

## The Galley

The Galley mechanism takes the completed lines from the Type Channel, tests them for length, and places them in the Galley; any metal-bottomed Galley may be used. As this movement must not occur until the last letter of the line has been placed in the Type Channel, means are provided for starting, or "tripping," the Galley as soon as this letter is delivered from the Type Carrier.

The Galley may be divided into five parts: First, the driving mechanism, including means of tripping. Second, the Line Hook, which swings to the right, engaging the last letter of the line, and pulls the completed line forward in front of the Galley. Third, the Column Pusher, which pushes the line from this position on to the Galley. Fourth, the Rule, which rises to allow the line to pass under it on to the Galley and then descends, preventing the line from falling back when the Column Pusher withdraws. Fifth, the sizing mechanism, which stops the machine if the line be too long or too short to lock up properly.

The Galley Cam moves the Line Hook, Column Pusher and Rule. It is attached to the Galley Cam Sleeve which is carried in a bearing in the Galley Cam Stand. Through this Sleeve passes the Galley Cam Shaft. This is driven by its Worm Wheel which meshes with the Worm which is driven by the Worm Shaft Gear. Upon the upper end of the Galley Cam Shaft is the Cam Shaft Ratchet which rotates constantly making one revolution for seven revolutions of the machine. When a line is to be put on the Galley, the Galley Cam is connected with the Galley Cam Shaft, makes one revolution with it and then is disconnected and stops, remaining at rest until the next line is ready. This connection is made by the Galley Cam Driving Pawl, which is constantly urged by the Driving Pawl Spring to engage the Ratchet.

The Pawl is held out of contact with the Ratchet by the Galley Trip Lever. When the Galley is tripped, the right hand end of this Lever is moved forward and the left hand end moves back and releases the Pawl. At once the Pawl Spring engages the Pawl in the Ratchet, causing the Galley Cam and Galley Cam Shaft to rotate as one piece, for one revolution.

As soon as the Pawl has been tripped, the Trip Lever is returned to its original position by the Galley Trip Lever Spring. As the Cam completes its revolution, the Pawl strikes the Trip Lever and is lifted from the Ratchet. The Galley Cam Driving Pawl Stop Pin strikes the Pawl and prevents the Cam from revolving further. At the same time the Galley Trip Lever Latch drops behind this Pin so that the Cam cannot recoil when its Stop Pin strikes the Pawl.

The Galley Trip Lever is operated by the Galley Trip Rod, the rear end of which carries the Galley Trip Rod Arm. The Galley Trip Rod Arm Rock Lever is fulcrumed at its center upon this lever, and its ends bear against the Justification Wedge Levers, respectively. When either of these Levers is raised, to change the position of the Justification Wedges, the Galley is tripped by the Trip Rod moving forward. As soon as the Lever falls, the Pump Trip Spring restores the Trip Rod. Thus the justification perforations in the paper have two functions: First, they set the Wedges for the proper size spaces for the line about to be cast; and, second, they trip the Galley to remove the line just completed.

The rise of either Wedge Lever will trip the Galley, except when double justification is used, when both Levers must be lifted together. The Galley, therefore, trips when the first justification perforation is presented. The second perforation also trips it, but as the Cam has already started to revolve this makes no difference. It takes but one revolution of the machine to lift each one of the Wedge Levers, and, as the Galley Cam makes one revolution to seven of the machine, there is ample time for the Trip Lever to move back into position to engage the Pawl.

In casting double justified matter, that is, lines in which the location of the Justification Wedges is changed two or more times in the same line, in order that different portions of the whole measure may be cast with the proper size spaces to justify them separately, the Caster is adjusted thus: The Trip Lever Adjusting Screw is unscrewed so that the forward movement of the Galley Trip Rod when but one Justification Wedge Lever lifts, is not great enough to enable the Rod to overtake the Trip Lever, and then move it as far as is required to release the Pawl. Since, however, the Rock Lever against which the Wedge Levers bear, is fulcrumed in the middle, the Arm which carries it will move twice as far when both Levers are raised as when but one is lifted. If the space perforation corresponding to the two rows of Justification Keys be presented simultaneously to the Caster, both Levers will be raised and the Arm will move the Rod far enough to make up for the amount the Adjusting Screw has been backed off and the Galley will then be tripped as usual.

