

CHAPTER VII

SPACEBAND BOX

SPACEBANDS

QUESTION: I am having all kinds of trouble with the spacebands on my Model 14. It has given good service for years, and I have never touched it, but now the bands fail to drop, and I find them jammed up above. Can you give me a briefing on spaceband boxes? — A. P. L., Monticello, Ark.

The Linotype Spaceband Box

MACD. SINCLAIR in *Printing Equipment Engineer*: Let's look at the action for a minute. The spaceband keyrod raises the key lever, which pivots just back of the face plate. As the key lever goes up on the right, it goes down on the left. The spaceband box pawl lever drops, and lowers the pawls below the ears of the bands. The pawls then move under the ears, impelled to the left by the small flat springs. The key lever then raises the pawls; the band is lifted clear of the spaceband chute plate (it has a curved upper end against which the bottom end of the spacebands rests); the ears are lifted above the ears of the spaceband box rails; the bottom of the band swings to the right, and the spaceband slides off the lifting pawls and drops.

When trouble develops, it may be wise to take off the box and look it over thoroughly.

To Remove the Spaceband Box

On Linotype or Intertype, shut off the clutch, back up the machine, hold the spaceband pawl with the right hand and depress the transfer slide releasing lever with the left (this is ordinarily depressed by a screw in the second elevator head), and let the spaceband pawl go to the left. This gets the pawl out of the way and also avoids losing the spring. Take out the one large screw in the center of the box, lift out and up to clear the pawl lever adjusting screw (split head) from the key lever, and take the box out.

Remove all bands and take the box to the bench. Now there is a systematic way to go at a spaceband box, and generally when it starts giving trouble you are better off to act as if you are rebuilding it. For this, let us have a symposium by SINCLAIR, HARDING, and LOOMIS:

Worn Holes Where the Shaft Works

First, take the pawl levers and their shaft. If the shaft is extremely sloppy (hole elongated as much as two points), you will have to use 17/64" steel rod to make a new shaft, and drill out the enlarged holes to 17/64", as well as the holes in the levers. Pins, preferably taper pins, must be driven in to keep the levers constant in position. Keep them as nearly even as possible. Graphite the shaft before putting it back.

If you do not replace this shaft, see that the levers are firm and fast on the shaft, with taper pins solid.

Installing New Spaceband Box Rails

While the shaft is out, take the front plate off of the distributor box and examine the rails. If they are pitted or corrugated down near the ears, you can in emergency smooth them out with a small hand emery stone, but if we are going to do a good job, let's install new ones. While the old ones are off, emery with fine (00 or 000) cloth the surfaces where the lifting pawls work up and down; then rub in graphite with the fingers.

Watch out on the installation of new rails. New ones don't always fit perfectly, and sometimes they bow out in the middle. It takes very little to impede the passage of the bands. As you screw each rail in place, hold it up to the light and be sure it is flat against the surface of the box. See that the screws do not protrude. Okay, put the two sides back together. By now you have taken off the centerbar on top. Use a new band to test clearance between the rails. There should be clearance. When this is established, put the shaft back in and pin the lifting levers on it.

Installing New Lifting Pawl Springs and Screws

Put on a pair of lifting pawl springs. These are very fussy about the bend. Looking at the front one, and starting at the fixed end, bend the spring to the left, then go out a pica and bend it back to the right; then to the left. Where you get through, the outer end should be a couple of picas to the left. A strong spring here is better than a weak spring.

The long lifting screws should be renewed. Sometimes they are too long and have to be ground about six points shorter to keep bands from hitting against them.

Where old screws have a groove worn in them, lifting pawls often get bound between the grooves and the box rails.

Now, with the gate off, take your new lifting pawls and set them in place. You can do this without removing anything else. See that the springs are in

the slots, and try the lifting levers up and down. There should be no roughness in the movement. If there is, look for a spring rubbing against the shoulder in the hole. Be sure the pawls are free. (You cannot make this test for free movement without the pawls, for the springs will bind against the hole.)

