KELSEY

The PRINTER'S GUIDE



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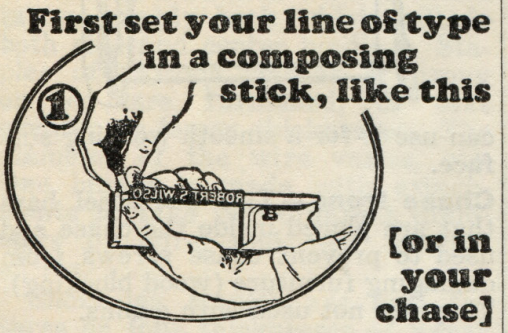
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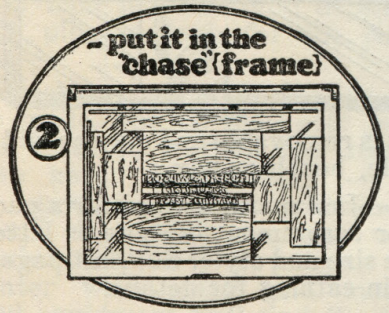
CAUTION—See important information about ink and grippers shown beside illustrations on page 11.

HERE'S HOW YOUR PRESS WORKS

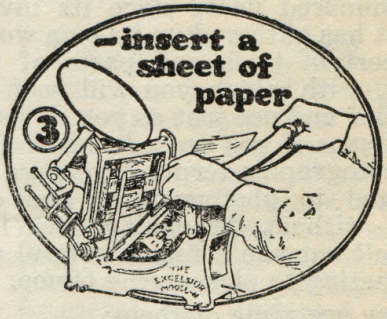
These pictures show the main points of printing. The Guide is written so that if you follow it, one step at a time, you can do good printing. However, if you just can't wait, you can



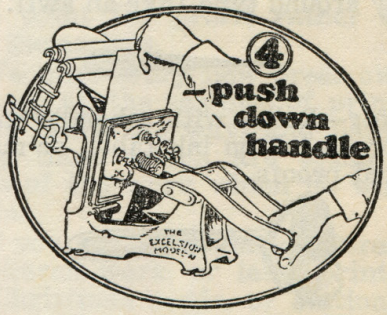
(Printers hold type as shown on page 6, but the first time hold it this way, if you like.)



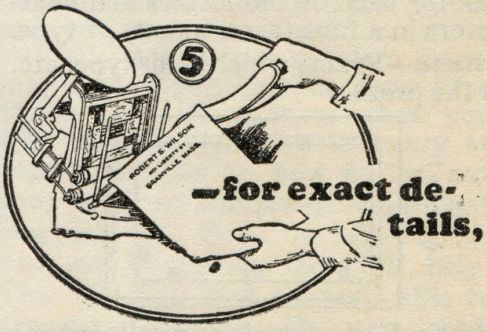
open a package of type (see page 4), put it in a case, and set up your name (as shown here). Place it in the chase (frame), also as per picture, put a dab of ink (no bigger than a good sized match head) on the ink table, smooth it out with one of the press rollers, and then take an impression on a piece of paper, turning up the screws on the back of the platen (see page 12) if necessary to make the printing show. The results this way may need considerable improvement, but they will show you that printing is no mysterious business.



You can then go back to the beginning of this Guide, do your next job



more slowly, and get first-class, professional results. *Read pages 1 to 11*



very carefully. What you find there are the essentials. Beyond page ten

you will find helpful hints, and answers to any problems that may come up, but you do not need to read them until you feel like it.

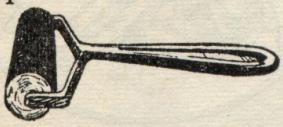
Printing isn't difficult. During the five hundred years since its invention it has gathered up its own words for certain tools and parts of the press, with which you will soon be familiar and use just as you do baseball terms if you are a baseball fan, or photographic terms if you are interested in photography. You can print without "speaking the language" but you'll find it helpful and fascinating to pick up the terms.

Here are some of them:

Bodkin—Small pointed instrument, handy around type (like an awl).

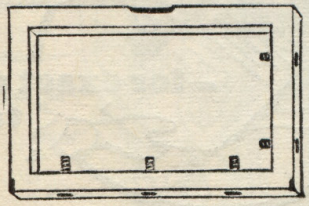


Brayer—Roller with a handle on it, to spread ink on ink table, or make printed proofs.



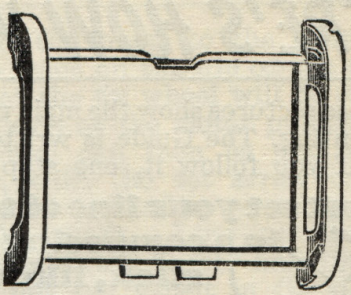
Case—The type case is a box or drawer with small compartments, one for each of the letters and characters in a font (assortment) of type.

Chase—Frame which holds type, etc. in the press.



(Chase)

Chase Bed—Sometimes called chase back or backplate. Part of press into which chase (frame) fits, and which is removable on the Excelsior so that you



can use it for a smooth working surface.

Chase Irons—Two flat steel bars that are placed inside the chase and used to prevent chase screws from damaging furniture (wood blocking). They are not used with quoins.

Composing Stick—Handpiece to put type (letters) in when taking them from type case. If you do not have one, you can set your type directly in the chase (frame) which on the Excelsior

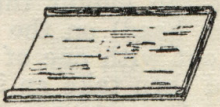


Press is removable and may be laid on a table, bench or box.

Font—Just another word for a package or assortment of type or letters in one size and style. See first page of type in catalog for details.

Furniture—Blocking to hold type (letters) in place.

Galley—Tray for holding type, etc., when not in press.



Gage Pins—Small pins which are used on press to hold paper or card in the right place for printing.

Grippers—The long metal fingers

between the type and the platen which keep the paper in place when printing, and prevent its sticking after the sheet has been printed. Used on all except junior models.

Imposing Surface—Smooth, level surface (Excelsior Press chase beds are removable and make a good imposing surface).

Impression Screws—Screws thru the back of the platen, which are used to get more or less force or squeeze in printing. The Guide tells how to use them. These have lock nuts on them, which can be used to hold them at just the right pressure.

Leads—Narrow metal strips used to make space between lines—like this page.

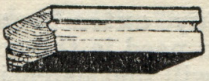
Line Gage—Printer's ruler.

Metal Quotations—Metal blocks used for spacing around work.

Pi—Jumble or mix-up of type.

Pica—A way of measuring, 6 picas make an inch.

Planer—Block of wood used with mallet to smooth down everything



that is in the printing frame (chase).

Platen—That part of the press on which you put your card or paper to be printed.

Point—A way of measuring, 72 points make an inch.

Quad Rule—Used for same purpose as brass or metal rule, but made in blocks like type.

Quads—Same as spaces but larger. (Used between sentences, etc.)

Quoins and Key—Wedges used to hold type, etc., in chase (printing frame). Not necessary on Excelsior Presses because material is held in place by screws in frame (chase).

Reglet—Narrow wood strips used to make more space between lines of type.

Rule—Brass or other metal strips to make ruled lines in printing.

Slugs—Same as leads but three times as thick.

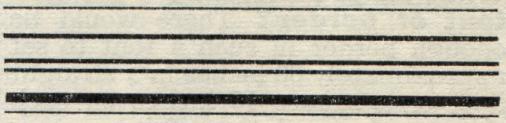
Spaces—Blank pieces of metal used between words.

Tympan—The paper or cardboard padding on the platen.

Here Are Answers to Some Common Questions

What holds the paper in the press? Little metal pieces called gages or gage pins and metal fingers called grippers. If you do not have any gage pins (or gages), you can bend three common pins to L-shapes about 3/16-inch from their heads, and push the long pointed ends into the paper pad (tympan) up to the angle of the pin—two at the bottom to hold the work up, one at the side for correct margin, or, you can paste or glue quads (the large blank metal pieces) on the padding.

How can I make ruled lines? By the use of the brass or metal rule listed in the catalog. It comes in two-foot strips which may be easily cut to any lengths you want, or can be



furnished already cut to your order. Quad rule can also be used for the same purpose.

Can I print more than one color

without any extra equipment? Yes, all you need is the colored ink, which you will find listed in the catalog.

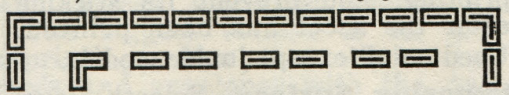
Does the price of type include that of both capital and small letters? If they are both shown in the specimen line in the catalog, the price includes both caps and small letters; if the small letters are not shown, they are not made, for instance, 6A 12a means there are both capitals and small letters in a font, 6A that it consists of caps only.

Does "12A" over the fonts mean that the font consists of 12A, 12B, 12C, 12D, 12E? No, because you would run out of some letters before others if you had the same number of each. It means that, if you count the number of A's in anything you want to print, you can get a general idea of how much type you need. In a type font or assortment there are more E's than A's, fewer B's, etc. See the specimen font and the information at the top of the first page of type for more complete details.

What is the difference between a regular font of type, 8A, and a large font, 16A, for instance? The large font is twice as big as the regular font. The larger the font, the cheaper it is to assemble it, hence we are able to give you bigger value for your money in them. See further on first page of type in the catalog.

What do you mean by a 60-inch font of border? There would be enough border in such a font to set approximately 60 inches in a straight line, or a square 15 inches on each side, or any variation of it.

Is the border made all in one piece so that I would have to cut it? No, it is cast in small pieces like type letters, so that you can make it up in any length or shape you want; and use it in as many jobs, one



after the other, as you please, just like type letters.

How many are there of each letter in a font of monograms? There are three of each so that you can make up any monogram combination.



In the Riverside monograms there are not only three of each, but three of each size, so that you can make up either large or small monograms, or combinations of the two.

How can I make raised printing that looks like engraving or embossing? You can do it with any press and the raised printing outfit listed in the catalog.

How long does it take to do raised printing? Just about as long as it takes to do the actual printing. The price you can get for it, however, is so much more that your profit makes the time well spent.

How can I make perforated lines for tearing tickets, coupons, etc. from stubs? This is done with the steel perforating rule listed in the catalog, which is put in the press just like the type, and the pressure of which makes the perforations.

How many leads are there in a pound? About ten feet.

How many slugs? Slugs are three times as thick so there are just ⅓ as many as there are leads in the same weight.

THE PRINTER'S GUIDE

for users of

KELSEY PRESSES

And Other Similar Machines

When your outfit arrives, open it with great care. Small articles are sometimes overlooked and thrown out in the excelsior or other packing material. Several small articles are often wrapped together in one package. Open all packages and note the contents. Proceed only when all the articles called for by your order have been checked or accounted for.

Go to work carefully and take plenty of time at first. There is nothing difficult to master, and with a little practice you will be able to work rapidly and accurately.

How To Set up an Excelsior or Victor Press

The Junior, 3 x 5, 5 x 8, and 6 x 10 presses are packed completely assembled with the exception of the ink table, ink rollers and roller wheels. The 9 x 13 size is packed in the same way, EXCEPT that the chase and chase bed are also separated for convenience in shipping. You will find the chase and chase bed packed on the side of the box.

If you will refer to the diagram on page 2, you will have no difficulty in assembling all of these parts. The ink table has a stem on the back which is inserted in a hole on the top of the press.

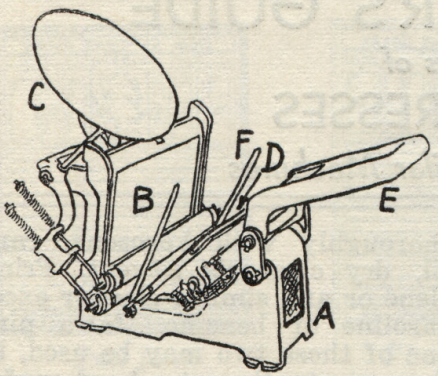
Remove the rollers from their cardboard containers. Clean them thoroughly with kerosene, range oil, dry cleaner's solvent, Printoclene or any similar cleaner except gasoline or benzine. In a pinch one of these two may be used, but they eventually put a hard surface on rollers, and are, therefore, not desirable. Do *not* use water, either with or without soap or a detergent cleaner.

Put the roller wheels (trunnions) on the ends of the rollers, and then insert the ends of the rollers in the roller hooks or saddles. It will be easier to assemble if the press is closed—that is, if the handle is pushed down so that the rollers will be installed across the ink table.

Save the corrugated container that the rollers were in, as it makes a fine box to hold and protect them when not in use.

If you have not already done so, clean also the ink table and the chase bed — these parts have an anti-rust compound on them for shipping purposes, as mentioned elsewhere. The rollers are made of a soft, pliable material so that they will pick up and distribute ink efficiently. Do not lay them down on a flat surface, or lean them in such a position that their surface touches anything, because it will dent them. For the same reason they should not be left on the ink table for any length of time. For more details about the

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care of rollers, see further on in this guide.

