. He is not editing the publication. He is paid to tell the story in pictures just as the reporter and rewrite man are paid to tell it in words. Failing to take a picture of the body of a victim may mean that the pictorial record of the story is not complete. For this reason, the photographer should make the picture, and let the editor decide whether it is to be used or thrown into the wastebasket.

Accidents of one sort or another make up another important field in press photography where the "tip" comes from police headquarters. Automobile accidents have become so commonplace in the last few years that newspapers pay little attention to them photographically, unless there is some angle that raises them above the ordinary level. Freak accidents of all sorts offer a field for news pictures which may be treated as straight news or as features. Such accidents include those in which possible victims escape injury or death, accidents in which one car climbs to the top of another in a crash, or any crash in which the cause is of an unusual nature. The photograph should show, if possible, just how the victims escaped injury. If the car rolled down an embankment, take a photograph of the wreckage from the top of the hill as well as a close-up. If the car ran into water and is only partially submerged, photograph it, or get a picture showing a wrecking car lifting the car from the water. This type of picture is usually the only type obtainable, other than the photographs of the victims, when a car is completely submerged in an accident. If a pole or rail pierces the car and the occupants escape, the photograph should show the rail as it rested in the car after the accident. Such pictures combine the news and feature angles of the story without difficulty and in addition help to explain the story to the readers. The usual automobile accident to which the photographer will be assigned presents no special difficulties unless the photograph is to be made at night. Then it is essential to use enough Photoflash bulbs or flashpowder to insure sufficient light on the subject. Always aim to tell the story in the smallest possible number of pictures.

Train wrecks offer greater obstacles than auto crashes, as the action may be spread over several hundred square feet, and railroad detectives are often rough in evicting trespassers from railroad property, as pho-

FALLING WALL *Alton Hall Blackington*

Pictures of falling walls are very rare and the photographer should be ever on the alert to catch a picture like this. An exposure of 1/25 second will be fast enough to catch the wall before it crashes and the falling debris will have a blurred effect which gives it an effect of action.

tographs of train wrecks are not good advertising for the railroad. It is seldom that the entire scene can be photographed on a single plate with Photoflash or powder equipment. In addition to this, many newspapers have rulings forbidding the use of flashpowder under any circumstances. This means that the photographer must in many cases use a number of Photoflash bulbs, possibly six or seven, in order to get enough light to affect even the fastest of plates sufficiently to insure a good general view of the wreckage. This limitation of light throws difficulties in the path of the newsman. These can be avoided, however, by selecting outstanding features of the wreckage to photograph. The photographer may ask, " What are such features? " The answer may vary considerably. A coach may have been torn apart by the crash; a coach may have telescoped into another; wrecking cranes may be lifting a tangled mass of metal from the right of way. Try and get action of some sort into your picture. That is a cardinal rule in press work. A picture without action or life in it, except in unusual circumstances where the illustration is deftly handled, is not worth publication. Street car, subway train and elevated crashes can be handled in the same manner as any other train accident.

Airplane crashes have been the toughest assignments meted out to photographers during recent years. The airline companies strenuously object to the use of cameras. Not infrequently armed guards will be rushed to the scene of a crash to prevent cameramen from approaching the ship. More than one photographer has had his camera smashed and his plates destroyed because he attempted to picture a fallen air liner. Nevertheless, you have a perfect right to make such photographs if the owner of the land does not object. Be discreet, however, as it might be very difficult to place responsibility for a smashed camera or a broken head.

Gambling raids and other invasions by police are also frequent assignments for photographers on metropolitan papers. Important raids are worth a picture in local papers, although they are usually not suitable for national distribution.

Kidnaping cases offer another opportunity for news photographs. The victim, his or her family, the scene of the kidnaping, the home of the victim, and all other angles of the story can be covered by

PLANE CRACKUP *James C. Kinkaid*

Pictures of airplane accidents are always of high news value if you are fortunate enough to be able to picture the mishap.

the photographer. Investigators searching for the victim also make good illustrations on such a story, particularly if the kidnaped person bears a well-known name. In covering a kidnaping case, if it is an important one, get pictures on every conceivable angle. Remember always, however, that libel suits may result if you charge anyone with the crime until an arrest has been made.

Robberies and burglaries and forms of vandalism often are given attention by newspapers, although generally ignored by the services. A general view of a robbery scene is always useful and if a picture of this kind can be made it permits the newspaper to show the route of a get-away car. Burglaries are usually treated as second-day stories, inasmuch as they are generally not reported to police until the day following the looting. If a store has been stripped, its bare shelves may be pictured to advantage. Where a safe has been blown by thieves, the damage can be pictured, with police or the proprietor of the establishment examining the strong box. If windows have been blown out by the blast, the general damage can also be shown.

A point I wish to make here is that there is a difference between a burglary and a robbery. To call a burglar a robber is inviting a libel suit, inasmuch as he is not charged with robbery. The same applies to a robber who is not charged with burglary. Always be accurate in writing captions in such cases.

One of the most dangerous assignments a photographer can receive is covering a riot. Here action is moving fast. Police may be charging the demonstrators or *vice versa,* free-for-all fighting may be occurring in a dozen spots in the melee at once, and yet the photographer must get story-telling pictures. If you can get a good photograph of a policeman's club descending on the head of a rioter, or a rioter attacking a policeman, you will get a good riot picture. If tear gas is used in breaking up the rioting, try to show the clouds of gas and the tear-stained faces of the mob. Persons arrested in the melees should be photographed as they are led to emergency wagons by police. Firemen are often called to riot scenes to lay down high-pressure hoselines in order to break up battles of this kind. In such cases, pictures of rioters or would-be rioters being bowled over by the rushing water are usually salable.

There is one thing always to remember when covering a riot of

TRUCK STRIKE RIOT *Acme*

A volunteer guard has just been felled by a striker. Such open action shots should be obtained by the newsman if circumstances will permit it.

any kind. Always stay out of the line of fire and if there is any danger of tear gas being used stay on the windward side of the affair so that you will not be affected by the fumes. Although they have no lasting effect on the eyes, the discomfort caused by the gas is sufficient to bother you for perhaps as long as a week.

Closely related to the police beat are the courthouse reporters of the newspapers. In smaller communities, there may be only one courthouse. In big cities there may be a dozen different courts in which cases of interest to newspaper photographers are constantly being scheduled.

In recent years there has been more and more cooperation between photographers and newspapers and news services in getting worthwhile news pictures. This cooperation reached a climax in the trial of Bruno Richard Hauptmann for the kidnaping of the Lindbergh baby, when only two photographers were allowed in the courtroom to make pictures for all newspapers and news services. The plates thus made were taken to a cooperative darkroom to be developed and printed behind locked doors. Not until every print had been made were any of them released, thus obviating the possibility of any service or paper getting prints ahead of another.

Although there are always ways and means of getting pictures even in the face of a contempt of court threat, never violate the ruling of the court unless ordered to do so by your editor. Do not take the risk on your own responsibility. If you are told to get a picture, this may be accomplished in one of two ways. The first is to take your camera into the courtroom mounted on a tripod with a plateholder in place. By taking a position at the rear of the courtroom and attracting no attention, the newsman can expose his plate by using a front shutter. Inasmuch as the light in a courtroom is invariably poor, a time exposure is usually required in making such a photograph. The other method involves concealment of the camera and may tax the photographer's ingenuity.

Public events of all kinds are usually worthy of a photographer's attention, particularly where a speaker of prominence may be making an appearance. When the President is making an address and you wish to cover this during his stay in your community, it is necessary to properly identify yourself to the secret service agent in charge

Strolling on the Summer White House Lawn

Alton Hall Blackington

An informal and pleasant picture of President and Mrs. Coolidge and the collie.

His Smile of Welcome

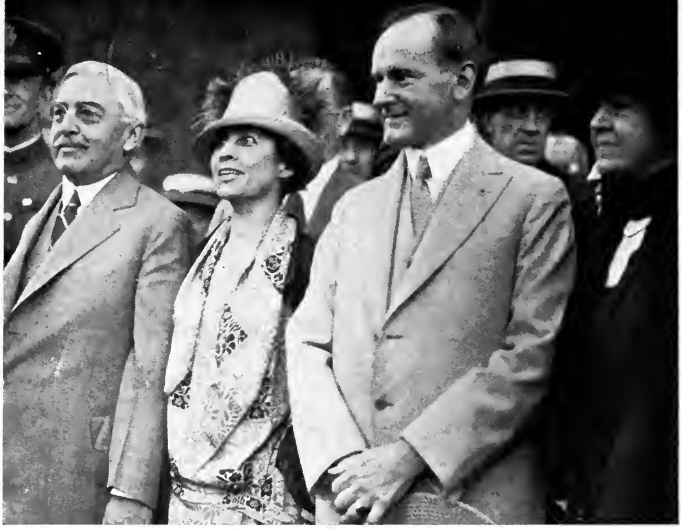
Alton Hall Blackington

Taken in the railroad station on his arrival, the background was blocked out for running in the second edition.

of your district, who will instruct you as to the method to follow in obtaining a permit to get near enough to work. If you are working for a newspaper or news service, the editor will make all the necessary arrangements for you.

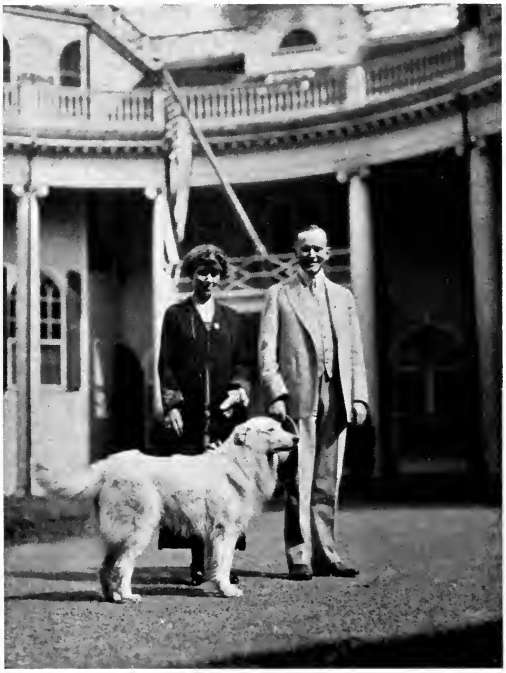
The field of sports is without a doubt the most colorful for the news photographer. Here he can find room for all his skill, whether he is aiming for straight news or features. For in such work, he has a host of sports in which to display his talents. In fact, many metropolitan papers employ photographers who do nothing but cover sports events. The range of pictures in this work is almost unlimited. It may be a photograph of a big league star resting or it may be an automobile race. It may be a dog show or a dog race, a horse show or a horse race. In any event, the photographer has a mighty field to work, one that can keep him busy for years. Yet each sport differs from another and the photographer must know just what pictures to make to show the sport to the best advantage and still tell his story. The two leading sports in this country today, both from the viewpoint of fans and the frequency of assignments to cover them, are baseball and football. Track meets are a close third with championship meets luring more cameramen than big league football games. Both sports are generally easy to cover. Baseball is particularly easy, inasmuch as the average play at a base takes place within a limited area. Football, because of its wider playing area, is somewhat more difficult to cover, although no trouble will be found in the average game. In baseball there are two leading events, the opening game of the season and the World Series. Most of the home games of a team are covered by staff photographers and, as a result, baseball predominates in news photographs.

In covering a baseball game, there are two methods of procedure. The first is to photograph the plays from the field. The other is to use a telephoto lens and photograph the action from the grandstand. If only one man is assigned to a game, he should use a telephoto lens and photograph the plays from the stand if possible. This will permit him to cover all of the bases from his seat without the danger of an umpire, coach, or player getting between his camera and the play. If a telephoto lens is not available, the next best bet is to work on the field, say fifteen or twenty feet from where the play will be made.



Another informal picture taken at the station on President Coolidge's visit to Manchester, where he spent the summer at White Court.

Alton Hall Blackington



In front of the entrance to White Court.

Alton Hall Blackington

In big games, such as the World Series, half a dozen or more photographers may be used in covering the event. In such cases one photographer will be assigned to each base, another to crowd shots, another to general shots of the field and others will be used in picturing celebrities. If only one man is covering the event, he should remember that the most important place in the field is home plate. Should he need an early play for an edition, the best place to get such a picture is at first base where a play is made almost every inning. Telephoto lenses are almost essential if pictures are to be obtained of plays between first and third base. Should an ordinary lens be used, the print must be enlarged considerably more than usual and grain may result, which will make the finished photograph unsuitable for halftone reproduction. In baseball, it is better to show a player scoring than to show him reaching first base. Likewise, it is a better picture to show a crack hitter striking out in a pinch than to show a rookie making a hit with no other players on base. Baseball features are always in demand. They may show a star of the game doing almost anything. Trick shots have recently come into vogue in all sports work. Such exposures are made by holding the camera at an odd angle, either above or below the player or to one side. Some very excellent illustrative work has been done along these modern lines and it is in great demand by newspapers all over the country. The important thing in doing this kind of work, however, is to get good composition despite the angle at which you are working.

Football games have become more and more the target of the photographers and today the big games may attract half a hundred of them, not to mention the newsreel men and a host of sports writers. Football, coming in the fall, conflicts with few other sporting events and as a result enjoys almost as wide a following as baseball. Photographing these games from the ground presents more difficulties than baseball, inasmuch as it is a game of mass formation rather than an open game like baseball. Players constantly get in the way between the ball carrier and the camera and such pictures are not much use to editors. When a play is being made near the goal line, the photographer may get within a few yards of the play and thereby get a good photograph of the action even though he is confined to the ground. The same thing applies when the teams are near the side-

lines although under present rules the ball is put in play ten yards in from either side of the field. However, an end run or off tackle play may bring the ball carrier within a few yards of the cameraman on the sidelines and offer a good picture. Shots from above at football games give the reader a better idea of what is happening. He can see how the two teams were moving and how the ball carrier attempted to get through the line of scrimmage. Inasmuch as football is usually played in the afternoon during the autumn, the news photographer often encounters dismal lighting conditions, particularly after the first half is over. This must be counteracted by the use of a fast plate and fast lens, inasmuch as the action is such that relatively high shutter speeds must be used to stop the motion of the moving players.

Night sporting events offer additional problems for the photographer to fathom. For this work, a synchronized speed flash is essential. The shutter speed must be at least 1/200 or 1/300 second to insure stoppage of movement in the image, and this requires a synchronizer of unmistakable reliability. The range of speed flashes, particularly at high shutter speeds, is comparatively narrow. The light of an average Photoflash bulb will not cover a distance of more than thirty feet from the camera and this is an exceptional distance. At high shutter speeds, this distance may be reduced to fifteen or twenty feet. The general practice of photographers assigned to night games is to wait until they can get a photograph near the goal line or base line, where they are almost assured of getting a good action picture within the range of their lighting equipment.

Tennis, indoors and outdoors, is a frequent assignment for the news photographer. The indoor photographs must usually be made with a speed flash if they are to show any action in the game. The usual photograph of a player making a good drive or return is the commonest of tennis photographs, which are confined to a comparatively narrow range. Crowd shots are always worth-while when an important tournament is being played, as well as general photographs of celebrities attending. Another good photograph for newspaper use in covering a tennis match is a general view of the playing field showing the two opponents in action. The loser shaking hands with the winner at the end of a match should be photographed. The presentation of any trophy is always worth pictures also, which should

show the donor and donee shaking hands, as well as the winner of the trophy holding it by himself.

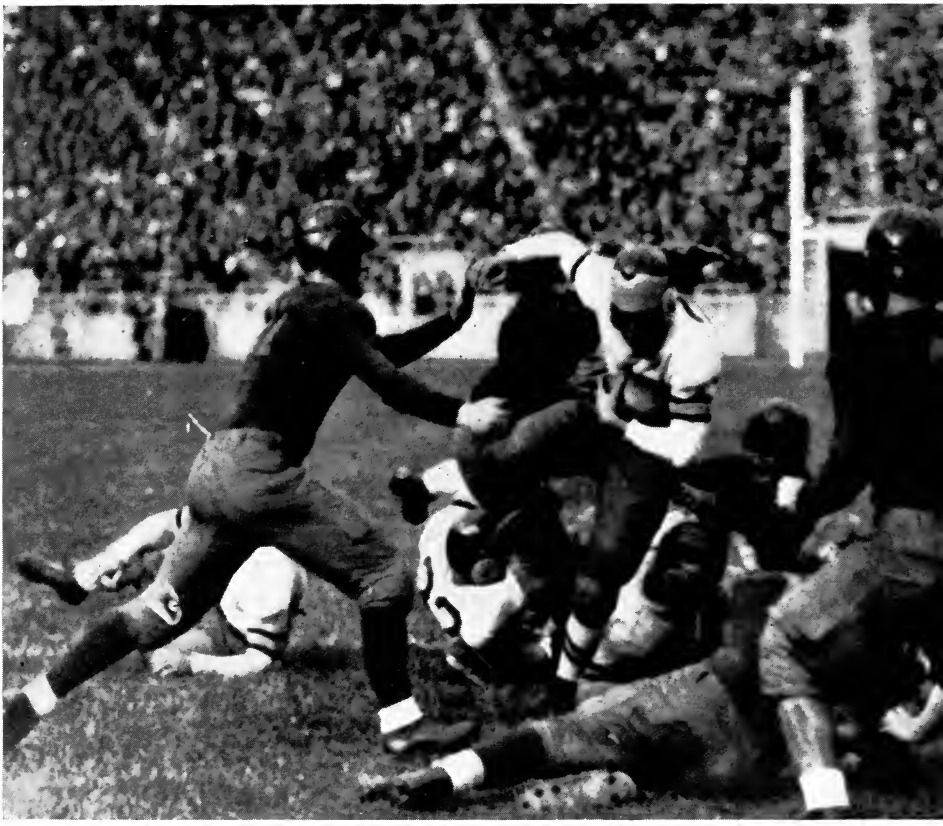
Hockey games, with their fast action, make a difficult assignment for any newspaper cameraman and he must be on his toes every minute in order to get striking pictures. The synchronizer for the shutter and speedflash again are needed. Action in a hockey game may range from the face-off at the start of the game to a general free-for-all fight indulged in frequently by members of the teams and sometimes including spectators. If two or three men can be caught lying on the ice after a rush for the goal, it makes an excellent news picture. A general shot of any bit of action in the game is worth a picture.

Field hockey, enjoying a great vogue among women athletes, particularly in colleges and universities, is usually a comparatively easy sport to cover, as it is played outdoors, usually in good light and with speed that is not excessive. Here an attempt by the goalie to block a shot for the goal is a worth-while shot, as is any other attack upon the goal.

Pictures of athletic teams make good news pictures if they are well enough known. It is easy to see that a baseball team from Podunk high school which has not won a game during the season has not the news value of a photograph of the world champions. Yet as far as Podunk is concerned, the high school baseball team, win or lose, is worth a photograph for use in the school annual or in local newspapers.

Basketball has other problems for the newsman to cover, but they are easily solved by the photographer stationing himself under or near one of the baskets. This will put him in a strategic position in which to photograph action near the goal or anywhere within a reasonable radius of it. The use of a synchronizer is recommended for this type of work, as shutter speeds up to and including 1/300 second are needed.

Cricket matches are given little attention in this country and most of the English press photographers content themselves with photographs of the batter swinging or hitting the ball. Probably only one photographer in a hundred in this country will ever have occasion to cover a cricket game. If he does, however, the old reliable picture of



FOOTBALL *James C. Kinkaid*

A good action shot where the ball carrier is plainly visible and the positions of the other players are well shown.

a batter swinging or hitting will make a satisfactory news photograph, unless some other part of the action, such as a runner being put out, can be made.

Boxing and wrestling matches offer wide opportunities for photographs for newspaper use. Every event of this kind is of importance to local readers, and inter-sectional and other big fights and matches are useful for syndicates as well.

In stadia or other outdoor places where fights are held, the problems are very much simplified if the melee is held during the day. If it is at night, however, the speed flash must be resorted to in order to catch the action, or an ultra-rapid lens must be used. Where such a lens is used, great care must be exercised in focusing, or the result will be out-of-focus negatives. In this work, a range finder coupled to the lens, as in the Contax and other miniature cameras, is almost indispensable. For speed flashes, however, an average sized lens may be used with good results. The shutter speeds, in any case, should be above 1/100 second and preferably near 1/200. This will stop the usual action of a fight or wrestling match.

In a prize fight, the main thing to look for is a knockdown. That is the news of a boxing match. If a picture can be made of a fighter going down to the canvas, it is much better. It is always wise to make a few photographs of the fighting before the first few rounds are finished in order to be assured of some good action photographs. Then, if there is no knockdown during the later rounds, you will not be without any negatives. When a championship title is at stake, special arrangements are made for the accommodation of news photographers. In such cases, it is usually necessary to use a long-focus lens of ultra-high speed. This may, unless other photographers object, be supplemented by synchronized flashlights.

Wrestling matches offer an opportunity for sports photographers to satisfy their yen for action. No better wrestling picture can be made than a flying-mare hold in the process of execution with one of the wrestlers in mid-air. Similarly, the flying tackle and airplane spins, which have recently joined the traditional grunt and groan league's holds, offer opportunities for good action photographs. The usual procedure in making these photographs is to use a synchronized speed flash.

Six-day bicycle races, which in recent years have spread to all parts of United States and Canada, offer another obstacle to the news photographer if he is to catch the speed demons showing their wares to the fans. When it is considered that some of the leaders in this sport can pedal their bikes in the race to nowhere at speeds of upwards of fifty miles an hour, and that this action must be stopped with a speed flash, it is easy to see that this sport is not the easiest to cover. The usual procedure here is to photograph the race scenes from the balcony, or from a curve. In both cases, high shutter speeds are required. Probably the most spectacular, and more rare, six-day bike race pictures are those picturing spills. If such a picture cannot be obtained, a photograph of the riders immediately after the crash, lying on the floor, should be made. The start of a six-day bicycle race and the parade of the nations which immediately precedes the start are both worth-while pictorial shots for the sports pages. Favorite teams should also be photographed before the race, inasmuch as it is impossible to get the members of the teams together after the race is begun. If the six-day race is the only important event photographically for a sports page, it is also customary to show the riders, particularly the stars, sleeping or eating or having a rub-down or anything else that may have a direct bearing on the race.

Cross-country races of all kinds make good sports subjects, and pictures should be made at the start, about halfway and at the finish. The winners should also be pictured receiving their just rewards. Automobile road races, cross-country runs, marathons, and bicycle and motorcycle events fall in this category. Road races for automobiles are no longer popular in this country, because of the accidents which mark them. They are still popular, however, in foreign countries.

Badminton, squash and handball tournaments are difficult to cover if action is required, as the courts in which they are played are comparatively narrow and it is impossible in most cases to get far enough away from the player to make a good photograph. However, by posing the subject as though he were playing the game, pseudo-action shots of passable quality are obtainable. The players may also be photographed in normal positions without any trouble. In such cases, the subjects should be wearing their uniforms, as it then shows that

the players are not businessmen but athletes. Always get as close to the story as possible in making such photographs.

Lacrosse games offer excellent opportunities for action pictures, although the photographer must be constantly alert in order to catch the players at the most opportune moments. The same general rules laid down for football can be followed here, adding to them the rules given for hockey, as the action is fast and yet, to a great extent, of an individual nature. Two or more players leaping into the air, their racquets extended to arms length, in an effort to capture the ball, make an excellent action photograph illustrating the game.