Now graphite the pawls carefully and shake off the loose graphite. Put them back, and clamp the box carefully in a vise, so it is straight up and down. Try the lifting pawls once more to verify free movement. Sometimes a pawl is bent. On rare occasions a rail will curve in and bind the pawl.

Setting the Center Bar

Check the center bar. If the two small lugs are rounded on the under side, square them with a small file with a safe edge. These prevent the second spaceband from rising. Put on the center bar and put two new spacebands in the box. Set the bar so the lugs miss the first band by about half the thickness of the next band.

Adjusting the Lifting Pawls

Get your eye on a level with the tops of the pawls and raise them slowly. They should be even. (On rare occasions two unmatched rails will not be the same height, as I discovered recently, so you cannot always go by those. In that case you have a very tricky situation. Always install these rails in pairs—LOOMIS.) If the pawls do not come up evenly—and they probably won't—you will have to get rough again. With the box firm in the vise, use two screwdrivers, one to pry up on the lever that operates the low pawl, the other to pry down on the other lever. These are malleable unless you get into some made of white metal. If you have done a good job of installing the new shaft, you won't have to bend much. On a machine where you merely install new pawls, you likely will have to bend some. Get those pawls the same height, then put the two bands back in—or did we take them out? Lift a band with the pawls, s-l-o-w-l-y, and watch the ears of the band fall off the pawls. They should come off at almost exactly the same time. If there is an appreciable difference, the band will swing and drop crooked.

Now make another test. How far in do the pawls go? There are two schools of thought on this. Some favor making the pawl rise exactly between the two bands. This is fine but it's difficult. It is easier to make the pawl rise somewhere in the middle of the ear. If the pawls are properly set, this will also lift the last band out of the box.

Obviously if the pawls extend in too far, they will bite at the second band. They usually do, on an old machine. There are several ways of correcting this. Heating the pawl for bending is good, but difficult for the m-o, for it involves re-tempering. Some peen the inner edge of the pawl, but perhaps the most satisfactory way for the m-o is to lay the pawl, inner edge down, on two 12-point

slugs and tap gently with a small hammer until you produce a slight belly. This provides a new bearing surface and brings the tip of the pawl back. Go easy; pawls vary in bendability.

Now the pawls are riding freely, they come up evenly, and they do not take a bite at the second band. The center bar is set to retard the second band if it tries to rise again — which it will if the bands get dry and un-graphited.

On an old box that is just a little sloppy, always test for height by lifting up the back lever while holding down slightly on the front lever. This means, in the long run, that the front pawl will be a little higher when not under pressure, but since the motive power comes from the rear lever, this test is correct as outlined.

On old machines, with lifting pawls worn flat on top and no new ones available, you can grind the beveled surface and get new points, but you will have to adjust the pawls more carefully than new ones, and you will still have old pawls. Better wait until you get new ones.

The Spaceband Box Chute

The two side pieces of the chute are beveled at the bottom to throw the top of the band to the right. If these beveled extensions become badly gouged they should be replaced.

The tongue in the bottom of the long chute plate should be bent to the left from six to twelve points. Too much will throw the band out of time with the mats; none at all may cause transpositions.

Setting the Short Spaceband Box Chute Plate

This is simple but important. The free bottom end of the short plate is to set to allow your bands easy passage. (We assume your bands are all the same thickness; otherwise you must set it for the thickest. Likewise you may have to change it if you change sets of bands.)

Now for the curve at the top. If the plate is old, take it off and see that the flat surface at the very end, against which the bands will rest, is smooth. If not, file or grind — as little as possible. Try the plate with your fingers for malleability. This applies especially to new plates. If it seems brittle, be very careful. It is most embarrassing to break one of these without a replacement. (It will take only about three hours to make one out of a sheet of brass, if you can find the brass. — LOOMIS.) Screw it in place. Now you can set it for height.