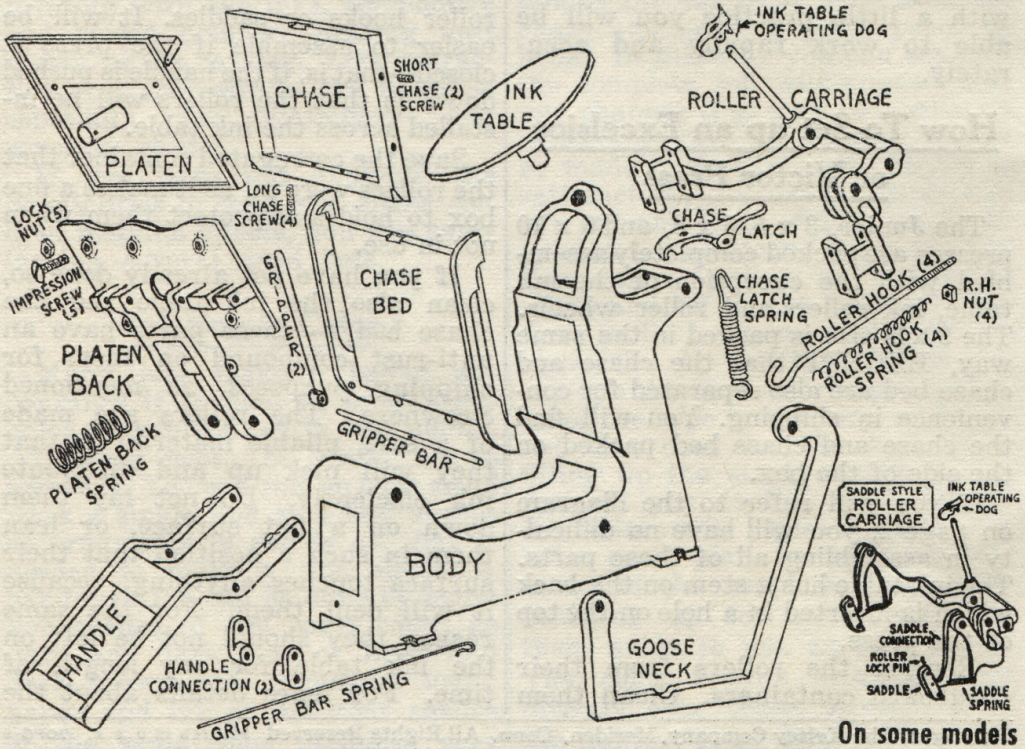
Fasten the press securely with screws to a solid box, bench, or table. The firmer the press is fastened, the easier it will operate. Have it near a window if possible, where you can get good light. Oil the working parts with machine or motor oil, and keep them lubricated.

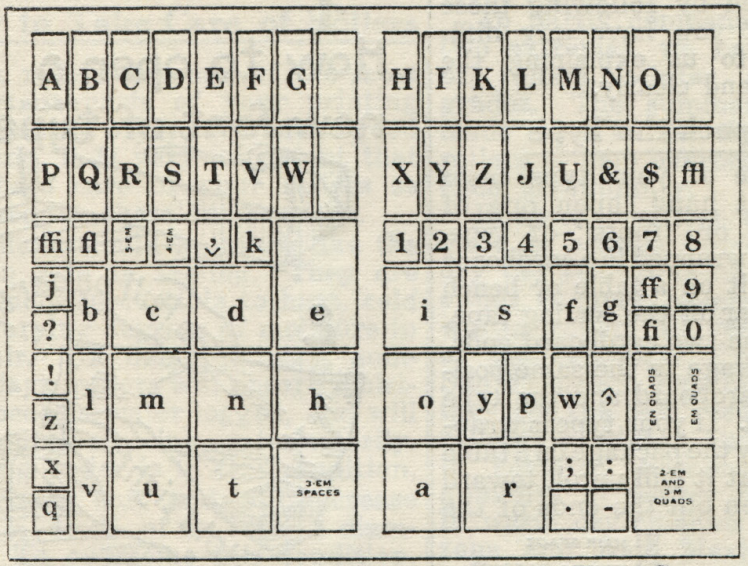
The Excelsior Press

In order that you may fully understand all references in the Guide, a diagram is shown (see elsewhere) giving the names of all parts, and we are appending an illustration, with the most important parts lettered. Junior and Victor press owners will find slight differences.

The chase, B, holds the type, and is arranged on our own patented plan, with removable chase bed,

Press parts and their names





Illustrating the layout of the California Type Case

Type may be arranged in the smaller, square $12\frac{1}{2}$x$12\frac{1}{2}$ case in straight alphabetical, A, B, C, order with figures and other characters following, or in the top row as desired.

so you can remove both chase and chase bed from the press, and set up your form (of type, etc.) directly on the chase bed, in the chase.

This prevents Pi, or mixing the form of type, if by any chance it is not well locked or tightened up in the chase. The sheet to be printed is placed on the platen, D, which, upon a downward pressure of the handle, or lever, E, gives the printed impression. The leverage is double, having two connections with the platen, which gives great power and prevents all twist and spring. The Excelsior front lever principle allows a sheet of any size to be printed, as the paper may project out on the sides. Chase irons (flat steel bars) are placed inside the chase, and are used to prevent the chase screws from damaging the furniture (wood blocking).

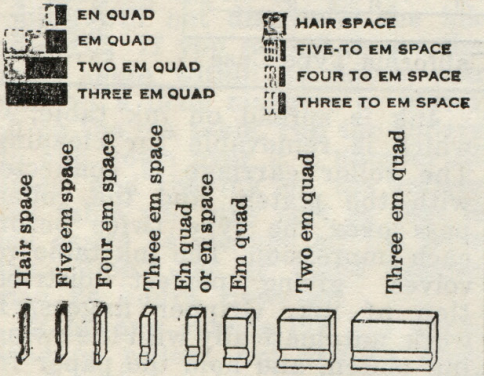
Ink is spread on ink table, C, which is removable for cleaning. The roller carriage is connected with the platen, and the rollers pass over the type twice before each impression. The ink table revolves, giving perfect distribution of ink. Gripper fingers, F, work automatically with the swinging platen, and hold the paper for the impression, releasing it for removal of printed sheet. The impression or pressure is regulated by impression screws, which may be adjusted so as to bring the right pressure on all parts. The chase or chase bed, or both may be instantly removed from the press, or replaced by a pressure on the latch which holds them. The Junior press has a combined chase and chase-bed which is held in place by a screw.

The rotary jobbers act on exactly the same principle as the hand presses, and good results can easi-

ly be obtained by following these directions. If you have any difficulty, write to us explaining the trouble fully and clearly.

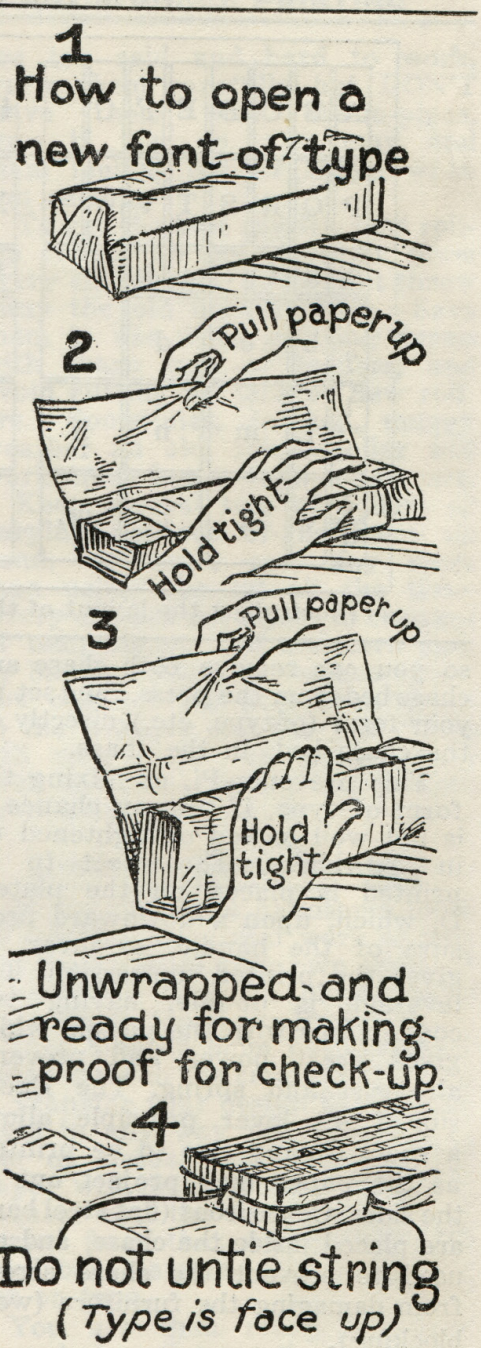
To Unpack the Type

Having one of your type cases at your right hand, open one of the packages or "fonts" of type. If your type is wrapped in a cardboard container lay it on a table or bench label down, tear off the sealing tape, and unhook the two cardboard ends, leave the package in the same position, unfold cardboard and the type will be face up. If your type is wrapped in paper lay the package on a table or bench so that it will unroll toward you, straighten out the ends of the



wrapper and unroll carefully until type is uncovered, standing face up on the wrapper. Do not try to remove it from the paper, but place a small block of wood or something similar on each side, to prevent it falling over. **Note the slip in each font regarding a proof.** Directions for taking a proof are shown on page 5. Let that be the first thing you do. It will safeguard you against a shortage or putting the wrong letters in the wrong compartment.

After taking the proof, wipe off the face of the type with a little



This is the card we describe→ see page 10 for the way it will look in the chase.

WILLIAM J. HARRISON
INSURANCE

61 WORTH STREET TELEPHONE MU 5-3810

gasoline, benzine, kerosene, Printoclene, or any similar cleaning liquid and, after placing strips of wood on each side of the font to keep it upright, carefully remove the string. The letters will usually be found in regular, alphabetical order, but sometimes in making up a font it is necessary to change the order somewhat, so notice each letter carefully before placing it in the case, according to the diagram. Beginners sometimes have difficulty to distinguish b, d, p, and q; n and u; , (comma) and ' (apostrophe). (See illustration on back of cover.) You will have no trouble with these if you remember that the nick of the body of the type is always at the bottom of the letter (see illustration shown elsewhere.) Your proof of the type will also help you to identify the letters.

Two or more fonts may be put in one case if different in size so as to be readily distinguished.

The spaces and quads are put in a separate font, and are opened and laid in the case in the same manner. The em quad is the square one, the en quad or space is the one that is just half the thickness of the em quad, the 3- 4- and 5- em spaces are those that are respectively one-third, one-fourth or one fifth the thickness of the em. (See diagram).

HOW TO MAKE A PROOF



or if you haven't a galley push the type (still tied up) onto a heavy cardboard, wood or other smooth surface.

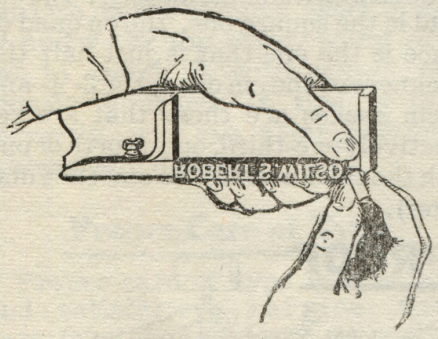
If you have no hand roller (brayer) use a press roller
Use the ink plate of your press if you wish.

Carefully lay sheet on type - place over this a felt pad, a blotter or soft paper. With planer laid on pad or paper (over type) strike squarely with mallet.
or use a smooth block of wood if you have no planer.

To Set Type

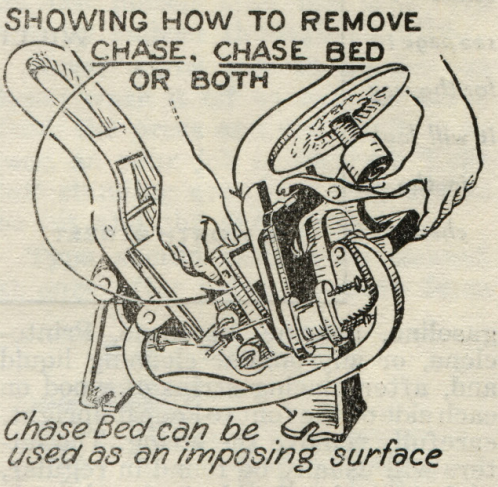
You will find it best to start with something small and simple, such as a card, or one or two short lines of type. Shown here is a sample of a business card. Let's begin by setting this card, but use your name, address, etc., with any other alterations you may wish to make without getting it too complicated.

In typewriting, you adjust your margin stops to the longest line you are going to write, and in printing you start with spacing-out material as long as the longest stretch on the card, which in this case is from 6 of 61 Worth Street to the 0 of 3810, and you will find this measures three inches. Printers call three inches 18 picas, their measurements making 6 picas to the inch. If you have one of the standard assortments of furniture (wood blocking) you will find several pieces in it three inches (18 picas) long, which you can use in



Using Composing Stick

this set-up. If you received a composing stick with your outfit, set the movable part (called the knee) so that it will hold a three-inch line, using a piece of wood furniture that length to get the right measurement, but allowing just a trifle more — the thickness of a heavy cardboard, or about a 72nd of an inch (one point, as printers call it). This is done so that when you tighten up your fin-



Chase Bed can be used as an imposing surface

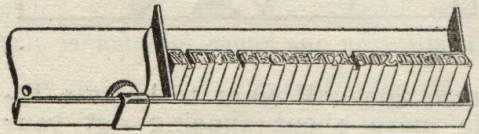
ished form the squeeze will come on the type and not on the furniture.