Regattas of all kinds offer photographers many opportunities for beautiful sports pictures. Sailing events should be photographed, if the light will allow, with some sort of filter, either orange or red, in order to get the beauty of the sails outspread. Motorboat races test the photographer's skill in portraying fast action, for it is necessary to judge the speed of the boats and set your shutter speed accordingly in order to stop motion. On very bright days, filters may be used even in such cases and will add, generally, to the tonal quality of the print. The photographer's position in relation to the subject is a most important thing to consider in covering an event of this kind. In most cases, it is best to make the photographs with the lens away from the sun. However, striking effects can be obtained in photographing boats against the light, if a lens shade is used and great care is taken to avoid the direct rays of the sun.

If the photographer is aboard a judge's or patrol boat, he must not only allow for the speed of the moving boats but also for the speed of the ship upon which he is located. If the water is rough, the swell may rock the boat severely, causing enough movement to make necessary the halving of the exposure time. In other words, a speed of 1/600 second may be necessary where, if the cameraman were on land, he might be able to make an exposure of 1/300 second.

Automobile races, if they are on a circular or oval track, as is the usual case in this country, are among the easiest of all high speed events to cover, photographically speaking. If the photographer must cover the race by himself, he should get a picture of the start of the race and also the finish. Between these, he should cover the most dangerous curve on the track to snap possible crashes. If there is no

SHAMROCK V *G. L. A. Blair*

A sailing picture of great excellence. The billowing sails make you feel that the boat is going at a good clip in a stiff breeze.

outstanding danger spot in the track, he should take a position in the infield at the end of a straightaway. A car is more likely to get out of control at such a point than anywhere else on the track, and a photograph of a racing car whipping end over end is a masterpiece for a news man. However, such shots are unique and the photographer may spend his entire life in the press ranks without getting that type of picture. The best he can do is to take advantage of every possible break and thus reduce the odds against his getting the picture that pays. The photographer should place himself in such a position, however, that he can picture the speeding cars without encountering too much movement in the object.

Airplane races, although they are generally treated as straight news stories rather than sport events, offer the photographer an interesting assignment that will test his skill at stopping action. Today's high speed racing ships travel at the rate of well over four miles a minute, while in dives their speed may attain well over 350 miles an hour for land planes. The seaplane speed record today is more than 425 miles an hour. At air meets it may be possible to get feature pictures of prominent aviators or of parachute jumpers which, particularly if snapped from odd angles, are usually easily sold. Telephoto lenses are very useful when covering such events, allowing the photographer to get a good distance away without losing detail in the image. The size of the image, in covering any assignment, should be great enough so that detail will not be lost in making an enlargement.

Swimming and diving meets, particularly the latter, offer newsmen excellent opportunities for picturesque and easily salable pictures. The only point in addition to those already given is to catch the diver at an important part of the dive or to picture the swimmer either diving into the water or slashing through it at the finish line. A fairly high shutter speed must be used in both cases to insure stopping motion.

One important division of the press photographer's work not yet mentioned is working on assignments for the business office. Since photography has become such an important part of journalism, there has been a constant struggle between the editorial department and the business office, particularly the advertising department, for the services of the photographer. This battle has raged for years and not

DEATH CRACKS DOWN *Acme*

The photographer's dream is to be on the spot when an accident like this happens. The car and unfortunate driver have been caught in mid-air just before the crash.

only involves the photographers but the writing staff as well, and at times even affects the space allotted the various departments. The advertising department of many papers never ceases its efforts to put items concerning advertisers in prominent positions in the paper. The editors oppose this strenuously, so the battle goes on. The photographer has no choice in the matter. If he is assigned to work for the advertising department, he takes his assignment in the same way as he takes his straight news job.

He may be told to work up special sections for new stores that are opening, an auto show, an electrical show or something along those lines. The news photographer becomes a commercial man when he is assigned to the business office. Usually he is told just what is expected of him. Rarely will he be given an opportunity to use his own judgment. There are no hard and fast rules that can be laid down for this branch of work, other than that perfect negatives are required. Filters should be used in such work and, if possible, the negatives should be made on a panchromatic emulsion. The usual assignments from the business office are the photographing of furniture, new houses, automobiles, airplanes, styles, new household equipment. In short, almost everything which may be advertised. A few newspapers maintain separate staff photographers for the news and business departments. This is an ideal arrangement, eliminating as it does the inter-department friction.

Artistic composition should be studied in making photographs for this branch of work. Something appealing to the eye is absolutely necessary and for this reason the photographer is usually expected to bring in photographs showing attractive girls or babies. Both of these are sure hits. Bathing beauties often appear in print for the same reason.

Working with the business office is excellent experience for the newsman as it gives him good experience in commercial work. The staff photographer should therefore not object to making advertising photographs, as it gives him an excellent background for any move he might make into the commercial field if for any reason he decided to leave press work.

To sum up the major points of covering assignments, let me recapitulate. Tell the story in the smallest possible number of photo-

THE WINNER SAYS "HELLO" *James C. Kinkaid*

The end of an auto race, with the winner bedecked with flowers being congratulated. The inclusion of the wife of the racer adds an interest to the picture which it might otherwise lack.

graphs, one if possible. Cover every conceivable angle of the story if it is a big one. Always obey the orders of police or fire officials. Try to develop feature angles on any story on which you are working. If you can not tell the whole story in one photograph tell as much of it as possible. In covering fires or riots, stay to the windward side of the scene as much as possible. Be accurate. These points should be remembered as long as you work on assignments for a newspaper or news-photo service. Follow them and your career in the newspaper game of photography will be a success.

Only the high spots of press work have been touched. The press photographer should find out the ways of getting his picture and then make use of them. Keep your mind open to fresh ideas. Never let yourself get into a rut. If you haven't an assignment, make one. They are easily developed and certainly offer the photographer, particularly the free lance, an opportunity for earning more than he otherwise would. Standardize your methods of working, but never your sense of news. That is your most important asset in press photography. Your originality is your guarantee of continued success in this field.

Chapter XVII

COPYING

SELDOM DOES a day go by in the photographic department of a metropolitan newspaper or picture agency when a photographer is not required to make a copy of a print, the negative of which has been lost or is otherwise unavailable. For this reason a press photographer should learn as much as possible about making copies of photographs and other things, such as maps, plans, blueprints and printed matter. The following discussion does not cover the technique of copying completely but it does give the knowledge that is essential for making probably ninety-nine percent of all copies that may be needed in the newspaper office.

The equipment necessary for this work consists of an easel for holding the copy to be photographed, a camera and lens, and a holder for the plate or film. At the present time, two types of equipment are in general use. The first of these is a stand upon which an easel for holding the copy, the necessary lights and the camera are placed. The second is a camera manufactured for reducing, enlarging and copying, such as the Crown. The former method is to be recommended for press work, because much of the copying work in a news studio must be done with originals much larger than the capacity of the Crown camera, and because the same camera that is used on assignments may be used for copying if the bellows can be extended sufficiently. The bellows should be capable of at least double extension, and even more extension is needed when very small objects are being reproduced.

The copy camera should be mounted so that the lens is opposite the center of the easel. The illustration shows a typical set-up for copying, with a place for the plate- or filmholders directly under the camera where they will always be handy. Make sure that the plate or film is parallel to the easel. In most newspaper studios, a five by seven inch view camera is used for copying, mounting the camera on a track so that it may be moved backwards or forwards as occasion requires and

COPY CAMERA SET-UP *James C. Kinkaid*

always remain exactly parallel. The lens should be a sharp cutting anastigmat of sufficient size to cover the plate. It need not be faster than *f*:8, but may be the same lens that is used on the camera for regular work, when the camera used on assignments is also employed in reproduction work.

Plates or films used for copying should be capable of giving a fine-grain negative with good tonal gradation and contrast. Although many photographers claim that they can make good copies with the high speed emulsions which they use on assignments, such plates or films generally give too much grain and too little contrast for successful copy work. A slow plate or film which is capable of giving good contrast is a wise choice. The Eastman Commercial plate is excellent for copying, as are the Eastman and Agfa Commercial films. The Hammer Slow plate is another good plate which is used considerably in this country. Process plates are excellent for copying and although somewhat slow, the additional exposure required is usually not sufficient to cause any serious loss of time. For copying line work, such as cartoons, blueprints, typewriting and the like, where extreme contrast is required, panchromatic process emulsion should be used. A panchromatic film should also be used when copying colored objects.

Exposures in copying are important and must be approximately accurate. A few experiments with the particular equipment being used will show exactly what exposure should be used for getting a satisfactory negative. Remember, however, that the exposure will vary slightly with every variation of the distance between the lens and the emulsion. This may be easily compensated for by mental calculations, lengthening the exposure in proportion to the extension of the bellows from their normal position, or shortening the exposure if the extension is reduced.

In making copies of photographs which have not been colored, the simplest method is to expose accurately, then develop to the density or gamma desired, fix, wash and dry and then print as you would any other negative. No difficulty is encountered in copying the average photograph. The main thing is to focus accurately and expose correctly. Filters are not needed in making copies of plain black and white prints.

If an artist has retouched the print previously with chinese white water color, this may be removed with a sponge of absorbent cotton, slightly dampened. If india ink has been used, it may be removed by using alcohol. Where retouching has to be removed, caution must be exercised or the emulsion will be damaged.

Probably most of the copies made will be photographs of cartoons,

sketches, and similar items. For this work, process panchromatic plates or films should be used, to insure obtaining the greatest possible contrast in the negative. If even greater contrast is required than is thus obtained with normal exposure and development, the negative should be intensified. If extreme contrast is required, the paper on which the negative is printed should be of an extremely contrasty grade. The exposure may be shortened very slightly to increase the contrast. Some workers use somewhat more hydroquinone and sodium carbonate than usual in print development under such circumstances, but this is rarely necessary, as the intensification of an already contrasty negative will usually serve the purpose.

If the print to be copied is stained, but the details can be seen through the stain, select a filter which most nearly matches the stain and photograph the print with that filter on the lens, increasing the exposure to allow for the filter. If the stain is red, use a red filter and a process or commercial panchromatic film. Yellow stains may be eliminated by using a yellow filter, green stains by using a green filter, etc.

Should difficulty be encountered in copying a sepia-toned print, a fully correcting filter should be used with a process or commercial panchromatic emulsion. The usual result in copying a sepia-toned print is that the contrast of the negative is too great if a non-color-sensitive emulsion is used, as the brown color strongly absorbs the violet light of the spectrum. Generally, however, the contrastiness of a negative may be counteracted by printing on a soft paper.

Another important branch of newspaper copying is reproducing typewriting, newspaper clippings or tear sheets. The same method is used as when copying cartoons and sketches. If they are colored or tinted, this should be rendered correctly by the use of panchromatic film or plate, in conjunction with the proper filter. If a single color is to be emphasized, a contrast filter should be used.

For instance, blue typewriting with red correction marks may have to be copied. If it is necessary that both blue and red markings be shown, a green filter must be used. If only the blue typing is to be shown, a red contrast filter, such as the Wratten A, will allow the red ink to register so little that it will be practically negligible, and the negative can be printed to show only the typewriting.

TEAMWORK *William M. Rittase*

A breath-taking picture not only because of the perfection of motion but on account of its keen composition and technique. Although taken at probably 1/1000 second, the details are clear in the shadows.

By following the principle of using filters to accentuate certain colors, any single color can be picked out of a combination of colors by using the proper filters. The most important of these filters is the tri-color set. Red filters can be used for getting the blues and greens to predominate, a green filter for red and purple, blue filters for yellow and brown, and a yellow filter for obtaining an outstanding violet.

Reproducing maps is another important branch of copying. Unless there is a predominant color that must be emphasized, make the copy through a K-2 Wratten or similar filter on a commercial or process panchromatic emulsion. If there is a certain color that must be emphasized, the same rules apply as in copying typewriting. It is possible that the negative may need to be intensified to secure sufficient contrast.

A blueprint is a difficult thing to copy. An ordinary plate is almost useless, because of the very slight variation in sensitiveness between blue and white of the emulsion. Even a K-2 filter and a panchromatic film give insufficient contrast. By applying what we have already learned about getting certain colors to predominate, we find that by using a strong red filter we can get a contrasty negative of a blueprint, which can be intensified if necessary.

Another difficult task is copying a halftone illustration. The halftone screen should be eliminated as much as possible. This may be done by placing a very pale blue glass about an inch in front of the print to be copied and making a reduced size negative. This negative is then enlarged in printing to the desired size. Another method is to stop the lens down to *f*:32 and while making the exposure, rap the copyboard gently. The vibration will usually kill the screen unless it is very coarse. The copying of rotogravure illustrations is easily accomplished by this means, as the screen used in this process is very fine and hardly noticeable.

The lighting of the material being copied is of great importance. The lights used in press studios are mercury vapor tubes or ordinary tungsten lights. There must be an equal amount of light along both sides of the copyboard. In recent years, mercury vapor tubes have been replaced by tungsten bulbs and, of all the tungsten bulbs available at the present time, the long tubular type gives the most even lighting, although the globular tungsten bulbs may be used with

LINED UP *James C. Kinkaid*

Ready for the start of the big race. Such a picture as this is always of interest to newspaper readers. It shows the different types of airplanes, and the fact that perhaps some of them didn't finish the race makes it of added interest.

success. The usual way of mounting the tubular bulbs is to place them in a long semicircular reflector. Sometimes, when a large copyboard is being used, six or eight lights may be used to insure even lighting. The bulbs should be equally distant in the reflectors and mounted about twelve to eighteen inches away from the board in such a manner that they can be moved in a ninety degree arc to provide various lighting effects. The lights should also be movable, to avoid their possible reflection on the glossy surface of the paper. A switch for turning the lights on and off should be on the light cord, or should be an integral part of the copying equipment in some way, in preference to a plug in a base or wall socket.

Except in the case of a black and white drawing, it is possible to get more contrast in the reproduced print than in the original. The entire matter of contrast rests in the emulsion and filter used, the intensification of the negative, and the paper used for printing.

The above résumé covers practically every possible copying assignment that a press photographer will ever receive. If something outside the above discussion arises, your knowledge of emulsions, filters, intensification, etc., will help you make a satisfactory copy. Always remember that whether you are working outside on an assignment or making a copy, the final decision as to your success or failure is whether or not the print will make a satisfactory halftone engraving. Always make your prints with that in mind.

Chapter XVIII

COMPOSITION

ALTHOUGH press photography may offer but little opportunity for artistic composition in finished prints, there is a definite need for a knowledge of composition as applied to news work. Little study of composition from an artist's viewpoint need be given by the press worker. He must, however, be able to present a story-telling picture of the assignment on which he is sent.

Triangular constructions, curves, etc., do not interest the news photographer nor the art editor (a misnomer which has attached itself to the picture editor through the slang expression " art " applied to all newspaper illustrations). These men are only interested in giving the reader a clear, concise picture of what is happening or has happened or may happen.

Of all the rules that might be laid down for press photographers, the most important is that the picture should tell the story. They are little interested in its artistic appearance in the paper, and providing it interests the editor and the readers their work is well done.

An important rule of newspaper photographic composition is to arrange your subject so that the center of action will be near the center of the picture. If it must be to one side, try to make it the left, and if necessary, slightly below the center of the plate. The reason for this is that few finders are entirely accurate and a picture may be out-of-frame if this occurs and the main object in the picture is not in the center. On this point, it is usually a good policy to test the finders on the camera, comparing the view seen through them with the image projected upon the ground glass. In this way compensation for any inaccuracies in the finders may be made.

Another reason for centering the action is that then the entire scene surrounding the action can be shown, whereas if the center of action was any great distance off to one side, the photograph will have an unbalanced appearance unless the artist compensates this by retouch-

ing. When the main point of interest is near the center of the negative, it is possible in most cases to get a larger image than if the point of interest was at one side. This rule may be violated if necessary, however, as the picture editor is only interested in the final illustration, and by enlarging and using only a portion of the negative the action can be centered.

In covering parades, fires, blasts, riots and similar assignments, the best way to get a good picture is to get above the scene and aim the camera downward. This is a good idea in any instance where a general view of the scene is required, as it eliminates extended foregrounds. If you must remain on the ground, the front of the camera carrying the lens should be raised enough to cut down the foreground to a minimum.

Possibly the most common assignment for newspaper workers is photographing a group of people. No hard and fast rules can be laid down, as this type of illustration would then soon become monotonous. It is usually a good plan to get such groups doing something. Try to get them in character. If they are steel workers on strike, don't picture them standing like clothing-store dummies. Have them talking together, with perhaps a banner concerning the strike in the background. If they are on the street, try to get a picket line in the background.

If the group consists of convention delegates, have them seated at a table discussing their plans, or perhaps chatting together in a corridor. Prominent flyers can be pictured getting a cup of coffee in a lunch room. People are interested in what prominent people do outside their usual pursuits. Readers are tired of seeing aviators stand beside their planes, as they have been photographed in this position countless times.

Much difficulty is encountered by press photographers in photographing tall buildings which may be prominent in the news. This is because most news cameras are not equipped with swing-backs. In such cases, if the photograph cannot be made from another building so that the leaning effect will not be too pronounced, the effect may be corrected in enlarging by slanting the easel in such a way as to compensate for the converging lines in the negative.

If a picture is being made of a person alighting from a train, boat

or plane, have him pose on the steps or gangplank. Don't have him wave his hand unless he is doing so naturally. Most art editors detest pictures of a celebrity detraining and waving his hand. Get a picture of the celebrity walking or talking, if possible, as it is more natural and the salability of the picture is increased.

The size of the image is an important thing in composing a press photograph, particularly on a newspaper where extended enlargements are often desired. In this connection it may be said that the image should be as large as possible in keeping with the size of the camera. If you are not sure whether your camera is far enough away from the subject to insure getting the desired result, move back. Remember that news subjects seldom pose for a second taking.

In composing a picture of an individual on the ground glass, attempt to bring out the most striking characterisic in the person's features. It may be a stern visage or a brilliant smile. If a prominent person is known as a pessimist and you can catch him with a smile, you will have a good picture that will sell.

The question of whether a bust portrait or a full-length picture will be made is usually determined by circumstances. If the photographer is working in a cramped space, the full-length study is usually impossible. If there is sufficient room, a full-length as well as a close-up should be made.

The question of whether the composition should be vertical or horizontal is decided by the nature of the subject. Single persons and groups of not more than two can be made either way, but preferably vertically, as then a larger image can be obtained on the plate. Larger groups should be photographed horizontally. Tall buildings should be photographed vertically and low rambling ones horizontally. Landscapes and most sporting events look better horizontally. Single sailboats, diving scenes, and lacrosse action shots are better placed vertically.

The art editor looks at a print with an eye only for news value, nothing else. A photograph that might be accepted in a salon exhibition will receive a cold reception from the pictorial editor of a newspaper if it does not tell the story or at least part of it. The only exception is in the making of photographs for the rotogravure section. Here a photograph, unless it is strictly news, must also be artistically pre-

sented. It might not embody all the rules of composition, but it must appeal to the eye more than to the brain, as in the case of a strictly news picture.

Where a telephoto lens is used on a camera having a direct view finder, such as the Speed Graphic, it is sometimes difficult to know whether all of the desired scene is being included on the plate, if the view finder is not marked in some way to show the exact amount of the subject that will appear. This may be avoided by having the direct view finder glass engraved in such a way that the area of the finder will correspond to the area of the scene which will appear on the plate. If more than one telephoto lens is used, additional lines, within reason, should be engraved for each size lens which may be used. Although this will cost a dollar or two, it will save many plates and much worry.

It is probably fortunate that there has been no move for the artistic in general news photographs, as the majority of newspaper cameramen came up from the ranks of office boys without ever having studied the artistic side of photography. Some leave the news game to enter portrait or commercial work, but the fascination of the press usually keeps them within its toils. Most of them seldom enter a print in a salon exhibition. They are primarily newspaper men who decided to cover the news of the day with a camera instead of with paper and pencil. That their work is not going unnoticed is shown by the fact that photographs are constantly making further inroads into newsprint. The readers of modern newspapers want to see what is happening as well as read about it. They, too, have learned that a single picture can tell more than ten thousand words.

Keep your pictures simple. The rules of newspaper copy, brief, descriptive, simple, may well be applied to the composition in newspaper photography. The picture should be able to tell the story with a short caption, it should be easily grasped, and it should need no support from other photographs. Of course, where two or more pictures are used on one story, this last rule need not apply.

Follow these rules and your editor will look to you to bring in the picture that will boost the circulation figures, the real criterion of the success of a photograph or story.

Chapter XIX

FILTERS

THE USE of filters in making negatives is comparatively unknown to the majority of press men. Yet many press photographs could be improved by their use. In some cases the difference between negatives made with and without a filter will be so great that it will hardly appear to be the same subject. Despite this, press photographers continue to neglect to use filters entirely or use them only infrequently. On the other hand photographers for rotogravure sections, where pictorial effects are an asset, generally use filters, and the results speak for themselves. At the present time, filters are made which will cover every conceivable need of the press photographer. Some are suitable for many purposes while others are designed for one particular type of work. The use of filters in copying has already been discussed and their use on other assignments will be taken up now.

Lack of light makes the use of filters impossible on many assignments, but on the other hand, thousands of shots are made where a filter could be used with improvement in the final print. If the light is so bad that 1/25 second has to be given with the lens wide open, a filter is almost out of the question. Where there is sufficient light for faster exposures, however, a filter should be used, even if it is of only slight correctional value.

A light yellow filter such as the Wratten K-1 should be used where a minimum increase in exposure is necessary, as in the case of panchromatic film. In this case if a shutter speed of 1/100 second is required at *f*:4.5 to give proper exposure without a filter, an exposure anywhere from 1/50 to 1/75 second can be given with the filter without danger of underexposure. If orthochromatic film is being used, the multiplying factor is somewhat higher, and for the K-1 filter this is four times normal in sunlight. The exposure of 1/100 second without a filter would have to be 1/25 second using the K-1 filter.

For complete color correction it is necessary to use a panchromatic emulsion, such as Eastman or Agfa Portrait Panchromatic. These emulsions, coupled with a K-2 filter, which is a slightly deeper yellow than the K-1, will give absolute correct rendering of all tones and colors in subjects photographed in sunlight. Other filters must be used if work is done under other light.

The K-3 filter is a deep yellow and was formerly used with the faster panchromatic emulsions for complete correction. Because of improvements in sensitizing these emulsions, however, this filter is now obsolete and is undesirable for the work. It has been replaced by two green filters, the Wratten X-1 and X-2. These filters serve to hold back the rays emanating from the blue or lower end of the spectrum as well as those from the opposite end where the red rays are located. They are so constructed that the red rays are given their proper value in the negative instead of appearing too dark or too light in proportion to the remainder of the colors in the final image.

The X-1 is designed for use with the orthopanchromatic emulsions such as Eastman or Agfa Portrait films, when working under incandescent light, and for the hyperpanchromatic emulsions such as supersensitive and hypersensitive panchromatic films, when working in sunlight. Under these circumstances, the emulsions mentioned will give accurate orthochromatic rendering of the tones in the subject.

For working with hyperpanchromatic emulsions under incandescent light, the X-2 filter should be used where correct rendering is required. In each case, the incandescent lighting referred to is that obtained with clear bulbs.

