guard, which would to a considerable extent protect them from this injury.

The next process the little piece of straight wire undergoes is to pierce it near the centre of its length with two little holes, which are to form the eyes of the future needles. This is performed by a stamping machine, which consists of a heavy block of stone, supporting, on its upper surface, a bed of iron; and on this bed is placed the under half of a die or stamp. Above this is suspended a hammer, weighing about 30lbs, which has on its lower surface the other half of the die or impress. The hammer is governed by a lever moved by the foot, so that it can be brought down exactly on the iron bed. The workman, holding in his hand several of the pieces of wire, drops one at a time on the bed-iron of the machine, adjusts it to the die, brings down the upper die upon it by an action of the foot, and allows it to fall into a little desk when done. This he does with such rapidity, that one stamper can stamp four thousand wires, or eight thousand needles in an hour; or nearly a hundred thousand in a day.

The eye of the needle has now to be pierced through; this is effected by boys, each of whom work at a little hand-press. He lays them flat on a small iron bed or slab, holding one end of each wire in his left hand, and bringing the middle of the wire to the middle of the press, exactly under two hardened steel points; he then moves the press, the points descend, and two little bits of steel are cut out of the wire, thereby forming the eyes of two needles. The pieces are then "spitted" by the juvenile labourers, that is, a wire is passed through each of the eye-holes, and when the whole are spitted, they present the appearance of a double-toothed comb. A workman then files down the bur or protuberance left on the side of the eyes by the stamping. The comb of needles is next worked backwards and forwards till it separates, leaving a bunch of needles on each wire.

The needles are now put into the hands of the soft-straightener, generally a female, who rubs them, one by one, on a small steel plate with a curved steel bar; and so quickly in this process performed, that she can straighten thirty or forty thousand needles a day.

It is now necessary that the needles should be hardened and tempered. They are spread in regular thick layers on narrow plates or trays of iron, heated in a furnace, and then immersed in cold water or oil. To temper them they are placed on an iron plate, heated from beneath, and gradually brought to a proper degree of temperature. After this, they again undergo another straightening process, called hammer-straightening, which is performed also by females, who, placing them on a small steel block, give each a small blow in the right direction with a tiny hammer.

The next process is the scouring, which is effected in the following manner;—A strip of very thick canvas is laid open on a bench, and on this a large heap of needles, amounting to perhaps twenty or thirty thousand, is laid; all the needles being parallel one with another. They are then slightly coated with a mixture of emery and oil, and tied up tightly in the canvas, the whole forming a compact mass, about two feet long and two inches in thickness. Twenty-four rolls of needles being thus prepared, comprising nearly six hundred thousand in all, they are placed under the rubbers of the scouring machine; and steam or water power, with a connecting mechanism, gives to the rubbers a backward and forward motion, which causes the needles in each bundle to rub over each other, and, by the continued friction, they are scoured. This is carried on for eight hours, after which they are taken out and washed, placed in pieces of canvas, touched with emery and oil, and subjected again to the process, which is repeated for six or seven times.

The needles are next examined, and all the imperfect ones removed; the points are all turned one way, and the heads are next rounded off by means of grinding wheels as they pass to the polishing wheel, which consists of wood, coated with buff leather, of which the surface is slightly touched with polishing paste. The needles are held against the wheels as they revolve. About a thousand an hour can be polished by one man; and when they have been subjected to this process the needles may be called finished; nothing now remains but to put them up into small packets of twenty-five each, which is performed by children, and they are ready for the market.

Warranted not to cut in the eye. We remember once purchasing of a travelling hawker some needles so described on the outside of the wrapper, and upon opening it found the needles to have no eyes at all. Needles, however, are manufactured with this improvement, which consists of drilling the eye with a very fine instrument, by which its margin becomes as perfectly smooth and brilliant as any other part of the needle. This kind of needle is the pride of the modern needle-manufacturer.

ROBERT ABRAHAM LATE EDITOR OF THE FARMER'S JOURNAL.

(From the Farmer's Journal, Montreal.)

This Gentleman, who has conducted the *Farmer's Journal* from its commencement, and who gave in its pages such earnest evidence of his deep seated interest in agricultural pursuits, died in Montreal on the 10th November, 1851. Mr. Abraham was born in the fine grazing and agricultural county of Cumberland, where he first imbibed that fondness for the country and its pursuits, which show themselves so constantly in his writings, and which did not leave him until the breath of life had left his body, for according to one of his biographers, his thoughts to the very last, wandered among green fields, and beds of flowers cheated his imagination, as he descended the dark path which leads to the valley of the shadow of death. Mr. Abraham was originally a man of robust and herculean frame, and was famous as a young man for excelling in all the manly and athletic sports and exercises, which prevail in the rural districts of the northern counties of England. He took a Degree as Doctor of Medicine in the University of Edinburgh, and