When the Keyboard operator finishes a line of double justified matter, he reads the Scale, strikes first the upper Justification Key, but in striking the lower he strikes the Key indicated by the Scale and, at the same time, the Key directly above it. Thus two justification perforations are made and the Galley is tripped as described. For example, if the Scale indicated the justification 7-14, the seven Key would be struck as usual, but both fourteen Keys would be struck together. Striking the two together produces three perforations in the ribbon; the perforations for both justification rows and the perforation for the unit row in which the number fourteen Justification Key is located; that is, the fifteen unit row. When these three perforations reach the Caster, both Justification Air Pins are blown up and, therefore, both Wedges are lifted and moved to the fifteen unit position; furthermore, the rise of both Levers trips the Galley as described. Then the presentation of the seven justification perforation moves the front Wedge from the fifteen unit position, where the three perforations have just placed it with the back Wedge, to the eight unit position. The Wedges are now set to 7-14, the justification required for the line about to be cast, and the Galley has been tripped for the previous line.

The Line Hook, fulcrumed upon the Line Hook Carriage is operated by the Line Hook Operating Bar, a slot in which fits over the Line Hook Lever. The Bar is coupled to the Line Hook Operating Slide which is moved forward and back for one revolution of the Galley Cam by the Line Hook Operating Slide Lever, acting through the Spring Box. As the Operating Slide also moves the Line Support back into position to support the next line, after it has been pushed forward by the previous line moving into position to be placed on the Galley, the travel of this Slide must be greater than that of the Line Hook Carriage. The Slide must move seven inches to restore the Line Support, after a forty-two pica line has been put in the Galley, while the Carriage only moves the Line Hook from its position of rest far enough forward to move the last type in the line past the fixed Type Channel Block. This is provided for by elongating the slot in the Operating Bar, which engages the Line Hook Operating Slide.

As the Bar is moved forward by the Operating Slide the rear end of its slot strikes the Line Hook Lever. Since its Carriage is provided with a friction brake, it is easier for the Bar to swing the Hook to the right into position to engage the type than to move the Carriage. But when the Hook can swing no further, the Bar draws the Carriage forward until the Hook has moved the last type in the line just past the fixed Type Channel Block. The forward movement of the Bar is then stopped by its coming in contact with the Line Hook Operating Bar Stop; further movement of the Line Hook Operating Lever is absorbed by the Spring Box. On its back stroke the Operating Slide does not move the Operating Bar until the lost motion in its slot has been taken up. When the Operating Slide strikes the rear end of the slot in the Bar, it moves it back with it. This movement of the Bar first swings the Line Hook to the left, and then moves it back until its Carriage reaches the end of its stroke; that is, until it strikes the Main Stand. Any further movement of the Operating Lever is then absorbed by the Spring Box.

When the Column Pusher has placed the line on the Galley, the Operating Slide moves back, and with it the Operating Bar. As soon as the Slide overtakes the line Support it pushes it back into its position of rest, just in front of the Type Channel ready to support the line as it leaves the Channel. The Line Hook, however, remains stationary until the lost motion in the slot in the Bar is taken up as described.

Two Line Supports are provided for type from five to eight point inclusive, and from nine to twelve point. They are changed by withdrawing the Operating Slide Latch so that the Support may be slid past the Operating Slide out of the Column Pusher.

The Column Pusher pivoted upon the Fulcrum Screws is moved to the right by the Column Pusher Lever, acting through the Column Pusher Spring Box until the type line is pushed far enough under the Rule so that this will not strike it as it descends to support the line. It is moved back by the Column Pusher Spring until it is stopped by the Column Pusher Adjusting Screw. This Screw regulates the left hand position of rest of the Column Pusher, and is adjusted to suit the varying points so that the face of the Column Pusher may stand, in its position of rest, a very little to the left of the Adjustable Type Channel Block, in order that the type may pass it freely without catching upon it or falling as they leave the Channel.

The Rule is raised by the Rule Lever just as the Pusher moves to the right to put the line on the Galley. As soon as the type passes under it, it descends so that it just clears the Pusher. This prevents the type from falling to the left when the Column Pusher withdraws. As soon as this happens the Rule descends and rests upon the Type Channel Plate. The sizing mechanism is provided to stop the Caster in case the Keyboard operator makes a mistake in justification, causing the machine to cast a line either too long or too short to lock up properly. The Operating Lever is pushed to the left to start the machine, and acting through the Operating Lever Spring Box it moves the Belt Shifter Rod overcoming the pressure of the Belt Shifter Rod Spring and pushes the Belt back on to the Tight Pulley. The Lever is engaged, in this position, by the Operating Lever Latch which holds it against the pressure of the Belt Shifter Spring. To shift the Belt to the Loose Pulley and stop the machine, this Latch is moved to the right, releasing the Operating Lever and allowing the Rod Spring to move the Shifter forward and shift the Belt.