The use of these materials becomes quite frequent where the photographer is employed in a press studio where portraiture is done. They also may be used in sunlight on general assignments. The fact that they have to be loaded and unloaded in complete darkness keeps many press photographers from making full use of them. This is a simple task however, if materials and implements are kept in their right places, and, once mastered, the use of panchromatic films and plates becomes a decided help in the field of press work.

The most important of the contrast filters for general assignments are the G and A filters, the first a yellow screen, the second red. The G filter is used to a great extent in the elimination of haze in telephoto

SKI JUMP *Franz Ullrich*

An into the light shot of breath-taking action. Filters are absolutely necessary in taking pictures such as this. Notice the infinite detail in the snow.

work. This filter, by removing the blue, violet and some of the green rays, as well as the ultra-violet, effectively eliminates the haze which intervenes between the subject and the lens. Although this screen overcorrects the tones in the negative, this does not materially affect the final print, because it permits greater contrast between various tones which might otherwise be recorded in practically the same tone, thus making the positive virtually worthless. This filter is also used to record cloud forms and is an excellent screen for this purpose. It may also be used wherever more contrast between tones is desired than can be obtained with the K-2 filter. For regatta pictures it is excellent, for it brings out every minute detail in the boats.

The A filter is also used for regattas, as its tendency to overcorrect the red when used with a panchromatic film is ideal for this type of work, giving as much contrast as is generally desired between the sails and water and clouds. The G filter, however, is better adapted for general work at regattas, and if haze is absent, the K-2 filter will usually meet all requirements.

Because of their particular characteristics, however, these filters can well be used in photographing furniture and similar objects where detail is required, the red filter being used for mahogany, while the deep yellow screen can be used for practically every other kind of wood.

The red filter is also one of the three used in tri-color work. The Wratten B, which is green, and the C-5, which is blue, are the others used in this work. This trio will cover the visible spectrum from 400 to 700 millimicrons, each one covering approximately one third of the spectrum. The use of these filters is not confined to the tri-color process alone. They may be used as contrast filters wherever necessary and for that reason a set of them should be kept in the press studio if possible.

Many newspaper photographers have specialized in cloud photographs for the rotogravure sections. Work in this field requires either an A or a G filter, or if the faintest cloud forms are to be recorded, the G filter can be combined with the D filter, which is violet and which transmits both the red and blues in the spectrum. With this combination, it is possible to photograph near the limit of the visible red in the spectrum. Owing to the small amount of red light reflected by the sky, this combination of filters can record wisps of vapor in the sky

which are barely visible to the eye. For most work, however, the G filter will be sufficiently contrasty to record cloud forms, while the A filter, giving a very high degree of contrast, makes it probably the most useful single filter for recording faint cloud forms.

Where considerable work is done photographing vases, furniture and similar objects, it is customary to have a complete set of contrast filters on hand. These include the following in addition to those already mentioned: Wratten E, orange; L, violet; N, strong green; P, blue-green; and R, deep red.

Each of these filters finds its varied uses, generally as a contrast filter to bring out detail which would be obscured if ordinary methods were followed. If it is remembered that an object, when viewed through a filter of its own color, is light, the results will be generally good. For instance, if it is necessary to photograph a blue vase on which a design has been painted in red, the best contrast between these can be obtained by using the P filter. On the other hand, if the design is in blue and the vase red, the best result can be had by using the A or F filter, the latter being preferable. Tests can be made by holding a filter before the eye and looking at the object. If there is sufficient contrast under these circumstances the film will also have sufficient contrast.

To go back to the blue vase with the red design, it would be almost impossible to photograph this with a portrait panchromatic emulsion and a K-2 filter, as the contrast between the two colors would be virtually nil. There would be a slight amount of contrast but not nearly enough to make a print which would be suitable for halftone reproduction.

The recent increase in the use of aerial photographs by the press has resulted in an entirely new application of filters to press work. Elimination of haze is absolutely necessary, yet the exposure must not be prolonged to any great extent. Fortunately the press, when it sprouted wings, was able to adapt the knowledge obtained by the United States government in this work. The filters used are the Aero 1 and Aero 2, the latter giving a greater amount of haze elimination and slightly greater correction than the former. The Aero 1 is used where the exposure must be made in light which will not permit of complete correction or complete haze elimination. The Wratten 3-N-5 and

5-N-5 filters may be substituted for the Aero 1 and Aero 2 filter respectively, although a somewhat longer exposure is required. For all practical purposes, the press man who is required to make aerial photographs can make equally good negatives by using the K-2 filter, although its characteristic is slightly different, transmitting a lesser amount of the light at the blue and violet end of the spectrum than the Aero 1 and therefore requiring a very slight increase in exposure.

Some photographers, particularly the " stunt " specialists, are making negatives with infra-red light, obtained by using screens which transmit light of this color although it is invisible to the eye. In addition to the special filters, special emulsions sensitive to the infra-red rays are required. As this branch of photography is a little outside of general routine assignments, it will be taken up in a later chapter on special work.

If the press photographer has to limit himself to certain filters, he should buy those which will be most useful to him. This applies particularly to the free-lance worker, but even newspaper photographers who are on the staffs of metropolitan papers often have to buy their own equipment and so do not care to spend a great deal of money on equipment which might not be necessary.

If only one filter can be bought, it should be a K-2 or a similar one of another make. If three filters can be afforded, they should be the K-2, A and G filters. These will cover the majority of press assignments. If more money can be spent, the most useful filters in the order named are: K-2, A, G, K-1, X-1, X-2 (if much studio work is done), B, C-5, F, the contrast filters, Aero filters, D, and finally the infra-red.

The mounting of a filter on the lens is a difficult problem. If sheet gelatine filters are used they must be mounted between the components of the lens. This makes it impossible to change filters rapidly if needed. It also may lead to distortion of the image projected to the emulsion.

The best method is to mount the filter in a lens hood in front of the lens. This not only serves as a filter holder but also as a means of cutting out extraneous light, a factor which is recognized by less than half of the press photographers. The use of a combination of lens

hood and filter holder, eliminating extraneous light, will result in a brilliant negative that cannot be equaled if proper exposure is given.

The mounting of a filter behind the lens, although an excellent idea for the commercial and portrait photographers, does not work out in press photography. The filter cannot be changed rapidly, as the back of the camera or the lens board must be removed, and it also alters the focus of the lens. By mounting the filter in front of the lens this is avoided, as there is no appreciable shift in focus introduced by the thickness of the glass if the filter has been accurately constructed.

Mounted or unmounted filters can be bought, but for the press photographer, the unmounted square filter in " B " glass is best. This type is about half the price of the mounted filters. In addition to this it is easier to fit a square filter into its holder when on an assignment, when changing filters in an emergency must be a matter of seconds. Another advantage is that the filter holder and filter can be used without further adjustment on lenses of slightly varying diameter. The circular slip-on cells which are in common use are used by a few press photographers but generally these holders are not sufficiently flexible for press work. If proper care is taken to insure that no dust, grit, or moisture is present where the unmounted filters are kept, they will last as long as the mounted screens, although there is a slight increase in danger of breaking the unprotected glass edges of the filter. If gelatine filters are used, great care must be exercised in handling them. They should never be allowed to come in contact with the fingertips which are usually moist and greasy. Handle them with the same care as you would plates and films. If it is necessary to cut the gelatine filter, place it between two pieces of stiff paper and cut with a pair of sharp scissors. In cleaning gelatine filters, use a piece of soft silk which has not been moistened in any way.

Cemented filters should be treated with the same care as lenses. Keep them in cases free from moisture and dirt. To clean them, breathe on the surface and polish with a piece of soft silk or tissue paper. Under no circumstances should the filter be washed with water. Should it become so dirty that it cannot be cleaned by simple rubbing, dampen a piece of fine tissue paper with denatured alcohol and gently rub it over the surface of the filter. In doing this care

should be taken that the alcohol does not spread over the edge of the filter.

When press photographers realize how much better their negatives and subsequent prints will be if proper filters are used, newspaper readers will have a better class of pictures to look at. The growth of the tabloid newspapers shows that people want pictures with their news. It is up to the newspaper photographers and publishers to see that they give the best news pictures possible to their readers.

Chapter XX

FOCUSING

ALL THE CARE that can be taken in judging the exposure and composition of a negative can be nullified by careless focusing. A print will be thrown into the editor's rejection basket without hesitation if it is not sharp. The entire picture need not be absolutely sharp, but the news element must be clearly outlined. This can be achieved only by accurate focusing. There are several ways of focusing; the guess-focus method, where the distance between the camera and subject is, as the name implies, estimated; focusing on the ground-glass screen; focusing by the parallax method; and focusing by means of a range finder, either used as supplementary equipment or coupled directly to the lens.

In the guess method the photographer simply sets the focusing scale at the distance estimated. If the scale supplied with the camera is designed for use with a lens of different focal length from that with which the camera is fitted, it is a simple matter to adjust the scale to the lens in either one of two ways. The scale can be remarked with india ink so that the pointer on the lens mounting points to the correct distance. In this instance the original scale is disregarded in focusing. Some of the newer cameras are equipped with a plain white panel along the side of the lens rack so that the various distances can be marked in without the possibility of confusing.

If only one lens is to be used with the camera, the various distances may be scratched in the metal next to the lens rack at their proper positions in relation to the lens used and these scratches connected by diagonal lines to their proper places in the scale mounted upon the camera. Either way is satisfactory although the latter is more permanent and, at the same time, more accurate if done carefully, and is therefore recommended.

When using the guess-focus method, always estimate the distance as accurately as possible and then stop the aperture down as far as

practical, increasing the exposure time accordingly. This will generally give sufficient depth of focus to compensate for any slight error in estimating the distance. If you can not judge distances accurately, don't depend on this method unless compelled to in an emergency. In focusing with an ultra-high speed lens, such as *f*:2.5, the depth of focus is so meager that the slightest error in judgment of the distance will result in hazy negatives. This method of focusing is generally used where there is insufficient time to focus on the ground-glass screen. These times are frequent in the life of a press man, however, and he should practice judging distances as much as possible. Generally the camera is set beforehand at the point at which the subject may be expected to pass, or the distance at which the subject is guessed, and the camera set at that distance. If a subject is expected to walk down a flight of steps, the photographer generally sets his lens so that it will be in focus at one point on the stairs. He remembers that point and when the subject reaches it he makes the exposure. When working at thirty or forty feet from the subject, the problem is somewhat simplified because of the gain in depth of focus obtained as the subject is farther removed from the camera. With lenses of shorter focus, it is often possible to set the lens at infinity by stopping the aperture down to *f*:8 or *f*:11, or lower if the light will permit. The press photographer, however, should never use this method of focusing unless compelled to do so. It is much safer to focus on the ground-glass screen and still safer to use the parallax method.

The most popular way of insuring proper focus is by studying the image projected on the ground glass of the camera. This is done by racking the lens out and uncovering or inserting the ground-glass focusing panel on the camera. Most press outfits are equipped with a spring-back which does not require the ground-glass back to be removed in order to insert a plate- or filmholder. The lens is then racked forward or backward until the main object of interest in the subject is as sharp as possible. There should be no fuzziness around the outline of the image when focused correctly. The background may be hazy, but the object of news interest must be sharply defined. The ground glass should be finely ground and of high quality if it is to be used in press work. If it is not fine enough, it will be impossible to focus accurately. The glass should be kept clean, and a daily dusting will not

SMOKE AND WATER *Alton Hall Blackington*

A particularly pictorial shot such as this is often used in the rotogravure sections if the fire is of enough importance to warrant such display.

be amiss. If glass of good quality is used, and most of the cameras designed mainly for press work are so equipped, it will not be necessary for the photographer to resort to various dodges to increase the luminosity of the image projected. Although there are many of these, few of them are worth the press photographer's attention. The majority of them serve as excellent dust catchers and soon return to the original transparency or opacity of the glass used.

In using this method some means should be taken to cut out extraneous light which may strike the ground glass and affect the clarity of the image formed. A focusing cloth, draped over the back of the camera and the photographer's head in such a fashion as to create a miniature darkroom, accomplishes this. The top and sides should be light tight but the bottom side may be left open without any harmful effects upon the strength of the image. This is absolutely necessary when focusing in light so weak that only a faint image can be seen on the ground glass when viewed without the focusing cloth.

If it is necessary to improve the strength of the image formed on the ground glass and there is no focusing cloth available (it may have been spread on the floor as a support for the tripod or left behind by error), it is usually possible to cut out most of the extraneous light by holding a plateholder against the sides and bottom of the ground-glass hood and viewing the image through the small slit formed by the top of the hood and the edge of the plateholder. The use of a focusing cloth as a tripod support is an old wrinkle with press and commercial men. It supplies, at times, the only possible means of erecting a tripod, even if it is equipped with rubber crutch tips, on highly waxed floors, glass and similar surfaces. The focusing cloth, being of a solid piece of material, does not spread, and will thus hold tripod legs that otherwise would spread-eagle in a variety of directions and probably smash the camera while doing so.

In focusing on the ground glass, the photographer must be certain that the image is projected on the same plane in which the film or plate will be held when it is inserted in the camera. If this is not done, the image will appear sharp upon the focusing screen but be out of focus on the film. When it is considered that an error of a fraction of an inch can destroy definition of the image completely when focusing, it will easily be seen that accurate focusing and a ground glass

accurately fitted to the plane of the emulsion are absolute essentials in press work.

If you are using a filter in making your press photographs, focus with the filter in place. This will compensate, if using the ground glass or parallax systems of focusing, for any aberrations in the screen which might alter the focal length of the lens. Although the filter will cut down the transmitted light somewhat, it is not difficult to focus in this manner, and the results will more than compensate for the additional time required in studying the image in the weaker light. The only means of allowing for filter in guess-focusing is to close down the aperture sufficiently to give a depth of focus that will cover it.

Of all the methods of focusing, however, that known as the parallax system is the best, whether for press work or any other branch of photography where absolutely accurate focusing must be obtained. The ground glass used in this method must be exactly in the plane of the emulsion, otherwise the results secured will not be perfect. The parallax method does away with any uncertainty in focusing if the ground-glass back is in perfect alignment. This method does not interfere with the usual method of focusing on the ground glass but instead supplements it. As it is simplicity itself, every press photographer should use this plan in conjunction with ground-glass focusing.

Make a mark with a hard pencil in the center of the ground-glass side of the back. This is in most cases the side toward the lens. It may be necessary to take the back of the camera off in order to do it. A small drop of Canada balsam is now placed on this mark and a very thin microscopic cover glass is cemented over it so that the center of the mark is in the exact center of the small circle. The weight of the glass, although very slight, will spread the balsam to the edges of the cover glass if pressed carefully. When this is completed, the focusing screen will have the usual appearance with the exception that where the circle of the microscope slide appears, the glass will appear to be clear instead of ground. In the center of this is a black mark, the secret of the parallax method of focusing.

In use, the image is focused normally on the ground-glass screen until it is as sharp as possible. When this is accomplished, one sees the image and also the mark. Now the eye is moved from side to side and up and down. If there is the slightest displacement of the mark

in relation to the image, i.e., if it moves either up or down or from side to side, the image is not focused perfectly. If the mark moves downward as the eye is raised, the extension of the lens from the ground-glass screen is insufficient. If the mark is displaced upward when the eye is raised, i.e., moves in the same direction as the eye, the extension should be shortened. The same thing applies to side motions. Where the mark moves in the opposite direction to that in which the eye is traveling, the lens extension is too short and should be extended. When moving in the same direction, the extension should be reduced. Advantages of this system are that the cost of making the installation of the microscopic slide is only a few pennies and a few minutes' time, the slide does not affect the normal use of the screen, and it is always in place when it is needed.

It might be well here to include a word of advice to press men. A magnifier, although looked upon with scorn by the majority of news photographers as being unnecessary and generally worthless, is a handy adjunct to focusing. By placing it against the ground glass, it is possible to increase the brightness of the image and it insures focusing to the closest degrees of accuracy. It need not be attached to the camera, but merely carried in the case for possible use in an emergency. The emergencies which crop up in the path of a news photographer because of adverse lighting are frequent, and a magnifier and the parallax method of focusing will help the average cameraman to handle them all without difficulty. In using a magnifier with the parallax system described above, the magnifier is placed directly over the cross in the center of the ground glass. When used with the ground-glass method, it may be placed at any part of the glass where focusing should be sharp.

Many press photographers follow a haphazard way of focusing without much care and use a small stop in order to gain sufficient depth of focus to offset possible errors. If these men would consider the difference in the quality of their negatives, they would immediately adopt a more careful method.

However, if as perfect a negative as possible is needed, particularly where a large enlargement is to be made, the best plan for the press photographer is to focus carefully by the parallax method with a magnifier and then stop the lens down to *f*:16 or *f*:32 and make the

exposure. This will give the smallest possible circle of confusion obtainable with any lens and will permit enlarging the negative to a degree unobtainable with other means of focusing.

The final method of focusing and the one least used outside the miniature camera field is that of using a range finder or distance meter, either coupled to the lens or not. This system is not in general use in press work outside the candid camera field and therefore will not be touched in detail here. The range finder is simply a system of optical reflectors and prisms, so adjusted that the distance between the user and the subject to be photographed is determined by merging two images into one. One image is viewed directly while the other, in most finders, is reflected by mirrors or prisms. The image thus reflected may be moved from side to side and merged with the stationary image seen by the eye. Most of the range finders on the market today make use of either a revolving prism or mirror in order to move the reflected image, this movement being controlled by a small dial on which is engraved a table of distances showing how far the object is from the user. Some range finders have a table mounted in the base with a pointer indicating the distance when the two images are merged as one. Either type is satisfactory and there are several good ones on the market.

The soft-focus lens has no place in newspaper photography outside of the possible landscape pictures made for the rotogravure section. If soft-focus effects are wanted, it is simple enough to diffuse the print in the enlarger.

Let me repeat that when making a press photograph be sure that every point of news interest in the picture is as accurately focused as you can possibly make it. If it isn't, the editor will soon call your attention to it, and if you continue this, you will soon find the proverbial " pink slip " in your pay envelope. The free lancer is even more at the mercy of the art editor if he should turn in photographs which appear hazy. It does not require a great deal to turn an editor's head away from a picture and an out-of-focus print will turn it faster than anything else.

To the free lance this may not seem to mean any more than "just another rejection slip." However, news editors of newspapers and news picture agencies are always on the lookout for good photogra-

phers. Good ones are scarce. An editor who sees a free lance turning in print after print which is horribly out of focus will make a mental note not to use any more of his material than is absolutely necessary. He will also make an additional note in his memory that the photographer thus offending could never make a good news photographer for his staff.

Chapter XXI

USING PRESS CAMERAS

ALTHOUGH cameras used by press photographers in their work range from box cameras to view cameras, this discussion will deal only with the equipment that is most generally used.

The most frequently used camera, as far as staff men are concerned, is the Speed Graphic, a camera with a focal-plane shutter. In this, the baseboard forms one side of the compact box. To open this camera, a small button in the center of the top is pressed, allowing the baseboard to be released. This is pulled to a horizontal position where it automatically locks itself. The lens-board mounting is then grasped by two springs located on either side of the base and pulled forward to a small square metal stop mounted on one of the side rails, when the lens is set at infinity. At the right hand side of the baseboard is a small knurled knob with which the lens rack may be moved backward and forward for focusing purposes.

In focusing the Speed Graphic, the lens may be set at an estimated distance by means of the indicator scale mounted on the right-hand side of the lens rack. If the photographer wishes to focus on the ground-glass back of the camera, the shutter curtain (controlled by a winged nut at the top rear of the right side of the camera) is wound to the open position, indicated by an O appearing in a small window on the side of the camera near the curtain knob.

The ground-glass cover is then opened by pressing a small release at the bottom of the cover at the back of the camera. The image can then be seen on the ground glass and focusing carried out. After focusing the image sharply, the ground-glass cover is again closed, the curtain (which is slit by ⅛, ⅜, ¾, and 1½ inch cuts at intervals in its length as well as the O cut) is wound to the desired opening, which is indicated in the window at the side of the camera. The desired opening is determined by first determining the exposure at which

the photograph is to be made and then referring to a chart mounted on the right side of the camera to find the proper setting of the curtain and curtain tension, the latter being controlled by a knurled knob at the base of the camera near the rear. After the curtain is properly set and the tension spring adjusted to its proper place, the plate- or film-holder is inserted by springing out the ground-glass back and sliding the holder into position.

If the holder is placed in the camera before the curtain and tension springs have been placed in their correct positions, the slide should not be drawn till the curtain is set to its proper position. The shutter curtain is released by pressing a lever at the right rear of the camera, conveniently situated directly under the curtain control. The curtain must then be rolled back to its previous position after the plate- or film-holder is removed from the camera.

In sighting the Speed Graphic, it is possible to use either a direct vision view finder mounted at one side of the top, or a wire frame finder which is mounted on the back of the camera for sighting through a front frame directly above the lens board on the front mounting of the camera. One is as accurate as the other, once a photographer becomes accustomed to using them. At close range, however, allowance must be made for the sights being set off to one side of the lens, giving a different angle between the eye and the lens. This may cause some difficulty to a photographer if he is not careful.

At the bottom of the camera and on one side, directly under the handle, are tripod sockets to hold the camera securely to the tripod head. The handle must be slipped out of one side of its moorings in order to make use of the vertical mounting of the camera on the tripod. When using the camera in the hands, it is not necessary to do this, as the camera may be held very conveniently either vertically or horizontally.

Many news photographers use a Compur shutter on the lens of the Speed Graphic and this is to be recommended, particularly where speed flashes are to be made. The Compur shutter may be left open at all times when it is not in use. When it is necessary to use it, the curtain of the focal-plane shutter must be set to the open position. The only difference in the operation of the Speed Graphic with the front shutter is the method of setting the exposure with the Compur.

THE FOUR HORSEMEN *William M. Rittase*

Although polo pictures are a little out of the line of most sports photographers you may have to cover a game, and if you do try to get an open scene with plenty of action.

On all Compur shutters, there is a dial showing the various shutter speeds available. The photographer selects the one he wishes to use and sets the indicator at that point. The shutter is then set and is released by means of an antinous release which is screwed into the shutter mounting. The shutter should not be sprung by the release on the mount, as this is likely to cause movement of the camera during the exposure.

When it is desired to cut down the foreground, when using the Speed Graphic, two knurled nuts on either side of the lens board may be loosened and the entire front raised to the position desired. This adjustment may also be used for shifting the image to one side when the camera is in a vertical position.

The back of the Speed Graphic comes in two styles, the Graphic (which has a spring-back) and the Graflex back, which is designed to take various Graflex accessories such as plate- and filmholders and magazines. For press work, the Graphic back is preferred because of the ease with which holders may be inserted or removed without waste of time. The Graflex back is much more awkward to work with, as it necessitates the removal of the ground-glass focusing back in order to insert the holder or magazine.

The Graflex camera is a favorite with press men. Its basic feature is a focal-plane shutter as in the Speed Graphic, which is made by the same concern. The Graflex, being bulkier and heavier than the Graphic, is not always the best camera to use. However, it is unexcelled for sport work and its greatest use is in this field. It is also useful in general outdoor work, but when the photographer is required to work indoors, possibly without a tripod, the Graflex is not so convenient. In its field, the Graflex is unexcelled and the press studio not equipped with one is not complete.

