SYLLABUS.

LECTURE 1. THE PREPARATION OF YARNS FOR WEAVING.

Winding; Warping; Warping Creel; Warping Woof; Warping Mill; The Heck; The Horizontal Warping Mill; Sectional Warping; Warp Dressing; Beamming and Sizing; The several kinds of Dressing Frame; Warp Balling and Chaining; Warping Fancy Patterns; Drafting and Drawing; Arrangement of Healds; Casting Out; Striped Healds; The Form of Heald; Slaying, &c., &c.

LECTURE 2. PRINCIPLES OF WEAVING.

The principal movements in Weaving:—Shedding, Picking, and Beating-up; The Take-up and Let-off Motions; Balance Weights and Levers; Balance Regulators; The movement of the going part; The Picking Arrangement; The nature of the several movements; A general review of the Loomb and all its details.

LECTURE 3. HEATING OF THE WEFT.

The conversion of motion in the Loom; Position of Crank; Stroke of Ditto; Eccentricity of Ditto; Motion of going part; Leverage of going part; Position of Sword; Balance of parts and general working.

LECTURE 4. THE PICKING ARRANGEMENT.

The different forms of Picking Motion; The Lever-Pick and various other forms of Under-Pick Motions; The Cone-Pick and other forms of Over-Pick Motions; The method of Drawing Tappets and Picking Plates; The questions of leverage involved; Proper position of Picking Sticks, Spindles, &c., Picking Straps, Check Straps, Buffers, &c., &c.

LECTURE 5. SHUTTLE BOXES.

Circular Shuttle Boxes; Rising Shuttle Boxes; The general character of Boxes; The work they have to do; The different methods of actuating; Skipping Boxes, both rising and circular; Positive and Negative Motions; Chain arrangement; Eccentric arrangement; Cutting or arranging Cards for, &c., &c.

LECTURE 6. SHEDDING MOTIONS.

Tappine Shedding; Inside and outside Tappets; Treadles; Leverage; Position of; Connection with Healds; Form of Tappets; Methods of Drawing; Calculation of Leverage; Depth of Shed, &c., Influence of Shedding upon Cloth; Calculations of Speed, &c., Sectional and Chain Tappets; Under-Motions; Stocks and Bowls; Drawing and Leverage of Ditto, &c., &c.
SYLLABUS.

LECTURE 7.  ...  ...  ...  PAGE 213

DOBBIES AND PATTERN SHEDDING MOTIONS.

The different forms of Dobby: Open Shed; Centre Shed; Bottom Shed; The Mechanical arrangements; Under Motions; Positive Machines; Card Cutting or Pegging Lags for Ditto; The advantages and disadvantages of the several systems.

LECTURE 8.  ...  ...  ...  269

TAKE-UP AND LETTING-OFF MOTIONS.

The several forms of Take-up and Let-off Motions, Positive, Negative, &c.; The advantages and disadvantages of each; The relation of one to the other; Calculations referring to them; The influence upon the cloth; Faults caused by, &c., &c.

LECTURE 9.  ...  ...  ...  304

JACQUARDS AND HARNESSES.

The different systems of Jacquards: Single Lift; Double Lift; Border Machines, &c.; The methods of tying up Harnesses; Straight Harnesses; Centre-figure Ditto; Border Ditto; Pressure or Compound Ditto; Gauze Ditto; Special Damask Ditto, &c., &c.

LECTURE 10.  ...  ...  ...  395

JACQUARD CARD CUTTING AND PATTERN ARRANGEMENT.

Arrangement of patterns on paper for the different systems of Jacquard harnesses; Cutting Cards, &c.; Casting out and all the calculations connected therewith; The use of Design Paper, and all questions connected with the production of patterns on the above-named machines.

LECTURE 11.  ...  ...  ...  479

ADJUNCTS TO THE LOOM.

The various Stop-Motions; Fast and Loose Reeds; Weft Forks; Shuttles; Tension of Yarn; Temples; Shuttle Guards; Selvedge Motions, &c., &c.

LECTURE 12.  ...  ...  ...  484

LOOMS FOR SPECIAL PURPOSES.

Swivel; Dhootie, or Border Swivels; Lappet; Lappet Wheel Cutting; Ribbon and Tape Looms; Tubing; Webbing; Circular Band Weaving; Double Plush, &c., &c.

LECTURE 13.  ...  ...  ...  525

General Summary of all the various Looms; Adjuncts and methods of Weaving.

LECTURE 14.  ...  ...  ...  538

CLOTH DISSECTING.

How to dissect Cloths; Ascertaining Counts; Twist; Take-up in Twist; Strength; Quality; Making design from given cloth; Tests for Wool, Cotton, Jute, Silk, &c.; Proportions of any material in a cloth; Tests for Size, Foreign Matter, &c.; Faults which occur in fabrics, their cause and prevention.