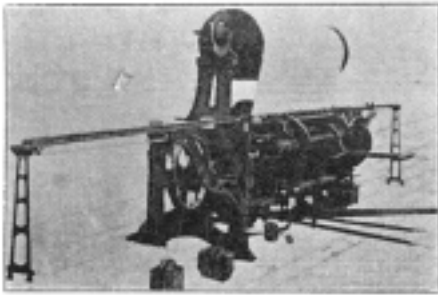


Looms for Weaving Fish Nets

One Machine Does the Work of Scores of Hand Netters

MANY requests have been received by *TEXTILE WORLD JOURNAL* in the past few months for information on fish net machines. The following article has been published by the *Textile Mercury* in answer to similar inquiries and is of sufficient interest to warrant reprinting:

The construction of looms for the netting of fishing nets is not very extensive, and the industry will probably be of most interest as an outlet for the large quantities of cabled yarns produced. Many fishing nets are to-day made entirely by hand, but it is needless to say that hand labor has no possible chance



THE "SAMSON" STRAIGHT SHUTTLE LOOM

of competition with the machine in the manufacture of plain or "dead" netting, as one man with mechanical aid could do the work of scores of hand netters. The enormous quantities of suitable cotton cable yarns ranging from 60/6-ply to 30/24-ply have tended to create specialists in this branch of cotton spinning and doubling. It is safe to say that, fifty years ago, there were as many mills making net yarns as there were makers of 6-fold sewing cottons, and, noting the heavier production of 30/24-ply, the great weights produced will be readily understood. Prominently at that early date at least two very large firms specialized in this trade, and both firms are eminent to-day.

The looms illustrated herewith are manufactured by Richard R. Samson, Bridport, England, and are based on an experience of 35 years. During this period numerous improvements have been made, the builder having availed himself of every opportunity of adopting useful details. These machines are worked by manual power, women operating the smaller sizes and men the larger, and they are capable of netting 50 to 60 yards of herring net per day, or over 300 yards per week, while in the case of mackerel nets, in which the mesh is larger, a machine worked by one man can turn out weekly as many as 400 yards of 300 to 400 meshes in width. Much, however, depends on the skill and experience of the worker.

It is not practicable to construct a loom to produce every size of mesh that occurs in the trade; therefore these looms are generally worked in sets or

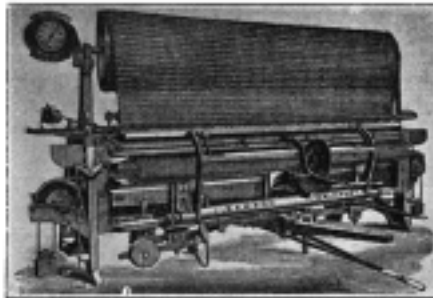
assortments. Thus, in a modern net factory, some of the looms are constructed to make coarse-mesh nets, while other looms make nets having from 20 to 40 rows of knots to the yard, and, again, others are used exclusively on finer meshed nets: the assortment is varied according to the number of looms at work, the variety of nets made, etc.

MAKE A LOCK KNOT

The machines are very intricate in mechanism, and it would be impossible to give a detailed description without numerous diagrams of the various parts; the general plan, however, is as follows:

There are several series of flat hooks, capable, by the action of machinery, of passing each other somewhat in the same manner as the bent fingers of one hand can be passed or interdigitated between those of the other. Two of these rows are horizontal, and one is perpendicular. By the action of the machine the whole row of loops previously formed can be passed at once from one of the series of hooks to the other, and also in an ingenious manner twisted in transit.

The lower hooks are capable of being pulled down to any required depth, and as they carry the cord required for the new row of loops in progress, regulate the size of the mesh. The knot is completed by a long wire shuttle, which conveys the cord through the previously made loops while they are held in position and twisted by the interdigitating hooks of the machine. These looms make what is termed a "lock knot," and not a "slip knot," and they tie the knots



THE "SAMSON" CIRCULAR SHUTTLE LOOM

longitudinally—that is, in the direction of the length of the net, and not crosswise. This is of great importance, as all nets, after being made, should be strained or stretched, because thereby they wear longer and lie in the water better for fishing purposes. Further, nets with longitudinal knots are more easily and conveniently mended than those with knots tied crosswise. The term "lock knot" is equivalent to the well known weaver's knot.

Each row of loops is formed by a separate cord, which is cut off by a hooked knife at the end when the row

is completed. The meshes, as formed by the machine, are of an even size and regularity that could not be surpassed, it equalled, by the most skilled hand netter.

NETS MADE ANY LENGTH

The nets constructed in this manner can be made of any required length, as they are wound on a cylinder as formed. Those intended for mackerel have from 24 to 29 rows of knots to the yard; those for herrings vary from 30 to 33. Pilchard nets are still smaller in the mesh, reaching 40 rows of knots to the yard; and those for sprats vary from 64 to 66.

Notwithstanding the many improvements, only plain sheets of dead netting can be constructed in this manner, such as the drift or gill nets that are in use for mackerel, herrings, pilchards, sprats, etc., or the lint or central sheet of trawls or plain seine nets. In all cases in which any increase in the number of meshes or in the form of the net is required, hand netting must still be had recourse to. Trawls which have to vary in the number of the meshes every few rows—casting nets, drum nets, bag nets, etc.—must still be made by hand; and it would not be practicable to make square-meshed netting by the aid of these machines, but the efficacy of the latter as regards plain netting is so great that they have almost entirely superseded hand netting, tons of nets weekly being constructed by their aid.