The Graflex curtain and tension controls are exactly the same as in the Graphic. The shutter release arrangement, however, is somewhat different, the release being on the left-hand side of the camera, and the focusing rack control on the right-hand side. This is a most convenient system, as focus control is possible up to the instant of exposure. Practically, it is difficult to follow the action with the lens with any hope of having the image in perfect focus. The Graflex is excellent for outdoor portraiture, as the subject can be viewed on a ground

glass which is mounted in the top of the camera and viewed through a hood. Thus the image can be seen right side up and its arrangement becomes a simple matter.

At the back of the camera on the right-hand side, where the shutter release is located on the Graphic, the Graflex has a lever which fixes the mirror in its proper position after each exposure and another lever which permits the curtain of the shutter to be released without springing the mirror.

The sensitive material in the Graflex need not be protected from light as with the Speed Graphic while winding the shutter curtain into position, as the mirror in the interior of the camera which reflects the rays to the ground glass in the hood protects it. For this reason, press photographers use either a plate or film magazine or a film pack when working with the Graflex rather than with holders which are not so convenient.

Although there are different types of Graflex cameras, all of them are basically as described above. Some have a revolving back, so that the picture may be made either horizontally or vertically without turning the camera itself. The revolving back is controlled by a small pin at the back of the camera which releases the back, which is turned to allow taking the picture either horizontally or vertically, as desired.

Plate and film magazines and film packs, the latter being inserted in a film-pack adapter, are placed upon the back of the Graflex by inserting the top edge of the holder first and then sliding the bottom into position. A small bar, which slides diagonally into position, holds the adapter or magazine rigidly in position.

As in the Graphic, the curtain openings in the focal-plane shutter may be set at 1/8, 3/8, 3/4 and 1 1/2 inches, as well as O, or open. In the Graphic, it is wise to leave the shutter curtain at the O position when not in use so that if the direct rays of the sun strike the lens when it is focused at infinity or near that point, a hole will not be burned through the curtain. This precaution is not necessary in the Graflex as a general rule, if the mirror is kept in position for use.

In both cameras, the shutter tension spring can be adjusted to six different degrees, designated by the numbers 1 to 6, which appear at a small window near the base of the camera at the rear. These determine the speed at which the curtain will fall and this, in conjunction

with the width of the slit in the curtain, determines the speed of the exposure.

In most cameras of these types used in press photography, the speed of the shutter ranges from 1/10 to 1/1000 second. The shutter speeds at various settings of the curtain slit and tensions are:

	Curtain Slit			
Tension No.	1/8	3/8	3/4	1 1/2
1	350	110	40	10
2	440	135	50	15
3	550	160	65	20
4	680	195	75	25
5	825	235	80	30
6	1000	295	90	35

The Compur shutter speeds used in the Graphic range from one second to 1/200 or 1/300 second. The Compur shutter is seldom used in press work except in the making of speed flashes where the flash is synchronized with the shutter. However, for general assignment work, the Compur shutter is virtually essential and should be on every camera of the Graphic type used in press work.

Graflax cameras are available in various sizes and styles. The Series D model is the one that is most popular in press work, as it has a removable lens board and fairly long bellows extension, permitting the use of various sized lenses. The lens board is not large enough for lenses much faster than *f*:4.5, and ultra-speed lenses are therefore not available when this camera is used. In Graflex cameras, with one exception, as far as press work is concerned, the standard equipment is an *f*:4.5 lens which will answer for most purposes. The one exception is the Series C model which is equipped with an *f*:2.5 lens. This camera is an excellent one for sports work, particularly in the north during the fall and winter months. However, its cost usually puts it beyond the means of the average press man.

Sometimes, when using the Graflex, it is necessary to get more elevation than is possible when in its normal position, at approximately the level of the chest. If it is desired to take a picture at a higher level, as in shooting over the heads of a crowd, the photographer may turn away from his subject, raise the camera above his head and focus

TORNADO *G. Pickwell*

This is one of the most remarkable tornado photographs ever made. The maker was within a very few yards of the twister and stopped to make these two pictures while running for shelter. The tornado was moving so fast that the landscape does not match in the two prints.

while in that position, and make the exposure. In most cases, a photographer of average height is able to get his lens about seven feet above the ground by this method. Again it may be necessary for the cameraman to make a vertical picture without using the reversible back, which may not be available on his camera. This is accomplished by holding the camera horizontally with one hand while focusing with the other. This is a tricky task but easy to do after a few trials. These two wrinkles in using a Graflex have saved many news photographers when on assignments and resulting in their bringing into the office pictures not obtained by any other photographer.

The Graflex is opened and made ready for operation by releasing the focusing hood by moving a small catch on the top of the camera and racking the lens forward. The latter movement automatically opens the front of the camera which protects the lens when not in use. In closing the Graflex, the hood is folded down and made fast and then the lens is racked in and the cover pushed flush with the rest of the case, where it automatically locks itself. In closing the Graphic, the lens is racked in as far as it will go, the springs on the front board squeezed and the board shoved back into the camera. The lens rack base can then be folded down by releasing the catches which hold it in position on either side of the camera and closing it manually until the automatic catch takes hold. The camera can then be packed in the case. When closing the Speed Graphic, the plate- or filmholder or film-pack adapter should be removed from the back, otherwise it will sooner or later cause the springs which hold the back in position to weaken.

Various makes of folding cameras are used in press photography by different workers, although the free-lance men are the greatest users of this type of apparatus. They all work along the following principles.

The camera is opened by pressing a small button at the top as in the Speed Graphic, and the cover is then lowered to a horizontal position to form the base for the lens board. The lens is then pulled out to infinity and focusing proceeds as in any other camera, either by a lever or by a knurled knob, usually found at the right-hand side of the equipment. In the plate- and filmholder and film-pack cameras, the use of a ground glass is frequent and this is opened by pressing on a

small catch at the base of the leather covering on the back of the camera.

The shutter of these cameras, usually similar to the Compur, is adjusted in the same manner as described for the front shutter of the Speed Graphic.

In most cases, particularly in the smaller sizes of these folding cameras, the ground glass is a part of the back of the camera and this must be removed in order to insert a holder or pack adapter. This is inconvenient as far as the press photographer is concerned and therefore these cameras are little favored in journalistic work.

There is little difference in the sighting of these cameras with the direct view finder of wire such as is found on the Speed Graphic and this is the one generally used by press men with this type of camera. There is also a reflecting finder on these cameras, but these reflect such a small image that they are of little if any use in press work.

View cameras are used frequently in the press studio for copying, but outdoors their use is confined exclusively to architectural or landscape photographs. Most view cameras open by loosening a catch holding the front and rear sections of the camera together and lowering the base for the lens, which usually acts as the cover for the front of the camera also. The lens is then racked forward by turning a knurled knob on the right-hand side of the camera. In view cameras, the controls for varying focus or the various swings and elevations for the various sections of the equipment will generally be found on the right-hand side of the camera, while similar knobs will be found on the left-hand side of the camera to lock the adjustments. Usually a view camera will have a rising and falling front, a swing-back which can be rotated to a certain extent both vertically and horizontally, and it may or may not have a swing-front. All of these controls serve useful purposes, and permit the photographer to compensate for distortion which would be impossible to avoid if the various controls were not a part of the camera. It will take a photographer only a few minutes to learn how to use these various controls, and my advice to those who want to know what the various swings will do is to use a view camera experimentally until accustomed to the various adjustments possible.

Although some outstanding beats of news photography have been

made with the simplest of box cameras, they are not to be recommended.

Roll film cameras are used infrequently and the directions already given for other types can be used for them, with the additional warning that the film should be rolled to a new number immediately after each exposure. This will avoid any chance of making a double exposure and ruining the negative already exposed.

When using plate- or filmholders, in a Speed Graphic, a Graflex or other camera, always turn the slide to indicate that the film inside has been exposed. The usual method of loading plate- and filmholders in the darkroom is to have the light side of the slide's edge and handle facing outward. When an exposure is made, turn the slide so that the blackened edge is facing out. This will avoid double exposures, a costly error and one which has cost many press men their jobs.

Chapter XXII

FLASHES AND SPEED FLASHES

SINCE THE ADVENT of Photoflash bulbs, press photography has made remarkable progress. It is possible today for the news cameraman to make flashlight photographs with these bulbs at speeds as high as 1/300 second. The synchronization of flash and shutter is known, in the language of the press men, as the speed flash. The flashlight holder used is known as the flash gun. At the present time, there are many synchronizers of varying cost and varying accuracy. The press photographer must make a selection of the synchronizing gun he wants to use. The synchronizer should be capable of firing a bulb and at the same time opening the shutter at just the right instant so that the maximum light from the bulb can be utilized in illuminating the subject. Some press men have made their own synchronizers, but in most instances these operate with a varying degree of accuracy, particularly where a high-speed shutter setting is to be employed.

As there are several different models of synchronizers on the market no directions for their use are given here. All can be adjusted so that the shutter is open at its widest point when the bulb is ignited. Directions are included with whatever model is purchased. The main difference between the various synchronizers is the manner in which the shutter is released. In some cases, the shutter is released by means of a cable release plunger between the flash gun and the shutter, while in others a small lever releases the shutter when current is transmitted to a small magnet which pulls the lever downward and presses upon the shutter release. There is a time lag in both types, but this is so small as to be virtually negligible. This time lag has been shown to amount to between 1/50 and 1/200 second, a very short time as compared with the time it requires for the press photographer's eyes to transmit the necessary signals to the hands that will fire the bulb and shutter.

There is only one difficulty in using the synchronizers that are on the market today. That is the preliminary work of adjusting the shutter release to the point where it will spring the shutter at the proper instant to insure the maximum illumination. After this is done, the use of a speed flash is simpler than the ordinary method of making Photoflash exposures. In making this adjustment, the Photoflash synchronizer should be adjusted in such a way that the shutter will work with the bulb at all speeds from 1/50 second to 1/200 or 1/300 second.

If you are using a synchronizer which depends upon a lever to trip the shutter, make sure that you have some marker that will enable you to place the lever at the same place each time you place it on the camera. Otherwise, the gun will never function the same way twice in succession. This may be accomplished simply by placing a small scratch on the upright supporting the lever and its magnet at the spot where it works best.

In using a speed flash, the focal-plane shutter, if the camera is so equipped, is placed at its open position and the Compur shutter at the front of the camera closed. The exposure speed is then selected and the shutter made ready for use, the speed flash equipment already having been placed upon the camera. A Photoflash bulb is inserted in its socket and the exposure made simply by pressing the button which closes the switch supplying current to the bulb.

Photoflash equipment has overcome the serious objections to the smoke and noise which were associated with flashlight photographs. Many newspapers and news services have barred the powder flash completely, despite the fact that it is still the most economical method of making flashlight pictures when the scene is spread over a large area.

Beside the speed-flash equipment most newspaper photographers carry with them a simple flash lamp for making pictures where synchronization is not required. There are scores of these lamps on the market and they may be had at almost any price. A demountable one should be chosen so that the space it occupies in the equipment case may be kept to a minimum. One of the best is one which folds into a small compact unit less than half an inch in thickness and only a few inches in length and breadth. This folding unit when extended can be used for from one to three bulbs, the additional bulbs being placed in small

wire loops at each side of the reflector so that the round portion of the bulb is in contact with the bulb being fired by the electric current. This procedure permits all of the bulbs to be fired at one time. Although the saving in current is only a small part of one cent per exposure with two or three bulbs, the unit is recommended because it is very small and can be carried in the pocket if necessary. Another advantageous feature is that a small bulb can be fitted into a regulation socket and used for focusing purposes by having an assistant hold the bulb in the same plane as the subject. The photographer then focuses on the light, focusing until there is no hazy atmosphere around the bulb.

The average three-way socket equipment with which some Photoflash lamps come equipped, together with the reflectors, take up too much room in the press photographer's case where space is at a premium. They are slightly more efficient than the unit described, but the difference is very slight.

In using the speed flash, the usual procedure is to focus the lens and stop down slightly to insure sufficient depth of focus to counteract any error in judgment. The photograph is then made as though the photographer were making an ordinary exposure except that the shutter is released by pressing the switch of the Photoflash equipment rather than by pressing a cable release. The speed flash is ideal where a moving figure must be photographed, and virtually every indoor sports exposure is made with one of the synchronizers.

If a speed flash is not available, and the photographer is using an ordinary flash gun, the camera is usually opened and the curtain of the focal-plane shutter set at its time exposure adjustment. The slide of the plate or film holder is then drawn and held in front of the lens. The focal-plane shutter is then allowed to fall into its open position. When ready to make the exposure, the slide is removed from in front of the lens, the flash discharged and the slide again placed before the lens. The curtain of the focal-plane shutter is again permitted to drop, this time falling and protecting the emulsion from any further light. The slide is then placed in the holder and the holder removed as usual.

If a Graflex camera is being used, it is necessary to turn a small knurled circular piece of metal, marked I and T, at the right rear of

the camera's side, so that the T is next to a small white indicator on the bar controlling the mirror of the camera. This disengages the focal-plane shutter mechanism from that of the mirror. The mirror is tripped and allowed to fall out of the way when the curtain is on its time position. If a magazine or holder is being used, its slide is drawn and the procedure of exposing then follows along the same lines of the Graphic. If roll film is being used or if there is no slide available, the curtain is allowed to fall to its open position, the flash made, and the curtain again allowed to fall to close the aperture. In using a camera equipped with only a Compur shutter, the shutter is placed at time, opened, the flash made, and then closed immediately. No matter what type of camera you are using, learn how to make your flashes without permitting the film to remain uncovered any more than is absolutely necessary.

The press photographer is often in a position where he must make a flash without the use of either a tripod or a synchronizer. In other words, the camera must be held in one hand, the flash light in another, and the exposure made in this fashion, yet without showing any movement in the subject. Obviously, this method cannot be used where there are many lights, or where the subject is lighted sufficiently well to show movement while the camera is open. At night, however, the problem is not quite as difficult as during the day, and the method may be used.

The camera is held in the right hand and rested near the left elbow, the arms being held akimbo, while the Photoflash lamp is held in the left hand. The shutter is opened, when using a Speed Graphic, by pressing the shutter release at the time position, the flash is made, and the curtain allowed to close. The movements of the photographer must be synchronized as closely as possible to avoid undue exposure to the sensitive material. If a Compur shutter is being used, the fingers of the hand holding the camera also hold the cable release and the exposure is made as explained above.

The general run of assignments can be handled satisfactorily with no more than three bulbs per exposure. However, there are times when three bulbs will not give enough light on the subject to permit a satisfactory exposure. This is particularly true on night shots of various kinds. In an effort to counteract the limitations of the Photo-

USING A SPEED FLASH *James C. Kinkaid*

flash equipment, some reflectors have been designed to fire as many as six or more bulbs at one time. These will generally illuminate an area up to fifty or one hundred feet away from the camera sufficiently to permit a good exposure to be made.

Where a wide area must be covered, flash powder still remains unexcelled. There is no limit to the radius of a light that can be obtained

with powder other than the capacity of the powder receptacle and the photographer's courage in discharging a large load near himself. As a result, powder flash guns still enjoy a vogue of their own. Powder guns are even more numerous than the Photoflash guns as far as their variety is concerned. The majority of them are fired either by using priming caps or a piece of iron striking flint. The latter is the more certain of ignition if properly designed.

When buying a powder gun, however, for press work, it is best to get one that is capable of making a speed flash. These are only slightly more expensive than the ordinary guns of similar capacity and their extra cost is more than made up by their extra utility. The most satisfactory powder guns on the market are those which have a powder pan mounted on a spring and permit a cable release to be placed immediately under the pan. When the flash is discharged, this being done by means of ordinary caps, the blast is strong enough to push the pan down, at the same time pressing the cable release sufficiently to release the shutter.

The cable release is connected directly to the Compur shutter and no further adjustment is needed with most of the guns. In using a powder gun for a speed flash, however, always remember to have sufficient powder in the pan to insure the pan being pushed down far enough to trip the shutter.

Making an exposure with the powder flash is the same as when working with the flash-bulb equipment. The camera is aimed in the usual manner with one hand, while the other hand is held as far from the body as possible and the flash discharged. A cable release two feet long is none too long when using a powder gun, and three feet is better. Flashlight powder is a dangerous explosive. Treat it with the same respect you would give a stick of dynamite with a percussion cap in place. Always hold the flashlight as far from the face as possible when making powder exposures. Burns from flash powder have been fatal, and are, in any case, very painful. It is a good idea to use an old leather glove when discharging a powder flash, to protect the hand from possible falling powder or sparks.

Never, under any circumstances, pour the powder directly into the flash gun from the container in which it is carried, particularly if the container is glass or metal. Flash powder in a glass jar is a potential

killer and shattering glass can slash the face to ribbons, while a metal container is no safer than a hand grenade. More than one photographer is using a maimed hand today because he failed to heed this warning. Pour the powder on a sheet of paper and, after placing the powder container back in the case, transfer the powder to the flash pan. If no paper is available, use your gloved hand. Remember it does not take a great deal of heat to ignite flash powder. The flash pan is very hot for several minutes after a flash is made.

For making general outdoor photographs with powder, the best and simplest, yet safest, method is to use what is known as a signal gun. These guns, used mainly for firing flares and rockets from ships and planes, are ideal for press photography, yet their adoption in press work has been virtually nil. These guns have a spring trigger which operates a plunger striking the center of a shell which fits the barrel, which is about an inch and a half in diameter. The shells, loaded with various charges of flashlight powder, can be loaded with perfect safety again and again without danger of losing a finger or hand. The shell is placed in the barrel while a spring clamp is held loosely. When the spring is allowed to clamp down upon the rim of the shell it is held securely until released. The flash is discharged by pulling the trigger.

These guns and shells are capable of lighting distances up to three hundred yards with a maximum load. Such large charges cannot be handled safely with any other form of gun. In addition to this, the gun can be held at arm's length and there is no danger of being burned, although the blast of powder may kick as much as a 45-calibre automatic revolver.

At the present time, electrical engineers, in conjunction with film manufacturers, are working on Photoflash equipment which will do away with the present bright flash of light which some object to. These lamps, if and when they are perfected, will throw a light which is very rich in the ultra-violet ray, which is the most active and actinic. These bulbs will be a great boon to the press man.

Another improvement recently proposed is an adaptation of the principle of the electric eye to the use of Photoflash bulbs instead of a mechanical synchronizer. The mechanical device is set for the average time-lag of the bulb, which the manufacturers have not been

able to make absolutely uniform, and consequently when using this there are always some over- and underexposures. The electric eye can be set to trip the shutter at the very instant when the deflagration begins, and hence by its use the exposure can always be timed to coincide with the exact peak of illumination.

As in many other branches of work, exposure by flashlight can be learned only by experience. Once a photographer has grasped the essentials of this work he will have no further difficulty. A few trial exposures will soon show the photographer whether he is headed in the right direction. To know how and when to use a flash is essential in press photography and practical experience is the best teacher that can be had.

Chapter XXIII

THE CANDID CAMERA

UP TO THE present, we have confined ourselves to branches of photography which every press man should know. Now, having completed what might be termed our course in elementary press photography, we turn our attention to what could be classified as a post-graduate course.

The first subject with which we will concern ourselves is the work done by what is known as the "candid camera." Probably no other branch of press work has clicked with readers and editors alike as has this. In a period of less than four years, candid camera photography has grown from what was once a nuisance (the miniature negative) to a specialized field looked upon with favor by editors of leading newspapers and magazines.

No question is more often asked than, "What is the candid camera?" It may be a Speed Graphic, a Graflex, or a folding camera if the photographer can get pictures which are unposed and which show the subjects as they are naturally; not stiff as is often the case when posing for ordinary press photographs.

The development of miniature cameras in recent years has brought them into use by press men as the true candid cameras.

Two popular press candid cameras which are now in use are the Zeiss Contax and the Leica. There is little to choose between them. The lens equipment which may be used with the Contax is more extensive and it has a wider range of shutter speeds. Both cameras are excellent and, with careful use, either one will give unexcelled results. The Contax camera can be equipped with an *f*:1.5 lens which is standard equipment, while the Leica's largest aperture standard lens is *f*:1.9, a difference of about fifty percent in favor of the Contax. The Leica's fastest standard shutter speed is 1/500 second, while in the Contax the shutter is capable of an exposure of 1/1000 second. The candid camera is used as secretly as possible so that the person

being photographed is unaware of the presence of a camera. This is what has made the candid camera so popular in press circles. It shows the persons photographed as they actually are, not as they like to appear.

The use of a candid camera is probably the most difficult task that a press photographer can take upon himself, as the depth of field available with the ultra-large aperture lenses used is very meager. It is essential that great care is taken in focusing so that the best possible definition is obtained. It is also necessary to expose as correctly as possible. If the negative is greatly under- or overexposed it may be necessary to intensify it or reduce it. These processes generally play havoc with the fine grain that is essential to making good enlargements from these tiny negatives, and the results are not as good as is possible.

Modern candid cameras, such as the Leica Models D and F and the Contax Models I and II, are equipped with range finders which are coupled directly to the lens. These range finders are exceedingly accurate and if ordinary care is taken in aligning the images so that they merge as one in the finder, the lens is as perfectly focused as it is possible to get it.

In sighting the camera, many expert operators keep the camera hidden from view until ready to make the exposure. A good method is to use an angle viewfinder, which makes it possible for the photographer to use the camera at right angles to the direction in which he is facing. By this means, he is able to disguise his intention of taking a picture of his proposed subject and thereby get a better photograph, as far as naturalness is concerned. It should be remembered that the average person believes it necessary for the cameraman to be facing him when making a picture. This belief, and the angle viewfinder, make it possible to fool many of the more elusive targets for the candid camera worker.

Both of these miniature cameras use standard motion picture film of the 35 mm. size. They have a capacity of thirty-six pictures to a roll, although some newspaper photographers use smaller strips of film as an economy measure. This film is obtainable in cartridge form at most of the larger photographic supply stores and this is the easiest method of loading these cameras. The best film to use with

COAST GUARD — *Alton Hall Blackington*

A composite picture from three negatives, which were all taken of events connected with the same wreck, but at different places on the beach. Needless to say this was a " scoop," as the picture was arranged in the darkroom.

the candid camera is either a fine grain panchromatic or a supersensitive panchromatic, depending on the light under which the camera is to be used. It is best to use the supersensitive emulsion as an assurance against possible underexposure.

The use of a candid camera is generally confined to court scenes, meetings, banquets and similar affairs where the use of a flashlight is not permitted, or as a supplement to the Photoflash equipment.

There is no need to give directions for the operation of any specific candid camera. Instead, data that can be used with any such camera is given as applied to press work.

In covering a court hearing where flash equipment or cameras have been barred, it is up to the candid cameraman to get the picture, whether or not he faces a contempt of court citation if he is discovered, or if he succeeds and the pictures are published.

The Contax and Leica, even with their ultra-large aperture lenses, can be carried in a coat pocket without attracting undue attention. The camera is then, if necessary, smuggled into the courtroom. The photographer can usually cover the camera with his hat while bringing it out of his pocket and making the necessary adjustments. If possible, the photographer gets into a seat giving an unobstructed view of the witness chair and judge's bench. He is then ready to match wits with the court officers, witnesses and judge. Some photographers have a hole cut in the top of their hat for the sole purpose of getting these candid camera pictures. With his camera under cover, the cameraman gets whatever pictures he can and then departs as soon as possible.

Perhaps many will consider this an unethical procedure on the part of the press. I, being a newspaper cameraman, must take the negative view and say that the court trial is a public affair and therefore photographs should be permitted of any proceedings therein, if such pictures can be taken without disturbing the court.