To set up this job you may want something thinner than the wood to put between the lines, and if you do, the metal leads (line spacers) are made for that. If your leads are all longer than three inches, you can use a lead cutter, cut them with shears, or file a deep notch in them so that they will break in two. Be careful, though, that the finished length is the same as the furniture.

Hold the composing stick as the picture shows, in the left hand, with the open side away from you. Put a piece of three-inch lead or three-inch furniture in the composing stick, then with your right hand, pick up the first letter (if you are following the sample card,

it will be a W, or whatever first name you are setting up). Place it face up and with the nick AWAY from you, in the lower left hand corner of the stick, holding it in position with your thumb. Then pick up the next letter, put it in the stick next to the first, and so on.

If you have no composing stick, take the chase and chase bed from the press as shown in the picture, and lay them with one edge on a block, book or magazine about an inch high, so that the tilt will keep the type in place until you are ready to lock (tighten) the form. Arrange some furniture (wood

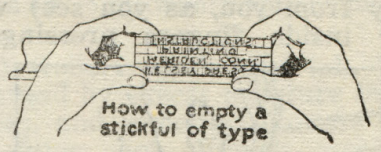


Properly spaced line will lift without falling

blocking) in the chase so as to leave just the space in the center, needed for the form, then start putting in the three-inch spacing material and the type, just as described above for the composing stick.

Having set "William" (or your own first name), put a three or a four em space after the last letter. As you will see from the illustration, the difference between three or four em spaces is a matter of thickness, and you can take your choice. Set the initial and period, put in another space, then set the last name.

What you have set will by no means fill out the three-inch space, so fill in on each end with the quads (thick spaces, see picture), being sure to use the same amount on each side of the type, to have the name properly centered. You can get this exactly in the middle



How to empty a stickful of type

by the use of the spaces. The line should be just tight enough (if you are using a composing stick) so that if it is lifted up it will stay where put without falling down, but not so tight that it is hard to shove spaces in.

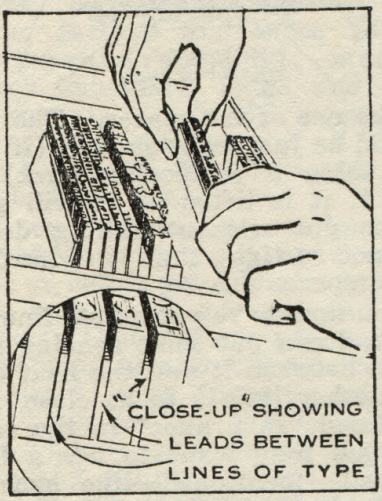
You now have your first line set up, and can put some spacing material between it and the next one. If another line is to be close, like the word "Insurance" in the sample, you may want to use a lead (already mentioned—line spacer) which should be cut or filed to the right length. If you want more space, or are going to leave out that line and get down to the address, you can use the wood furniture — enough of it to space the first line far enough away from the bottom one.

The street address and the telephone number (or perhaps you prefer the city and state) can be spaced out so that one is at one end of the line and the other at the other, as shown.

If you have been using your chase, the type form is now ready to lock or tighten. If you have been setting in a composing stick this is the way to pick up your type.

Put another three-inch piece of wood furniture or lead at the bottom—perhaps several if you have the room, so as to give you some-

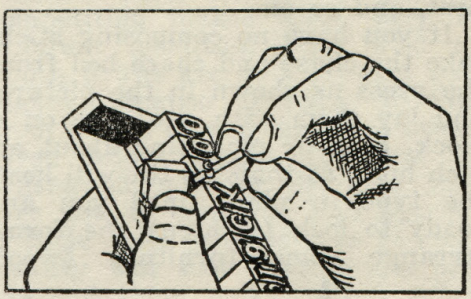
thing to hold onto. Now, do as the picture shows—grasp the type form (still with the bottom line away from you, as you see) with your inside fingers pressing a-



gainst the edges, squeezing tightly on ALL sides, lift carefully from the stick and place in the chase, which you have previously taken out of the press and laid on a flat surface. (Better use the chase bed for the surface unless you have something else you know is perfectly true and smooth).

All this may sound as if using a composing stick were more difficult than setting type in the chase in the first place, but there are numerous advantages, particularly on work with more lines. It is easier and quicker to set up type in the stick, and you can be entirely sure of getting all the lines "justified"—that is, spaced with an equal degree of tightness, which helps to keep everything where it belongs, with no drop-outs when you have turned up the screws along the edge of the chase.

If you have been setting up the sample card, and are in a hurry to proceed, you can now skip as far as "Locking Up Form". However, if you are setting up something in column formation, like the lines of this guide, or any work a little more complicated than the



Substituting one space for another size

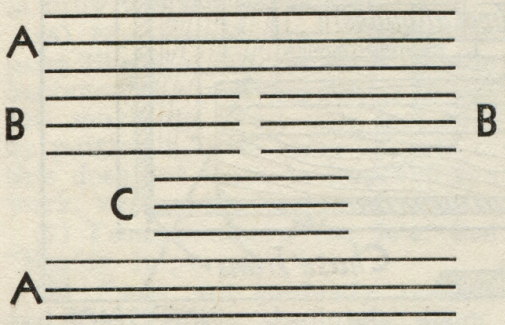
card, you will want to know a little more about spacing out your work. Suppose you are setting a line like this. Set up your line until it almost comes to the end, using three- or four-em spaces between the words. If there is not room to get in another word or syllable, increase the space between the words either by adding thin spaces until the line is filled out—(neither too loose nor too tight — as already described)—or pull out one or more of the smaller spaces, and replace them with the next size larger. Similarly, if all but one or two letters of a word will fit in the line, you can reduce the space between the words by substituting smaller spaces as far as necessary to get in your letters.

If you are setting big type you may find it necessary to cut spaces from paper or cardboard to properly space out the line, or use thin brass or copper spaces (you will

find these listed in the catalog).

Between the line you have just finished and the next one you can place a two point lead, cut to the right length. Lines can be set without any space between them if you wish, but you will find it best to put a piece of lead or brass rule as a divider between the two lines

How to arrange a page with lines of unequal lengths



Example—*set 'A' (top and bottom) one length, set 'B' short length (slightly less than ½ of 'A') set 'C' separately, and fill in on each side to make exactly the same length as 'A'. (All lines represent lines of type.)*

when you are setting them, so that the individual letters of one do not bind on the other, moving the divider forward after each line is properly spaced.

As in the case of the card on which we started, more space can be put between the lines by using more two point leads, or six point slugs (printer's term for six point leads) wood blocking (reglet or furniture). When you have as many lines set up as you feel you can move from the composing stick to the chase safely for the first time, do the same as described with the card. Better take only three

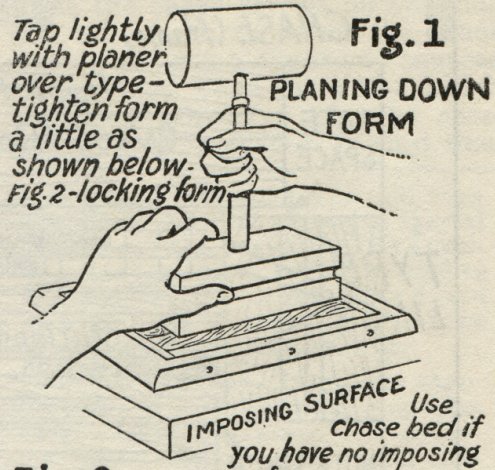
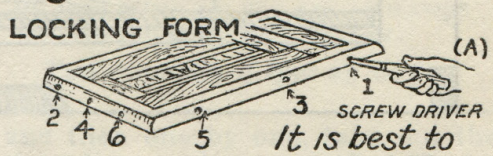


Fig. 2

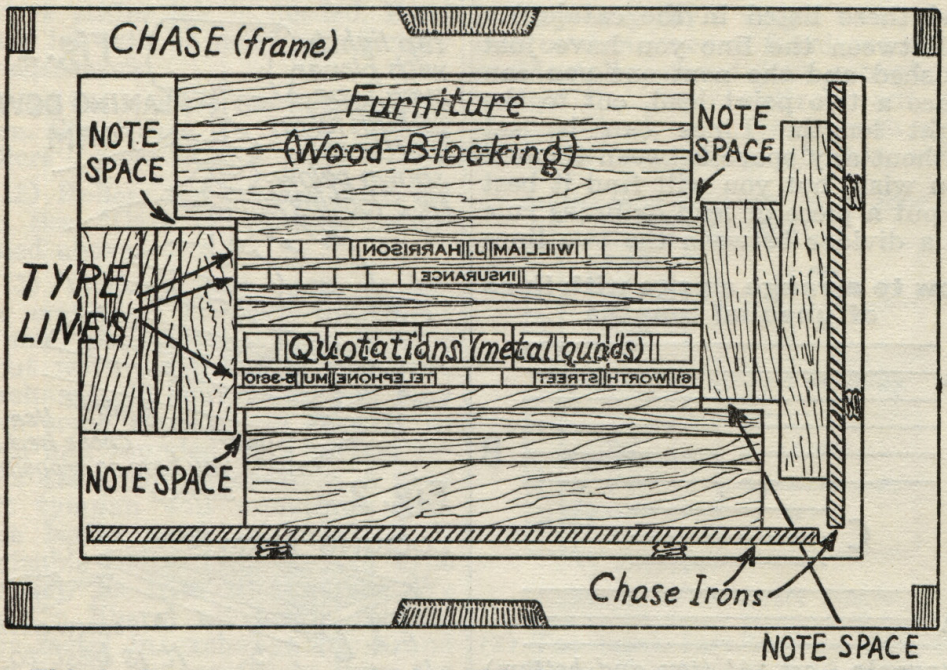


It is best to tighten screws in the order shown.

Plane down form, tightening (locking) as shown at (A)

or four lines at first, until you get familiar with it.

In the beginning we spoke of making the lines as long as the longest you expect to set. If some of them are so long that to do so would not be practical, you can break the short ones down into groups, just as the tabulating key does on a typewriter, and set these groups into your completed job just as you would individual forms, being very sure to make the spacing everywhere equal, so that turning up the chase screws will give a purchase on all parts of the entire form.



This is the way your card job will look when tightened up (locked) in a chase. Note open spaces to prevent tightening of one side from interfering with tightening of other side.

Locking Up the Form

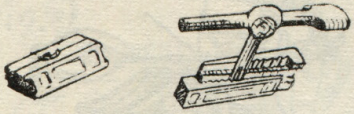
"Form" is the printer's term for the body of type and other matter you have set up. "Locking a form" means tightening it so that when it is lifted it will hold together—in other words making it ready for the press.

Remove the chase bed and chase from the press and lay them together on a bench or table. Place the completed form as near the center of the chase as possible, with the first line opposite the screws, if lines run lengthwise of the chase, or toward the solid end of the chase, if lines run crosswise. Around the form, put furniture (wood blocking), long pieces the long way, and short pieces on the short side. The iron strips furnished should be placed next to the chase for the screws to bear on.

Make sure that the type all stands squarely on its feet, that all the lines are of the same length and that everything is true and square, so that pressure will hold all evenly. Now turn screws just enough to press form together lightly, then lay a smooth surfaced block (planer) upon the form and strike lightly with a mallet to push down any letters that may stick up above the others. Now lock up firmly by the screws, holding the fingers of one hand firmly on the furniture near the screws to prevent it from springing up. **Do not tighten the**

screws all on one side, nor any one screw as far as it will go, at first. To do so may break your chase. Tighten each screw a little at a time, first on one side, then on the other, and so on until all are tight. Different presses have different arrangements of chase screws; some have more, some less.

On some presses (not the Excelsior) quoins (wedges) are used to lock the form instead of screws. Proceed as



QUOINS

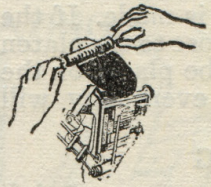
outlined, but put quoins in the chase, with furniture on both sides of them. Tighten each quoin a little at a time.

When locking any form, whether with screws or quoins, do not lock any tighter than necessary to hold everything firm. Both screws and quoins exert an enormous pressure and, if too tightly locked, will spring the form or break the chase screw, or even the chase itself.

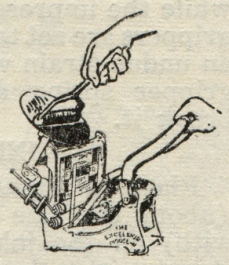
Never allow type or furniture to project below the bottom of the chase as it will prevent the chase from resting squarely against the bed, and you may not be able to get them together so that the chase latch on the press will fit over them and hold them securely in place. The bottom of chase, chase bed and, in fact, all parts of the press, must be kept cleaned of dirt, rust, dried ink, etc., for the best work.