With a new band, or with a band whose ears are not appreciably worn, this lip should catch the lower end of the band by $3/64$ " to $1/16$ ". More will hold back the bottom end of the band while the top goes on over. Less will

mean that some bands will get bounced over at the bottom, and there will be a jam-up the next time the pawls rise.

A word about bending: To raise this lip, use a small screwdriver from underneath — but *take it easy*. Too much is enough. To lower, use the small screwdriver underneath to brace it, and put another screwdriver through the slot in the long chute plate and pry on the top end of the short plate. Here, most emphatically, don't play Hercules, for you are not giving the plate much of an arc to absorb the bend.

If the top end of the band goes over all right but the bottom end stays behind the chute plate, then the chute plate has too much bite. Harding says you should not bend this plate without removing it from the chute — and that is indeed safer.

Spaceband Lever on Model 1

Here the lever (the long one that goes behind the face plate) was soldered at the hub. This solder would come loose and cause endless trouble until the thing was resoldered.

Right End of Spaceband Lever

The hole in the right end usually wears larger and elliptical and causes lost motion. Drill it out with a larger drill (about 3/32") and drill out the hole in the spaceband key rod. Insert a 3/32" cotter pin. A drop of oil on this joint once in a while will preserve the fit for a long time.

Spaceband Keyrod Worn at the Banking Bar

Very often on old machines the spaceband keyrod (the long vertical rod) becomes badly worn at the notch where it banks on the banking bar. Sometimes it drops the rod as much as a pica — which is too much. Get a new rod — or, in emergency, rivet a piece of an old rod on above the notch and extend down just far enough to provide a new banking surface in the right place.

Two Springs Affect the Keyrod

There is a spring on the spaceband "weight" below the keyboard cam. This spring counterbalances the weight of the spaceband key. It should be just strong enough to pull the weight firmly down after each stroke. Too much stiffness will make the spaceband key "hard." Too little will make doubles.

There is also a spring to pull the keyrod down, counter-balancing the weight of the spaceband box lifting levers and pawls. This too should be just strong enough to do a positive job. Too much strength will wear a groove in the rubber roll. Too little will leave it up, and you won't get your spacebands.

Replace the Box and Test It

Put the box back in place. Lift the lifting levers and let the end of the key lever slip into the slotted screw head. The key lever should not bind on either side. It is easily bent a little with the fingers until it rides in the center. Put a dab of hard oil on it. Now turn off the power. Hit the spaceband key and turn the roll by hand. At the low point of the left end of the key lever, it should have a little play between itself and the bottom of the slot in the screw head.

At this point also, the lifting pawls should be at least 1/32" below the ears of the bands. Keep turning the rubber roll slowly. The lifting pawls should lift the first spaceband evenly, and after it swings off, the tops of the lifting pawls should be at least 1/32" above the tops of the ears on the spaceband box rails. Most machines show a considerably wider range than this 1/32" above and below, but this won't bother.

Bands Fail to Drop

When one car hangs back, open the gate and try the pawls by hand. Pull them to the right and see if they snap back promptly. If not, they may be rusty, gummy, or bent, or the spring may have no zing. A good test, with the box off, is to hold it with the pawl side down. Pull the pawls down by hand and release slowly. They should go fully up into place in this position.

Double Spacebands

For double bands, be sure it isn't the keyboard cam. Tie a white flag on the keyrod where you can watch it from the corner of your eye. If you get doubles not from this source, sometimes they will fall as a double and sometimes they will clog up in the chute. This means the pawls are going in too far, the center bar is not set properly, or the lip on the short chute plate has not enough bite. This also is caused by unevenness in height of the pawls.