Banquets and similar affairs are always a happy hunting ground for the candid cameraman. Here he can make photographs of a celebrity known throughout the country as he discusses current affairs with his neighbors; as he sips his glass of wine; as he munches his food; or as he applauds a speaker. In covering a banquet, the cameraman tries to get as close to his proposed quarry as he can and

at the same time remain as secluded as possible to avoid detection. If the cameraman has been invited to the banquet, however, he may use his camera with as much freedom as necessary, attempting only to prevent his subjects from becoming aware of the fact that they are in the field of his lens.

Meetings, particularly where well known speakers are being heard, offer another striking example of candid camera assignments. Here, the usual procedure is to illustrate outstanding parts of the speaker's remarks with pictures showing his facial expressions and gestures when driving home his best points. Anywhere from one to a dozen pictures may be used according to the importance of the address. The usual method of writing cutlines for these pictures where there is a sequence is to take out the choice morsels of the speech and place them in quotes, thus; ". . . America will live forever." No lengthy cutlines are required under such circumstances, as the story covering the address will usually be found in a nearby column.

Sporting events were the first targets for the candid cameras, particularly boxing and wrestling matches where the lighting is sufficiently intense to permit exposures at a comparatively high speed, say 1/150 to 1/300 second. They are still used to a great extent in the sports field, but the synchronization of Photoflash equipment and shutters has had some effect on the candid camera for this work, and its use in this field is gradually diminishing.

This work has led to what might be referred to as the "candid cameraman columnist." The photographer roams about his community taking a picture here and there which will fit into a column or two of newspaper space. These men have done a lot to popularize the miniature camera. They may cover a first night opening of a play or motion picture; a big shopping day; a convention; or any one of a score of different incidents which might otherwise not be news.

At the present time, though, the candid camera field is not sufficiently strong to cause the average news man to specialize in this one endeavor. But at the same time, it is strong enough to demand every news man's attention, whether he is free-lancing or on a staff.

It is impossible to forecast what may come in the candid camera field. It may, in time, become potent enough to replace the present

day type of news pictures. If such is the case, newspapers will probably save thousands of dollars every year in photographic plates and films, as the miniature camera film is far less expensive than the sizes in general use. This result, however, will not come this year or next. It will take a long time to wean photographers away from the large negatives which they are accustomed to.

As a result of the additional time now required for the development of the miniature negatives with fine-grain developers, many observers of press photography argue that they will never replace the present day materials and equipment. Nevertheless, the candid camera today is in a class by itself. It can save money in negative materials and Photoflash bulbs, and at the same time meet the present problem of exposing in poor light with a greater lens aperture, which makes possible a negative in almost any kind of light. So the candid camera looms as the greatest possibility that has crossed the threshold of press photography since the advent of hypersensitive panchromatic materials and high speed orthochromatic films and plates.

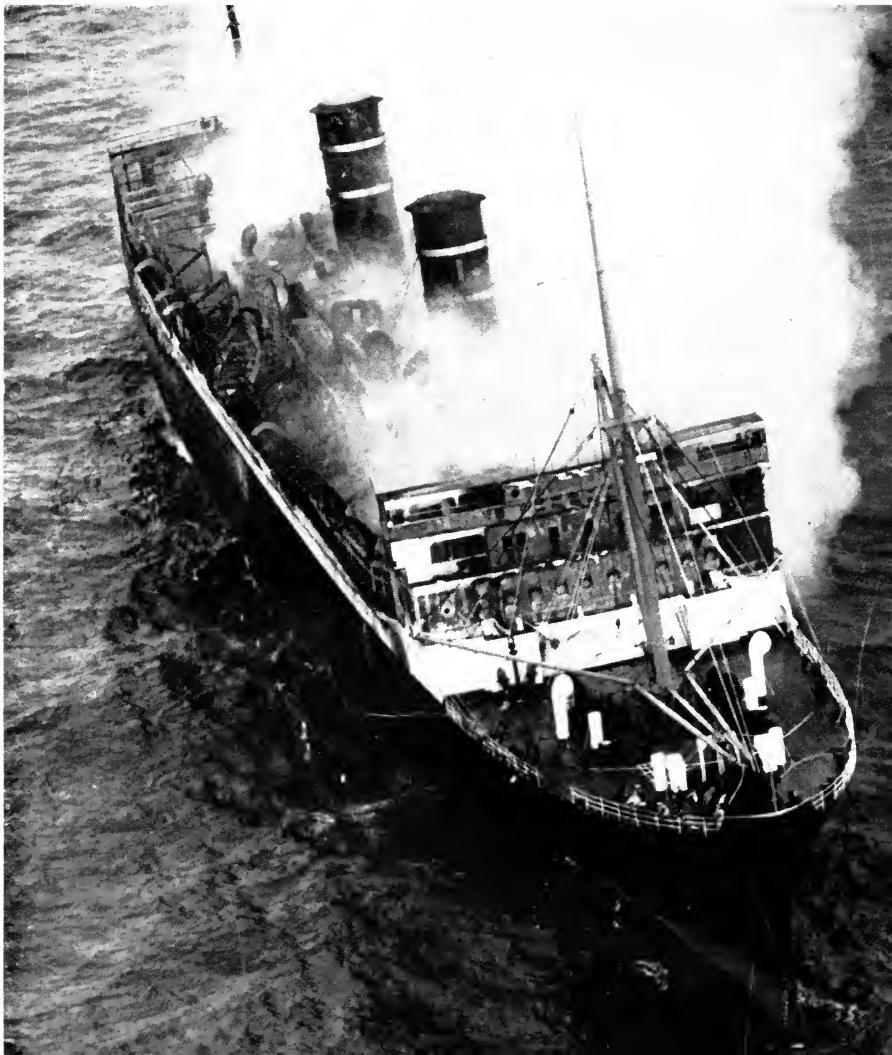
As has already been stated, miniature negatives must be treated with every care. They must be developed in fine-grain developers. Amidol and other reducing agents are generally unsatisfactory for press work inasmuch as they are usually slower than glycin and the images altogether too weak to give the complete scale of tones required in the engraving of halftone plates.

Some press departments which do considerable work with the miniature cameras use a motor driven reel to insure complete agitation of the film while it is in the developer. However, unless the film is covered with developer at all times there is a danger of stains resulting from oxidation and as a result some of the motor driven reels are risky.

Another disadvantage of the candid camera is that the negatives are largely limited as far as enlarging is concerned. Finer grained negatives, however, may overcome this objection. At the present time, the standard method of enlarging is to use a rough or matte paper to subdue the grain to as great an extent as possible. Engravers, particularly in newspaper plants, as well as picture editors, insist upon glossy prints, despite the fact that a good matte paper print can make

Morro Castle Fire *International News*

The advantage of an airview is well illustrated by this picture of a terrible sea disaster. The remaining members of the crew, at the rail of the stricken vessel, wait anxiously for the approaching life boat, as the fire creeps steadily towards them.



every bit as good a reproduction as a good glossy paper positive. As a result, it is only on rare occasions that a miniature camera negative can be made to give an excellent eight by ten inch glossy print.

Rules that must be observed in using the miniature camera are the same as in using any other camera: perfect exposure, perfect composition from the news angle, perfect focusing, perfect development, and perfect handling of the negative until it is printed. Observe these rules and you can use any kind of camera for making a news photograph. To the man who can afford it, the candid camera field offers an interesting arena for work, experimentation and possible profit.

Chapter XXIV

TELEPHOTO WORK

HUNDREDS OF press photographers have never taken a photograph with a telephoto or long-focus lens, yet these lenses have been the basis of some great exclusive news pictures. They are standard equipment in many newspaper studios where sports assignments are frequent. Yet many press photographers do not know how or where to use them.

To the press man, these lenses, known as "big Berthas," are a great help. They eliminate long distances between the photographer and his subject. In that sentence is the secret of their success in the news field. The press photographer will often find himself unable to get close enough to his subject to make a good photograph with his usual lens equipment. If a telephoto lens is available, however, he can reduce the distance between himself and his proposed subject very materially.

The telephoto lenses' greatest use is in covering sports. They are usually used by a photographer sitting some distance above the field upon which a game is being played, perhaps on the roof of a stadium. From here, he is able to aim his camera without difficulty, safe in the knowledge that no one will step into the path of his lens and conceal the action he is seeking to photograph. For sport photography, telephoto lenses may range from twelve to twenty inches in focal length. This is sufficient to bring plays at distances of one hundred or one hundred and fifty feet away within close-up range of the camera, thus making possible a negative which will stand enlarging without losing a great amount of detail in the individual players participating in the action photographed.

The camera used in telephoto work is usually the Graflex, and the most popular type for this work is the Series D. This camera, with its removable lens board, makes it possible to change from standard to telephoto equipment very easily. Most of the other Graflex cameras

can also be equipped so that a telephoto lens can be used, as can any other camera used in press work.

On the Speed Graphic, the only drawback to the use of a telephoto lens is the additional strain on the front of the camera, its weakest point. However, it is usually possible to use a telephoto lens of from ten to seventeen inches focal length on this camera without danger of vibration. One method of getting telephoto effects with the Graphic is to use a convertible anastigmat lens, one component of which is double the focal length of the combined lens. An additional advantage of this method is that the same lens which is used for general assignment work can also be used for telephoto purposes with results comparable with lenses designed particularly for long-range work. There is, however, a distinct disadvantage to this means of telephotography and that is the slowness of the single unit of the lens, which is usually in the neighborhood of *f*:12 or *f*:16, which will make the lens virtually worthless under poor lighting conditions. Various folding cameras which are frequently pressed into service have telephoto equipment available although they are usually slower than the ordinary lens.

One of the finest telephoto lenses that can be found for use on the Speed Graphic is an ordinary portrait anastigmat lens of twelve or fourteen inches focal length. Such a lens in speeds of *f*:6.3 or *f*:4.5 is often obtainable second-hand for a very reasonable price. Not only can it be used in place of a telephoto lens but it can also be used for portraiture and aerial work.

This lens is limited to long distance work because of the limitation of the bellows extension. It is seldom that it can be used when working less than twenty-five feet from the subject, because of the long bellows extension that would be necessary for closer work. This applies only to such cameras as the Speed Graphic, where the bellows extension is approximately fourteen inches. By building an extension lens board which will place the lens two or three inches in front of its ordinary position, the working distance of the lens can be increased considerably.

In all cases where telephoto equipment is used it is wise to use a tripod to avoid the risk of vibration. This question of vibration becomes more and more important as the focal length of the lens increases.

The speed of the telephoto lens should be, if possible, between *f*:8 and *f*:4.5. Slower lenses cannot adequately cope with the light conditions often met with in press work. It is possible, of course, at times, to use lenses with no greater speed than *f*:16 or even *f*:22, but for safety, under most light conditions, an *f*:6.3 or *f*:5.6 telephoto lens is usually the minimum that can be depended on.

To the average free-lance man, the question of telephotography represents a considerable outlay with little hope of return. If he cannot purchase a second-hand lens about twice the focal length of his regular equipment for a small sum, my advice to him is to invest in a supplementary lens which will cost but a few dollars. With a supplementary lens, the average free lance can cope with practically every assignment he receives. For the photographer who specializes in sporting events, even if he is a free lance, and who has a market for his prints, the telephoto lens can and will pay dividends. Every metropolitan newspaper and news service should have a telephoto lens available for its staff men. Not only will it be useful on sporting events but on assignments where the photographer cannot get close to his subject.

One of the finest examples of telephoto work was the picturing of the Prince of Wales on a golf course. Photographers were barred from the course and His Royal Highness refused to pose for a picture. However, an enterprising young photographer decided to use his telephoto equipment instead of his regular lens and was rewarded with several excellent photographs of the royal golfer.

Newsreel photographers have always recognized the value of telephoto equipment, and a great deal of the motion picture footage exposed in the course of their assignments is made with telephoto lenses. Some of the outstanding photographs which the newsreel men make with telephoto lenses, and which can be duplicated by the news photographer in still work on news assignments, are flood pictures, sporting events, fires, rescues and similar assignments which take the news photographer to otherwise unaccessible places. The newsreel photographers have a grand record of picturing celebrities with their long range equipment. Some outstanding photographs are those of royalty, the Shanghai invasion by Japan, the pontifical ceremonies in the Vatican City, and close-ups of racing car and plane smashes.

In most cases, however, the news cameraman cannot take advantage

of the ultra-long focal lengths as much as the newsreel cameraman. The newsreel photographer thinks nothing of using a lens six or even twelve times the length of his regular equipment. A press photographer, regularly using a six-inch lens, could not use a lens of six or twelve times that focal length, because such a lens is not obtainable.

However, the news cameraman who must photograph from long range can borrow the knowledge gained by his newsreel brothers by using a miniature camera. Few newspaper men have, as yet, realized the great potentialities of these small cameras. Miniature cameras can be used by the metropolitan newspaper or news picture agency studio without a great outlay and can be pressed into service where needed. These small cameras can be equipped with lenses ranging up to twenty inches in length, which is equal to a sixty-inch lens on a quarter plate Speed Graphic in comparison with its standard equipment of approximately six inches. Without any doubt, therefore, the miniature camera with its telephoto equipment looms as a threat to the larger apparatus generally used in press work. As was pointed out in the chapter on candid camera work, however, great care must be exercised in using these cameras because of the diminutive size of the negatives.

One of the most extraordinary telephoto photographs made by a news cameraman was that of the French coast taken from the British side of the English Channel. This picture, made by infra-red light, showed houses on the French coast despite the twenty-five miles which separated the subject from the photographer. The Army Flying Corps has done considerable telephoto work in aerial photography and has made photographs at distances upwards of three hundred miles. This shows what can be done with telephoto equipment.

There are several important problems which may arise in telephotography. One of these is the exposure. When using a telephoto lens for photographing a moving object, allowance must be made for the increase in speed at which the image is crossing the plate in relation to the image projected by a shorter lens. This can usually be overcome by increasing the speed of the shutter and the aperture of the lens.

Another problem encountered in photographing at a great distance from the subject is haze. This can be readily eliminated by using

St. Francis de Sales Church, Cincinnati, Ohio, from a distance of about four miles. The home appearing in the background is in Norwood Heights, about eight miles distant from the camera.

" Time Hill," Cincinnati, buildings of the Gruen Watchmaker's Guild. Distance about two and one-half miles. The store in the background is about one mile farther out.

INFRA-RED PICTURES — *F. F. Wetherill and R. F. Davidson*

a filter, such as the Wratten G, as described in the chapter on filters, and a panchromatic emulsion. There is always a certain amount of haze in the air which in ordinary subjects is usually not noticeable, but when the distance between the camera and the subject is perhaps half a mile, particularly in urban territories, it becomes a serious hindrance to good work.

Chapter XXV

AERIAL WORK

NO OTHER field of press photography has gained ground as rapidly as aerial photography. Born shortly after the World War, this branch of news work has gained by leaps and bounds until today no important project is pictorially complete until it has been photographed from the air.

A number of problems, such as selecting the camera, lens, and filters, exposure times and the type of conveyance, confront the photographer in this field. Although some newspapers and picture agencies now use their own aircraft for this work and have their own aerial cameras, there are many that do not. The ordinary press camera is not well adapted for work in the air. In purchasing a camera for aerial work, select a camera designed primarily for that purpose. There are several aerial cameras on the market, the outstanding ones being the Folmer and the Fairchild. Both are excellent and are designed expressly for the work.

The Folmer A-1 model camera has been designed, however, with an eye to possible press use. It is simple in operation, uses plate or film magazines four by five inches in size, and has virtually the same shutter controls as the Graflex. This is the most popular aerial camera for press work. It is also one of the most reasonably priced aerial cameras on the market. These cameras do not have to be focused. They are set at infinity and need never be changed for aerial work. This makes them much simpler to use than the average press camera on the ground. They are equipped with a focal-plane shutter which is capable of considerable latitude in exposure speeds.

The ingenuity of the photographer is needed to protect his camera from the vicious winds encountered in aerial work. This can be done in either one of two ways. A piece of cardboard can be wrapped around the bellows to protect it from the wind on all four sides. When this is done, the bellows is enclosed completely. The camera can

then be taken into the air with safety. Or a metal frame which will completely cover the bellows can be made. This is the best method and the frame can also be made to act as a lens hood as well. Inasmuch as the lenses used will vary greatly, no exact sizes can be given for such a frame.

If the aerial work is only a small part of your work, a cardboard frame would be simpler to use. However, where much air work is done and where an aerial camera is not available, the metal frame is the best means of protecting the bellows. When such a protector is placed on a Speed Graphic, it changes the appearance of the camera almost to that of the usual aerial apparatus.

A Graflex camera can also be adapted for work from the air if some means is available of locking the lens rack, as it will not have to be focused. In this case, the bellows may be covered with cardboard wrapped around the lens rack as well. This may be fastened with rubber bands, gummed paper, or glue or paste. In order to sight the Graflex, however, a view finder of some sort must be supplied, as it is impossible to use the focusing hood while in the air. This can be done either by mounting a direct vision view finder on the side or top of the camera, or by arranging a wire view finder on the camera in some fashion or other.

The Speed Graphic is the easiest of all hand cameras to hold in making aerial photographs, as it is possible to place the hand through the leather handle and clamp the fingers around the edge of the box so that it will not be blown from the grasp. It is also easier to set the shutter speeds of a Graphic and release the shutter, as both of these things are done with one hand, as is the inserting and withdrawal of holders and dark slides.

No makeshift arrangement, however, can equal the convenience and security offered by the regulation air camera. One of the latest aerial cameras is that purchased by The Detroit News for use in its newest airplane. Set in the wing, the camera is so designed that the pilot makes the exposure by pressing a button on the control stick, similar to the triggers used for controlling machine gun fire from military aircraft. The plane is aimed at the picture and the trigger pressed, thus making the negative of the scene without the necessity of a photographer leaning from the ship.

The Special News-Camera Airplane of the *Detroit News* in Flight
John P. Gaty

Attaching the Film Magazine in the Wing of the Airplane
John P. Gaty

The lens for aerial press work should not be less than ten inches in focal length. Twelve or fourteen inches is ideal for use with the Speed Graphic, though this does not bar the use of a shorter focus lens when nothing else is available. Generally, however, the smaller lens takes in too much territory at the heights from which the average aerial photograph must be taken to admit of good detail in the final print. The need for comparatively long focus lenses in aerial work can easily be seen if one stops to consider that the Department of Commerce regulations require planes to stay over 1,000 feet above the ground. With a six-inch lens at this height, many acres of territory are covered. With a ten-inch lens, the territory covered will be several thousand square yards. When one considers that much of the aerial news work is made from altitudes ranging from 1,500 to 10,000 feet, the results of using a short focal length lens can easily be imagined. Some of the regular aerial cameras used in press work are equipped with lenses of twenty inches focal length. However, the most generally used lenses are between ten and fourteen inches. Needless to say, the lens should be a fine anastigmat completely corrected for spherical and chromatic aberrations, and at least an *f*:5.6 and preferably *f*:4.5.

Filters play an important part in aerial photography, both in military and press service, because of the distance between the cameraman and his subject. The most commonly used filters for this work are the Wratten Aero No. 1 and Aero No. 2, although the K-1, K-1½ and K-2 filters are also used to a great extent by photographers who take to the air only on occasional assignments. The first two filters were designed, as their name implies, especially for aerial work. For all practical purposes, the K screens can be used in place of the Aero filters without noticeable difference.

In using filters in aerial work, the photographer should use panchromatic emulsions also, to keep his exposure times to a minimum. Filters are used in aerial work for the correction of color and the elimination of haze. Both are of great importance in military work, although the elimination of haze represents the greater factor in the use of filters in aerial press work. In using a filter, be sure that it is of good quality. Gelatin screens entail too many risks for use in aerial work. The B glass filters can be used on lenses up to ten inches

in focal length, but above that size the filter should be mounted in optically flat glasses.

Exposures in aerial photography present a problem to owners of cameras equipped with other than focal-plane shutters. The exposures are seldom less than 1/100 second (and this is a risky speed to use) and may be as short as 1/500 or 1/1000 second. Because in aerial photography the lens is used at its largest aperture, the range of shutter speeds must be high enough to avoid overexposure. However, the use of filters can offset the danger of overexposure if the sun is too bright to permit using the widest aperture even at the fastest shutter speed.

Two factors that enter into determining the proper shutter speed in aerial work, besides that of the value of light available, are the height of the plane and its speed. If the ship from which the pictures are to be taken has a gliding speed of sixty miles an hour, the shutter speed can be far lower than when the speed is one hundred and twenty miles an hour. Similarly, flying at twice the height of another cameraman, a photographer can make his exposure a great deal slower (if the focal length of the lenses is identical), though his negative will show more territory than that taken in by the lower camera.

Never expose a negative from the air at more than 1/100 second. In most cases, 1/125 second should be the minimum. At lower speeds than that, even when the engine of the plane is idling, there is danger of movement in the negative from the vibration in the plane. In making an exposure, hold the camera in the hands away from the ship itself, so that vibration will not be transmitted to the camera, unless the camera is mounted as an integral part of the plane. Then it is usually rubber cushioned and this danger is avoided.

No definite set of exposure tables can be given here because the necessary exposure varies with the focal length of the lens, the height of the plane, the emulsion used, the speed of the plane and the speed of the lens. A little experience will show what exposure is best for your particular equipment.

When deciding upon what type of plane to use for aerial work for the press, bear in mind the necessity of speed, maneuvering ability, location of wings and other obstructions which might prevent good photographs from being made. An open ship is the best to use for

press photography. It gives the photographer plenty of leeway in aiming his camera at virtually every angle. In a cabin ship, the photographer's field of view is comparatively limited, because of the small size of the windows and this makes it necessary for the pilot to have had considerable experience in working with cameramen, or he will not be able to put his plane in the desired position.

The wings of the ship, if it is a biplane, should not be under and over the photographer's place in the craft. The photographer, in every case, should have a clear view on all sides if possible. In monoplanes, the plane used should be of the high wing type, i.e., over the plane. Low wing monoplanes, particularly in cabin jobs, are generally unsatisfactory for press aerial photography.

The ship should be capable of a fairly high speed, say between 150 and 200 miles an hour. At the same time, it should be able to land and take off in the shortest distance possible and have a slow gliding speed. The latter is of utmost importance, as a slow gliding speed will make it possible for the photographer to use lower shutter speeds if necessary.

In making a photograph from the air, the pilot is told at what angle the picture is desired and, if he has had no experience in piloting cameramen, a system of signals is devised to indicate when he should idle his engine to reduce vibrations during the exposure. These signals are usually made with the hand or head. When the plane is in the correct position for making the picture, the pilot throttles his engine and begins a long glide at the slowest possible speed. The photographer then takes his exposures and signals the pilot when he is through. It may be necessary to come into position again for more pictures, or another picture may be made from another angle.

It is very important that the photographer be on the alert at all times when near the scene he is expected to picture. When it is considered that a plane may be moving as fast as 200 or more miles an hour, it will be seen that it will not take many seconds to put the scene out of the camera's range. Moving at three miles a minute makes it absolutely imperative that the photographer recognize the best site for a picture without a second's delay.

The best type of aerial photograph for press use is the oblique style, made at an angle of anywhere from thirty to sixty degrees.

A Typical Oblique Airshot *James C. Kinkaid*

The advantages of this angle can easily be seen by the great amount of detail shown in this picture as well as the surrounding territory.