Presswork

For small forms, cards, etc., the tympan and packing should be thin and hard, two or three sheets of thin, hard, smooth paper over a thin card-



If you have no hand roller (brayer) use one press roller



Smoothing out ink

Caution—Use no more ink than the size of a pea to start with.

IMPORTANT—See that Gripper Fingers are set out of the way of the type, so that it will not be smashed, yet in position to hold the paper or card being printed. Be sure to set them an equal distance from chase and platen.

board. For larger forms a few sheets may be added. For solid forms of small type a somewhat softer tympan, such as four or five sheets of soft, news white paper, may give the best results.

Do not use too much packing of paper and cardboard under the tympan. Be sure to remove all previous makeready and packing before making a first impression on a new job. Remember that the harder the tympan and the lighter the impression, the sharper and clearer the printing, and the less the wear on the type. After a little experience you will be able to quickly choose the right tympan for any job. Platen or tympan assortments of special oiled paper and what is called pressboard are available, and listed in the paper section of the supply book.

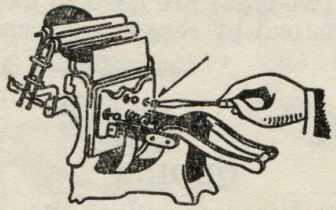
Important—Before taking first impression, set the grippers about half way between the form and the platen, and make sure they will not touch any part of the form but will grip the paper or card being printed

while the impression is made. If the grippers are set too close to the platen an undue strain will be placed on the gripper spring and eventually will break it.

INKING

Place a small portion of ink (about the size of a pea to begin with) on the ink table and spread it out with a hand roller, or if you do not have one, you can use one of the press rollers. It's possible to spread the ink by pushing the handle of the press up and down so the rollers will pass back and forth over the table, but if you do this, be sure the chase with its type is not in the press, because the type will become gummed up and require a thorough cleaning before you can start printing.

All being ready lay a sheet of paper on the platen, run the rollers over the ink table, forward and back, and take an impression. This first impression should be taken very slowly and carefully, as in case the impression screws, upon which the platen rests and by which the impression is adjusted, are set too far forward, the type in the form would be mashed by a full and heavy impression. The best way is to push the lever down slowly until you can feel a moderate pressure upon the form, then raise the lever and examine the sheet, if only a faint impression shows, you may take another heavier impression pushing the lever down a little farther, noting the results, but not so hard as to punch into the paper. If one side or corner shows more impression than the others, loosen the impression screws on that side and proceed until the impression is light and even all over the sheet when the lever is completely down. Now turn the screws up a little, being careful to keep the impression even, until the form prints clear and even. If you can push the lever clear down at the first trial with little or no impression showing, you have simply to turn up the screws until the impression is clear and even. When the impression is correctly adjusted the platen should rest firmly on all impression screws, without any rocking.

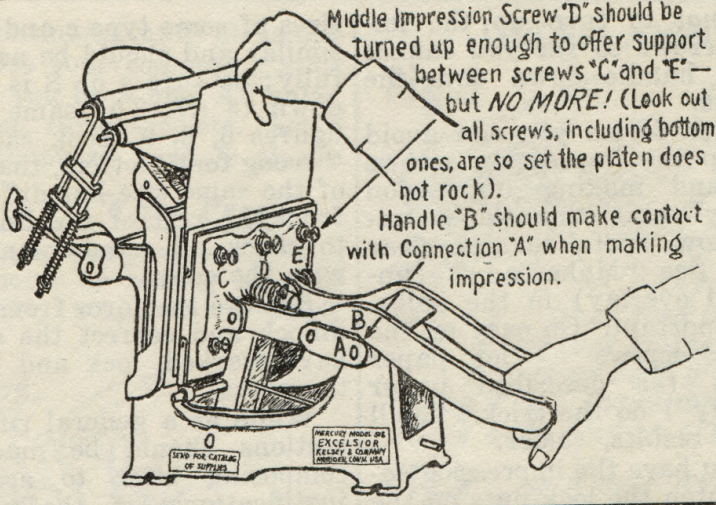


TURNING UP IMPRESSION SCREWS WITH SCREW DRIVER.

Set nuts must first be loosened. Be sure to tighten them after using Impression Screws. If form is weak on one side you may need to tighten Impression Screws, but before doing this see article on makeready.

Getting an Impression

Here is an easy way to start getting the right impression. Turn the impression screws back so there is no impression at all. With the form in the chase, and a sheet of paper or card on the platen, push down the handle of the press, which will put the rollers on the ink table, and the platen back and platen will be up against the form so that you can easily get at the impression screws. Now, turn each one up with your fingers, making sure that the lock nuts are back far enough so that they do not in-



terfere. Keep turning until you feel each of the screws in contact with the form. From that point you can turn them either by hand or with a screw driver, taking frequent trial impressions on the sheet or card to check on how you are coming. When you have the impression satisfactory (the same on all corners), you can turn up the lock nuts to hold the screws where they are, and can apply makeready (patches described elsewhere) on any remaining spots which need bringing up.

Sometimes, through uneven turning up of the impression screws or for some other reason, the platen may move up or down on one end so that it does not set parallel to the platen back. The top two impression screws fit into depressed spots on the platen back, as you will see. If the platen has been wrenched around, you can get it back in its proper setting if you set those top screws back in the dents or depressions made for the purpose.

Be Sure to Get the Handle Down

In order to obtain an even clear print the press handle must be pushed down, not only to make contact with the type, but to bring the impression through the toggle action. The handle of the press, as you will see, is connected to the body or frame by two oval shaped metal pieces, connections which have on them projections or flanges on the inside, nearest the body. When you bring down your handle, it should make contact, that is, actually touch the flanges on these connections. You will not only feel this contact but you will hear a slight click when the metals touch. This will give the toggle action a chance to exert its pressure for good results.

The amount of pressure you will need to apply to the handle will depend on the amount of type or size of the job you are printing. Thus, a single line card will require practically no pressure at all, whereas a big form will need a lot of squeeze. The important

thing is *not* to turn up the impression screws so far you cannot bring the handle down onto the connections.

On larger forms you can avoid turning up the impression screws too far and making impression difficult by using thin paper under the low spots to get clear printing. See "Makeready" (underlay and overlay) in the index. This is important. Go easy on the impression screws — let paper patches (as described under "Makeready") do the trick. You'll get better results, easier.

When you have the impression adjusted, tighten the lock nuts on the impression screws to prevent slipping. When the impression is once properly adjusted for the job in hand it should not be altered if it can be avoided. If some jobs require more impression, add a few sheets more to the platen packing. However, to print a full, solid form it is usually necessary to set up the upper screws a little more than the lower ones. **The impression screws should be turned back before putting on another small form.** Presses are usually sent out from the factory with the screws turned back so that there is little or no impression until they are turned up.

Correcting the Proof

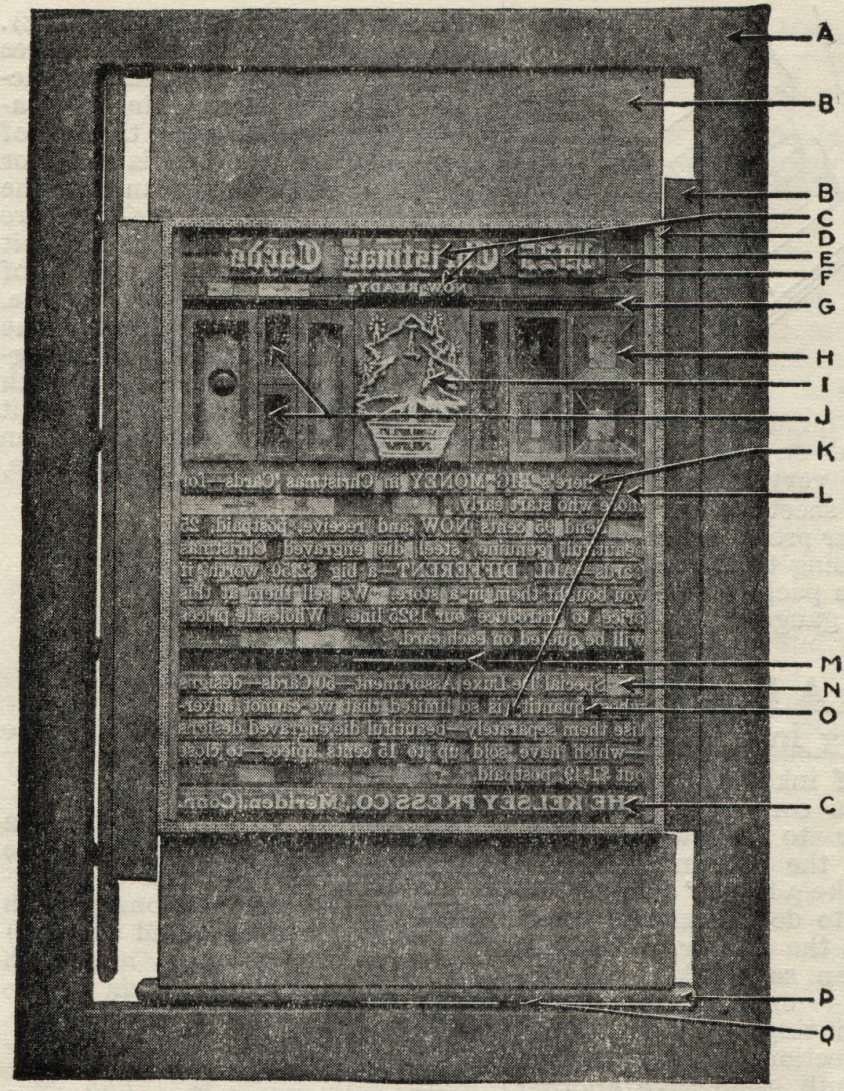
Having the impression properly adjusted, now take an impression on a fresh sheet (called a proof) and very carefully comparing it with the copy, examine it for possible errors, marking them on the margin. Pay close attention to letters of similar appearance such as n and u, I and l, 1 and l. In small sizes of some type c and o are very similar and should be noticed carefully; be sure s or S is not upside down (s S). The same applies to figures 6, 8, 9. Look carefully for "wrong font" letters, that is, letters of the same size but different style from the rest of the line. Be sure to check all numbers and figures with the copy.

Remove the form from the press, unlock and correct the errors you have marked, lock and replace on the press.

While as a general rule, all corrections should be made in the composing stick to assure good justifications, if the change involves replacing one character with another of equal width, and you have checked to make sure that they actually are the same, the correction can be made in the form. Most figures are of equal width (or set, as it is called), and the same will be found of some other characters such as u and n.

Centering the Work on the Card or Sheet

Take an impression directly on the tympan sheet. This shows exactly where it will come every time and acts as a guide in setting gauge pins to feed the sheets against when printing. Mark a line below this print showing where the edge of card or sheet should come, allowing for proper margin, and do the same at the left side of the sheet. Set gauge pins on these lines, two on the lower (one near each corner of sheet) and one on the left. Before pressing the little teeth of the pins into the tympan, feed a sheet and make sure that the po-

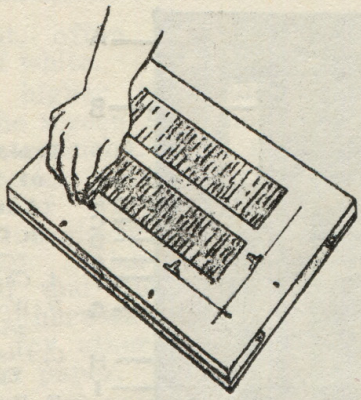


Explanation of Form Locked in Chase

A, Chase
B, Wood Furniture
C, Display Type
D, Border
E, En Space
F, Em Quad
G, Slug or Reglet
H, Metal Furniture
I, Electrotype Cut
J, Quotations 2 x 4 picas
K, Body Type
L, Leads
M, Dash
N, Two Em Quad
O, Three Em Space
P, Chase Iron
Q, Chase Screw

Note—The form shown in the picture was specially chosen, for illustration, from those used by ourselves, because it shows an unusually large variety of material in use. In ordinary forms many of the items shown are not needed.

sition and margins are correct. If any change is required it can be readily made before the pins are set. When everything is O. K., press the teeth firmly into the tympan sheet. If you have no gauge



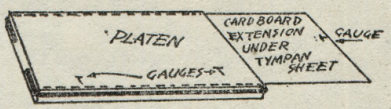
pins, three quads or bits of thin wood pasted on the feeding line will answer very well.

To print sheets wider than the platen of your press, use a long cardboard extending to the side, as part of the platen packing. You can then set the side gauge pin on this cardboard.

Getting A Proof Before Putting In The Press

Instead of inking up your press for taking a correction proof you may prefer to follow the way shown in the picture entitled "How to Make a Proof" (page 5). If you expect to do the actual printing later in the day or at another time you can save inking up the press twice — once for proofs and once for printing. Make the necessary corrections from the first proof you pull, then take another proof to make sure there is nothing else to change.

