

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

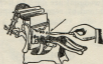
while the impression is made. If the grippers are set too close to the platen an undue strain will be placed on the gripper spring and eventually will break it.

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 impres-



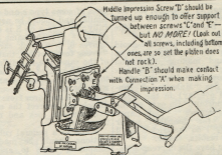
TURNING UP IMPRESSION SCREWS WITH SCREW DRIVER -

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.

sion is correctly adjusted the platen should rest firmly on all impression screws, without any rocking.

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

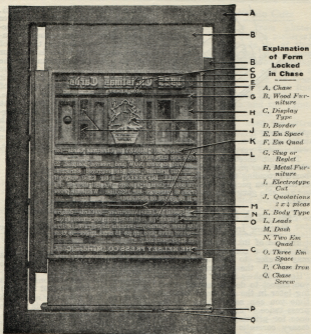
sizes of some type c and o are very similar and should be noticed carefully; be sure s or S is not upside down (= 8). The same applies to figures 6, 8, 9. Look carefully for "wrong font" letters, that is, letters of the same size but different style from the rest of the line. Be sure to check all numbers 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.

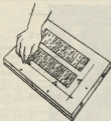
Centering the Work on the Card or Sheet

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-



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.

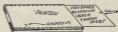
To print sheets wider than the platen of your press, use a long cardboard extending to the side, as part of the platen packing. You can then set the side gauge pin on this cardboard.

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