This also gives the photographer a chance to use a slower shutter speed than when making the picture at right angles to the earth. The main reason, however, for using the oblique angle is that, generally speaking, more detail can be shown and also a better idea of the surrounding territory given. Vertical air photographs are almost wholly confined to map making and are almost worthless to the press.

The greatest advantage of air photography to the press is its capacity for showing the entire scene of a story, even when that scene may be spread over an area of a mile or more. Every angle relevant to the story may be shown in one picture in many cases, and, if they can not be completely covered, the addition of one or two pictures by photographers on the surface can generally supplement the air shots.

In working from the air, always try to get your negatives to the newspaper office as soon as possible. In many cases, it is possible to drop the negatives (in their holders) by parachute to a waiting car when the airport is located several miles from the office. When operating by this method, duplicate negatives should be made of the most important scenes, so that if they are broken or exposed to light in the drop to earth they can be replaced without delay.

Always abide by the Department of Commerce regulations governing flying. If you do not, they may ground the pilot and perhaps even revoke his license. Remember that aerial photography is no longer a branch for the press stunt photographer. Today it is an important and businesslike field of press work. Treat it as an important branch and use it in a businesslike fashion. Don't fly for the thrill of flying. Fly because you want to make pictures that will tell all or most of the story on which you are working. Remember, too, that the Department of Commerce regulations for flying were designed not only for the safety of persons on the ground but also for that of pilots and passengers. Obey the regulations and don't ask your pilot to disregard them.

The use of miniature cameras in aerial work has been tried in press photography, but generally with little success, because of the superior enlarging qualities of negatives obtained with regulation air equipment or adapted press apparatus. Miniature cameras can be used by the press man, but the additional worries caused by the small negatives are hardly worth the saving of emulsion costs.

Chapter XXVI

SPECIALTIES

DURING THE last few years, press photography has developed a number of sidelines, some of which have already caught the attention of readers and editors alike, such as candid camera pictures, aerial photography and so on. But there are a host of other specialty fields which have cropped up in recent years and which have not, as yet, been adopted generally in the trade.

Among these newer branches are three-color photography, infrared photography, and pictures made possible with special equipment or by using trick methods such as composite photography. Making line drawings from photographs is another specialty. Until recently this has not been very widespread in this country although it has been used to good advantage by the British press for many years. Its use, however, is now spreading and may in time replace much of the work now done by sketch artists.

At the present time, three-color photography represents one of the biggest possibilities in newspaper work. Few newspapers, however, are in a position to handle three-color photographs outside of the rotogravure sections and as a result, this branch of photography has made little appeal to newspapers at large. There are two methods generally used in making tri-color plates and films for the press. These are by using a one-exposure camera which is capable of exposing three plates at one time or by making separate negatives with three different exposures. In either case, the negatives are used to print positives which are reproduced by the engraving department for reproduction. It is unnecessary for the press photographer to make a three-color print. If he did, the engraving department would have to separate the colors again by using filters. In making positives for this work, the enlarger is locked in position and the three negatives printed exactly alike. All the prints must be exactly the same size and of the same density and contrast.

The *New York Sunday Mirror* has made considerable progress in the use of three-color work in press photography and frequently displays three-color action pictures and even aerial photographs, something never before done in news work. It is quite likely that other newspapers will follow the lead of this tabloid in three-color photography.

One of the most recent adaptations of scientific photography to news photography is the use of infra-red sensitive materials. These emulsions, which are sensitive deep into the spectrum beyond that covered by the human eye, have been a boon to the stunt man of the news world. Taking pictures at distances of several miles without the slightest trace of haze has been its biggest use to date. Many newsmen have been making landscape photographs and pictures of homes with such material as a means of gaining attention from readers. In both cases, detail which is often submerged when ordinary emulsions are used is brought out beautifully. Several photographs have appeared to date in the press which were taken without visible light.

In infra-red photography, either the light source or the lens is covered by a filter which passes no visible light. The filters are opaque to the eye when viewed by transmitted light and appear black. Yet they permit sufficient light to pass to enable exposures to be made in a short time, rarely more than a few seconds or minutes. The finished photograph from an infra-red negative may have the appearance of a snow scene or a picture made in moonlight and it is this feature which has been exploited most usefully to date in news work. Nevertheless, some news photographs have appeared which have been made through haze and slight fog with such equipment and these results are of considerable interest.

Probably the simplest of all methods of making trick photographs is through a piece of glass in which there are imperfections. These photographs have enjoyed a small following for many years. The glass is placed before the lens and the exposure made as usual. When the negative is developed, the subject appears distorted and is printed without change. There are several methods of getting these distortion effects and most of them have been used at one time or another in news work. Prisms have been set before the lens and the image photographed as it is broken up by the action of the glass in bending

the rays of light. Mirrors of all kinds, concave and convex as well as plane surfaces with aberrations, have been used to get distorted effects.

Even the printing processes have not been exempt from the efforts of newsmen to further reader interest. In enlarging, it is a very simple matter to distort the image until it is almost unrecognizable. The printing paper upon which the enlargement is to be made may be placed in its holder so that it is curved laterally and thus the image is distorted. These curves may be made either horizontally, vertically or diagonally and even on an arc so that when the negative is printed, the normal image is rounded abnormally. The result is that a thin man can be made to appear thinner, a fat man appear fatter, a robust man appear thin, or a person's head curved and distorted in all kinds of ways. There is one advantage to the making of these distortograph pictures by curving the printing paper, which is that it can be done with a perfect negative, thus obviating the necessity of making a distorted negative which would be useless for any other work. Another way of making distorted prints is to place an imperfect piece of glass between the lens and the paper. This will give a wrinkled effect to the print even though a perfect negative is used. By combining the imperfect glass method and the curling of the paper there is virtually no end to the distortographs which can be made. These photographs are generally used as a humorous feature and at times have created great reader interest, particularly when used in a contest for which a great deal of promotion material is prepared.

There has been, to date, only a very slight amount of work done with extreme wide-angle lenses, such as those covering almost 360 degrees. Such lenses, which give extreme distortion, are used only for stunt purposes. When a photograph is made with these lenses, the negative shows practically everything that can be seen from the location of the camera, whether it be from the front, the side, or even to the rear of the camera. These prints have been used to some extent in contests and in special feature stories.

It is not infrequent that a photographer is required to make a composite picture of one sort or another and all are made in the same way, one photograph superimposed upon another. A print of the desired scene is made. Perhaps it is a courtroom. If it is empty, a photo-

graph of a crowded courtroom is taken and the crowd portion of the picture carefully cut out and pasted in place upon the remainder of the courtroom scene. The picture thus made is then copied by the photographer, the resulting print being sent to the artist for retouching.

Although composites may be made from two or more negatives, the simplest method of making one for newspaper use is to follow the method described for working with prints. Any slight error in registering the two prints can then be worked out of the finished product by a retouching artist without difficulty. Composite photographs showing how a person will look in various costumes have been made, one of the most important ones being that showing how Andrew W. Mellon would look if he wore the regulation short breeches when presented at the Court of St. James.

There is no limit to the possible combinations that can be worked out by photographers in the composite field. However, the conservative newspapers use them, generally, only as a last resort. It is a handy thing to know, however, and there is very little special skill required in making a good one.

The making of line drawings from photographs is easily accomplished. The photographer first makes an enlargement, preferably on bromide paper. After fixing and washing the print, it is hardened in a bath consisting of one ounce of potassium alum in a pint of water. After again being washed, the print is dried. The line drawing is made on the surface of the print with waterproof ink, and then, when the ink has dried, the print is immersed in a solution of thiocarbamide and nitric acid until the image is entirely bleached. This bath is made as follows:

Thiocarbamide	240 gr.
Nitric acid	4 dr.
Water to make	20 oz.

After being bleached, the ink drawing is left intact and may be sent directly to the engraving department.

Another means of accomplishing the same thing is to bleach the print in the following bath, which, by the way, can also be used in many instances to save otherwise overdeveloped or overexposed bromide prints:

Potassium iodide	60 gr.
Water to make	20 oz.
Iodine	6 gr.

After bleaching, the highlights are a dark blue tint which is removed easily by immersing the print in the usual hypo fixing bath.

Some of the large news syndicates are now distributing line drawings in their services. These prints are made in a slightly different fashion from those described above. In these prints a line drawing is copied on a process plate. The plate is then developed in a contrast developer and intensified. When dry, the negative is enlarged on contrasty bromide paper in the usual way and the print thus obtained is used in the service.

These are samples of what can be done in the field of specialty work. Whole series of articles and pictures can be worked out by enterprising photographers showing how the world would look if the citizen could see only red, or blue, or green, or any one of the other colors in the spectrum. This is done by the use of filters.

Night photography offers an excellent field for the news photographer if he has imagination to see things which the average person does not see or if he can present what is seen in a new manner. Birds-eye views are common and the snakes-eye perspective of a tall building also enjoys a popularity of its own.

Photomontages, prints made up of several negatives from which only a portion of each is used, are being used more often in modern newspapers, although the full possibilities of these stunt pictures have not, as yet, been realized. These prints are generally made by blocking out negatives with opaque or vignetting the print so that one section will blend into another. Either method is simple after a little experience has been acquired. The main thing in making up a photomontage is to keep the composition comparatively well-balanced, and keep irrelevant material out of the final print.

Unusual angle photographs accentuating something new are being given better runs in newspapers today than ever before. In some papers, modernistic backgrounds are used for layouts, with considerable appeal to the reader's eye.

In all specialty work for the press, however, the one big point is that the photographer must be on the lookout for new ideas. His

imagination can run rampant in the field and it is an excellent means of exercising the brain so that the old rut into which many news photographers finally fall will not claim another victim. Use your head. Think up ideas. Don't be afraid if they have never been tried before. If your ideas don't appeal to one editor, they may appeal to another. If they appeal to no one, try another idea. Sometimes it hits; sometimes it doesn't. But if it strikes the average person's eye as unusual, it is sure to be unusual to a lot of other newspaper readers.

Chapter XXVII

GETTING ASSIGNMENTS

EVERY PHOTOGRAPHER, from the rankest amateur with a camera in his hands for the first time to the most experienced commercial man in existence, is a potential news cameraman.

News waits for neither man nor time. It breaks when least expected and often in the least expected places. Naturally, a photographer in a large city has more opportunities for news pictures than the man in a small country hamlet. But news may break anywhere. And every day the newspapers from San Diego to Bangor are demanding more and more pictorial news.

In some instances, free-lance men have an advantage over their brother photographers who are employed on the staff of a large newspaper. At best, however, the life of a free-lance photographer, unless he has connections other than in the true news field, is rather insecure. He works when news breaks, and wonders where his next check is coming from when it doesn't.

For this reason, most free-lance photographers can be found doing advertising, commercial, portraiture or photo-finishing in addition to news work. The true free-lance newsman, though, generally specializes in newspaper photography with only a spattering of advertising or commercial work. If he is in a large city, he may supplement the regular staff men when a big story breaks. He may substitute for them when they are ill or on vacation. In a small town, however, he usually has to find something else to do besides news photography to make his living.

Every professional news photographer is in the game to make money. To do that, whether he is a staff photographer or a free lance, he must get assignments. The staff man, if he doesn't, will soon find himself out of a job. The free lance, if he receives no assignments, receives no money.

How does a free lance get assignments? That question is asked time and again by amateurs who believe they know news when they see it. This is my answer. Contact every newspaper in your territory which has an engraving department. Your territory means approximately a radius of 150 miles. Some of them may already have a photographic correspondent in your community. It is usually a safe bet, however, that you will get an affirmative reply to your query as to whether they have a vacancy on their correspondents' roster, from at least one newspaper.

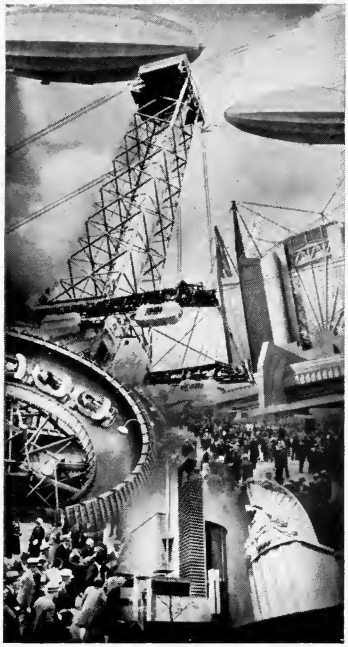
Also contact the leading news picture agencies and syndicates for the same purpose. If they do not already have a correspondent, they will notify you that they have placed you on their lists and will advise whenever they desire a photograph.

The next step is to contact individual newspapers outside your immediate vicinity. It is useless to send letters to small papers, as they generally subscribe to the service of a national picture agency. But to the big New York and Chicago papers, a letter should be sent and will, in many cases, result in a satisfactory reply.

Do not depend upon the editor of the paper, however, to advise you when he needs pictures. When a news story breaks, cover it, and send pictures to the leading syndicates and news services. If they aren't already covered, and they won't be if you move rapidly, you will probably make a sale.

Always remember that news stories lose their news value rapidly after they leave the immediate vicinity of the event. However, the pictorial interest may still be worth while and a sale made if pictures are sent to a national picture agency. News editors of a photographic news service depend upon the reports they receive from their correspondents or upon the wire news service which serves them. Few good state stories ever reach the trunk wires which extend from coast to coast on the telegraphic news service chains.

If you consistently send in good news pictures, you will find that the news editor of a news picture agency or a newspaper will lean more and more upon your judgment of news in your territory. If you insist upon sending through pictures of little or no importance either from the news or feature standpoint, you will soon receive a letter advising you to discontinue sending pictures until further notice. The



World's Fair *John Paul Pennebaker*

An exceptionally well-done photomontage, to be used as a photo-mural. The composition has been kept rather simple and yet almost every feature of the Fair has been included.

same thing in a newspaper plant would be notice of your dismissal.

In getting assignments from newspapers and news picture agencies, it is not necessary to set forth your qualifications. The editor does not care whether you ever took a picture before in your life. He'll know when he sees your first prints whether or not he can depend upon you when news breaks.

If there is a newspaper in your community, large or small, visit the editor and tell him that if you can be of service to please call on you. He may not have a staff photographer. If he doesn't, show him a few samples of your photographic work. Nine times out of ten you will have an agreement from him to call you when a big story breaks in your community.

After a few visits of this kind, you can ask him if he would call you when any stories with pictorial possibilities break. Explain to him that you will send the prints you make to the picture syndicate to which he subscribes so that both he and yourself can be mutually profitable to one another. In this way, he will be able to have a picture of a local event occasionally and you will receive a check for your efforts from the service to which your print was sent.

On most stories, it is possible for the free-lance man to send pictures to any and all of the services without causing any ill-feeling toward himself. On big news stories, though, you may be offered a bonus for exclusive pictures. If you accept this offer, do not give any other competing service the same pictures. If possible, send any other prints you make through another person to avoid any trouble from the service offering the bonus. This may not be looked upon as ethical by the service offering the bonus, but if they can beat their opponent to the trains and planes with pictures and matrices, they generally will feel content and well satisfied with your work.

Many free-lance men, particularly those who sell pictures to any and all who will buy, operate under a number of names, one for each syndicate with which they do business. In other words, they create subsidiaries through which they supply products to the public at large.

Most newspapers and news syndicates want pictures that are different from those used by competitors. For this reason, the free lance should never submit the same photograph to competing services which

might result in two newspapers in one city displaying absolutely the same illustrations. Such happenings increase neither the prestige nor the circulation of either newspaper. When offering a photograph as exclusive to one service, never offer the same picture to another competing service until it has been rejected.

When dealing with the larger news picture syndicates, the best method of selling an exclusive picture is to send them the negative. If they do not wish to purchase it, they will return it to you and you can offer it to another service.

The problem of getting assignments is the primary one for the free lance. There is no sure-fire method of becoming a successful free-lance photographer. If you have never had newspaper experience, your task is much harder. Develop a news sense, that rare thing commonly known as a nose for news. Use it constantly.

If an event is scheduled for your vicinity and you think it has pictorial possibilities, write brief notes to the various newspapers and services to which you have sent pictures explaining what the story is, when it will occur, and what prominent persons will be involved. The news editor will then advise if he desires coverage. The editor often declines to commit himself except to say that he does not believe coverage will be necessary unless something out of the ordinary breaks. It is then up to the photographer to watch out for those breaks, picture them if possible, and rush prints to the various agencies he is serving. If he knows a reporter, or is a reporter himself as well as a photographer, the free lance can probably build up a story which will be worth a picture. Building up a story is to create a story where none might otherwise exist. If the news editor of a service or paper decides to have his own staff man cover the event, he may ask the free lance to assist the staff photographer in making contacts. In such cases, the free lance is usually paid a certain amount for his services, the rate varying with the work done.

Getting assignments is one angle of free-lancing. To keep getting them, and possibly get a permanent berth as a staff man, requires that the free lance be an expert photographer. Anyone can take a picture. But it takes experience to sense news and to picture it successfully.

If the free lance intends to continue as a press photographer, he must turn out consistently good prints. That is one thing by which the

news editor of a paper or syndicate can judge the free lance's ability in press work. If he does not believe the prints are as good as they might be, he makes a mental note to watch the work of the correspondent. If the work continues mediocre, he decides to dispense with coverage from him and get a better photographer. If you are a free lance, particularly in a fairly large community, always remember that there are others just like yourself who are waiting to take your place if your work is not up to the required standard. If the work of a free lance is good, however, the editor makes a similar mental note to offer him a position the next time he has an opening on his photographic staff. Always try and get the best possible print from any negative. You can't go wrong when you follow such a system. As your name spreads in the news field, you will find that more and more assignments will come your way if your work is always good. And more assignments mean more checks.

When a big story breaks and you are not listed on the correspondent's rolls of any newspaper or news picture agency, get the pictures and rush them to the nearest bureau or newspaper. That is the way checks are obtained. Bonuses are paid for spot news pictures. If you know how to work fast and get the prints or negatives to the press in the least possible time, you will get your share of the bonus checks, which sometimes run as high as a thousand dollars or more. You will usually have to be content with the two to five dollar checks which are generally the price of news photographs purchased from the free lance.

Chapter XXVIII

SELLING NEWS PHOTOGRAPHS

SEVERAL ITEMS enter into the sale of the news photograph. Chief among them are timeliness, reader interest, quality, and completeness. The lack of any one of these qualities may be sufficient to cause the editor to reach for a rejection slip rather than an acceptance of the material.

When a news photograph is taken, it should be developed as soon as possible and rushed to the nearest newspaper or news bureau. If a day is allowed to intervene between the time the picture is taken and the time the print is made, the news value of the story may have dwindled until it is no longer of interest. This is a common failing among free lances. They do not seem to realize the insistence of newspaper editors on having news pictures while the news is still on the front page. Yet, millions of dollars are spent annually by newspapers to get news photographs while they are news.

We have already discussed methods of shipping news prints and negatives and this will not be repeated. However, always use the fastest possible method of transportation available. Send the material collect, if necessary. Few newspapers or agencies will quibble over the expenditure of a few pennies if the pictures they receive are suitable for reproduction in connection with a big story.

Selling news photographs is like everything else. You have to have a quality product before you can expect to make sales. Timeliness is the most important quality in a news photograph. The print may be poor but if it is the only photograph available of the biggest story of the day it will invariably be purchased. It may be yanked out of the paper in the next edition in favor of a better picture of the same story, but if it is the only one available at the time, a sale will be made.

What is the proper procedure in selling a news photograph of a big story? That question is asked frequently.

If you are known to any news editor of a photographic service or

to a bureau manager, call him on the telephone, charges collect, and explain as briefly as possible what you have. He will probably tell you where to send the pictures, possibly asking you to duplicate the pictures to other bureaus of his service. He will also tell you to be sure to get them to him as fast as possible. In such cases, use the mails only as a last resort. If possible, use air express or train messenger. Failing these, use special delivery mail. If necessary take the package to the train and deliver it to the mail clerk aboard. This will eliminate any possible delay in the post office.

If sending the package by train messenger, be sure and tell the agency to which the photographs are being sent what train to meet. It is good policy to inform them how the pictures are being sent in any event, so that they can make the necessary preparations for processing.

In any case, a news picture should be handled as rapidly as possible. If you have not sufficient time to develop the film before a train or plane leaves, send the agency the undeveloped negative and tell them what is coming. Even developed plates which are not dry can be sent safely if they are packed securely so that they will not shake around and paper clips are placed at the corners so that they will be separated in transit.

Without doubt, the quality of the print frequently determines whether a picture is to be purchased or rejected. This question generally comes up, however, when two or more photographers send in pictures on the same story to the same agency. In such cases, a number of questions are answered before the final decision is made. Which print is of the best quality? Which one has the best gradation of tone and contrast? Which print tells the story most completely? Does one have more reader and human interest than the other? In cases of this kind, the print which best answers these and similar questions in the mind of the news editor is usually the one decided upon. Nevertheless, many editors in such cases will pay both photographers to keep them both on the list of correspondents. Sometimes news editors play favorites but this is very seldom true. They want the best pictures they can get or the first pictures they can get. If their favorite correspondent is beat by another, they invariably will use the print by the unknown man rather than gamble on waiting for the other photog-

rapher to get his picture into the office or bureau. Where the regular correspondent's print falls short of the other's, the best print wins. It is seldom necessary to put a price on news photographs. Most services pay three dollars apiece for every print accepted. In spot news, the prices range from three dollars up and frequently soar into three figures.

Selling feature pictures is a harder field to penetrate than that of straight news. Unless a picture is unusual, it is seldom possible to make a sale. Get an unusual angle to an old story and it will probably make the grade. A commonplace picture of an old story will usually leave the editor unimpressed. If you have a picture that stirs something within you into exclaiming, " Gosh, that's something you don't see every day! " you will probably make a sale, for it is remarkable how closely the average human being resembles a news editor.

Many photographers are seasonal. Pictures of polar bears taking a bath in ice-bound pools can always be sold during the winter. All kinds of animal pictures, if a good caption can be written to attract the editor's attention or tickle his sense of humor, are usually salable because of their human interest. The average reader of a newspaper could stand and watch a monkey in his cage for hours. Yet that same reader will usually be bored after listening to a lecture for an hour and a half. Of course, there are exceptions, but when you are a press photographer you are appealing to the masses, not the individualists.

Other types of seasonal photographs are those pertaining to holidays. The motion picture studios have cut into this once lucrative field of the free lance, and today it takes an unusual photograph to get past the news editor's desk and into a service for a holiday feature. Still, it is done frequently even now. The main thing is to have an unusual angle, a beautiful girl and an odd pose. If the print is a good one, a sale can usually be made somewhere.

When selling news photographs, never send prints which you realize are virtually worthless to a newspaper or service. It will not help your prestige in any way and may harm you severely if the print is not of excellent quality. Send only the best prints you can make to the press.

The sale of photographs is sometimes helped by including a story with them. If the story is a good feature, it usually can be sold to a

newspaper or one of the feature syndicates without a great deal of effort. However, don't labor under the delusion that there is a market for work of this kind unless it is exceptionally good. The field is overcrowded now with mediocre writers. If you can write a story, a good one, and illustrate it, you can find a steady market.

Unfortunately, only about ten percent of photographer-reporters who are contributing stories to the press today are well enough equipped to really make a living from the field. A good photographer-reporter is rare in the newspaper field today. The number, however, is growing, and those who can not write a good news story or a good feature are finding it harder and harder to make sales.