You don't necessarily have to own a galley (which by the way, is a flat metal pan with one side open.) The type form can be in the chase, or even standing by itself (securely wrapped around with a number of turns of string). Proceed just as shown in Figures 2 and 3 of the proof-making pictures. Slightly dampening the paper will make taking the proof easier, and News White is ideal for the job. A damp rag run over the paper will give it all the moisture necessary—just enough to make it slightly limp, without signs of water standing on the surface. (That's the way all paper was treated in the days of the Washington hand press—the early 19th Century). For an ink table (to get it well spread out on the roller) you can use your press ink table, a glazed tile, or a slab of plate glass.



Side gauge pin on projecting card, for printing wide sheets

A Good Way to Prevent Type Damage

As soon as you have finished a job, and unless you are going to immediately start on another identical one (such as stationery, with only change of name and address) loosen up the grippers and push them out to opposite ends of the platen, then tighten them there. Lots of good type is squashed because the printer forgets to move over his grippers before taking an impression of another form either bigger or in another part of the chase. It only takes one squeeze to do the damage.

Drying the Printed Sheet

Some jobs on soft paper will dry in an hour or less but it is better,

if possible, to let them lie until the next day. Work will dry better if spread out loosely than if it is piled up solid. To prevent smearing on the back of freshly printed sheets (called offset) lay sheets down carefully without slipping or sliding. On fine work it is best to "slip-sheet" or lay sheets of paper between the printed sheets until they dry.

A long board on which you can lay the sheets in a row as they are printed will often give the ink time enough to "set" in the air before it is covered up by another sheet.

Adjusting the Pressure of the Rollers

Rollers may be adjusted to give more or less pressure on the type and ink table through the roller hook springs. If more tension is desired on the 3 x 5 model, the cotter pin and washer can be taken off the end of the roller hook and the spring stretched out, then replaced. If yours is a 5 x 8 or larger press, more pressure can be obtained by turning down the nuts on the ends of the roller hooks (on saddle style presses, tighten the saddle spring nuts).

The ideal pressure is one which makes the press as easy as possible to work, keeps the rollers in place over the type form, yet allows them to turn freely. Important: Before changing any adjustment on the rollers, be sure that the roller hooks are oiled where they go through the sockets. The press is more likely to work hard because of this than because of too much tension on the springs.

Printing Halftone Cuts

Halftones (cuts from photographs or other shaded pictures) have a surface made up of tiny dots (as you will see if you look closely or through a magnifying glass at one). Such cuts take a lot more impression and ink than the same amount of type or line cuts. Practically all the illustrations in the Guide and the Printer's Helper are line cuts.

Because of this need for extra squeeze and inking capacity, the printing of halftones larger than one third the size of the chase had best not be attempted.

Makeready (underlay and overlay) is particularly important on halftone printing if good results are to be obtained. You need everything clean and dustless, because any specks on the ink table, rollers or in the ink will transfer themselves to the face of the cut, usually making spots with small white areas around them, which will require cleaning rollers, table and form, and re-inking with uncontaminated ink.

Halftones are best printed on a coated or enameled stock. If they are to be used on rougher surface papers, or on book grades without coating, they should be purchased with a coarser screen (larger dots) such as those used in newspapers.

A soft ink like halftone black is best for cut work. If ink is stiff, it may cause the cut to pick specks of paper from the sheet being printed, which will transfer themselves to the rollers and ink table, and then back to the cut. Such specks act just as dust or pieces of ink skin — they make spots on

the cut, often surrounded with halos of white.

The higher the number, the finer the screen (the more dots to the square inch). Thus, 133 screen has smaller dots or screen than 120. For work on enameled, coated or glossy stock (including Porcelain Finish Card) we recommend and furnish 100 screen unless otherwise specified, and 85 screen for other grades of book or news paper.

If you are going to run a halftone, be very careful that the ink you put on the press does not have any particles of skin in it; that your press, rollers and form are entirely free from dust, and that your ink does not start to "pick" the surface of the paper. Use makeready as described in the Guide and the Course rather than a lot of heavy impression, although you will need somewhat more squeeze than for the same amount of type. If you follow through on these details with patience, you ought to get good results.

One other thing — add ink frequently and in small quantities, rather than larger amounts less often. The face of a halftone plate is easily filled up, and if too much is put on, the results will be poor and the cut will have to be given a good cleaning. On some jobs it may be necessary to clean the face occasionally anyway, but that will happen less frequently with the sparing use of ink.

Cleaning Up

There are plenty of other suggestions for getting good work on the pages following, but assuming your work is satisfactorily completed for the time, you will want to clean your rollers, ink table and type form.

Remove the chase from the press, and before loosening or unlocking, take a rag wet with cleaning solution (or gasoline or benzine) and carefully wipe the face of the form until no ink remains. We recommend Printoclene for this purpose. Use a small stiff brush to get the ink out of the crevices, but not until you have first wiped the face with a rag. Wipe furniture, chase and all parts of the form with cleaning solution until everything is perfectly clean.

The ink table and rollers may be relieved of a large part of their ink by placing a sheet of newsprint or other paper on the table and running the rollers back and forth. The rest may be taken off by wiping with cleaning solution and rags. The general care of rollers will be found elsewhere in this Guide. Proper roller treatment is very important if you want to continue to have good results.

If your press is not used every day, it is a good idea to put a thin coating of oil on the rollers, and, also on the ink table to prevent rusting, but it must be thoroly cleaned off before putting on ink.

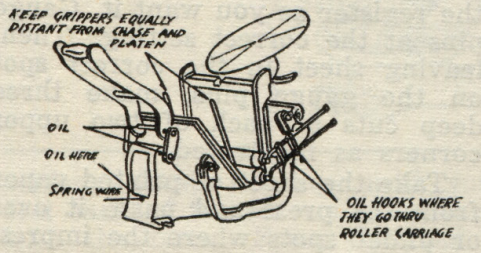
Distributing Type

After cleaning, unlock form, and taking a line at a time, by the aid of a lead or rule, hold it in left hand, and taking off a letter at a time, drop it into its own place in

the case, continuing until all is distributed. Use your composing stick for this, if you have one. All rules, leads, reglet, furniture, etc. should also be distributed to their places.

How to Oil Your Press

Oil *sparingly* but *frequently*, with machine, motor or sewing machine oil—preferably motor or a fairly heavy oil:



IMPORTANT—For best results in printing, and a long life for your press study this diagram.

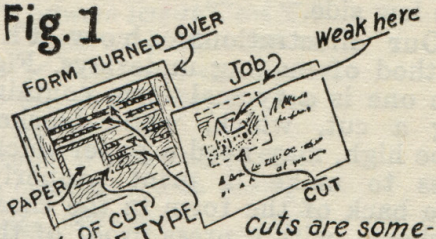
Gripper Bar Spring, where it goes thru hole in body, underneath handle.
Roller Hooks, where they slide thru holes in roller carriage or on presses with saddles, the moving parts.
Ink Roller Ends, oil slightly where they fit in hooks or saddles.
All Other Bearings and **Joints,** that are subject to wear.

Underlays and How They are Used

Underlays are used largely for raising cuts high enough so that they will print with type, and also to raise lines or words which do not print when a press proof is taken. **Cuts, wood type, electrotypes, etc. are often lower in height than type and must be brought up to type-high by pasting one or more thicknesses of paper on the bottom.** Cuts that are low on one side must be leveled by **underlaying,** as the

UNDERLAYING

Fig. 1



Cuts are sometimes lower than type. In this case a piece of thin paper on back of cut will "bring it up." This can also be done with a weak section of type.

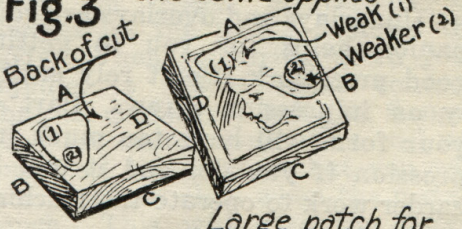
Fig. 2



If weak spots remain— Paste thin paper patch on back of "S" and "A" (type)

WHEN USING A CUT—

Fig. 3 *—the same applies*



Large patch for weak section (1). Small patch for weakest spot (2). Use patches smaller than weak places as they build up a little more space than they cover on back of cut or type.

process described above is called, the low side.

Our illustrations show the method of making underlays. Figure one is a typical form containing a cut, which, while blocked type high, may need a paper thickness to make it print properly. The back of the form in the chase is shown, with a press proof of the job to be printed.

Figure two shows type needing the same treatment. To make it easy to see, only one word is shown, but the form might contain any amount of type, cuts, or both, with certain parts needing underlay.

Figure three shows the application of an underlay to only a small portion of the cut. As in overlay, you can put one, two or more patches of various size on the same general location. Note that usually a smaller patch is needed than the size of the low spot, because the patch has a tendency to raise a larger spot than it covers.

Underlays and overlays are companion helps for you in getting good presswork. Don't rely entirely on impression screws. Part of your form will have too much impression if you do, and it will be harder work to operate the machine.

The Way to Make an Overlay

While the impression screws on your press are there to enable you to increase the impression on any part of the work which does not show up properly, they should not be used indiscriminately. In some printing shops the instructions are to leave the impression screws alone, but that is going too far. If one whole side is low, the impression screws will correct that. However, when some small portion of a form is low, the impression screws should not be used—in fact, many times they would affect so much more space than necessary that it would not be practicable to change them. Under such circumstances an overlay is best.

Print on a sheet of paper with the register as you want it. Gauge pins at the correct setting. Then, leaving sheet in the correct spot on the gauge pins, make three deep cuts at each of two upper corners as illustrated.

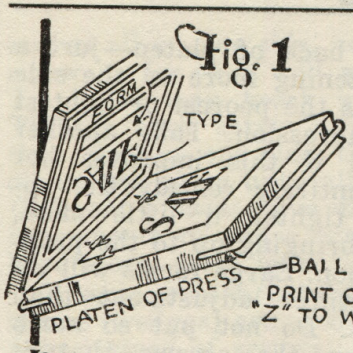
Take the sheet of printed paper from the press and paste it over or under spots where the impression is too light.

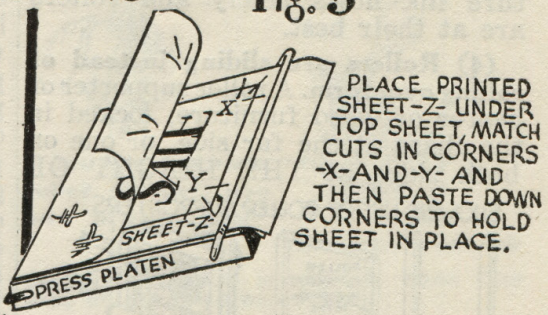
Lift bails, and the top sheet of the tympan paper (do not disturb gauge pins), and put the paper with makeready on it under the top sheet of the tympan paper, aligning cuts at corners with cuts in the second sheet of tympan paper. Cover with the top sheet of tympan paper, replacing bails.

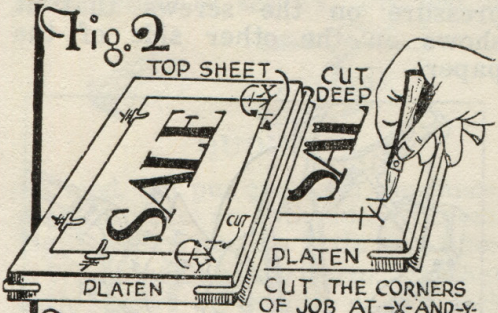
The illustrations shown cover the method of procedure very thoroly. For ease of demonstration, one large word is shown, but the system applies equally to a form of small type, cuts, or both—in fact any kind of printing. For convenience's sake the platen is shown as if it were not a part of the press, but it should be understood that no removal of the platen is implied.

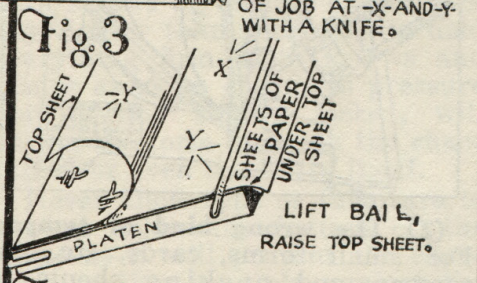
As will be seen from the diagrams, several overlays of different sizes may be applied, one over the other, when necessary to bring

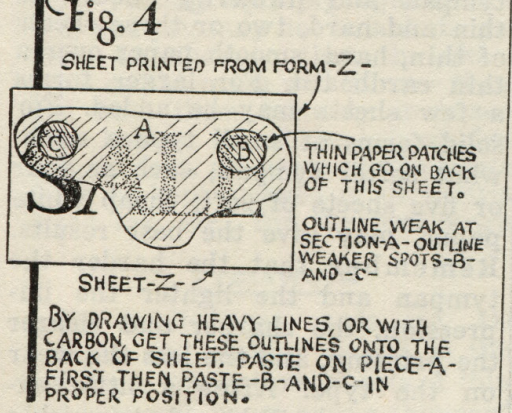
OVERLAYING











up the impression properly. It is also important to see that the sheet with the overlays on is in the exact spot to produce the proper results, because if it is a little too much to one side or the other, the result will be over-impression in one place, and under-impression in another.

