Ticking is used for mattresses, awnings and tents. In some qualities it is also used as a foundation for embroidery.

White, grey, or brownish warp threads are usually flax, while the coloured threads are often cotton. The weft is flax or tow. The warps of many of the cheaper kinds are made entirely of cotton, and jute is used for weft in the cheapest grades. A feather tick should be made of fine flax yarns set closely, and there should also be a large number of weft threads per inch. Sometimes the inside of the tick is waxed in order to prevent the feathers from working out.

The structure of the fabric is termed a twill, of which four varieties, each showing four units, are illustrated. Fig. ι, the ordinary three- leaf twill, is more extensively used than any other. Occasionally the pattern or twill is in one direction only, but more often the direction is reversed at intervals, thus producing what is technically termed a “ herring-bone ’’ or an “ arrow-head ” twill. Fig. 2 com­plete on twenty-four threads and three picks shows such a pattern, where the twill is reversed every twelve threads. Figs. 3 and 4 are the four-thread and five-thread straight twills respectively, while fig. 5 is the five-thread sateen twill. These two latter weaves require a great number of threads and picks per inch, and are used only in the finest ticks. The plain weave is occasionally used for cheaper varieties.

Mattress ticks and awnings are woven with the same twills, but the colouring of these, especially of the former, is more elaborate.

**TICKNOR, GEORGE** (1791-1871), American educator and author, was born in Boston, Massachusetts, on the ist of August 1791. He received his early education from his father, Elisha Ticknor (1757-1821), who had been principal of the Franklin public school and was a founder of the Massachusetts Mutual Fire Insurance Company, of the system of free primary schools in Boston, and of the first New England savings bank. In 1805 the son entered the junior class at Dartmouth, where he graduated in 1807. During the next three years he studied Latin and Greek with Rev. Dr John Sylvester Gardiner, rector of Trinity, Boston, and a pupil of Dr Samuel Parr. In 1810 Ticknor began the study of law, and he was admitted to the bar in 1813. He opened an office in Boston, but practised for only one year. He went to Europe in 1815 and for nearly two years studed at the university of Göttingen. In 1817 he became Smith professor of French and Spanish languages and literatures (a chair founded in 1816), and professor of belles- lettres at Harvard, and began his work of teaching in 1819 after travel and study in France, Spain and Portugal. During his professorship Ticknor advocated the creation of departments, the grouping of students in divisions according to proficiency, and the establishment of the elective system, and reorganized his own department. In 1835 he resigned. his chair, in ’which he was succeeded in 1836 by Professor H. W. Longfellow; and he was again in Europe in 1835-1838. After his return he devoted himself to the chief work of his life, the history and criticism of Spanish literature, in many respects a new subject at that time even in Europe, there being no adequate treatment of the literature as a whole in Spanish, and both Bouterwek and Sismondi having worked with scanty or second­hand resources. Ticknor developed in his college lectures the scheme of his more permanent work, which he published as the *History of Spanish Literature* (New York and London, 3 vols., 1849). The book is not merely a story of Spanish letters, but, more broadly, of Spanish civilization and manners. The *History* is exhaustive and exact in scholarship, and direct and unpre­tentious in style. It gives many illustrative passages from representative works, and copious bibliographical references. It was soon translated into Spanish (1851-1857) by de Gayangos and de Vedia; French (1864-1872), a poor version by Magnabal; and German (1852-1867), by N. H. Julius and Ferdinand Wolf. The second American edition appeared in 1854; the third corrected and enlarged, in 1863; the fourth, containing the author’s last revision, in 1872, under the supervision of George S. Hillard; and the sixth in 1888. Ticknor had succeeded his father as a member of the Primary School Board in 1822, and held this position until 1825; he was a trustee of the Boston Atheneum in 1823-1832, and was vice-president in 1833; and he was a director (1827-1835) and vice-president (1841-1862) of the Massachusetts Hospital Life Insurance Company, and a trustee of the Massachusetts General Hospital (1826-1830) and of the Boston Provident Institution for Savings (1838- 1850), the bank that his father had helped to found. He was especially active in the establishment of the Boston Public Library (1852), and served in 1852-1866 on its board of trustees, of which he was president in 1865. In its behalf he spent fifteen months abroad in 1856-1857, at his own expense, and to it he gave at various times money and books; a special feature of his plan was a free circulating department. He left to the library his own collection, which was particularly strong in Spanish and Portuguese literatures. He died in Boston on the 26th of January 1871.

Ticknor’s minor works include, besides occasional reviews and papers, *Syllabus of a Course of Lectures on the History and Criticism of Spanish Literature* (1823) ; *Outline of the Principal Events in the Life of General Lafayette* (1825) ; *Remarks on Changes Lately Proposed or Adopted in Harvard University* (1825); *The Remains of Nathan Appleton Haven, with a Memoir of his Life* (1827); *Remarks on the Life and Writings of Daniel Webster* (1831); *Lecture on the Best Methods of Teaching the Living Languages,* delivered, in 1832, before the American Institute of Education; and the *Life of William Hickling Prescott* (1864).

See *Life, Letters and Journals of George Ticknor* (2 vols., 1876), by George S. Hillard and Mrs Anna (Eliot) Ticknor and Miss Anna Eliot Ticknor. This book was edited, with a critical intro­duction, in 1909, by Ferris Greenslet.

**TICKS,** the common name for Arachnida *(q.v.)* belonging to the order Acari, of which they constitute the two families, Ixodidae and Argasidae. Collectively the Ixodidae and Argasidae may be distinguished from other Acari by the presence of a median probe, armed with recurved teeth, which project forwards beneath the mouth and between the palpi, and of a conspicuous spiracular area above and usually behind the base of the fourth leg on each side. As compared with the majority of Acari, ticks are of large size, distended female specimens of some of the species measuring half an inch or more in length, while even the newly hatched young can hardly be regarded as micro­scopical. The integument is tough, leathery or horny. The mouth parts consist of two small retractile mandibles, of a pair of short palpi and of the toothed probe above mentioned. The palpi and probe or hypostome are attached to a movable sclerite or horny plate called the capitulum. The capitulum, with its associated structures, is sometimes called the rostrum, whereas sometimes the term rostrum is restricted to the hypo­stome alone. It is by means of the hypostome that ticks pierce the integument and firmly adhere to the host whose blood they suck for food. The two families Argasidae and Ixodidae may, be distinguished as follows. In the Argasidae the anterior portion of the dorsal surface of the body is extended forwards above the capitulum, so that this structure is concealed from above; the integument is fairly uniformly granular or coriaceous above and below; the palpi are simple and unmodified; there is no sucker beneath the claws in the adult, and there is only a slight structural difference between the sexes. In the Ixodidae the capitulum is not overlapped by a forward extension of the dorsal area, -which is smooth and firmly chitinized either in front or all over; the palpi are usually modified, that is to say, their second and third segments are usually excavated internally to form a sheath for the hypostome; there is a distinct sucker beneath the claws and the difference between the sexes is well marked, the males having the dorsal integument thickly and continuously chitinized, -whereas in the females only its anterior