If you can't write a good story, find a good reporter in your community and work with him, splitting the proceeds on a fifty-fifty basis. This will save you a great deal of time and also add to your profits, because the work of a good writer and a good photographer can be sold much more readily than that of a mediocre combination of the two. Have the stories as brief as possible, as a rule. A story of four or five hundred words is usually more easily sold than one of a thousand, if the photographs which are used with the story are arranged to hold up the story well.

When selling news photographs, write the caption as briefly as possible. If it is necessary to outline the history of the case, make it brief and concise. Never paste the caption on the back of the photograph. The editor wants it handy. The best method of attaching a caption is to paste it on one edge of the photograph, preferably the bottom, in such a way that the entire explanatory note can easily be torn from the photograph.

News editors seldom use the caption that is sent in by the photographer. It is usually rewritten to bring the spot developments into the story and thus enhance the news value of the photograph. If you have a photograph which is a day old, it is more easily sold if you can include the spot news developments of the story in your caption, than if you just send the photograph to the newspaper or syndicate with a note saying the picture was taken the day before.

Editors are always looking for today angles. If a story broke last night, many news services insist upon today angles, that is, a current development or at least an attempt to camouflage the fact that the story

is one that broke hours before. Apply the same technique to your caption writing if you wish to make more than the average sales.

In any event, get your picture to the editor as soon as you can. Camouflage your captions so that you have the latest angle of the story therein, see to it that your prints are excellent, sharply focused and with a full scale of tones and contrast, and get the picture in speedily and you'll probably make a sale.

Where can you send your photographs? There are hundreds of newspapers in the country. Some of them are equipped with engraving rooms, some of them have their photographs made by commercial concerns, while others depend solely upon service supplied by syndicates which distribute news in matrix form. It is useless to send photographs to the class of papers which do not have any facilities for handling prints. These papers must have matrices before they can publish illustrations. Papers which have commercial houses do their engraving work generally want only the biggest stories illustrated and therefore they can be disregarded in connection with run-of-mine news photographs. They are lucrative sources, however, when big stories are breaking. Newspaper plants which have their own engraving departments are the best users of free-lance material among the newspapers, and the bigger organizations spend several thousand dollars every month buying photographs from the men who work for everyone and anyone. They are mainly interested, though, in news photographs or feature pictures in which persons of their own locality are involved or in big news breaks occurring within their circulation range. When you have pictures which fall into these categories, rush them in and you can usually make a sale. These pictures include those of accidents, elopements, weddings, honeymooners, sports and similar general photographs ranging from police news to that which might appear on the society pages. The main thing to these papers is that the story have a good local angle.

When a story of nation-wide importance breaks, though, the news photo-services are the big targets of the free lance. But stories must be of great importance or of special interest to key clients or else the picture may be rejected. The story may be a simple feature picture, but if it has the necessary human appeal, it can generally be sold to a national agency. The national agencies are not interested in stories

of purely local interest. If you are in doubt as to the needs of any particular syndicate or newspaper, write the editor a short note and ask him what type of pictures or stories he can use. He will generally reply and tell you just exactly what he would like to see. Don't bother to send him trivial matter. It is only a waste of money, both to yourself and to him, if he takes the trouble to mail your material back.

For those who may not already have a list of the leading purchasers of press photographs, the author has compiled the following list which is limited to news work. No attempt has been made to bring the field of advertising into this discussion. If the reader is considering free-lancing as a serious means of making a living, my advice to him is to purchase one of the market guides sold for this purpose. The following list applies only to news and feature pictures.

Newspapers:

The New York Daily News, a pictorial tabloid. Uses news and feature pictures if they are excellent. Pays best prices of all newspapers for exclusive pictures on outstanding news breaks.

The New York Times, purchases few photographs from free-lance workers on its own, although its syndicate, *Times-Wide World Photos,* purchases news and feature pictures.

The New York Journal, sensational pictorial newspaper. Purchases some free-lance work. Pays excellent prices for exclusives.

The New York American buys a few free-lance photographs.

The New York Mirror, competitor of *New York News.* Uses news and features if good. Prices excellent.

The Chicago and New York papers buy considerable material from free lances, although they depend to a great extent upon syndicates for their spot news photographs on national stories. All of the New York papers will purchase free lances' work if it is good enough and pictures New Yorkers. The same thing is true with almost every other newspaper in the country.

The main outlets for Chicago are the *Tribune, News, Herald-Examiner, American* and *Times.*

Almost every large city in the country has at least one photo-engraving plant newspaper to which news pictures can be submitted. They usually pay from one to five dollars each for news photographs; more if they are exclusive. Inasmuch as the radius of a free-lance

photographer is generally no more than 300 miles when dealing with newspapers, he can easily make up his own list by referring to a directory of newspapers. A list of all newspapers with engraving plants would entail altogether too much space and be of too little general interest for our purposes. Therefore, the list is continued with the photographic services:

Acme Newspictures, Inc., 220 East 42nd St., New York City. News and feature pictures of national interest.

Associated Press Feature Service, 383 Madison Ave., New York City. News and feature pictures of national interest. Feature articles with good illustrations.

Cameranews Service Co., 150 East 34th St., New York City.

Central Press Assn., 1435 East 12th St., Cleveland, Ohio. News and feature pictures of all kinds. Special articles with good illustrations.

European Picture Service, 353 Fifth Ave., New York City.

Ewing Galloway, 420 Lexington Ave., New York City.

Globe Photos, 242 West 55th St., New York City.

International News Photos, Inc., 235 East 45th St., New York City.

International Illustrated News, 235 East 45th St., New York City.

Keystone View Co., 219 East 44th St., New York City.

NEA Service, Inc., 1200 West 3rd St., Cleveland, Ohio. News and feature pictures of all kinds. Special articles with good illustrations.

News Pictorials, 198 Broadway, New York City.

New York Herald Tribune Syndicate, 230 West 41st St., New York City.

Pictorial Press, 1658 Broadway, New York City.

Price Picture News Service, 11 West 42nd St., New York City.

Register-Tribune Syndicate, Des Moines, Iowa.

Stephen Swift and Associates, Times Bldg., New York City.

Underwood and Underwood News Photos, 242 West 55th St., New York City.

Wide World Photos, Inc., 229 West 43rd St., New York City.

There are other picture syndicates scattered throughout the country, many of them " one-man " outfits, or free-lance men operating as a

syndicate. These are not the only syndicates in the country; there are scores of them, but those mentioned above are the best known.

There are a few syndicates operating in the United States that also have Canadian affiliations. Canadian photographers, however, generally stress their sales to the American press. For Canadians who may desire a list of the more important feature picture syndicates in the Dominion, the following is given:

Dominion News Bureau, Ltd., 455 Craig St., Montreal, P. Q.

Miller Services, Ltd., 302–303 McKinnon Bldg., 19 Melinda St., Toronto, Ont.

Star Newspaper Service, Star Bldg., Toronto, Ont.

Several other leading feature syndicates combine stories and pictures for newspaper consumption. Some of these, however, use drawings which are made from photographs and therefore do not fall strictly into the above classifications. These include:

McNaught Syndicate, Inc., 1475 Broadway, New York City.

King Features Syndicate, Inc., 235 East 45th St., New York City.

Ledger Syndicate, Independence Square, Philadelphia, Pa.

Los Angeles Times, Times Bldg., Los Angeles, Cal.

Bell Syndicate, Inc., 247 West 43rd St., New York City.

United Features Syndicate, Inc., 220 East 42nd St., New York City.

Western Newspaper Union, 210 South DesPlaines St., Chicago, Ill.

Science Service, 21st St. and Constitution Ave., N.W., Washington, D.C.

There are scores of others but the above mentioned are the leaders. With these as a sample of what sources are clamoring for more and better news and feature pictures, the free lance can earnestly begin his career in the journalistic field with every hope of making a living. He must know how to work hard and long hours must mean nothing to him. He must know how to turn out prints at top speed and with unvarying quality. When he has conquered all the many problems that crop up in the path of the beginning free lancer, he can safely say that he knows press photography.

There are ways and means of selling almost every photograph that a newsman makes. It is up to the photographer to find those means.

Chapter XXIX

WRITING CAPTIONS

VERY FEW free-lance photographers know the technique of writing a good caption for a news photograph. As the editor often makes his selections of news and feature pictures from the caption rather than from the photograph itself, it is important to know how to write captions. It calls for a little thought and a little time, but in the long run, it means more profit. Captions should be brief. Fifty words is sufficient for most news photographs, unless a complete history must be given. Not only should the captions be brief but they should also be well written and they should be typed. One of the best methods of writing a news caption is to write it just as a reporter or rewrite man makes up his lead when beginning a story. It should tell who, what, when, why, where and how. It does not as a rule require more than fifty words to do this. In many cases, the entire story can be told in less than twenty-five words.

Perhaps your picture shows an explosion scene in which two persons were killed. The caption would read something like this:

" Two Die in Blast.

Chicago, — Two persons were killed when a blast ripped the Masters Manufacturing Company here today. The dead were John Doe, 33, and Jack Smith, 25. Photograph shows general view of the explosion scene."

If the same photograph was taken the day before it is being sent out to the newspapers or news services, the caption would read something like this:

" Police Investigate Blast Deaths.

Chicago, — Police continued their investigation today of the blast in the Masters Manufacturing Company here in which two men were killed. The dead were John Doe, 33, and Jack Smith, 25. Photograph shows general view of the explosion scene."

It will be noticed in the above caption that the time of the explosion is eliminated by using the today angle in writing it. This should be done in all cases where the original story broke before the photograph is sent to the prospective purchasers.

Almost all police cases can be covered in captions of similar nature. Murders, robberies, burglaries, safe crackings, and similar cases are handled in a routine fashion. Get the news of the story in the caption. Get it in the first sentence. If a gangster is murdered, say so in the first sentence. Don't start your caption with a description of the picture.

Write a brief head for the caption in all cases. Three or four words generally suffice. The following gives some samples of how and how not to write heads.

GOOD	POOR
Bandits Get $50,000	$50,000 Robbery
Police Hunt Kidnaper	Search Spreads
Three Die in Riot	Rioting Communists
Smith Denounces NRA	NRA Lashed
Mayor Tosses First Ball	Ball-Tossing Mayor

These examples will show the reader just how news can be condensed into a minimum number of words for purposes of attracting the attention of an editor.

In the sports world, the photographer can easily condense the important facts into a single sentence. He names the winner of the event in the first sentence and then explains his picture, thus:

" Indians Win Opener.

St. Louis, — Fourteen innings of baseball today netted the Indians a two to one victory over the Browns as the squads opened their season's official play in the American League. Photograph shows Smith scoring first run of game in first inning."

The same thing can be done with football, polo, basketball and every other sport.

Society photographs are easily handled by the caption writer whether the story concerns a marriage or the coming-out party of a debutante. The following is an example of this type of caption:

" Heiress Marries John Smith.

New York, — Jane Doe, heiress to the Doe millions, was married here today to John Smith, prominent socialite polo player. Photo shows Mr. and Mrs. Smith leaving blank church after the ceremony."

When photographs are made of a couple on their honeymoon, they should be accompanied by captions such as this:

" Heiress Golfs On Honeymoon.

White Sulphur Springs, — Honeymooning through the south. Mr. and Mrs. John Smith, New York socialites, are spending a few days here before returning to their home. The couple, married in New York last week, are shown here as they played a round of golf on the local course. Mrs. Smith was the former Jane Doe, heiress."

There is no difficulty in writing a good caption once the elements of news value are firmly grasped. If you are sending pictures to newspapers, study their individual styles in writing captions and write yours accordingly. Style of writing varies from newspaper to newspaper, however, and the samples of captions shown above are designed mainly for news-service captions. However, they can be used for all purposes of free lancing because they answer the requirements of most newspapers.

An old adage in newspaper offices is: " Get the news in the first sentence of the story."

Guide yourself by this and you will not be far wrong.

A few " don'ts " about writing captions for news photographs probably would not be amiss.

Don't start the body of your caption with the words " the," " an," or " a." The first word of a story is altogether too important to waste.

Don't use a lot of adjectives. Write your captions in a terse, businesslike fashion. Write tersely and you have a much better chance of breaking down the resistance of the news editor. You are then, at least, ranked as a photographer who knows how to tell his story in the fewest words. In writing a caption always give the location of the event in the form of a date line, thus: " Chicago " or " Chicago, (date), —." This will save you the trouble of naming the locality of the story later on in the caption other than to say " here today." If the story centers in a small community near a large city, write it into the caption like this:

" Chicago, — One man was killed and three others wounded in a gun battle in outlying Cicero today." or

" Chicago, — Three men were fatally injured when the machine in which they were riding crashed into a bridge abutment in Cicero, near here, today."

If the story cannot be located definitely in this manner, as in the case of a blast out in the country, it may be worked into the story in the following way:

" Cleveland, — Five members of a single family were burned to death in a fire which followed a blast in their farm home near Vermilion, Ohio, 40 miles west of here, today."

Always be sure of your spelling in writing a caption. This applies particularly to proper names. If you don't know the proper spelling of a word, whether it is a proper name or not, check it! That is the safest method of avoiding trouble.

In writing captions for feature pictures, always put the unusual angle in the first sentence. If you have a picture of a polar bear swimming in his ice-bound pool in mid-winter, write it something like this:

" Who said it was cold? Mr. Bear, of the Zoo, invites you to ' come on in ' as he splashes about in his near-freezing private swimming pool. No one accepted his invitation as the thermometer said ' zero.' "

Many feature pictures sell themselves. In other cases, a well-written caption will sell the photograph where it otherwise might be rejected. Pictures of dogs and cats playing together are always wanted, as are those of similar nature where various natural enemies of the animal world become fast friends. One of the best pictures of this kind the writer has ever seen is one showing a huge police dog carrying a cat on its back. That, in itself, would probably make a salable picture. But to top all the previous pictures of its kind, the cat on top of the dog was carrying a white rat! Such a picture could be sold to any service at any time and probably would be worth a bonus if offered exclusively. You, at least, can name a bonus price on it if you are fortunate enough to get a picture of this type.

The caption should be typewritten if possible. If not, it is a simple matter to write the caption in legible hand writing, preferably in block lettering. That makes it easier for the editor to avoid misspelled

words. If you write your caption by hand, spell out all proper names in block letters. This will give the editor positive means of knowing how the name should be spelled.

When attaching a caption to the print, it should be pasted to it. The best method of doing this is to turn the print upside down, allowing about two inches of blank paper between the end of the writing on the caption and the end of the sheet. On the back of the caption sheet and at the bottom, smear some paste, and then attach this to the bottom edge of the print. Press the two together so they will hold and fold the caption sheet over the edge of the print. When this is done, the caption will appear over the lower edge of the print.

Be sure to put your name and address on the pictures you send. This can be done either by purchasing a rubber stamp with which to stamp the back of your prints or simply by writing it on the caption. It is not necessary to send in a letter with every shipment of prints or negatives that you make. Simply put your name and address on the caption or on the back of the print and send it along.

However, if you have a news photograph and never have submitted pictures before, it is usually good policy to send a brief letter. You may make the letter serve two purposes by asking the syndicate or paper to which the print or prints are sent to place you on their correspondents' rolls if possible.

When the caption is completed, it should look something like this:

" From Oscar Jones,
14 W. 3rd St.,
New York City.

FIVE DIE IN FIRE

New York. — Five firemen were killed here today when trapped under a falling wall of the Smith Building during a six-alarm fire. Photograph shows men scrambling to safety as the wall topples."

Another feature of the press service captions that may be borrowed by the free-lance writer is that of showing the date when the caption was written and where the print was sent.

In many cases, the free lance will send photographs to two or more different bureaus of the same syndicate so that coast-to-coast coverage

can be made earlier. In such cases he can place, at the bottom of the coverage, a line showing where the print was sent, thus:

" S1/1/35 sent to nyc-chi-cle-losa."

The " S " indicates the initial of the person who wrote the caption, the " 1/1/35 " represents the date, and the remainder of the line shows that the print has been sent to bureaus at New York City, Chicago, Cleveland and Los Angeles.

Anybody can write a good caption after a little experience. There is absolutely no excuse for misspelled words, particularly in proper names. Be sure of your facts when writing a caption and keep it as terse as possible. If you are writing an illustrated article, your captions need not be longer than a few words telling what the picture shows.

Newspapers are becoming more and more picture-minded. More pictures and shorter stories is the rule today. You cannot learn how to write captions from a book. A book can only suggest ways of learning. Learning itself only comes from experience as does a knowledge of so many other things.

Chapter XXX

CREDENTIALS

A NEWS photographer without proper credentials is very much like the collegiate crew without a racing shell. Neither can get into the game they are playing. Through the courtesy of government agencies, press photographers have been particularly fortunate in obtaining passes which permit them to make photographs and report on stories which would otherwise be inaccessible. The ordinary police pass is the most frequently used press courtesy card. This is usually issued to any bona fide reporter or photographer upon application, if he uses a letterhead showing by what newspaper or news service he is employed. A free lance can usually arrange for a police pass if he has a letter of introduction from one of the editors to whom he sends photographs.

This pass permits the photographer to pass fire lines and emergency cordons at all times at his own risk. On big fires, he may be required to remain just within the lines by police order, but he is always given an opportunity to be in a position for possible pictures. Never get in the way of police or firemen. You may be seriously injured or killed if you do. Obey the police instructions given you and you'll be relatively safe if you keep your eyes and ears open.

The police pass is ordinarily issued by the safety department of the community. At times, authority to issue the passes is given to the head of the police department, but in most cases the decision to pass or reject applications is made by the safety director or the mayor or both. In most cities, the police pass is simply a countersigned card bearing a picture of the photographer or reporter to whom it is issued and also his signature. In other communities, special police badges are issued by the newspapers themselves or by the police department upon payment of the cost of the badge. If no press courtesy cards are issued by the police in your community, it is usually possible to have a small badge made at a cost of a few dollars. These are

Identification Badge
James C. Kinkaid

generally recognized by police. However, if a user of the badge is not an active newspaperman, he is likely to find himself in considerable difficulty with the police who may or may not charge him with impersonating an officer. In addition to these city police passes, there are also county and state police credentials issued by the heads of these departments. It is usually unnecessary for a photographer to have more than his local police pass, although if he can arrange it he should obtain the others as well. The more credentials he has, the more secure he will be when encountering a strange group of officials.

Some cities deputize reporters and photographers as special police, but this system is on the wane and the passes are becoming more and more popular. In other communities, the newspapers distribute badges of their own which are recognized by the police and fire authorities.

Many communities require photographers to have permits to make pictures from bridges and in parks. The most notable example of this is in New York City, where permits must be obtained for making pictures from various bridges and in the various parks in the city. The only thing necessary for the photographer to do is to ascertain the method by which he can obtain his credentials in his particular

section and then make his application in the described manner. Of course, if he is a staff man, his city editor will take care of his credentials.

State police departments are reluctant to issue credentials and the department of justice and similar federal agencies do not issue press credentials, although their agents will usually recognize the courtesy cards issued by other police authorities.

In the news picture services, staff men are given passes permitting them to board revenue cutters and similar boats meeting incoming liners for the purpose of covering ship news assignments. These also are issued on application to free lances who regularly cover the incoming and outgoing vessels. These men also carry passes which permit them to photograph army, navy, marine and coast guard activities, although usually the negatives thus made must be submitted to the authorities for inspection before publication. This is the only press censorship that the country now knows, except for the suppression of obscene and anarchistic literature. If the negatives are not submitted for inspection by the authorities, the photographer's pass may be revoked.

Baseball clubs issue regular credentials to newspaper photographers permitting them to work on the field. The user works at his own risk. The free-lance photographer can learn how to obtain one of these passes, if he is qualified for one, by seeing the publicity man or manager of his local ball club.

Every sporting event, if it is important enough, attracts its quota of newspaper photographers. To arrange for the necessary credentials, see either the promoter of the event or the committee in charge of press relations. They will usually be only too glad to send you the necessary credentials.

Conventions are usually willing to grant courtesy cards or badges to the press and these are obtained by getting in touch with the committee in charge of the publicity of the convention or the committee in general charge of the meeting. The big political conventions are meccas for newspaper photographers and they receive their credentials through the organization for whom they cover the meeting.

In most cases, the photographer will have little trouble in getting his credentials. Although they are used occasionally to prevent the

photographer's arrest for speeding or a similar offense, they should not be abused. Neither should the privileges that they grant be abused.

In many cities, special parking privilege cards are issued to accredited photographers and reporters, so that they may park in congested areas without their cars being tagged or towed away. These cards are probably the most abused of all newspaper credentials by the reporters and photographers themselves. However, they are also one of the handiest cards ever devised by police authorities for press use. They allow the reporter to park his car anywhere he chooses and for as long a period as he elects, giving him plenty of time to work on any assignment he may have.

I have not used my press credentials in the last five years, except on assignments where I was unknown. The average free lance who is acquainted with police and fire authorities in his own community will not need a pass for assignments except when they take him out of his district. Then they are sometimes priceless.

Don't abuse your privileges. Treat the officers with whom you come in contact with respect. Never argue with a patrolman. He is only carrying out instructions. If he refuses to allow you to pass a fire line when you have shown your credentials, call his superior officer over and show him your credentials. He will usually allow you to pass the line unless your life would be unnecessarily endangered by permitting you into the danger zone.

Chapter XXXI

ETHICS

MOTION PICTURES have represented the newspaper photographer as a rough-and-tumble rowdy who has little respect for himself or others. In actual life, however, the newspaper photographer today has become a gentleman. Not only does he dress like a gentleman, but he acts like one. Strange as it may seem to those who have obtained their ideas of the news cameraman from the motion picture screen, the news photographers now have a code of ethics. It is not a written code nor even a verbal one. It is just another of those lists of unwritten tenets that have come into being in the world's history. There are no ten commandments in the newspaper game. There are no criminal or civil laws which affect the work of the newspaper photographer as to its relations to the public or to his brother cameramen other than the code of libel.

Nevertheless, these cameramen who often dare death for an elusive picture also have a definite code of ethics. To break them once may not result in any disaster. They are broken every day. But if the photographer insists upon unethical practices, he will soon find his opposition ganging up on him. In a short time, he will find out that he has been ostracized from the inner circle. He will also find himself being beat and scooped by his rivals, who begin sharing their information with each other in order to chastise the breaker of the unwritten ethics.

The code of ethics varies in different sections of the country. In a few localities, every photographer is out for himself, fighting all opposition, but in others, the photographers work together on assignments, sharing them and tipping each other off to news stories. If you are in a group of photographers who work together, woe be unto you if you decide to break away. They'll gang up and you'll find yourself as much an outcast as it is possible to be. You'll be

black-listed by the others and you'll find it a difficult task to reinstate yourself.

Out of this playing ball has grown the habit of all men covering an assignment of exposing their plates on the single flash of one photographer. The cameramen take turns at this, and the average result is a great saving in bulbs for all concerned. Some of the photographers will try to dodge this by exposing their own bulbs without giving their rivals an opportunity to get in on their flash. This is, in the final analysis, a foolish thing to do, for such courtesies as are known in the field should be reciprocated.

If you are in the league where all photographers work together, you will often be able to get a plate from an opposition man if he had an opportunity to cover an assignment which you missed. Some day, he will miss an assignment and you will be expected to supply a plate for him. This has been going on among the news service men for years and is practiced occasionally among the newspaper staff photographers but to a much smaller degree.

When you are on an assignment, try to be quick-witted enough to get the favored positions before your opposition. If you can't, don't try to set up your tripod in front of another photographer. If there is not sufficient room for you at the side, wait until the others have finished and then ask the subject to pose once more. You will often be rewarded with a better picture.

