TEXTILE INDUSTRY AT THE VIENNA EXHIBITION.—No. VI.

By Dr. H. Grothe.

Weaving Machinery.—(Continued.)

Having thus glanced at the exhibits connected with silk weaving, we pass on to the whole of the remaining branches, and we feel compelled to speak first of an apparatus exhibited by Mr. George Hodgson, of Bradford. After the roller has been known for hundreds of years, and weaving has been done for as many years according to one well-known method, Mr. George Hodgson comes forward with a new system of weaving by means of rollers without the heddles and reeds, used until now. If we have a roller with two bobbins carrying yarn, and if we run the threads from the roller to the cloth beam, having at each side threads firmly fastened between a bobbin at the side of the roller and the fixed cloth beam, the former threads can be passed through the latter by a simple third or half revolution of the beam, whence above and below the fixed threads a shed is formed through which the shuttle is passed. This idea has been worked out by Mr. Hodgson in the manner represented by the sketch annexed. The ring \( a \), Fig. 1, carries four bobbins, which are provided with springs, and allow there-
Perhaps we may expect more of this apparatus than any one else; but it contains certainly much that is worth the full attention of all interested in textile industry. We shall now speak at once about the other mechanical looms exhibited by Mr. George Hodgson. They are looms with alternate slays, for one colour, for weaves without slays; we can, from personal experience (the author of this article has used a few hundreds of these looms in Italy, Roumania, Spain, Russia, and Turkey), ensure that the looms by this English manufacturer may be employed with advantage for all stuffs, as also for silk, and especially for stuffs with more than one shade, the time of the shuttle changing being being exhibited by Messrs. Platt, Brothers, of Oldham. Although the arrangement of the loom is not essentially new, its commercial success is somewhat greater than we had expected, in view of the interest, so that we shall give on a future occasion a special description of it.

In the American department we find a small mechanical loom, which contains two interesting details, namely, an instantaneous stopping gear for the motion of the shuttles, and another one for the motion of the arms of the picker. According to the pattern-loom at the Exhibition, the arm of the shuttle of the loom, as well as the arms of the picker, are made adjustable. The arrangement of springs acts in a very powerful manner, and appears to offer greater advantages than those formerly adopted. The loom makes 300 picks per minute, and has been constructed, and is exhibited by, the Star Tool Company, of Providence, Rhode Island. Entering now the Swiss department, we meet with a loom for fine jacquets, exhibited by Mr. Caspar Hotzegger, which is as well designed and manufactured as the machines of the same exhibitor already referred to.

Messrs. Escher, Wyss, and Co., of Zurich, have exhibited a loom for weaving figured stuffs with a reed space of 105 centimeters. These looms are arranged for different mountings, and they appear to work with advantage. We should mention here Messrs. Kussmaul and Sons, of Basle, who have exhibited, besides the well-known looms for ribbons, a loom for tapestry with high warp, with jacquard mechanism of 1500 lifting wires (the latter built by the manufacturer of jacquards, Mr. E. T. Grooten, of Geleen); also a loom for the elastic of boots, and another one for braces. The two latter looms are mechanical, and have, with respect to some parts of the arrangement of the warp, to the class of the ribbon looms in which the shuttles are moved across the cloth, a distinction in principle, or in circular guides by means of racks. The arrangements for regulation are of the ordinary kind, and the looms are provided with means for the ordinary stretching contrivance. The execution and workmanship of these looms are excellent.

In the whole of the French department we find but one mechanical loom, namely, that by E. G. Petit-Toulouse, of Homblières. Belgium is represented in this branch of industry by a loom on M. O. F. de Grave's system, which the inventor has adopted and carried out for more than ten years for weaving hand-woven, particularly for certain parts of the looms being exchanged for heavy or for light. For well-arranged hand-looms, De Grave's system may be considered as the best.

The process of weaving, and all necessary tools connected with it, are numerously represented in the German department. We mention here a loom at first with the well-known loom of the Sächische Webstuhlfabrik (formerly Louis Schoenherr) of Chemnitz, which shall fully illustrate and describe this loom, with all its improvements, in an early number, because it is the loom that most clearly claims universal use.

The author of these articles has set to work these looms of Schoenherr for the lightest as well as for the heaviest stuffs; for the closest and for the widest arrangement of the warp; with change of weft; with or without Jacquard machine; and always with the most perfect arrangement. With the exception of the loom of Mr. George Hodgson, no other looms can compete with those of Schoenherr's pattern, which are exhibited by the Sächische Webstuhlfabrik for sail-cloth up to a width of 6 metres. The problems to be considered here are the following: when starting a new width, a whole cloth would be produced, firstly, to guide the shuttle or batten over this passing length uniformly and without oscillation; secondly, to arrange the motion of the loom in such a manner that the shuttle had sufficient time for passing over its way; thirdly, to regulate the action of the picker in such a manner, that its instrument for the driving of the shuttle from one end to the other without forcing it out of its course. All these conditions have an excellent manner. Locks of such a width are now at work at the sail-cloth weaving establishment of Messrs. Bodenmais and Co., of Cologne, and they give highly satisfactory results.

The Sächische Webstuhlfabrik exhibits a new and powerful weaving loom, which may be called the invention of buckskin, this being provided with a new and patented weft-stopping motion of a very simple and very effective kind. The invention was founded in 1851, and employs at the present time about 700 workmen. The importance of the invention was somewhat lessened by the Exhibition of Paris, where it was found that the looms of Normandy, and especially those exhibited by the English manufacturers, Messrs. Sternickel and Gülscher, of Biais, but we are sorry to say in a manner not at all properly...
Cotton and Mixed Stuff.—Star Tool Company; Honagge; Neher, Wynn, and Co.; Jivensy; Hodgson; Tannenberg Cotton Works; Schmidt and Schoo.

4. For Ribbons, Kilastics, &c.
Tonnar; Rüder Arst; Kussmaul and Son.