

NARROW TEXTILE FABRICS.

EXTENT AND SIGNIFICANCE OF THE TERM. — PORTRAIT OF MR. WILLIAM H. HORSTMANN. — HIS LIFE AND BUSINESS CAREER. — INTRODUCES THE JACQUARD LOOM INTO THE UNITED STATES. — CONTRAST OF HIS EARLY WORK AND THE PRESENT CONCERN. — THE DEPARTMENTS OF W. H. HORSTMANN AND SONS' ESTABLISHMENT. — MATERIAL ROOM. — SPOOLING ROOM. — ENGINE, MACHINE SHOP, AND CARPENTER SHOP. — SWORD DEPARTMENT. — TASSEL ROOM. — POWER LOOM, COACH LACE, AND OTHER WEAVING ROOMS. — SILK ROOM. — SALES DEPARTMENTS. — LADIES' DRESS TRIMMINGS. — NOTIONS AND SMALL WARES. — HOSIERY AND GLOVES. — ZEPHYR WOOLS AND EMBROIDERY. — UPHOLSTERY AND CARRIAGE TRIMMINGS. — FLAG ROOM. — MILITARY, REGALIA, AND THEATRICAL GOODS. — GENERAL IMPRESSIONS FROM VIEWING THE ESTABLISHMENT.

The title of this chapter is far more comprehensive than might at first be imagined. It includes goods woven from all the various textile fibres, — cotton, wool, silk, etc., — in an infinite variety of styles, colors, and patterns, and used for an astonishing variety of purposes. These extend, indeed, literally from the cradle to the grave; for the single firm of William H. Horstmann & Sons, of Philadelphia, from whom much of the information here given has been obtained, furnish narrow woven goods, alike for decorating the toilet and the cradle of the infant, the dresses of ladies and gentlemen, young and old, the upholstering of houses and of carriages, the uniforms and equipments of officers and soldiers, the regalia of all manner of societies, the costumes of the stage, and, last of all, for the melancholy ornaments of the coffin and the funeral.

The history of the origin and progress of this one firm, indeed, of itself shows very strikingly how immense is the demand for their staple articles, besides affording an interesting example of business energy, judgment, and success, and an excellent instance

of a business establishment at once of immense extent, extraordinary variety in production, skilful organization, and sound and safe management.

In the counting-room of their great manufacturing and wholesale establishment, at the corner of Fifth and Cherry Streets, in Philadelphia, hang two interesting memorials, carefully framed and glazed. The oldest of these is a small hand-bill, printed in English and German, dated at Philadelphia in 1793, signed by Mr. Hoeckly, and setting forth that he makes fringe, coach lace, and tassels. The other, which dates to a period about a quarter of a century later, is a well-executed life-size crayon portrait of a young man, with an open, sensible face, a kindly and genial expression, and wearing the high-collared coat of those days. This is a picture of William H. Horstmann, the founder of the present firm of W. H. Horstmann & Sons, and whose name, though he is now deceased, is retained in the firm name from a feeling of filial pride, which is very graceful.

Mr. Horstmann was a native of Cassel, in Germany, and learned the trade of silk-weaving in France. He came to this country in 1815, and established himself in Philadelphia, where he began to manufacture trimmings of various kinds. He married the daughter of Mr. Hoeckly, and she became a faithful and efficient assistant to her husband in his business. Mr. Horstmann's natural talent for invention very soon began to find a field, his first improvement being additional varieties in styles of coach lace, there being only two patterns at that time used in the trade, called the Jefferson pattern and the Monroe pattern. In 1824 he introduced into the United States, from Germany, the use of plaiting or braiding machines, and about the same time he was the first to introduce into this country the use of the Jacquard loom, for weaving patterns in textile fabrics.

Mr. Horstmann's business, under his constant and judicious attention, steadily increased, and in process of time, instead of working in his own little home, with his wife as his only assistant, he was obliged to occupy larger premises, and to employ subordinates. The house where he first established himself in business stood within a few rods of the immense building now occupied by his sons. He did not, however, live to see the erection of this extensive and complete combination of manufactory, ware-room, and sales-room.