Very thin paper should be used for overlays. Tissue may be used, manifold, or what is known as French folio. The quality of your printing will be determined quite a little by the appearance of the impression, and if you use care with your overlays, you will be very much satisfied with the results.

If the Printed Impression is Muddy, It May Be

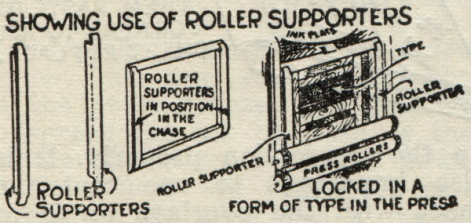
A (1) Too much ink. A surprisingly small quantity is all that is necessary.

(2) Type form needs cleaning. Be sure that form is dried thoroughly before again running rollers over it, so that cleaning liquid will not dilute the ink and cause more trouble.

(3) Temperature of room is too low. Best results are obtained at 70 degrees or more, at which tempera-

ture ink flows freely and rollers are at their best.

(4) Rollers are sliding instead of rolling over form. A roller supporter or bearer of wood furniture, locked in the chase at the far side, or one on both sides at THE HEIGHT OF



THE TYPE will often provide a surface which will prevent rollers from sliding. See elsewhere for other causes of sliding.

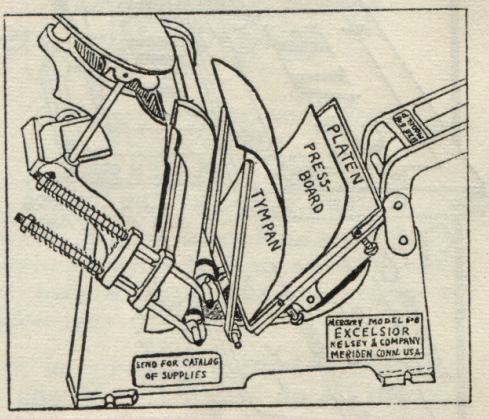
(5) Ink too thick. A very small drop of ink reducer, reducing compound or even kerosene will help. Be sure to use only a drop.

(6) Ink has too much skin in it. Ink when left in the container with top or cover off will "skin over," and if this skin is put on the ink table, it often causes trouble. Use only clear ink, free from skin.

(7) Ink was put on immediately after cleaning and is diluted by cleaner. Even a drop or so picked up from the crevices in the type form or cracks or cuts in the rollers will affect ink. Clean rollers and ink table bone-dry, then re-ink.

Printed Impression Is Not Clear

B (1) Not enough impression on platen. Put a sheet of waste paper in press (to prevent type from marking tympan or padding) bring handle down so platen is against type and tighten up on screws on back of platen—just a little, tightening more on the side which gives the poorest or lightest printed impression. Take another proof, and if this improves but does not entirely remedy the appearance, tighten a little more, gradually bringing up to the proper impression. Large forms will require a stiffer adjustment than small ones. Do not put so much pressure on the screws that it shows on the other side of the paper.



(2) The wrong kind of tympan. For small forms, cards, etc., the tympan and packing should be thin and hard, two or three sheets of thin, hard, smooth paper over a thin cardboard. For larger forms a few sheets may be added. For solid forms of small type a somewhat softer tympan, such as four or five sheets of soft, cheap white paper, may give the best results. Remember that the harder the tympan and the lighter the impression, the sharper and clearer the printing, and the less the wear on the type. After a little experience you will be able to quickly

choose the right tympan for any job.

(3) Needs underlaying. When type or cuts do not print when those surrounding them do, they are probably low. First make sure that the form is planed down level. If this does not overcome it, see article on underlays, pages 19-20.

(4) Needs overlay. See pages 20-21.

(5) Rollers sliding on form. This is fully treated elsewhere.

(6) Not enough ink. This is the least likely of all causes with the beginner, the tendency being to put too much on. You can test this by putting a little more on, and if this does not seem to improve the work, wiping the excess off again.

(7) Temperature too low. See "Muddy Impression."

(8) Form not perfectly smooth and flat. This is absolutely essential. If you have not an imposing surface, take chase bed and chase out of the press together, loosen chase screws, and tap the form down lightly with the planer and mallet. In the absence of a planer, use an absolutely smooth and flat piece of wood. Move planer from side to side, making sure to cover the whole form in this way. Tighten chase screws, each one a little at a time, so that the form will lock up straight, and that unequal pressure will not crack the chase. After tightening them a little, plane the form down again, and finish tightening of the chase screws.

(9) Type is "off its feet"—that is, does not set squarely on its base. Planing and relocking the form as described above will often remedy this. Sometimes it is caused by not spacing out the lines fully, so that while the chase screws on one side will take hold, those on the other side do not get a chance to squeeze all the lines. Take out a line which is spaced properly, set your composing stick to exactly fit that line,

Standard pointed flaps will take the place of wallet and other special shapes for the duration. The envelope manufacturers cannot shift dies and maintain production so it's a case of take what we can get. We hope the necessity will soon be over.

Standard pointed flaps will take the place of wallet and other special shapes for the duration. The envelope manufacturers cannot shift dies and maintain production so it's a case of take what we can get. We hope the necessity will soon be over.

Two examples of type off its feet

and then one by one, take out the short lines and respace them as described in the directions. Sometimes two or three lines have been over-spaced, causing the form to tighten against these long lines, and leaving the other lines loose. In that case, take out the long lines and space them properly. Occasionally — quite often — if the form has a border around it, a lead or thin piece of furniture will become slightly misplaced in the locking up, causing the form to pinch in places, and twist out of shape. This will often cause type to appear off its feet. The use of corner quads will overcome this trouble. See "crooked type forms."

(10) Wrong kind of ink. Many Purpose ink will handle most work, but if you are printing shaded cuts or halftones we recommend Halftone ink. Sometimes on very hard surfaced paper of high rag con-

tent, a stiffer ink is needed. Bond Black ink will be most satisfactory for such work.

(11) Rollers are too hard, old or worn. See "How To Take Care of Rollers", page 29.

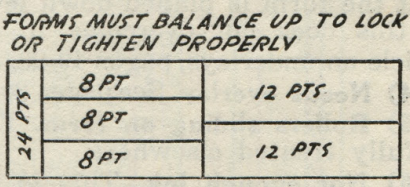
(12) Rollers too crusted with old ink. See "Care of Rollers," mentioned above.

(13) Type old and worn, or letters mutilated. If your equipment is new, you will have no trouble about worn type, but if you have purchased old equipment, you may have some type whose face is so worn and rounded that perfect results are almost impossible. A very soft tympan will sometimes produce better work, although it is advisable to turn in the old type for new as soon as possible. We make a liberal allowance for old type metal in exchange for brand new faces. Be careful to keep the face of good type free from anything that might injure it. Anything left on the face of the type, while an impression is taken, will leave its mark. Be very careful that the grippers are never between the form and the platen, before you take an impression. The grippers must always be in a location which will prevent their marring the surface, as must the gauge pins.

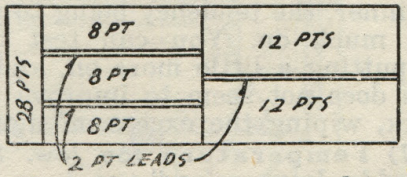
Lines or Entire Form Are Crooked

C (1) Chase screws not equally tight. Take chase out of press, loosen chase screws and follow directions under "Impression not clear," item 9.

(2) Lead or piece of furniture misplaced. In locking up a form, it is very easy for a single two point lead or thin piece of furniture to be accidentally moved just enough to wedge the form entirely out of shape. Check over your form and look for something of this sort.



Example of correct makeup



Example of incorrect makeup

(3) Too much furniture on one side of form. Remember that a single two point or even one point lead in one column of a form, if not balanced by an equal amount in the other column or columns, will make the form crooked. If you have a cut somewhere in the form, be very careful to balance it up with an exactly equal amount of type or furniture. Using border or rule around a form will also require careful use of spacing, leads and furniture to keep everything straight.

Type Loose—Form Will Not Lock Up Tightly

D (1) Chase screws not equally tight. See "Crooked Form," Item 1.

(2) Lead or furniture misplaced. See "Crooked Form," Item 2.

(3) Too much furniture or leads on one side. See "Crooked Form," Item 3.

(4) Lines not equally spaced. See "Impression not clear," Item 9.

(5) If you are sure that your form is made up properly, that is, none of the furniture, leads or type are misplaced so as to make proper tightening impossible, locate the part of the form which seems to be loose, cut strips of thin paper, and place them between the lines which are loose, taking care not to put enough in any one line to make it appear noticeably spaced in the printed page. It is very seldom that this must be resorted to, one of the other suggestions mentioned usually being the cause.

Rollers Slide Over Form or Refuse to Take Ink

E(1) A roller supporter, bearer or track locked in the form on one side or the other, or both sides, will often prevent sliding. Bearer must be locked in at EXACTLY TYPE HEIGHT, otherwise the rollers will either fail to touch the type, or they will not ride on the bearer. These bearers must be in a place where they will not touch the paper or card when the impression is made or must be shielded by a paper pasted to the gripper. See page 22.

(2) Rollers too hard or too worn. See "Care of Rollers"

(3) Rollers too crusted with ink. See "Care of Rollers."

(4) Springs on roller hooks not giving proper tension. On some models adjustable nuts are provided. On others springs may be stretched out, or newer and stronger springs provided.

(5) Rollers bind in roller hooks. Use a little oil where rollers fit into hook.

(6) Rollers won't take ink. This is caused by excess moisture in the rollers, and sometimes occurs during damp, hot summer weather. See "Care of Rollers." Make sure that, after cleaning rollers with kerosene or any other cleaning substance, they dry well or are dried before again putting on ink.

Light Streaks Across Face of Letters

F First line of type has light streaks in ink running horizontally across the face of letters.

(1) Rollers sliding. See Item E-1 and "Care of Rollers."

(2) Room too cold to start. See Item A-3.

(3) Ink too thin. This may come from dilution by cleaner. See A-7. If ink is very old, the oil may have separated enough from the pigment to give a thin solution, but not often and never with ink furnished with new equipment.

How to Start a Stationery and Job Printing Business

It might almost be said that a business of this kind will start itself, so easy is it to obtain orders. Just let it be known among friends, relatives and acquaintances that you have a printing outfit, and you will have plenty of jobs offered you. Everybody you know is a prospect for stationery and cards at the very least. People have acquired

the habit of using stationery with name, monogram or address, and this opens up a tremendous market for you in stationery alone, to say nothing of cards, tickets, programs, advertising matter, billheads, factory and office forms, statements, handbills, menus, church calendars, lodge and club printing, etc. We furnish a complete line of blank stationery of all kinds, both boxed and unboxed, cards, paper, blotters, etc.

If you want to get your business started quickly, print up a small card, or better yet a blotter, giving your name and address and announcing that you are prepared to do printing at attractive prices. If you use a large enough card, get in a little "selling talk"—that is, state why everyone should have his name and address on every letter he sends out (because of the good appearance, because if undelivered it will be returned, etc.) Offer to call and talk it over with the prospective purchaser. Distribute these cards or blotters from door to door, by mail, or among any gathering you may attend. Returns will not be long in coming. "It Pays to Advertise"—In fact, many lines of business cannot exist without advertising—and in addition to doing advertising yourself, you can print advertising for others—at a profit. Suggest new ways of advertising to your business customers. Small calendars and cards, blotters, puzzles of one kind or another, card game score cards, railroad, plane, and bus schedules, baseball score cards, sports calendars—and dozens of others. If you belong to a lodge, club, church or any organization, you already have an inside track to many profitable jobs of tickets, programs, notices, due slips, etc. Make the most of all your opportunities. Dozens of them will show if you are wide awake.

Prices

It is not possible to lay down invariable rules for prices, because competition makes them vary in different localities. Far West or South prices are as a general rule higher, because of being farther from source of supplies. The prices given below should therefore be considered only for the help they give you to establish fair figures. A little quiet investigation in your locality will soon give you a line on quotations prevailing, after which you will be able to do just as well as anybody—and better, if you want to.

Visiting cards, name only, 50 for $2.70, 60 cents for each additional line (address, etc.) Business Cards, 100 for $4.95 (one line) 60 cents for each additional line and about $1.80 to $2.70 for each of any additional hundred printed. Price should vary on Business Cards according to size of card used. This price is for small or medium. Low priced bond stationery, 100 6x7 sheets and 100 envelopes, $3.15 and higher prices for a better grade, up to $10.80 for raised printed stationery in the same quantity, with proportionate prices for a larger number of sheets. Statements and Bill Heads, 250 for $8.70. Low priced bond, 8½x11 Business Letter Heads 250 for $8.70, Envelopes $6.30, 1,000 sheets for $13.95, Envelopes, $14.00, 60 cents a line additional for more than three lines. Better grades and raised printing higher — according to pa-

per used and time required. Two color work, $6.30 extra. Small handbills and circulars, 3x5, 100 for $9.00, 1,000 for $13.50. Add $6.30 for extra color in all cases — more if it is a bigger job or larger edition. Larger circulars—in proportion to size and number required. Tags same as envelopes.