To Test Assembly of Spacebands

LOOMIS: The final test of the way the spacebands drop is this: standing as far away as you can, hold your finger on the spaceband key and let the bands come tumbling down. Keep your eyes focused on the spot just above the right end of the assembling elevator gate. Do this several times, until presently the continuous dropping of the bands seem almost like a steady flow of water, and the path of the bands is very clear in your mind. (Frank Phillips maintains this test cannot be successfully made without three drinks of scotch, and I am not a man to dispute an authority.) Matter of fact, you have to concentrate on this until you forget everything else, and the only thing in your

consciousness is that almost solid stream of bands, falling, falling . . . You are half hypnotized by it, but when you are, the path of the bands is as clear as if it were drawn on paper.

The band should drop until the ears hit the bottom of the spaceband chute; then the band suddenly moves straight left about half an inch, hangs poised there a fraction of a second, straight up and down, then drops neatly into place. This is what you are striving for. Keep working until you get it.

To Test the Spaceband Box

LOOMIS: I have found this almost failure-proof: hold down the spaceband key and let all the bands drop (excepting the last one or two). Do this four times. If there is no failure except the last one or two in the box, you can feel pretty sure it is working.

The Intertype Spaceband Box

SINCLAIR, HARDING, and LOOMIS: Up to the spaceband box itself Linotype and Intertype are similar. But in the box there've been some changes made. The rails are entirely different, without ears. There are no lifting pawls. In the back plate, near the bottom, a plunger comes out and pushes the first band toward the front. It then swings into the chute and down.

There are a few adjustments in this box.

Detaining plate, on the front of the box, should be set to cover half of the second band, to prevent doubles. This adjustment is made when the releasing pawl has receded and the band dropped down against the banking pin.

Keep the floor of the box free of caked graphite.

Occasionally take out and graphite the releasing pawl and the pivoted lever that operates it.

Sometimes the banking pin becomes rounded and allows two bands to drop at once. Remove the releasing pawl and with a pin punch through the slot, knock out the banking pin.

The tension of the releasing pawl spring must be positive.

A rivet protruding from the band will stop delivery.

The center bar on an Intertype box is to depress any wedges that are inclined to remain up on the sleeve.

Sometimes the spaceband key lever is bent so that even at its lowest, the plunger will not recede enough to clear the spaceband which is about to fall against the banking pin. The lever can be bent with care.

LINOGRAPH SPACEBAND BOX

The point of the hook on the front ear of the spaceband box pawl on a Linograph is slightly lower, because there is but one lifting pawl.

SPACEBANDS

Can We Mix Different Sizes of Spacebands?

LOOMIS: You can, but it can be frustrating, too. If you use thick bands at all, the center bar lugs and the bottom end of the short chute plate must be set for them. They generally will not then function on thin bands. Some sets of mixed bands, however, are used, and sometimes, when conditions are right, the two sizes drop with equal facility. This is an exception.

Spacebands With Badly Worn Ears

QUESTION: The ears of some of my bands are worn narrow, top to bottom, but they seem to work fine. Is there any point in replacing them as long as they work?—O. T. R., Red Oak, Okla.

LOOMIS: Perhaps not, but ears considerably worn usually make trouble. The ear of a new Linotype spaceband (I have some unused ones here) measures .091" (just short of $\frac{3}{32}$ "), and when they get worn down a couple of points (say to around .065") you may expect trouble in two places: bands will be left in the transfer channel because the lugs on the spaceband pawl pass over them, and they sometimes fail to be lifted over the lip on the short chute plate. If you decrease this bite of the chute plate, you then put in a half dozen new bands and find that they bounce over. Ordinarily speaking, it is not good practice to put new bands with badly worn ones. I have many times found this at the root of spaceband trouble.

Cleaning Spacebands

One last word: Do not under any circumstances buff the bands against a cloth emery wheel. You can make them shiny, but you also round the edges.

Repairing Spacebands

LOOMIS: For some reason I have had very poor luck repairing spacebands or having them repaired. This has been consistent over thirty years, and I am inclined to think new bands are a better investment. I do keep good sleeves, but you seldom have an extra good wedge, and I have only rarely been able to put together a good band from these salvaged parts.

