

## CHAPTER XV

### THE MOLD TURNING MECHANISM MOLD WIPERS

#### The Mold Turning Bevel Gear

**HARDING:** Questions are not often asked about this, but it is an important mechanism.

The set screw in the square block should be straight up at normal position, and should be tight. The flat-head screws in the two facings should be tight. When the machine stops with the spaceband pawl locked, a four-tooth side of the bevel gear should be up; one fourth turn later, three teeth will be up. The beveled teeth in this gear are not worn, but made that way.

#### Mold Turning Cam Shoes

**LOOMIS:** These should not be scored or broken. The felt in the gear guard that lubricates the shoes should be kept oiled and touching the shoes.

#### Cam Shoe Wiper

Many old machines do not have this felt. Order C-350, Mold Turning Cam Shoe Wiper Bracket, and C-349, Mold Turning Cam Shoe Wiper. With the gear guard in place, on the face parallel with the first elevator cam, drill a hole  $5/32"$  or bigger, about  $1"$  from the top point and  $1/8"$  from the left edge. With a No. 8 screw and nut, fasten the wiper bracket *inside* of the gear guard, then fold the felt and poke it in with a screwdriver. Oil it.

#### Adjusting the Shoes

**LOOMIS:** Drop the first elevator to the vise cap and take off the gear guard. Back up the machine to test the play between the cam shoe and the facing. This is prescribed as  $.002"$  but I test it this way, for a feeler gauge here can be deceitful: Turn the machine until the facing is in the middle of the shoe; now take hold of the mold disk pinion (the one you use to change the molds) and wiggle it. There may be too much play between the two. Back up the machine, take out the large-headed holding screws, and turn the inside bushings in a little. Put the holding screws back and test again. If there is no movement

of the facing, it is too tight, and you can often see the cam bend out. At the proper setting you can see the facing just move, but not enough to let light through.

Needless to say, both ends of the shoe should be the same. Some m-o's use a mike here, but it is not always reliable. I test the facing at top and bottom, being sure that it is contacted by the full face of the shoe.

This of course must be done for both shoes (or three, on some machines).

This is a most important adjustment and should be made with great care.

#### **Welding the Mold Turning Cam**

**LOOMIS:** There was a time when we considered that a main cam had to be removed from the machine and pre-heated for welding — but no more. The mold turning cam breaks most often, and usually from too much pressure on the shoes. A good welder can weld it on the machine with either gas or electricity and without the expansion that we used to hear boogie tales about. Leastwise, the cam doesn't break in other spots, as we thought once it would.

#### **Mold Disk Sometimes Fails to Turn**

**QUESTION:** At intervals the mold disk does not make its quarter turn as the elevator descends, but the pot comes forward and casts on whatever mold is up. — T.E., Vandalia, Mo.

**HARDING:** The mold disk turning pinion is driven by a short stud entering it from the rear. This can become rounded off or it can get pushed back so it is too short; the bushing in its corresponding hole, where it should seat, often gets well worn at the sides, so the pin will easily slip out. Put in a new bushing and pin, and see that the pin goes into the bushing as far as it will.

Watch especially when changing molds. That is when much of this trouble originates.

Be sure the set screw in the square block near the bevel gear is firmly set.

#### **Should We Oil the Mold Disk Turning Brake?**

**HARDING:** Positively not. Oil destroys its efficiency. The leathers, if oil-soaked, should be replaced. You will see how by taking off the brake. The two holes are for the brass pins that hold the leathers — *not* oil holes.

The only adjustment on the Linotype brake is to loosen or tighten the nut against the spring. Adjust so that the mold disk, coming forward onto the locking stud blocks, does not have to jerk either forward or back.

It should not be necessary to say that metal accumulated behind the disk, or anything that tends to retard the disk, will throw this adjustment out of kilter.

Be sure you keep a small amount of oil on the mold disk locking studs.

On the Intertype there are two disks with leather between. Put an occasional drop of oil in the oil hole under the spring.

#### **What to Use on Back Mold Wiper?**

**QUESTION:** Our Model 19 collects metal on the backs of the molds, although we run the wiper up against the disk as advised. We use no lubricant but dry graphite. — A.T.D., Mexia, Tex.

**HARDING:** It has been found that a dry wiper will not remove particles of metal. Your molds on the backs should be as clean and shiny as the day you unwrapped them, and if you find metal on them, scrape it off with a sharp brass rule; use alternate rubbing with mold polish, if necessary — though note that mold polish is not for steady use on a mold, for it contains an abrasive that will damage molds if used continuously.

Use oil on the back mold wiper; put it on the back side of the wiper, and if you don't load it, it won't foul your molds. Graphite worked into the felt helps to polish the metal. Apply a drop or so of oil to the front mold wiper too, though here, with a squirt can filled with gasoline and graphite, it is easier to load the felt with graphite. Trouble is, it doesn't last.

**LOOMIS:** Three cheers! For fifteen years I have been guiltily flaunting *The Book* (meaning established authority) by advocating oil on the back wipers. Now I am happy to see that I was not entirely alone.

A dry wiper will not do the job. Mold polish will ruin molds. Graphite alone won't stay. I ascertain that the felt is freely removable from the holder. If there are pointed screws in the sides of the holder, throw them away. Unless the felt is too small for the holder, it will not come out in use. Weekly I take out the wiper, put about half the equivalent of a film of oil on the front, and put the front in backward. I am glad to see that Harding and I worked out the same system on this. The oil works through gradually, and not enough to cause trouble unless you overload it. If you find oil on the liners when you change them, you will know you used too much or used it wrongly. Be sure to put the oiled side *in*.

**As to oil:** Ordinary lubricating oil will do a good job. The best, however, seems to be a sulphur-base cutting oil, such as the black threading oil that plumbers use — which is not oil and does not cut.

In recent years I have been experimenting with the same oil on the front wiper, which I considered very daring, only to see that others were doing it too. I use cutting oil here also, and apply it as far back on the wiper as possible. I use more than a drop — about one "string." The main thing is not to use enough to get on the mats, for that will require a cleaning of mats and magazine and all the places where the front toes and ears slide.

Slug ejection is easier from a mold with a lubricated back wiper.

Be sure your back wiper bears against the disk at normal position. It should be set so that the usual spring that holds it there is lightly compressed.

On wipers that are not removable, I put a little oil as far back on the side of the wiper as possible, through the slot in the disk.

Some use castor oil, but I have used that on Monotype casting equipment and I don't like it. It is a fine lubricant for molds — perhaps the best — but on being heated it leaves a gummy residue.

**HARDING** adds: Avoid any presence of oil in the mold cell or on lines. This is a good guide.



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# LINECASTING OPERATOR-MACHINIST

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