Keep a record of time and cost on all jobs, for use in making future prices.

Envelope Printing

Envelopes, owing to the various thicknesses of paper at different points, often require a little more work in preparation for printing than a job on a single sheet of paper. The overlapping and the gum which holds the flaps cause thick places which must be compensated for if the printing goes over more than one different thickness. Sometimes this can be avoided by opening out the flaps, particularly when the corner card you are going to print is small, and the envelope is "high cut"—that is, the top of the back side is almost parallel with the top of the front. In this case, you will be printing on two thicknesses of paper, but not two *different* thicknesses, so that the type will not be held off one part of the envelope by two or more thicknesses in one spot, and a fewer number in another.

When you do want to print on the flap itself, and the corner card will run over more than one different layer of paper, it is customary to take an envelope of the lot you are going to use and with the point of a knife or a pin, punch small holes through the tympan one at each upper corner and one at lower right hand corner. Take

Fig. 1

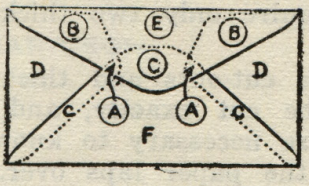


Fig. 2

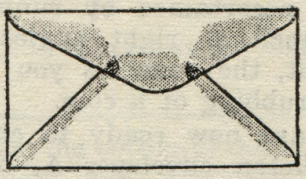


Fig. 3

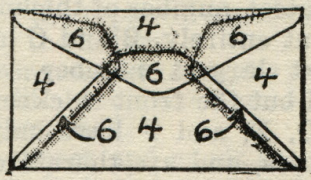
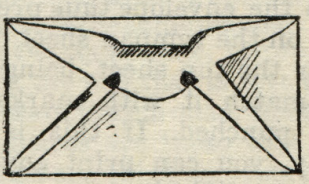


Fig. 4



an impression of the work to be printed on the envelope on a single sample. This must be cut out so that when the cut envelope and an uncut envelope are laid on each other, the number of paper thicknesses at all points will be the same. Thus, at points A, on figure 1 of the illustration, there are four thicknesses of paper, and all the other points must be built up to this figure. Where the flap goes

over at points B and C, there are three thicknesses, requiring one more to make up to the maximum four, and points D, E, and F, having only two thicknesses to equalize, require only two thicknesses more.

These cut-outs and thicknesses must be cut exactly, and it is therefore necessary to know just where the paper laps over. This can be ascertained by running a lead pencil at right angles with the joint, the same as you would take a rubbing of a coin.

You are now ready to cut out the skeleton envelope. A, having the greatest number of thicknesses, is cut out entirely. B and C having the next largest number, should have all but the front thickness cut away. D, E, and F have only two thicknesses, and are therefore left.

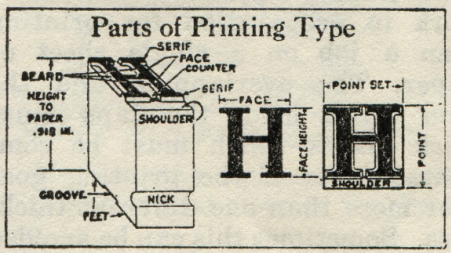
Paste the envelope thus prepared face up on the tympan sheet directly under the top sheet, being careful to match it with marks previously punched. If this is done correctly, you can print envelopes without any difficulty.

Proper Care of Type

Proper care of type insures long and satisfactory service. Great care must be used not to subject it to unnecessary pressure and that every letter and point in a form is carefully planed down, that it may not be worn by the extra pressure coming from being higher than the others. Never print a card with impression so heavy that it shows through distinctly on the back. The same rule applies to paper to a certain extent, though in printing a full form of small type so much packing must be used on the platen that the type will usually emboss through slightly.

Never allow ink to harden on type; wash it off as soon as taken from the press and distribute it as soon as your job is finished. Type left standing around is very apt to be hit and the face broken.

Type should always be cleaned at once after using. Remove form



from press and before unlocking, take a rag wet with benzine or gasoline and carefully wipe the faces of the whole until no ink or dirt remains. For those who don't wish to use highly inflammable liquids such as benzine and gasoline, we recommend our Printoclene which is listed in the catalog. Use a small, stiff brush if the type is badly filled up. Wipe furniture, chase and all parts of the form, as well as the type, with benzine until everything is perfectly clean. In case ink gets dry and hard in the type, make a solution of our alkali cleaner preparation and use according to directions on the can.

How to Take Care of Rollers

Ink rollers are one of the **most important** parts of your printing press and in order to produce good printing, it is very important that you take care of your rollers as outlined in these instructions.

Rollers should be much like the human skin in feeling. They are extremely susceptible to heat, cold and varying degrees of moisture in the air. On damp, muggy, summer days, rollers will absorb moisture, become water-logged, and will not distribute ink satisfactorily. When a roller is in this condition, it becomes soft and will increase from 1/16 to 1/8 of an inch in diameter. To overcome this condition, wipe off the rollers very carefully — so as not to spoil the surface —repeatedly with a soft cloth wet with alcohol, or in really bad cases, cover the rollers with powdered alum, rubbed on with the hand. Let them stand for a while and wipe with a DRY cloth. If the rollers are only slightly swelled and appear to be tough enough to stand use, you can wind a little bicycle or electric tape around the roller wheels to make them approximately the same diameter as the rollers.

In the winter time, conditions are just reversed. The atmosphere is cold and dry, your print shop is heated, the moisture dries out of your rollers and they in turn harden up and shrink in size. Oftentimes, a roller in this condition may be brought back by coating it over with a mixture of one part alcohol and one part glycerine, letting it stand near a pan of water several hours.

To partly compensate for these two extremes, we have two kinds of rollers, **winter** and **summer** grades. The summer rollers are made much harder than the winter rollers to help overcome the difference in humidity.

In some localities, where the climate is always humid or always dry the year round you may need either summer rollers all year, or winter rollers all year, regardless of the calendar. Printers in the San Francisco Bay region say that they get the best results with hard rollers in winter and soft rollers in summer, because of greater humidity in winter than summer. In warm dry climates such as Arizona and New Mexico, a winter roller will work well. If you do not want the rollers normally sent out because of these varying conditions, PLEASE SPECIFY WHEN YOU ORDER. But, no matter how we make the rollers, **you must do your part.**

After use, rollers should be carefully cleaned at once while the ink is still fresh and easily removed. Use Printoclene, thin machine oil, or kerosene and a cloth to soften and wipe off the ink. After the rollers are thoroughly cleaned, give them a heavy coating of machine oil and stand them up vertically on a bench board or in a box. If you will be sure to keep them covered with machine oil when not in use, they will not only last longer, but will be in the proper condition when you want to use them.

Note—When coating rollers with oil to keep them from shrinking or swelling, coat the ends also. (Be sure to coat over all of the composition.)

Kelsey all-season rollers are good all year round under **normal** heat, cold, moisture, and dryness. If they are not to be used for some time they may be coated with oil.

If you wish to wash up the rollers and use them again right away, such as when you wish to change the color or kind of ink, then and only then is it advisable to use benzine or gasoline. Kerosene, as well as machine oil, is greasy and unless great care is used to wipe the rollers dry, some of it is likely to be left on the rollers and spoil the next job you run. You can tell when this is the case because the ink will appear greasy and the rollers will not distribute the ink properly. If you expect to use the press again within 24 hours, you can put a little machine or motor oil on the ink table, run the rollers up and down over it a number of times, and the ink on the rollers and table will stay soft so that it can easily be cleaned off the next day. Don't let it stand longer than 24 hours, however.

If by any chance ink has hardened on rollers, try first to wash it off with benzine or gasoline. If this does not do it, try benzol or acetone or a mixture of the two. These fluids are commonly sold by drug stores. Do not use except in extreme cases, as they have a tendency to dry out and crack the roller surface.

Rollers work best in a temperature of 70 to 75 degrees. It is advisable to keep your room as near this temperature as possible, and have the heat on for at least an hour before printing, so that the rollers, ink table and ink are thoroughly warmed up. If rollers are too cold and hard to work, warm them carefully but DON'T leave them near steam-pipes, etc.; if you do, you may find them melted out of shape when you return.

To get the best results, new rollers should be put on your press every six months, but do not throw away the old ones at once. Save them to use when printing forms with sharp rule or leaders, and avoid cutting up face of new rollers. Sometimes, in hot, muggy weather an old, tough roller will work much better than a new one.

Keep several sets of rollers of varying degrees of hardness on hand. It won't cost any more than using one set all the time. Every climate is subject to changes of temperature and moisture and, by having rollers of various kinds, you can use the ones best suited to the weather and the job. They will save their cost many times over in time, stock, and results accomplished.

Linoleum Block Printing

If you admire a handsome piece of printing, or a real work of art, you can express your own sense of artistry by linoleum block printing with an Excelsior Press.

Type high linoleum blocks will be found listed in the catalog.

Transfer your design to the linoleum in any way you see fit—the use of tissue paper and carbon paper will make it easy. Only remember that the design will be reversed from that which shows on the block—same as with any other cut or type.

You are then ready to carve your design. Cut out those portions

which are to be white in the final product with the inexpensive tools listed in the catalog for the purpose.

Make sure that the sides of the cut slant — they should be neither straight up and down or under-cut,



LINOLEUM BLOCK CUT

because the printing surface is likely to break off when pressure is applied to an undercut line, or even to one with vertical edges if the line is a thin one. If you do not wish to ink up the block before you finish it you can hold it up to a mirror now and then to get the effect it will have when reversed, and to find out how you are coming along.

While the blocks come in convenient standard sizes you can easily saw them up into any odd shapes you desire, keeping the rest of the block for use another time. A hacksaw or some other kind of metal saw is to be preferred over a carpenter's saw, the ordinary wood saw having a tendency to lose its keen edge on linoleum.

All kinds of decorations may be cut out of linoleum blocks, as well as poster effects, silhouettes, and even large letters or words when needed in an emergency. Two, three or more colors can be used by cutting a block for each one. Handsome Christmas and other greeting cards are made from them, and you don't have to be an artist, either. Illustrations for books, pamphlets and advertising may be produced not only at cost of the block only, but in the manner used in the best work — for linoleum cuts are used as much for their good appearance as for their economy.

Plastic blocks, even smoother, are also available for cutting in the same way.

Gold, Silver and Bronze Work

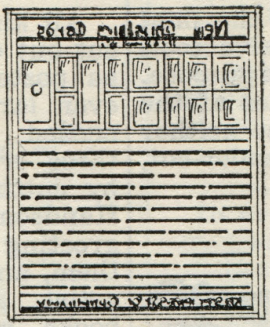
Years ago a great deal of gold and silver printing was done by dusting still damp ink with bronze powder. This has been superseded largely by straight printing from gold and silver inks, due to greatly improved formulas for the inks themselves.

Silver ink comes already mixed, but gold, if furnished that way loses its luster. Consequently the gold powder and varnish come separately, and are mixed on the job. Directions are furnished with the ink, but there is nothing complicated about it anyway.

Some very interesting effects may be obtained by using silver or gold in colored inks to make metallic tints, just as are seen in motor car finishes. You can arrive at various shades with more or less metallic sheen by experimenting, or use the samples in the



Full form



First color



Second color

How to print two colors from one form.

Kelsey color cards to go by. In general, a small amount of color is used in proportion to the gold or silver. In addition to all this, there is gold and silver raised printing with the inks, compounds and raised printing heating unit shown in the catalog. Very attractive engraved effects are possible, especially for stationery and greeting cards.

If you have not explored the possibilities of gold and silver colored metallic effects, you are overlooking several good bets.

Printing in Color

Many jobs make a better appearance if printed in some other color than black, or in two colors.

In using color, be careful not to overdo it. You will find on most small work a single line or a few dashes or ornaments in red is all that is needed to make a fine effect. A handsome job can be done by using two shades of the same color, as light and dark blue or light and dark brown, etc. Similarly, using paper and ink of different shades of the same color produces very fine results; as a letter head of blue paper printed with dark blue ink. In setting up a job to be printed in two colors, set the whole job at once, the same as though intended for one color, lock it in the chase and make a press proof as usual. In this way you can see how the complete job will appear, and any changes that may be necessary in arrangement or spacing should be made now. When everything is satisfactory, unlock the form and lift out the lines which are to be printed in the second color, placing them on a galley or composing stick, and fill in the spaces in the form with leads or reglet of the same size as the type taken out.

When the first color is printed, replace the type in the form and take out that used for the first color, filling up the empty spaces as before. If you do this correctly the two colors will register exactly. It is a good plan to print several copies of the complete form before breaking up for colors, and lay them aside to use as test sheets. The color forms should print directly over these. Always print the lightest color first.