When other photographers are working on one side of a subject, don't discharge a flash from the opposite side that will ruin their negatives. Wait until they are finished and make your exposure.

For a general view of the ethics of the press, the following tenets are herewith given. These journalistic canons were first adopted by the American Society of Newspaper Editors twelve years ago. Since then they have been endorsed by virtually every journalistic group in the nation. As adopted, the ethical rules read:

" The primary function of newspapers is to communicate to the human race what its members do, feel and think. Journalism, therefore, demands of its practitioners the widest range of intelligence, of knowledge and of experience, as well as natural and trained powers of observation and reasoning. To its opportunities as a chronicle are indissolubly linked its obligations as teacher and interpreter.

" To the end of finding some means of codifying sound practice and just aspiration of American journalism, these canons are set forth:

" (1) Responsibility — The right of a newspaper to attract and hold readers is restricted by nothing but consideration of public welfare. The use a newspaper makes of the share of public attention it gains serves to determine its sense of responsibility, which it shares with every member of its staff. A journalist who uses his power for any selfish or otherwise unworthy purpose is faithless to a high trust.

" (2) Freedom of the Press — Freedom of the press is to be guarded as a vital right of mankind. It is the unquestionable right by law, including the wisdom of any restrictive statute. To its privileges under the freedom of American institutions are inseparably joined its responsibilities for an intelligent fidelity to the Constitution of the United States.

" (3) Independence — Freedom from all obligations except that of fidelity to the public interest is vital.

" A. Promotion of any private interest contrary to general welfare, for whatever reason, is not compatible with honest journalism. So-called news communications from private sources should not be published without public notice of their source or else substantiation of the claims to value as news, both in form and substance.

" B. Partisanship in editorial comment which knowingly departs from the truth does violence to the best spirit of American journalism; in the news columns it is subversive of a fundamental principle of the profession.

" (4) Sincerity, Truthfulness, Accuracy — Good faith with the reader is the foundation of all journalism worthy of the name.

" A. By every consideration of good faith, a newspaper is constrained to be truthful. It is not to be excused for lack of thoroughness, or accuracy within its control, or failure to obtain command of these essential qualities.

" B. Headlines should be fully warranted by the contents of the articles which they surmount.

" (5) Impartiality — Sound practice makes clear distinction between news reports and expressions of opinion. News reports should be free from opinion or bias of any kind. This rule does not apply to so-called special articles unmistakably devoted to advocacy or char-

acterized by a signature authorizing the writer's own conclusions and interpretations.

" (6) Fair Play — A newspaper should not publish unofficial charges affecting reputation or moral character, without opportunity given to the accused to be heard; right practice demands the giving of such opportunity in all cases of serious accusation outside judicial proceedings.

" A. A newspaper should not invade rights of private feelings without sure warrant of public right as distinguished from public curiosity.

" B. It is the privilege, as it is the duty, of a newspaper to make prompt and complete correction of its own serious mistakes of facts or opinion, whatever their origin.

" (7) Decency — A newspaper cannot escape conviction of insincerity, if, while professing high moral purpose, it supplies incentives to base conduct, such as are to be found in details of crime and vice, publication of which is not demonstrably for the general good. Lacking authority to enforce its canons, the journalism here represented can but express the hope that deliberate pandering to vicious instincts will encounter effective public disapproval or yield to the influence of a preponderant professional condemnation."

There is no better survey of the ethics of journalism in so few words available anywhere in the history of the press. Any member of the fourth estate can profit by reading those canons.

True, they were not established by the reporter, the writer, or the photographer, but when publishers and editors outline their views on the ethics of the trade in those words, those who are associated with them should be able to view their trade with the ethics in mind.

Ethics of photography may change in years to come as far as the press cameraman is concerned, but if he conducts himself with the ethics of today in mind, he will never be far wrong.

To be honest, to tell the news without coloring it to suit your opinions, to be responsible, to be decent, impartial, sincere and independent, is to be doing your part in upholding the life of America's freedom of the press and freedom of speech. There can be no greater duty to any news photographer.

Chapter XXXII

PSYCHOLOGY

PERHAPS A BETTER heading would be "common sense in news photography." At any rate, it is not my intention to imply that a news photographer must be a psychologist in order to be a successful press man. He should, however, be able to make simple deductions from his observations and apply them to his work. In other words, he should use his brain for something more than merely determining exposure speeds.

Though many news photographers know nothing about psychology as it is taught in collegiate textbooks, they are, without knowing it, among the best students of applied psychology in the world. When confronted with an unusual situation, they put their brains to work to find a solution to the problem. By using plain common sense, a photographer may be able to get a better picture than an opponent who fails to consider the problems.

For instance, there may be two or three doors to a police station by which a criminal may leave when he is released on recognizance, and it is up to the press photographer to get a picture of the criminal when he leaves. If something is known of the character of the person in question, the problem becomes easier. If he is of the type that glories in publicity, he will leave the building from the main door. On the other hand, should the prospective subject be a person who shies at publicity, he will elect to leave the building by the least-used exit. If there are several main doors, it is usually a safe bet that the subject will use the exit nearest the point where he is being held. The latter point is based upon the average man's desire to get far away from an unpleasant experience as rapidly as possible.

When meeting persons in a higher walk of life, address them with dignity. If you are not familiar with them personally, use respectful titles. Mr. and Mrs. are usual terms for American citizens in all walks of life, whether they be coal miners or the president

and first lady. In addressing the President, the usual form is Mr. President.

When covering the visits of dignitaries from other lands, however, the terminology becomes more complex. There are all sorts of titles ranging from the Sir of knighthood up to those for royalty. In every case of this kind, the proper title of the person addressed should be used. Your Lordship or Your Ladyship will suffice when addressing a lord or lady, respectively. Barons may be addressed as Baron Rothschild or simply Baron in most cases, without inciting anger in the subject. If you have any questions as to the correct title and form of address to be used, consult your local library. To call a visiting dignitary by other than his proper form of address brands the photographer so doing as an ignorant, inefficient press man.

On one occasion during Queen Marie's tour of America, a news photographer, instead of asking her to pose for a picture by addressing her as Your Majesty, shouted to her, " Hey, Queen, smile, will you? " Whatever the impression was upon the queen, she did smile. The photographers took their pictures, but the one who had thus offended, although no diplomatic action was ever taken, had taken his last news picture for the newspaper which had assigned him to cover her arrival.

In Washington, news photographers occasionally have difficult times covering assignments where many dignitaries, many of them ambassadors and consuls and the like, are present. They, however, have learned from past experience that it is far easier to break down the resistance of dignitaries of a foreign nation by addressing them with their respectful titles than with a, " Hey, you, smile! "

When a photographer asks a person to pose for a picture, he is invading upon the private rights of his subject. Should the subject refuse to pose, it is also the photographer's right to argue, all day if necessary, as to why he should be allowed to make the exposure.

The threat that the news photographer will get the picture some way or another, anyhow, is usually quite effective. To the uninitiated, this seems like idle talk many times. Yet it is surprising how often the threat is carried out with modern equipment. True, most of the pictures taken after the threat is made do not give a good likeness of the subject, but it is not the fault of the photographer. He cannot

Midsummer Night on the Esplanade — *Harold Orne*

A night feature, picturing one of a series of summer evening concerts. Pictures of this type are usually salable to the local rotogravure editors.

hope or be expected to get as good a picture with his synchronizer as he would if the subject had posed.

Many lawyers have found out that photographers are not making idle threats when they say they will get the picture whether the subject poses or not. Today a good many of these barristers insist that their clients pose if the newspapers seek a picture. It is to the mutual advantage of all involved.

At times, the subject will insist that he be photographed with someone else. If he or she cannot be argued out of this mood and induced to pose alone, the only thing to do is to take the picture and let an artist retouch the unwanted person out of the photograph. This is very simply done and is a trick used many, many times a year in all large cities.

The psychology of news photography, however, cannot be set down in a book. It is knowledge acquired only by experience. The newsman will learn a great deal about it from his rivals when on assignments. He will learn more when he is face to face with a problem himself without anyone near to assist him.

Women are usually more easily persuaded to pose for a picture than men. If they are told that a picture made with a speed flash probably will not be very flattering, they will, nine times out of ten, take advantage of the opportunity to pose for a photograph. Many photographers make a speed flash first and then argue for the posed photograph later on the grounds that the picture that has already been taken will probably be a very poor one.

Whenever you must resort to argument, use the one which you believe fits the case most logically and convincingly. Common sense will show you which one to use. The newsman need not have specialized in psychology during his school training. Nevertheless, he should be able to make his own deductions and compose his own arguments without delay.

Some otherwise excellent news reporters and photographers fall down when they are compelled to argue for a photograph. Those who can argue and choose their arguments carefully enough can usually bring back an " impossible " photograph. Such men are valuable to a newspaper or news service.

Chapter XXXIII

HISTORY

NEWS PHOTOGRAPHY as it is known today is less than fifty years old. It is the robust offspring of the newspapers of the world. Nevertheless, the arts of the ancient Egyptian, Babylonian, Greek and Roman empires are a part of the history of news pictures.

The beginning of news pictures, if one wishes to delve back to their actual origin, occurred far back in the dim ages when man lived in caves and elevated himself from the status of an animal to that of a human being. Several instances have been recorded by archaeologists and geologists and other students of prehistoric times of pictures on the walls of these caverns in which the Stone Age man made his home. He showed to his fellow men drawings of mammoths and other denizens of those ages. In those times, the news of the day was transmitted to others by word of mouth or perhaps by a code of beating upon the ground, upon trees, or upon hollow logs or stones. The illustrations which have been found on the walls of the caverns showed the cave man's brothers that objects could be reproduced by drawing.

Throughout the range of history, from Babylonian and Egyptian times, there have been news pictures. Sometimes these pictures recorded famous men of the day. At other times, the artist portrayed the scene of events.

All manners of art in ancient times were news pictures of one kind or another, for they preserved for posterity a pictorial record of events and of persons. Had newspapers been in existence during the ancient times and through the mediaeval ages, the history of the world surely would not be as blank as it is today. Instead, there would be accurate and complete descriptions of the great wars which have occurred, great disasters would be completely revealed and in many cases, the legends of great nations would be known. Possibly even the story of the sunken Atlantis would be known.

When the first newspapers were published, there was no means of publishing pictures of any kind. The papers published in the early days of journalism were, therefore, merely summaries of the news of the day.

Today, however, news photography has advanced to the point where many newspapers are granting as much as twenty-five and thirty percent of the space available in their news columns to pictorial presentation of the news. This shows clearly that the reading public wants the news in pictorial form.

The circulation-building possibilities of pictures have long been recognized. Joseph Pulitzer, the dynamo of power behind the old *New York World,* is credited with being the first newspaper publisher to recognize the value of pictorial material. He brought the first pictures into the modern newspapers just eighty-three years ago, six months after he acquired control of the *World*. All he could offer his readers was woodcuts. But the response of the readers showed he was right. Circulation figures spurted upward.

These woodcuts were made in a variety of ways, the most frequent being the use of a slab of chalk mounted on a piece of wood. The artist would etch a sketch upon the chalk and when completed, composing-room employees would pour lead over the sketch. The lead, running into the lines of the drawing, would form a small ridge which made the impression upon newsprint when placed in the forms for the presses.

To Pulitzer is also given the credit for originating the " X " which marks the spot of a happening. Pulitzer would use a diagram of a sensational crime and have a cross of the Maltese type placed in the diagram to show the position of a body when it fell or where it was discovered.

In a short time after the introduction of the woodcuts, the *Sunday World* was crowded with them. To Pulitzer came the conviction that people wanted pictures. His underlings, particularly those of conservative vein, constantly questioned whether cuts were not crowding out more important matter in print. They also contended that too many illustrations lowered the dignity of the paper.

The publisher, despite his convictions, decided to put the pictorial angle of his newspaper to an acid test. In 1885, Pulitzer decided to

go to Europe. Just before leaving he gave orders that all woodcuts should be eliminated. In a few days, every illustration had been deleted from the paper. Circulation collapsed. Street sale figures slumped horribly and alarmingly.

Despite the word of Pulitzer being law in his editorial policies, the editor left in charge decided he should do something to swerve the ebbing tide of circulation figures into smoother channels. There was no way to get official withdrawal of the edict handed down by the dynamic publisher. Taking the responsibility on his own shoulders, Colonel Cockerill, who was then in charge, ordered the woodcut department to resume operations as usual. This step was taken before his chief had landed in Europe. Shortly the *World* was again filled with pictorial material. With their return, circulation again came back.

On the day of General Grant's funeral, the paper, burdened with crude pictures of the ceremonies, sold to a total of 230,000 copies. At the time that was a record in circulation figures.

Pictures, by 1897, had been largely responsible for boosting the circulation of the *Sunday World* to 600,000. In addition to pictures, the *Sunday World* had turned to colored comics as a circulation tonic.

It was in this year that Arthur Brisbane left the *World* for the Hearst organization. This step began a famous battle between the two publishers which lasted for many years.

During the next few years, the New York newspaper scene was a battlefield between two great moguls of the publishing game. Pulitzer, with his morning and evening *World,* and Hearst, with his morning and evening *Journal,* battled for circulation. Both papers went mad with headlines and pictures. Despite the hysteria, however, circulation figures continued to soar. On important occasions, the *World* papers' combined circulation would exceed 5,000,000, an all-time peak for any newspaper at any time. The combined circulation of the two papers was usually approximately 1,300,000 during that same frenzied era of wartime hysteria. Hearst's *Journals* generally held a circulation of 1,500,000 copies daily, but often ran in excess of 3,000,000 papers on days when the papers were recording exciting war news.

Shortly after the turn of the century, photo-engraving was intro-

duced to the newspaper world. Newspapers immediately made use of the new development and the crudeness of the woodcuts relegated them to the junk box forever, as photographers began to bring in the first crude news photographs.

With the development of news photographs, there also came the demand for speed in obtaining them. Trains were used in most cases or fast horses employed in relays to rush the pictures to the newspapers from long distances. The news picture services had not yet been born.

On one occasion, one of the Hearst papers in San Francisco chartered a special train to rush their pictures of a heavyweight championship fight to them from Carson City, Nevada. The special train arrived so far ahead of the opposition pictures that the other newspapers in the city could not use them.

Since that time, trains, autos and airplanes have been used frequently. Today, more than fifty percent of the news photographs serviced by syndicates supplying nothing but prints are sent either by air express or by air mail. Telephoto and radio transmission of photographs is now commonplace.

All one has to do to learn that pictures are needed by the press is to make a casual review of newspapers, whether they are published in New York City or in a town of only 5,000 inhabitants. The result of such a perusal will show that some of the daily issues are almost as pictorial as Sunday editions.

The craze for graphic material is explained without difficulty. First of all, recent circulation increases and successes prove beyond doubt that the newspaper reader wants to see much of its news information as well as read about it. As a result, a breath-taking pace has been established for the news photographic services.

In the last five years remarkable advances have been made in journalistic pictures. Awakening to the new order of things, newspapers began spending huge sums for photographs and their transportation.

Editors have found out time after time that news photographs can sell newspapers as rapidly as headlines. Contrary to any contention that the reign of news photographs is merely a passing fad, the reading public's demand for pictures of news scenes is increasing.

Another great influence is the recent improvement in photography, photo-engraving, stereotyping and printing methods. These

Four Alarm Fire

From Blackington Service
Photo by Herbert Steir

This excellent fire picture was made with an open flash gun in zero temperature. The use of powerful flash guns or Photoflash bulbs makes fire photography easier and safer than ever before.

improvements have been gradual and hardly noticeable from day to day. However, the contrast can be easily seen if two papers, one of five or ten years ago and one of today, are compared.

Halftone reproductions in the press have begun to challenge the work seen in fine books. The improvements are being continued every day and current news illustrations in fifteen years may look as crude as the first woodcuts.

Transmission of photographs by wire and radio is a development of the 1920's. The original telephoto system was established by the American Telephone and Telegraph Company in the latter part of the twenties. Great improvements were made in transmission of photographs by wire but in 1933, the service was discontinued and it lay unused for almost two years.

By the beginning of 1935, however, Associated Press members took over the telephoto systems at an enormous cost and phototelegraphy has once more come into its own. Under the Associated Press the news editor receives from four to ten pictures every hour from all parts of the nation, depicting today's news events. To meet this service, opposition agencies are sending more than the usual number of pictures by plane and special delivery mails.

The demand for exclusive photographs is growing. If you have any question about that, merely note that Newspaper Enterprise Association, a mat service, and Acme, the Scripps-Howard picture service, have procured a picture concession on all photographs made of the Dionne quintuplets.

Marlen E. Pew, of *Editor and Publisher,* in commenting upon this concession, said, " One wonders where that method of obtaining exclusive pictures will end. Buying scenic material may become as common as the purchase of the by-lines of celebrities."

News photography's history is very brief. Its future challenges the imagination of even the keenest observers in the newspaper trade.

Chapter XXXIV

WHAT IS TO COME?

SPREAD OUT before the advancing procession of newspaper men lies a vast panorama of the unknown. What lies ahead in news photography? This chapter will attempt to set forth what is likely to occur in the news field as far as the photographer is concerned during the next few years.

Probably the first noticeable improvements will come in the speeding of the pictures from photographer to reader and a further improvement in the quality of halftone reproductions.

Picture services which do not now have telephoto equipment are working on plans which, if they can be perfected, will displace the present method of telephoto transmissions. One of these systems would use radio facsimile transmission, while the others would use the lines of commercial telegraph companies.

Of all the telephoto plans now being worked on, the radio system seems to be the best. If the equipment for radio transmission could be installed in a truck or bus or even perhaps carried in a suitcase, the advantages are evident. A photographer would go out on a story, take his picture and develop it on the spot. Taking his negative, he would transmit it by radio to the newspapers and bureaus desiring it. Such a plan would mean a tremendous saving of time.

Another system of telephotoing pictures is that developed now to very near perfection by Walter Howey. This system transmits a picture in such a way that the receiving station prepares a zinc etching which is ready for the stereotype department as soon as transmission is completed.

In comparison with the radio system, particularly if the radio system can be developed to the point where a positive can be made at the receiving station while a negative is sent from the transmitting point, the present method of wirephoto would be virtually as old-

fashioned and slow as the air expressed photographs of today are slow compared with the wirephoto method.

In any event, it is safe to predict that within the next decade radio transmission of photographs from the scene of the story will be just as commonplace as wirephoto is today. At the same time, the heavy tolls paid for the use of telephone and telegraph company lines would be eliminated by the use of radio and, by using ultra-short waves for sending purposes, the cost of transmitting the negatives would be hardly more than the carrying charges for air express packages today.

Engraving processes are being improved every year. Halftone screens are becoming finer and finer and today some newspapers are already using screens with seventy lines to the inch although most newspaper engraving is done with a fifty-five or sixty-line screen. As printing, engraving and stereotyping processes are brought closer to perfection, the halftone lines will become finer and finer until engravings as fine as those in the finest books will be available for press use.

As news photography becomes more and more important, it is safe to say that the film manufacturers will pay more attention to the press and its needs. As a result of this attention, there will come into being extremely fast emulsions which will give fine grain even under rapid processing. In addition to this, the films and plates will probably be fully corrected as to color without the use of filters, although this is a minor point. The biggest need in press emulsions today is a miniature camera film that can be enlarged up to twenty-five or thirty times without showing grain despite development in rapid working solutions.

The news camera of tomorrow will probably be much smaller and will, in all probability, use film approximately the same as that now used in the Leica and Contax cameras. Cameras will be equipped with lenses of the finest quality which will be used not only under conditions such as the candid camera is today, but in all general assignment work as well. As a result, the news photographers of tomorrow will be expert technicians in the art of processing negatives.

Special branches of photography, such as aerial work and the use of special emulsions and filters, will become commonplace. Within ten years most of the larger newspapers and news services in the coun-

THE FIRE FIGHTERS — *Alton Hall Blackington*

A composite picture made from three negatives. The foreground is a local wood brush fire, the men are members of the Forest Patrol in California, and the blazing pines were taken at a forest fire about sixty miles away. Three separate exposures were made on enlarging paper and the final print was airbrushed.

try will be equipped with aircraft for use in covering routine stories. Special cameras will be used in this work capable of virtual close-ups from a thousand feet or so. Such cameras will be used in covering sporting events rather than as now when one photographer must be available for every important game.

Three-color reproductions both in the rotogravure sections and in the news pages will become the general rule. One reason for the delay of this development is the high cost of the process, as well as its slowness. All these handicaps will be overcome in the future, and color photography will take its rightful place in the newspaper world.

With improvement in three-color reproduction work, there will also come better cameras for the purpose of making color-separation negatives. It is not hard to imagine that means will be found whereby the photographer will make his three negatives for the color process with but a single film built up in pack form. There are many other ways in which the three-color systems now in use could be improved.

Press photographers, too, will become highly specialized experts. They will be not only photographers, but good technical men who know the various phases of photography thoroughly. They will also be good reporters, which few of them are today. The photographer-reporter will come into being in the future, both on the newspapers and in the news services.

It is not hard to imagine that there will also be consolidations of the wire services and photo services. Such a move would unquestionably provide better coverage for all concerned as well as eliminating heavy overhead in duplication of editors and managers. A good managing editor handles his photographers and reporters as a unit. For this reason, there should be no separation in the authority of the news reports of wire services and the picture services of the agencies.

Single syndicates, supplying all news, pictures and features required, will doubtless be an outgrowth of another depression such as the one from which the nation is now emerging. When it is considered that the duplication of editing in the wire and picture services runs into hundreds of thousands of dollars annually in salaries alone, the advantages of the single system will be readily apparent.

Regardless of what may come in the field of press photography, the need for photographers will still exist. The men employed, how-

ever, will have to have further qualifications than they have today. The man who can go out and get a picture but who cannot write his stories will be useless under the new order of things.

Should television methods be perfected by radio, the news photographer may have a new field opened for his talents. An experienced news photographer knows the best angles in stories and with his knowledge of what the people want to see, he would be a natural person for the television companies to employ if they decided to cover spot news stories. If they do not cover the spot news of the day, they certainly cannot hope to compete with the press.

No matter what may come, there will always be a demand for experienced reporters and photographers for they are the chroniclers of the events today for the historians of tomorrow.

CONCLUSION

THROUGHOUT the writing of this book, I have endeavored to bring to photographic literature all the information needed by an amateur photographer to become a press photographer. I have purposely eliminated all mention of photography for advertising agencies and so on, as this does not come under the head of press photography.

As a working press reporter and photographer for the better part of my life, I have considered the many problems which confront a newsman in the carrying out of assignments. I believe that I have answered the great majority of questions which loom before the press man in his work.

Press photography, however, cannot be learned from a book. It requires practical experience for the photographer to know what to do under various circumstances.

I have eliminated personal experiences which I have had during my years in the work. There have been plenty of thrills, and many humorous incidents which I could have related. Space, however, is too valuable to waste in a text of this kind.

Any photographer is a potential news photographer, whether he carries a simple box camera or a complicated three-color equipment. To steer a middle course between the two extremes has been a difficult task. I have tried to make the text interesting and at the same time, simple. Much of the material herein has never before been published in a text on press work, and I have tried to make the book as complete and valuable as possible.

To the photographer who has entered or who hopes to enter the portals labeled "The Fourth Estate," I say, "So long and all the luck in the world."