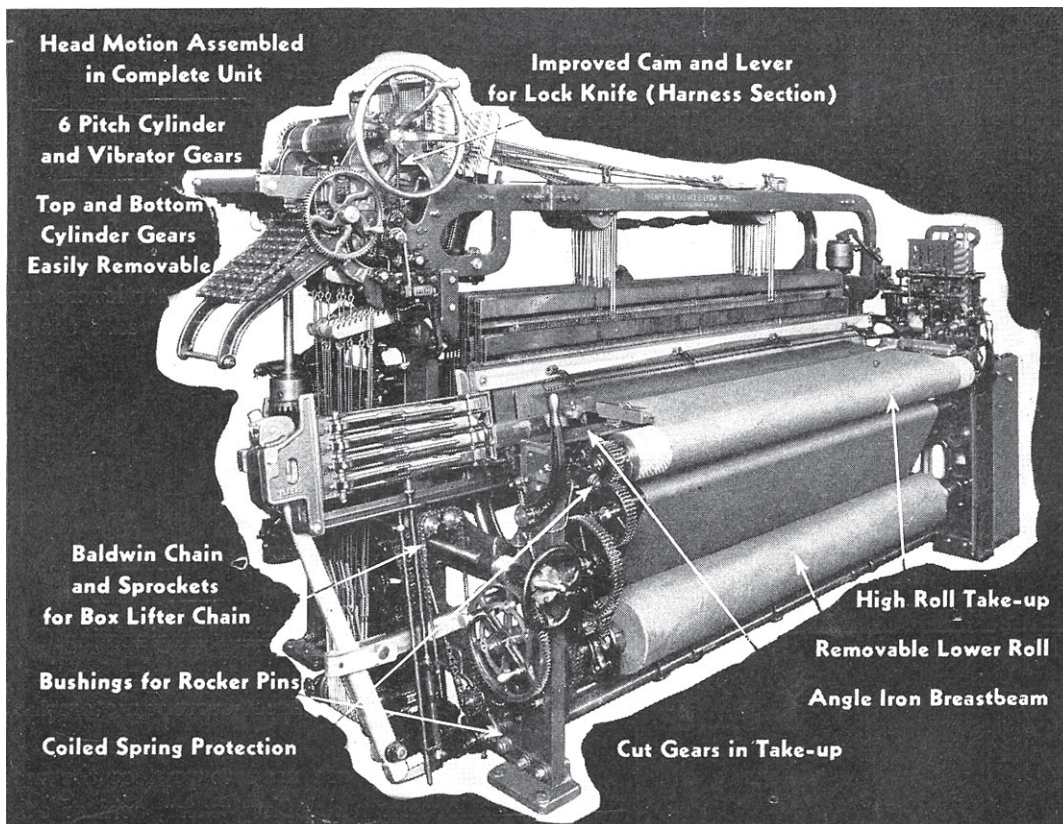


## HIGH SPEED WORSTED LOOM

Crompton & Knowles Loom Works, Worcester, Mass., have brought out a new high speed automatic 4XI box worsted loom for weaving goods from four to twenty ounces. The old 82" worsted loom, with a heavy wor-

ciency at the highest speed. All conditions being perfect, that is, the yarns being of superior qualities, they are hopeful that 160 picks per minute is well within the loom's range.



New High-Speed Automatic Worsted Loom

sted head, ran at approximate speeds of from 100 to 105 picks. With the improved construction in the "Verybest" loom, and roller bearings, they have been recommending 115 to 120 picks, even 130 in some cases. The new loom has been run at speeds of 130, 140, 150, and 160 picks without any observable decrease in loom effi-

The intermediate type of head was primarily selected because it had proved its ability to be operated at high speeds. The 47% harness and box time has also proved satisfactory in the weaving of worsteds. The design of the head is similar to that which was developed for the "Verybest" loom; that is, it is built in a complete unit.

It can be assembled completely before being attached to the loom itself.

The head was improved over the "Verybest" head in some particulars and over the older intermediate head in many particulars. For example, cylinder and vibrator gears have six pitch teeth in place of eight. This change was made for strength and greater wearing qualities. The head is so constructed that, with a minimum amount of work, both the top and bottom cylinder gears can be removed. The bearings of the harness chain shaft are so constructed with machined surfaces that the chain shaft can be easily and accurately adjusted. The design includes an improvement in the operation of the lock knife by means of a cam, which is on the upper cylinder gear shaft. The new head has a 20-harness capacity only, and is 4/10 space.

The effort in driving and shipping has been to simplification. The drive is directly upon the crank shaft, with substantial and simple motor bracket entirely supported from the main loom frame. This eliminates the support to the floor and the tendency of throwing the motor out of alignment.

There are two roller bearings on the bottom shaft; three roller bearings and one double ball thrust bearing on the crank shaft. The thrust bearing is situated on the main frame of the loom and takes all the end thrust of the crank shaft.

The shipping is improved by the elimination of the foot lever brake release and the upright brake rod, by substituting the hand lever brake release. This results

in a lighter and quicker acting shipper motion, and also in the elimination of the parts which were uncomfortably close to the operating parts of the magazine. The loom is equipped with crank and bottom shaft gears on both ends. This helps to steady the head drive and picking.

The take-up roll is directly in front of the breast beam, the top of the roll being directly in line with the fell of the cloth. This location of the take-up roll eliminates some of the back and forth movement of the cloth, sometimes referred to as "sawing". It also prevents some of the shrinkage in width from the reed to the take-up roll. The cloth winding roll is the easily removable type, similar to that used in the silk loom. All of the gears have cut teeth. The take-up is the type known as a positive reverse worm.

The lay beam construction is such that there is an angle iron which runs from the drop box end to the extreme end of the plain end box. The wood is only about one-half the thickness of that used on other worsted looms. The result is that the lay has been lightened and the plain end box strengthened and simplified.

The drop box end is so constructed that the picker race is incorporated into the shuttle box and omitted from the lay end. This results in a much easier adjustment and alignment of the shuttle box to the reed line and race plate; also in lightening the lay end.

The bunter stands are securely fastened to the main frame and to the angle iron breast beam, and have machined surfaces. The bunter levers are backed by coil springs which considerably ease the shock of protection.

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