If you do salvage such a band, if you straighten one that has been kinked—which sometimes is difficult—hold the wedge up and see if the sleeve will fall by its own weight. It should.

A sharp kink is almost impossible to take out.

What Kind of Bands to Buy?

There are six or eight different thicknesses and tapers, and they vary from company to company. The kind most suitable for all around use in almost any shop is commonly called "teletype band." Its minimum expansion is around .057", maximum around .124". Thin bands are available for fussy composition. Jumbos are seldom used any more.

How to Use Bands

HARRY G. POTTLE in *Who's Who in the Composing Room*: Always run spacebands with the sleeves toward the right; they are .001" thicker on the casting edge. Two spacebands should not be used together, for there will be a small gap that encourages metal to cast against the side walls of the mats. Do not use spacebands at the end of a line — either end; this may score the wedges.

SPACEBAND TRANSPOSITIONS

Spaceband Falling Before the Last Letter of a Word

QUESTION: What makes the spacebands fall ahead of the last letter in a word? I have had this trouble for over a year, and it's getting my goat. — T. P. L., Moose Jaw, Saskatchewan.

HARDING: If this happens mostly on thick letters like *m*, be sure the chute spring is not set too close to the rails. Weak star wheel tension may do it. Too much tension will drive the assembler too far left, leaving the gap; then the right-hand mat may fall back to the right and allow the spaceband to get ahead of it.

LOOMIS: Quite often, too, this results from a peculiarity of the operator. Try lowering the spaceband key (which ordinarily is set a little below the level of the keybuttons). I have used a piece of wire, fastened under the screw on the front plate of the spaceband box and projecting inside, to in effect move the lip of the chute plate from $\frac{1}{4}$ " to $\frac{1}{2}$ " to the left. This makes the band a little slower in dropping.

If a band is too slow, which happens infrequently, there is generally trouble in the box or in the keyboard cam.

Also, when the rubber roll is deeply grooved, this reduces the diameter and makes the cam turn faster. Likewise, if the roll creeps so that the cam rides on the corner, the cam soon will be turning over too fast.

SINCLAIR says that in some cases it is necessary to use an oversize spaceband cam. This is particularly true on older machines, many of which did not have an oversize cam at all. If your spaceband cam is the same as the other cams, order a spaceband cam. If yours is a spaceband cam already, it should be big enough. In rare cases where the m-o can't whip it, write either Company and

tell them you want the next larger size than a regular spaceband cam. There are a number of large sizes, some quite huge, but you won't want these. They are for machines with big sizes in the auxiliaries. With the next size, bigger than the spaceband cam, you may have to file out the stop strip to allow the cam room to turn over, and in some cases you will need a special individual stop pin — which will have to be fastened by drilling and tapping. Try to get results with the regular spaceband cam.

Why Do Spacebands Strike on Top of the Mats?

HARDING: Assuming the mats are upright in proper position, then the band either is dropping late or, more likely, is being thrown too far left by the tongue in the bottom of the spaceband box chute plate, by the beveled ends of the chute being worn out and perhaps beveling out instead of in, or even grooves here that hold the band unduly long until a stiff star wheel gets hold of it and throws it. The spaceband buffer can be a help here. The new buffers usually have a hump or two small flat springs at the right end, either of which is to drag against the band for an inch or so and tilt it to the left to create a little more opening for the next mat. This seems to be a good deal.

Why Do Spacebands Bend?

QUESTION: We have a three-magazine Model C that invariably bends a band when there is only one in a line. The lines are not always tight; sometimes the band rises an inch or so. We set a lot of short measure — 6, 7, and 8 picas — and our spaceband upkeep is much too high — A. O. J., Perryton, Tex.

HARDING: The justification springs (at the back of the machine) are set originally to handle ten bands in a line, and will not usually bend a single band. Sometimes, however, somebody has changed the tension. For the record, here is the way to check it. Let both justification levers go up; a spring scale hooked over the end of the first or right-hand lever should start it down at about 45 pounds; the left-hand or vise closing lever, 22 pounds. Newer Intertypes are set at 60 and 30.