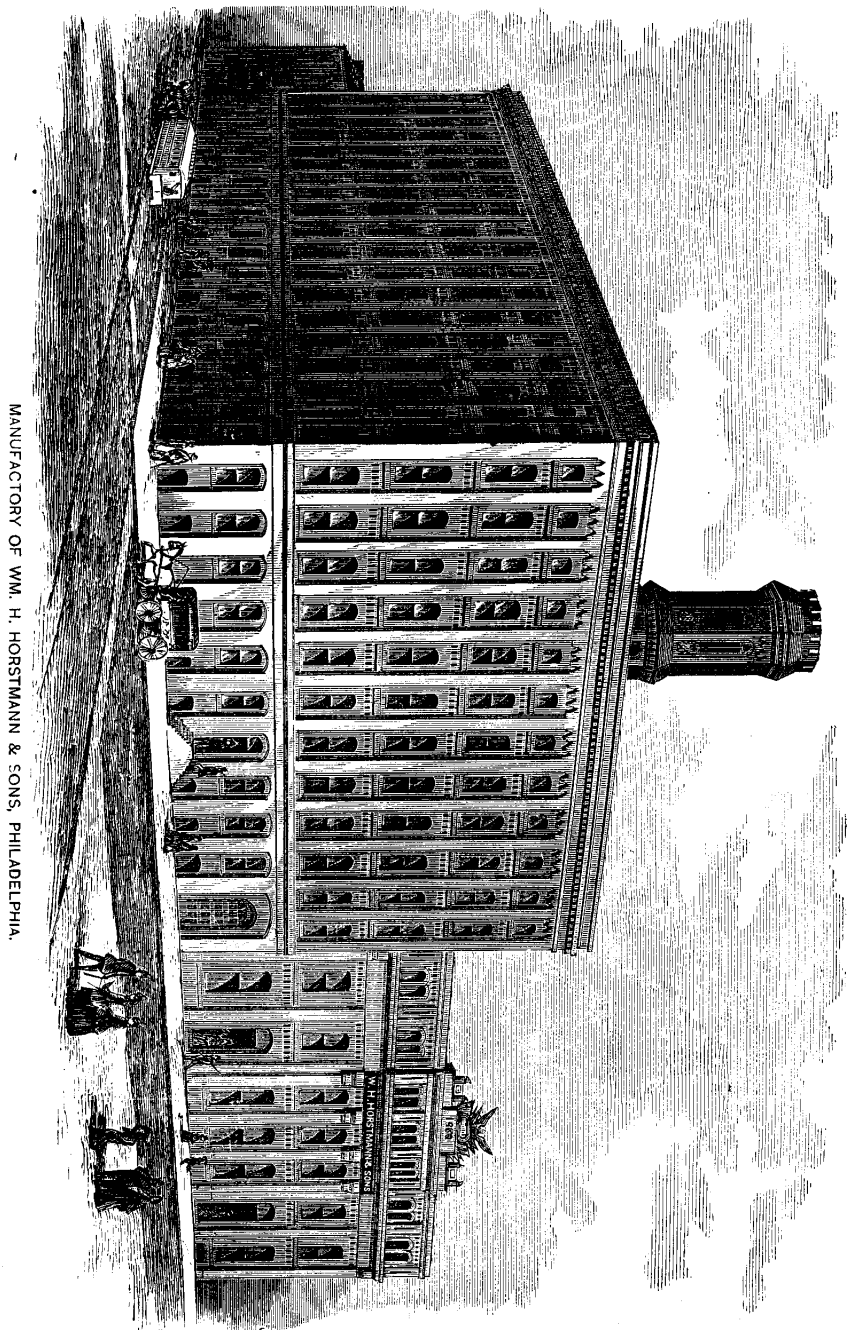
During the half century and more which has passed since the

landing of the solitary young German upon our shores, the business which he established, from being simply one workman's supply of one single article of goods, has expanded and developed into a great industrial establishment, employing hundreds and hundreds of hands, wielding a vast capital, and having the highest business reputation and extensive business connections on both sides of the Atlantic. Instead of "coach lace," an article named in two monosyllables, and furnished in two styles, the firm now manufactures or supplies so many articles that the list of the names of goods in a single department fills, in more than one instance, a neat little pamphlet, and in place of one little room stands a massive and imposing structure, six stories high, and stretching for a hundred feet along Cherry Street, and a hundred and forty on Fifth Street. The separate departments into which the manufactory and sales-rooms are organized are thirty or more in number. In place of one single hand-loom, more than a thousand separate looms and machines of all kinds, many of them very costly, a number of them invented, and used expressly and exclusively for the firm, and mainly driven by a powerful steam engine, crowd floor after floor; and the list of materials used in the business includes the chief metallic and textile raw materials of the world, besides numerous subsidiary ones.

