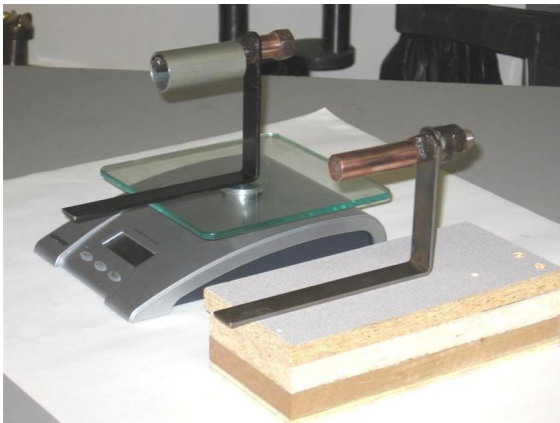


# THE MODEL A TOOL BOX

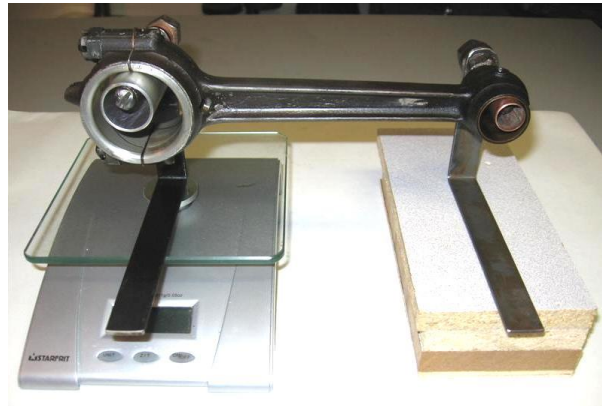
## CONNECTING ROD BALANCE

To ensure that the engine runs smoothly with minimum of vibrations, all rotating parts must be balanced (crankshaft, flywheel, clutch, connecting rods, pulley). The weight of the piston assembly consisting of a connecting rod, piston, piston rings, nuts and shims is a critical part of the balancing process. The weight of the large and small ends of the four rods should be close to each other and the overall weight of the piston assemblies should be within one gram, ideally. Although the pulley is not considered a balance item, some shops with include it in the crankshaft balance, it is often out of balance.

These photos show the connecting rod balance checker that I made to test the weights of the connecting rod assemblies. It is preferred to have these assemblies are within 1 gram of each other, and a max spread of 2 grams for all the piston assemblies. Sometimes just changing one of the cap securing nuts for a different nut can make the difference (there are two sizes – 5/8" and 21/32"). The pin fit in the piston is set for .0005" (half a thou). The rod to crankshaft clearance should be .001" to .002" to allow an oil cushion. The babbitt in the rod is grooved in an X pattern to ensure a track for oil flow. When the dipper on the end of the rod hits the oil in the oil pan tray it forces the oil into the hole at the bottom of the cap under high pressure.



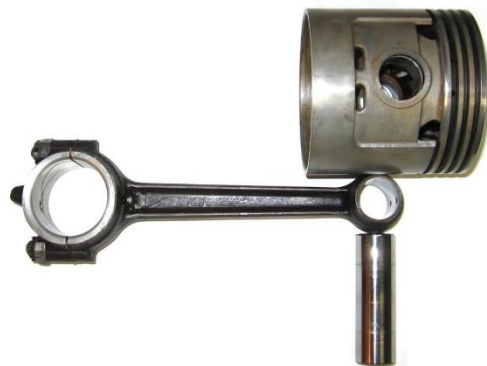
The gram scale and support block hold the "L" brackets and tubes at the same level



The brackets are carefully centered in the rod holes to avoid sideways displacement.



Comparison of 1932 Model B (top) rod to Model A Rod, they are the same length with a 1" piston pin.  
Journals: A = 1-1/2" B = 1/7/8"



The piston, rod, pin and clips weigh about 1455 gram when assembled. The same piston is used for both A and B engines.