Here is a good test: run in a line with over ten bands. Stop the machine after the first justification, and you should be able to pull up one band about $\frac{1}{4}$ " with a button hook or a mat hook.

(**LOOMIS:** I have always liked this test, but at this last moment, on checking the *Intertype Book of Instruction*, I find the following recommendation: run in a long line with eight bands; you should be able to raise one only with difficulty after the first justification. Perhaps this applies to Intertypes alone.)

It is normal for bands to rise higher on the right end (reversed on quadders). Usually they are pretty even after the second justification. If there is too much difference (over $\frac{3}{16}$ ", say) you can put a washer under the left end of the justification bar, over the bar brace. If this is done, you will have to grind the

washer considerably on the outside to keep it from projecting. (Note: This is Loomis's idea. Harding doesn't like it, and Loomis advocates it only when the top of the brace is unduly worn. The bands should *not* rise evenly on first justification. The line has to slide leftward to fill out, and the slanted justification bar assists this movement.)

In many cases of bending bands, the small lug at the top of the vise justification bar brace is unduly worn, allowing the left end of the block to rise higher on second justification, which causes a single band to skid to the right. Replace the brace.

Note that almost without exception, bands are bent to the right. This means it happens on the second justification.

Now if your springs are reasonably set (you can't soften them too much, for the machine will then fail to fill out long lines and you'll be sorry, for you'll have a squirt to clean up) and if your bar rises at a small slant on first justification and squarely on second justification, you may still, on a snug line with only one band, get a bent one. Now we resort to mayhem. Some m-o's roughen the bar with coarse emery cloth. Some hold it crosswise against an emery wheel and make very shallow grooves.

Chuckle by Loomis: We (and even Company men) were doing this in the field twenty-five years ago, but a book in my possession says in italic, "do not grind the bar." However, most new machines now come equipped with bars either stepped, cross-hatched, screened, grilled, or with small straight grooves across.

In justice, be thankful the engineers do *not* grab everything as fast as it comes along. If they did, you'd have a machine as big as Grand Central Terminal — and it would do everything but set type.

If you do roughen up a smooth bar, make shallow grooves, as narrow as possible and as close together as you can.

Why Do Spacebands Refuse to Settle Down in the Assembling Elevator?

LOOMIS: This is not a new problem. In *The Inland Printer* for October, 1900, a California man describes a wire which he stretched from the short finger to the long finger to "prevent sore fingers from pushing down spacebands." George B. Lincoln pointed out that such a device had been patented the preceding December, and suggested just what I am about to suggest: why not graphite the bands?

Except for bent or damaged bands, or bands that have been straightened when they should have been discarded, most of this trouble can be cured with graphiting.

On occasion the front half of the assembling elevator is canted in too far and binds the wedges, but this is easy to check. If the bands stick up for only the first four picas or so next to the assembler, and then gradually drop, the fiber buffer needs thinning. This happens often.

How About Grinding Bands on the Bottom?

QUESTION: I have seen a Teletypesetter operating a machine in the city, and I noticed the spacebands were much more tapered on the bottom than usual. They said this made for better assembly. Do you think so? And does it hurt the band? — M. T. I., Sisseton, S. D.

LOOMIS: I have seen this done and I have tried it. I believe bands today are not as blunt as the old ones, so if you want to taper them, go ahead. Don't grind in too far, of course. It is my experience that the final taper should extend up to about $\frac{1}{2}$ " from the bottom of the band (no more) and that the very bottom of the band should never be over 8 or at most 10 points from a straight-line extension from the side of the band — in other words, the triangle of space at each side of the bottom will be about 3 picas by 8 or 10 points. I do not grind these flat, however, but a little rounded, so that the hypotenuse bellies a little into the triangle. Lay a slug along the side of the band to check the 8-point measurement. Finally, take off burrs and polish the new rounded surface with fine emery cloth.