A brief enumeration of these departments, and their appearance and contents, will give the best attainable idea of the extent and character of the business of the firm.

We may begin with the "material room" — a basement room, an airy, well-lighted, and excellently ventilated place, as indeed is every part of the premises; it is not a very large room, but frequently, we are told, contains a hundred or two hundred thousand dollars' worth of the costly raw materials used by the firm. One side is filled with a range of shelves, holding an endless assortment of silk, of various tints, spooled and ready for use. In other places are great packs of the delicate grayish-white raw silk, in large twisted hanks, as it is imported; and other masses of other material crowd the rest of the room.

The "spooling room" is next — a long, wide, and roomy place, at one side of which stands a row of frames, placed parallel to each other, like the benches in a country lecture-room. Each of these carries a number of the "spools," and all together they give room to wind about three hundred and fifty spools at once. The other half of the length of the room is occupied by what looks



MANUFACTORY OF WM. H. HORSTMANN & SONS, PHILADELPHIA.

like a miniature ropewalk, — and so it is, we are told, — a “cord-walk,” where silk cord is made.

We glance at the steam engine, — of fifty horse-power, — and chat a moment with the engineer, a powerfully-built and sensible man, to whom we speak of the last steamboat explosion, and of a theory published a day or two after it that it was caused by oil in the boiler. The engineer laughs, and in half a dozen words shows how the ordinary working of the engine must constantly be carrying more or less oil directly into the boiler all the time; and, he says, it is a very common practice to put oil in on purpose, to help clean out the inside of the boiler. He remembers, when he was younger, that he has seen his chief pick up a dead hog in the street, and fling the body whole into the boiler, that the fat might operate in this way.

Then we go into the machine shop, where a thoughtful, slender man is setting up a machine newly invented by him for the use of the firm. We chat a little with him, and find him a thorough lover of mechanics and inventions. He says it is better not to take out patents for improved machines, because the model shows some smart, piratical fellow how to evade your patent, or how to surpass your invention; but if you simply hold your tongue, keep your machine to yourself, run it for your own purposes, and avoid showing it, you may have the good of it, and you are sure to avoid the hateful and almost inevitable warfare of infringement suits.

Next, — for we are not following the course of the manufactured material, but taking the departments as they come conveniently, one after another, — after a glance at the carpenter’s and turner’s shop, we enter the sword department, which furnishes regulation swords of all kinds, for army or navy, cutlasses, rapiers, foils, the showy weapons used by secret and other societies, etc., etc., completely finished, with hilt, scabbard, belt, and all the trappings. This seems a business rather aside from the peaceful purposes of the loom. But the sword business grew naturally and immediately out of the established army and navy goods department of the firm, the sword-belt and other trappings requiring to be furnished all complete along with the weapon. The blades are not forged on the premises, of course; but are all, or most of them, of all kinds, imported from the ancient German sword-blade emporium of Solingen, where, it is said, swords have been made ever since the year 1147, when Count Adolphus of Berg brought home from

the East, and established there the business of forging Damascus blades. We examine a magazine of some thousands of blades, of forty or fifty different patterns and sizes, waiting to be set and finished; the rooms where the hilts are made, and the engraving, gilding, chasing, etc., executed; we wonder at the infinity of small fixtures used; we begin to count up the different pieces of a completed sword, and find that there are between thirty and forty in the sword and scabbard alone, without belt or accoutrements of any kind. How costly a sword would the firm furnish? "O," says our guide, with a smile, "we will furnish one as costly as required. A presentation sword could easily enough be made to cost thousands of dollars, by setting the hilt, for instance, with a sufficient quantity of diamonds. But four or five hundred dollars, as things go, would be a price for the finest kind of presentation sword."

