

CHAPTER XXIX

MAIN CAMS AND DRIVE STARTING AND STOPPING MISCELLANEOUS

Do You Run the Main Cams Dry?

LOOMIS: In the year 1560 one of my ancestors was burned at the stake for heresy, so I come by it honestly. No, I absolutely do not run the main cams dry. Once the outer surface of a cam is worn off, the cam wears down in a hurry. Some use kerosene on the cams; I use plain oil. Nowadays some cams are coming equipped with felt oil wipers. The thing is: be sure the cam rolls are turning. If one is not, get a new roll and pin. Then you can oil away all you please, and your cams will never wear out.

Starting and Stopping Adjustments

LOOMIS: Both stopping and safety pawls should be $15/16$ " from the edge of the cam.

The vertical stopping lever should be $1/4$ " under the pawls; set by the square-head screw in top of vertical lever.

Vertical starting lug to stand $1/64$ " back from the pawls; set by a square-head adjusting bolt inside the column.

Vertical starting lug to push the pawls $1/16$ " off of the stopping pawl; stroke limited by large headless screw in top of vertical lever bracket.

Stopping pawl to be pushed off $1/16$ " by line delivery; adjusted by turning the plate on the stopping pawl in or out. Watch this one; the plate is cast iron and will break; the adjusting screw should not be turned out until the holding screw is loosened.

Safety pawl to stop when pushed off $1/16$ " (not on old machines).

$1/32$ " between eccentric screw at back end of long rod and the vertical lever lug. Machine "in action." This eccentric screw is under the metal pot.

$15/32$ " between flange collar and machine bearing (this is the famous clutch adjustment, just inside the frame of the machine); machine "in action." Determined by the clutch packing. The clutch rod should not have elongated holes;

the clutch leathers should be .125" thick; it's your baby from there on. Keep the leathers clean; rough them up when you have the clutch out; keep the brass screws below the surface of the leathers. The new adjustable clutch rods save a lot of work.

1/32" between lower stopping lever and forked lever; machine "in action." This adjustment is subject to considerable variation; I would say it is about right when a grown man can just about stop the machine by pushing down on the first elevator as it goes up. This is Nemo Wraggett's test. Set by the screw in the upper stopping lever.

Clutch Slips and Assembler Slows Down

If the assembler slows down when the clutch slips, it is not a clutch slip but a driving defect. The motor is slowing down or the drive belt is slipping.

Bounce of Cams at Stopping Point

LOOMIS: A couple of years ago Milton Anderson pointed out something I had not seen in all my time around machines: that the main cams, in coming to a stop, normally "bounce back" a little. This I think is caused by the clutch spring acting through the forked lever. If your machine does not bounce back, something is binding. In our case it was a cam roll that turned hard. The main cams came up to a dead stop and gave it away.

What Makes the Machine Jerk or Backlash As It Turns Over?

HARDING: This is a worn drive shaft pinion. They are not too difficult to install.

LOOMIS: We-e-ll, now, that depends. Getting the old one out can be a chore. Use plenty of penetrating oil. Stick the end of a brass rod between the drive pinion and the drive gear. (Of course you have knocked the pin out.) Take off the clutch pulley. Put the clutch back on, and use it to twist and pull. I recall one sad day when one of those pinions had to be sawed off — and that isn't funny when you're flat on your back.

Once having gotten the old one out, try the new one in the shaft to be sure it's going to go.

You'll need a special taper reamer from the Company to ream the two holes together if you expect the taper pin to stay in. Set it with the clutch crosswise. Then the screws in the clutch and the big ends of the taper pins will be up when the machine is at normal.

Cams Keep Coasting When Clutch Is Shut Off

HARDING: A gummy, sticky, or overpacked clutch will do this.

Why Won't the Machine Start?

LOOMIS: Probably maladjustment of the stopping pawl; the line delivery cam roll doesn't push the stopping pawl off of the vertical lever.

This also can happen when the outer screw of the clutch works out.

Why Does the Machine Keep Going After the Slug Is Delivered?

HARDING in the *Graphic Arts Monthly*: Clean the clutch leathers. See that the drive pulley is free on the shaft. But most of all, see that the automatic stopping pawl is working freely, that it is not pushed out by the upper lug of the starting and stopping lever, that it comes to rest on the stopping lever, that the stopping lever is not rounded and covered with oil. The clutch lever itself (in front) may be loaded with metal chips or it may have a dry, gummy wingpin. I have even seen the ninth and tenth cams come loose and cause this.

If this develops suddenly, look for a disconnected line delivery link just behind the face plate.

Do You Need a Brake on the Drive Shaft to Eliminate Excessive Rebound?

LOOMIS: No. Most likely a clean clutch, properly adjusted as told above, will stop this.

What About Monomelts?

HARDING and LOOMIS: The Monomelt is a good piece of equipment for any shop. It saves re-melting and allows lower temperature in the lower pot.

Linotype Border Block on an Intertype

HARDING: If a Linotype border block is to be used in an Intertype, the under side of the block should be tapped $\frac{1}{4}$ " from the right end, and a $\frac{1}{4}$ " screw inserted to project about half an inch. This will hold down the justification lever and permit the cast. Eliminate use of other pin.

Slugs Stick to Border Slide

Both DOANE WOOD of Sioux Falls, S. D., and H. B. ROYCE of Reno, Nev., say they have found border slides, usually plain ones, where the brass below the actual face was swelled over a little, "pinching" the slug and either pulling it out of the mold entirely or, more often, just a little before it broke loose, which resulted in slugs of varying heights. They say these can be fixed by carefully breaking the corners of the brass slide with a fine file.

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