How to Clean Spacebands

QUESTION: We have trouble getting the black spots off the sleeves of our spacebands. I have been told that Bon Ami mixed with graphite will do it more easily. What do you advise? — H. F., Norman, Okla.

LOOMIS: I have worked in a couple of large plants where the head machinist has tried different methods of cleaning bands, and have observed the results — which gives these conclusions a certain amount of statistical support.

First, I am compelled to say that I do not care for the spaceband-cleaning machines commonly used in large plants. They do not seem to do the job. I may as well go all out and take cognizance of the gadgets that have come on the market at different times (particularly one in the year of 1951), to be attached to the spaceband box. (The first automatic cleaner was made by Wm. Reid in 1900.) This latest one I don't know enough about to give an opinion at this time; some say it's perfect; others say they don't like it. It is always so with anything new — good or bad. My advice is this: don't stick your neck out. If the boss buys one, do your best to make it work. You never know. Maybe it's the answer.

But this is for those who clean bands by hand. Take a look at your bands on the sleeve side. There probably is a small dark spot at the casting point. This must come off. Do not use Bon Ami or any other abrasive, for it seems to round off the sharp edges of the band and encourage hairlines. I know a shop where they had to buy six hundred bands to replace those they had. They were using Bon Ami in the graphite, and cleaning bands every three hours, but still the bands would have large accumulations of metal at every cleaning time. They do not use Bon Ami any more.

Note one thing: if your bands have had large metal spots on them for any length of time, your mats are already hairlined, and that will encourage rapid accumulations on the bands. Sometimes it helps to get new bands, but more often you have got to get new mats also to get rid of the hairlines.

But let's say the bands have just a little metal on them. Scrape it off with a brass rule which is filed on the end to a square edge. Now rub the bands on a smooth, soft pine board. Use plenty of graphite. Rub the whole length of the band, and rub it until the black spot disappears. Rub the other side about eight strokes to polish it. Bounce off the surplus graphite.

Dixon's No. 35 flake graphite seems to be highly satisfactory.

Do not rub circularly. Rub straight, with the length of the band parallel with the grain of the board. Even rubbing on graphite makes tiny scratches which can help or hinder the sliding action of the band.

Use nothing but graphite. Rub both sides. Then drop the sleeve on one band at a time and rub the hitherto unrubbed spot on the wedge back and forth at the edge of the board. When the board shows ridges, get a new one.

If metal persists in accumulating on the bands, often it helps to get a tin of Notabur from Mergenthaler, and, with the tip of the thumb, wipe a thin film of Notabur over the sleeve at the casting-point — after the graphiting. Or rub the spot thoroughly with oil before graphiting.

Return bands to the machine with the sleeve at the right always. Bands are tapered .001", with the thicker edge against the mold, and if you run them backward it will encourage hairlines.

Under normal conditions, cleaning once a day is enough. But if they start to accumulate metal at noon, spend ten minutes cleaning them then also.

If you get a new font of mats, it is money well spent to get a new set of bands at the same time. Usually an old set of bands is pretty well bent up and the bands don't lock up squarely.

I do not touch bands with any sort of abrasive on a cloth wheel, either. Abrasives are out. You can remove metal and dark spots with a brass rule and graphite and elbow grease. Once they are clean, you can keep them so more easily by regular cleaning as described above.

In the nineties, coal oil was used extensively to clean bands, and still is in some places — but graphite is more satisfactory. In June, 1900, John Thompson noted a new slang phrase, "His space bands are rusty," probably meaning, "He's got a screw loose."

HARRY G. POTTLE in *Who's Who in the Composing Room*: I have been asked about using powdered mica as a substitute for graphite. I am very much opposed to its use on spacebands and would discourage my readers from using it.

Intertype jaws are center-milled for sure clearance of mats. The casting edge must be tight.

LINECASTING OPERATOR-MACHINIST

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