We cross from this abode of Mars to the more peaceful precincts of the weaving rooms. We examine the tassel room, where a whole regiment of bright-looking girls, comfortably seated at low tables, with little machines of various kinds before them, are turning out a most variegated lot of tassels, buttons, and ornaments of all sorts. Watch this young person. She picks up a "button-mould,"—a flattish wooden disk, about as large as a nickel cent,—puts it on a little prong, leads the end of a silk thread to it, and whirls a little crank. The button-mould turns deliberately round once, the bright, glossy silk flies round and round it as it turns, and in far less time than we have used in the description, the wood is completely covered with the shining thread; the girl snips the silk off, dips out a tiny particle of mucilage from a little cup, dexterously gums down the end, picks off the button from the prong, puts it in a basket, and puts on another mould. Of all the hundred or more hands at work in the room, hardly any two are at work on the same kind of goods. Sometimes they are all making the same. If we come in to-morrow, a totally different set of articles may be in hand. Here at one end of the room some epaulets and pompons are being made; and our guide informs us that of the two or three elderly people sitting at this work, one has been twenty years employed by the firm, and another forty years. Perhaps this long endurance of such relations is not less creditable to the powerful firm than its power itself, or its own long duration.

We pass to the power-loom rooms, one for coach lace and one

for other styles of weaving. In these two great rooms nearly two hundred and fifty of these costly machines are set up, of which a goodly proportion are banging away in the exercise of their vocation, and doing good work too, though greatly to the interruption of mere talk. We watch for a long time the growth of the patterns in various fabrics that are coming through the Jacquard looms, whose long festoons of perforated cards, hung up above, are quietly pouring over and over, in an endless chain, each strip of pasteboard, as it lifts one selection of wires and leaves another, according to the requirements of the design below, repeating and perpetuating the singularly ingenious conception of the dead Joseph Jacquard, and of his predecessor, Vaucanson, — thoughts of seventy-five and one hundred years ago, but here set forth over again, millions and millions of times every year, somewhat as the Asiatic idolater believes that every whirl of his "praying machine" is credited to his account, as one repetition of the prayer printed on its circumference.

The coach-lace room is to the same general effect, though the looms are smaller, and the process of weaving less elaborate. The braiding machines detain us long, with the magical dance of their whirling bobbins, a wonderfully intelligent-looking combination. The cord to be covered with braid is drawn deliberately through an opening in the middle of a flat, circular, metallic plate, perhaps fifteen inches across. Up to a point on this cord, about a foot above the plate, the threads of the braided material converge to it, like the ribs of a tent-roof, and there they weave in and out, and out and in, as the coating of glossy braid steadily grows, and the completely covered cord rises and rises, and is wound away above. The weaving is accomplished by the motion of the spools below, that carry the different threads of the braid. These spools stand in uprights, which are carried round and amongst each other in curved slots, in the broad metallic plate aforesaid. All but two of these spools dance in and out among each other, with a swift, easy, intricate motion, like the "ladies' chain" of a cotillon, but so rapid that the eye can hardly follow it; while one or two special spools dart steadily round and round among their twisting brethren, so swiftly that you cannot conceive why they never interfere. It really looks as if each braid were executed by a population of little spirits, with such a close resemblance to perception and life do they jump about. Our guide evidently enjoys our admiration, but carries us off to see, what he says is even a more in-

telligent-looking mechanism than this. It is a coach-lace loom, with a provision for leaving a layer of close-shorn loops on the right side of the fabric, as is done in Brussels carpeting. These loops are shaped upon a bright steel pin or needle, like a short knitting-needle; and the intelligence in question is applied to the handling of these needles. There are not many of them; and as the fabric passes through the loom, a deliberate, quiet little steel finger and thumb takes needle after needle from a place underneath, glides silently up, and calmly lays them across the threads of the warp just in time to have the loops laid over by them. Perhaps a dozen at once are thus lying together, each in its own range of loops, but never more; for just below, another steel finger and thumb, with the same funny, deliberate certainty of motion, glides up at the other side, nips one needle at a time, pulls it backward out of the web, and deposits it underneath on the band that is to carry it back, to be picked up and put in again. The contrast between the quiet gravity of this proceeding and the abandoned jollity of those furiously-dancing braid-bobbins, has something extremely grotesque in it, over and above the interest of the ingenious mechanism itself.