Movie and Photo Printing

Thousands of movie cameras are in use and there is a growing demand for better movie titling. With all due respect to the host of titling schemes, for finished professional appearance there is nothing which quite equals a title made on a printing press. Sharp, clear letters of correct proportions enlarge on the screen without annoying blemishes. The printer with small or medium size equipment is well fitted to go after this business, and should be encouraged by the knowledge that thousands of movie makers have bought presses for that purpose alone.

One of the larger camera concerns recommends using vellum finish cardboard for titles, which helps to avoid unwanted glare or reflection of light when the card is photographed.

Titles are printed in black on white, in white on black, in silver on black, or (for color movies) in colors. Little decorative cuts may be used. Many movie enthusiasts make up special backgrounds for their titles, and photograph them, perhaps with a still camera, after which they require overprinting with lines of type.

The size of the titles required will depend on the equipment which the camera owner has for reproducing them. Most movie photographers read magazines which give them a wealth of information on the subject, so we will not go into details here, except to remark that it may be well to remind prospects that they can get so-called positive film, that is, film which will enable the printer to use black ink instead of white, yet give the same final effect in the title on the screen.

Like movie titles, there is business to be obtained in titling photographs, including photo post cards. Many photographers have presses for this work alone. Titling can be done in black on the finished print, or on the negative. If done on the negative, the letters will show white on the finished card or print. Both methods are much used. Regular printer's ink will be satisfactory to use on negatives and also on prints, although some people prefer to use the stiffer bond ink on post card stock.

Raised Printing Like Engraving or Embossing

A good portion of the cards, stationery and such work which you see, and which have the raised appearance of engraving, are not engraved at all, but produced with a printing press and type, like yours.

All you need, aside from your regular outfit, is either gloss or dull raised printing compound, and a source of heat. Here is how it goes:

Set up the form, and print in the usual manner. While the ink is still moist, dust each sheet lightly with the compound. (You'll find it in the supply book under "Raised printing compounds.") Shake off the surplus, and put for a second near enough a heater (like a toaster, table stove or electric hot plate) for the powder to liquify, which it will do immediately. Remove the sheet and the compound will solidify instantly, so that you can lay one on an-

other without danger of offsetting. The result will be either a glossy raised or a dull slightly raised effect, depending on which kind of compound you use, the gloss or the dull.

For general purposes the gloss compound is usually best, but for wedding announcements and business cards which must look engraved, the dull should be used. The raising is not so pronounced on the dull, but it is more in keeping with plate engraving.

The raising compound is also made in gold and silver bronze. For these, print with brown, tan or yellow ink, as the compounds are not transparent, and will not allow the colors of the ink to show through.

You'll also find an electric raised printing unit in the catalog, made especially for the job. It is big enough to handle anything up to 12 inches wide, and is a worthwhile investment particularly if you intend to specialize on cards, stationery, wedding announcements or such work.

Christmas Cards

Christmas cards can be a big source of profit for the printer. The cards may be made in their entirety, or they may be bought ready for imprinting with your customer's name. Designs are available in standard cuts, or you can make them yourself on linoleum blocks, described elsewhere.

The biggest volume is on the imprinting. You can obtain the cards and envelopes with the designs and sentiments engraved, lithographed, or in offset gravure, the only work necessary on your part being the printing in of the name. The sale of Christmas cards begins in the summer months. Orders can be taken in July, August, or September, for delivery in December. However, there is plenty of business that you can get in October, November and December.

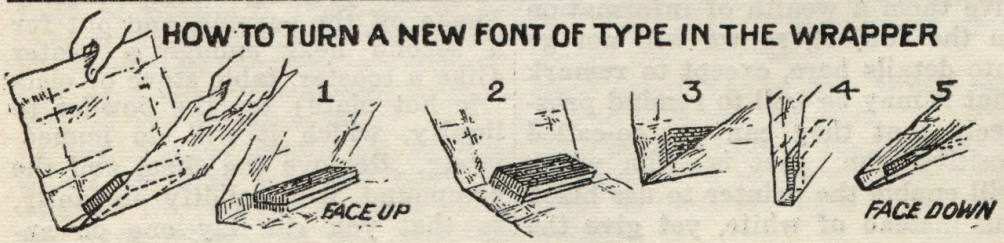
Binding and Stapling

If you look at the Kelsey Supply Book, you will see it is stapled on the sides, whereas the Guide is bound through the center — center-bound.

Center stapling can be used when all the sheets are of such a size that they run through to make four pages each, such as the Guide.

If, however, some of the sheets are single, it is evident that stapling through the center is not going to hold them; and side binding is used, as in our Printer's Supply Book.

If center binding is wanted in spite of one or more single sheets,



the singles can only be made secure by using paper wide enough to go by the center line, so that the center staples will catch and hold them.

Binding machines will be found in our supply book which will do both side and center binding. Staples of various lengths of prong or leg are furnished, to take greater or lesser thicknesses. The diameter of the wire varies, too. One binder is made with attachments to take two different diameters of wire, and four lengths of leg.

Short leg staples are best for three or four thicknesses of paper — for instance, quarter inch leg staples will fasten a thickness of about an eighth of an inch, more or less, and leave an eighth of an inch to clinch on the other side. A ⅜ inch leg will bind a quarter inch, plus ⅛ inch for the clinch, etc.

Stitchers using continuous wire are made, but as they cost in excess of $100, we will not describe them here. Bookbinding — that is, sewing with bookbinders' thread, is another variant which requires separate coverage. The printer with small and medium sized equipment will find the hand binder such as the 1A with light wire accessories the most useful addition to his layout.

Card Cases

Inexpensive card cases make excellent premiums for card orders. They are priced low enough so that you can offer one free with each card order, and the results are usually very gratifying. Card cases prevent the cards soiling in the pocket. If you prefer, you can offer the better grade for a small sum. It is well to give the prospective customer a choice.

Hundreds of Uses

The Guide is designed to tell you HOW to print rather than WHAT to print. Most of the popular uses for Kelsey equipment which have not been specifically mentioned so far in the Guide are what might be called straight printing work — for specific purposes, perhaps, but not requiring any different treatment than the average run of job work done by most Kelsey owners who print for profit rather than for themselves.

We urge every new press owner to keep all the samples of printing which come his way, and particularly those which are along the lines of the work which he wishes to do.

If you are particularly interested in church work, or label printing, or Christmas cards, or stationery, or any other specialty, you will not find it difficult to acquire enough samples to be very helpful. That doesn't mean you will want to slavishly copy other people's print. ing, even if you had the same type styles — it does mean that you will find the answers to many of your questions on how to lay out your work in similar printing that you pick up. Even the advertising you see in newspapers will help. You will soon find yourself able to proceed independently and with confidence, as well as with genuine satisfaction in your own accomplishments.

To Set Up the Star Press

First assemble the stand which consists of upper shelf, lower shelf, four legs and two extensions (long) angle irons. Two of the **legs have holes thru which the motor bracket support rod must pass and these should be assembled at the same narrower end of the stand. The two** (long) **extension angle irons should be attached outside the legs at top with the larger holes in the angle iron up — the press will be bolted to these angle irons.**

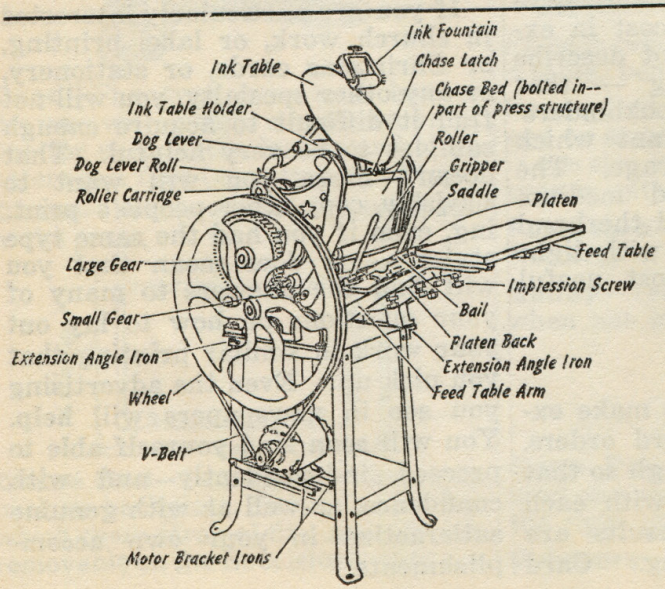
Mount the motor on the two brackets (twisted near one end), with the twisted ends to the left as you face the pulley end of the motor. Next, insert the motor bracket support rod (1) thru the hole in the bracket iron nearest the pulley, (2) thru the hole in the leg, (3) thru the other bracket iron, and (4) thru the other leg. Nuts hold threaded support rod in place.

Bolt the press to the extension angle irons on the top of the stand so that the fly wheel will be on the same side as the motor pulley. The fly wheel can then be put on its shaft, with the set screw on the inside — for safety — when it is on the shaft. Line up the set screw with the "spot" and tighten. Now put the V-belt in the groove in the flywheel, and by lifting the motor a little, the V-belt can be slipped into the groove in the motor pulley. Either the small (slow speed) pulley or the larger (faster) pulley will fit on the motor shaft. Tighten the set screw on the flat part of the motor shaft to keep it from slipping.

Bolt the ink table holder to the back of the chase bed, near the chase latch. You will notice that in addition to two bolts to fasten the holder in place there are two locating pins on the top of the chase bed, and also two locating holes in the holder to match, so that you will be sure to have it in the right position. Before placing it on the two pins, raise up the dog lever and have the dog lever roll (which is located at the end of the dog lever) on the cam of the roller carriage shaft.

Next insert the stem on the back of the ink table into the hole at the top of the ink table holder (above the chase bed).

Put the roller wheels (which you will find in a cloth bag tied onto



the press on the ends of the ink rollers and insert the ink rollers in place in the saddles or sockets on the machine.

The feed table arms bolt onto the front legs of the press, just below the front shaft, and the wooden feed table is mounted with wood screws on top of these arms. The illustration of the press in the catalog and the diagram (pg. 36) will be of help to you in assembling the press. Make sure the press is well oiled.

The press is now ready to operate. Turn the flywheel around several times to make sure the press operates freely and properly before running it with the motor. The motor has been properly wired to have the flywheel turn counterclockwise or away from the operator.

If equipped with ink fountain the fountain should be mounted on the arm above and behind the ink table so that the upper composition roller on the press just touches the ink fountain roller. If minor adjustments are necessary, loosen the two screws that hold the ink fountain in place, and tilt the fountain to make the proper contact with the composition roller — then tighten the screws to hold this setting.

Now that you have the press ready for operation, read the Printer's Guide over very carefully, which gives complete information on setting type, locking forms in chase, makeready, etc.

Note: When adjusting the impression on the Star Press, only the four screws in the corners of the platen are used.

Number of Leads To Pound

The following table gives the approximate number of leads of a given size, per pound. It will be handy if you need a large quantity of one size, and wish to order them already cut.

Picas Long	2 Point	6 Point	Picas Long	2 Point	6 Point
1	864	288	13	66	22
2	432	144	14	61	20
3	288	96	15	57	18
4	216	72	16	54	18
5	168	56	17	51	16
6	144	48	18	48	16
7	123	40	19	45	14
8	108	36	20	42	14
9	96	32	21	40	12
10	84	28	22	39	12
11	78	26	23	37	12
12	72	24	24	36	12

For longer lengths use multiples of length desired.

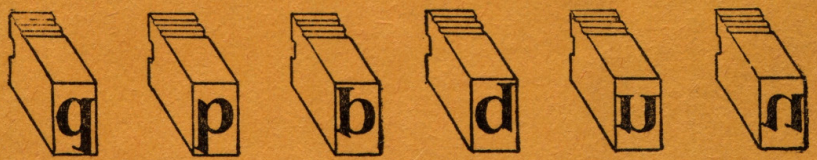
The table below shows the approximate number of words in a square inch of type of various sizes. It is accurate enough to be used in estimating the space any manuscript will fill.

Size of Type	Number of words in one square inch: Set solid	Leaded with two point leads
6 Point	47	34
8 "	32	23
10 "	21	16
12 "	14	11
14 "	11	11
18 "	7	7

The Printer's Guide, 9th Edition
The Kelsey Company, Meriden, Conn. 06450

Proof Readers' Marks

Change bad letter	Move over
Push down space	Em quad space
Turn over	One em dash
Take out (*dele*)	Two em dash
Left out; insert	Paragraph
Insert space	No paragraph
Even spacing	*wf.* Wrong font
Less space	..... Let it stand
Close up entirely	*stet.* Let it stand
Period	*tr.* Transpose
Comma	*Caps* Capital letters
Colon	*s. c.* Small caps
Semicolon	*l. c.* Lower case or small letters
Apostrophe	*Ital.* Italics
Quotation	*Rom.* Roman
Hyphen	
Straighten lines	



d b p q n u

Diagram shows the difference between letters which seem alike to the beginner. (See page 4.)

Some type styles include ligatures (two or more letters joined together on one body) such as: fi, ff, fl, ffi, ffl.