Well, we examine also the silk room, where the silk is washed, wound, and made ready for use in the looms; the warping room, another room full of narrow-fabric looms; another "cord-walk," clear up at the top of the house, — and everywhere we find the extremest order, perfect cleanliness, abundant light and air, rank after rank of every needful variety of machinery, some clacking and rattling in full headway, others just in preparation; for it may take two or three hands a number of hard days' work to get a single loom ready for weaving some of the more complicated sorts of work; others still waiting quietly for some order suited to their particular capacity; and then we cross over from the manufacturing department to the sales departments.

Extensive as are the manufacturing facilities of the firm, and great as is the range of goods actually made by them, they do, in fact, import and sell — at wholesale always — a very great quantity and variety of articles besides. In fact it is here that the goods offered by the house are to be seen. What has thus far been spoken of is not the goods, but the raw material, the machinery, the processes. So we are taken through another entirely distinct, but almost equally extensive, series of separate departments, crowded from one end to the other with a bewildering va-

riety and quantity of things, varying from the cheapest to the most costly, from the most common matter-of-fact and even solemn to the most unusual, bizarre, and ludicrous. There is the ladies' dress-trimming department, showy with all manner of laces, and fringes, and nets, chignons and switches, and other mysterious adornments; the notions and small wares department, whereof we despair even more to enumerate the contents; the hosiery and glove department; the zephyr wools and embroidery department, where six thousand four hundred different shades of color are shown, including Berlin wool and the greatly admired Germantown wool, both for embroidery; coarser domestic yarns, embroidering silk and chenille, beads of all kinds, and every description of embroidering apparatus, needles, patterns, etc. Here we inquire where the fashions come from. "From Paris and Berlin," is the answer.

Then we see the upholstery and carriage trimming department, with no end of curtains, tassels, cords, laces, gimps, fringes, and trimmings of innumerable kinds. Then comes the flag room, where all sorts of bunting, flags, banners, staffs, and fixtures are on hand, or else promptly executed to order. We suggest that the Fourth of July is likely to make a vacuum in the department, and are told, Yes; and that, moreover, any great public ceremonial of the processional kind is likely to do so, as, for instance, the procession of the Germans in honor of the Prussian victories over the French, which utterly drained the stock of flags, German and other. Of course when such an occasion is appointed, it is a matter of ordinary business forethought to have a quantity of goods made up in readiness.

Lastly, we examine the military, regalia, and theatrical goods department, altogether the queerest and most entertaining of all. In contemplating this extraordinary array of ornaments and disguises, we cannot help considering the interesting and intimate relation between the bloody trade of the soldier and his exceptional supply of outward decorations. Perhaps there is a still more curious parallel to be drawn between the modest splendors of the real military goods and the incomparably greater effulgence of the weapons, trappings, and ornaments which constitute the regalia of the various societies, or the still more glorious display of the theatrical department. The crowns, jewelry, weapons, gold and silver tissues, plumes, and decorations of every kind here displayed would overwhelm the very soul of the spectator were he

ignorant of the true nature of the pecks of glass, and copper, and tin trash that glitter so tremendously at him. The masks, monkey dresses, devil dresses, and other costumes, tights, beards, and theatrical and costumers' materials of every kind, open a whole new world of trade to one not familiar with the exigencies of the stage.

In addition to the departments already described, the firm is represented by two stores in New York, — at 540 Broadway, for the sale of military goods, regalia, etc., and at 412 Broadway for other articles enumerated above. The agency in Paris is at No. 38 Rue Meslay.

Probably there is no other single concern in the United States whose business and business premises, inspected after the manner of the preceding account, would so powerfully impress the spectator with the immense extent and variety existing within even single branches of commercial industry at the present day, and of the wonderfully great number of apparently different sorts of work and of trade which can be carried on in entire harmony, and with large success, within one and the same concern by attention, foresight, energy, and order.

