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MANUFACTURE OF LUMBER

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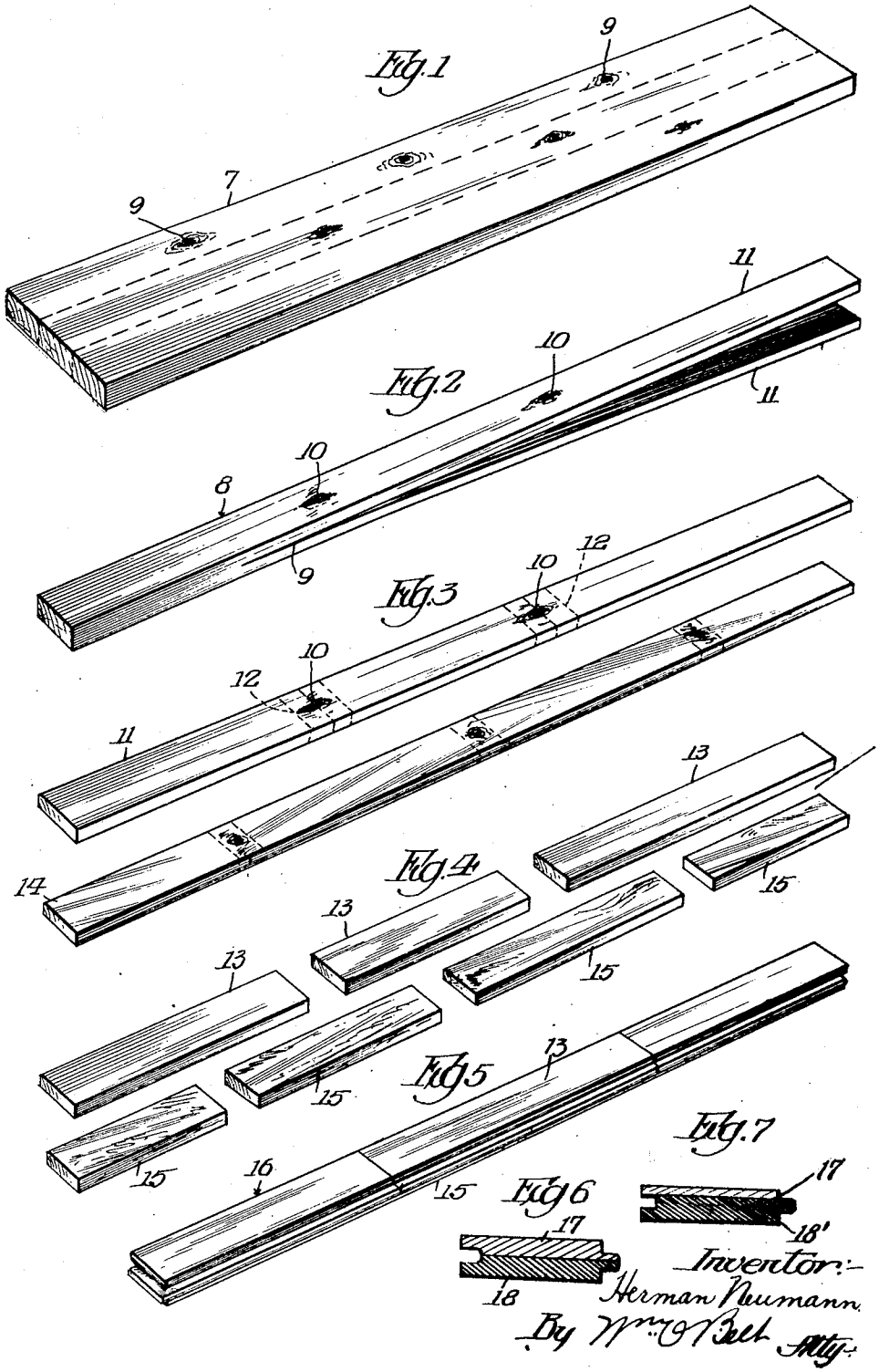

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UNITED STATES PATENT OFFICE

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MANUFACTURE OF LUMBER

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This invention relates to the manufacture of lumber and its object is to improve the method of manufacture so that rough lumber can be made up into finished lumber to the best advantage and more economically and with less waste than the practice has been heretofore.

And a further object of the invention is to enable the use of a given quantity of the better grade of rough lumber in the manufacture of approximately double the quantity of finished lumber having a clear wearing surface and usable for all practical purposes in the same manner and in the same places as ordinary clear finished lumber.

My invention may be used in the manufacture of flooring, siding and other kinds of finished lumber, but for the purposes of this application I believe it will be sufficient to describe it in connection with flooring, and in the accompanying drawings illustrating the invention.

Fig. 1 is a perspective view of a rough board of a relatively high grade as it is cut from the log at the mill, the broken lines indicating where the board is ripped into rough strips.

Fig. 2 is a perspective view of a rough strip, partly split to indicate a step in the manufacture.

Fig. 3 illustrates an upper clear thin strip and a lower poor thin strip with defects, the broken lines indicating where the strips are cut in trimming to remove the defects.

Fig. 4 shows the sections resulting after the defects have been cut from the strips of Fig. 3. The sections are shown in a manner indicating how they will be glued together in assembling the finished strip shown in perspective in Fig. 5.

Figs. 6 and 7 are cross sectional views of the finished strip.

A log is cut into boards 7 of predetermined thickness and these boards are then dried in kilns and later ripped into strips 8 in the usual manner. All of the clear strips, or strips that can be easily trimmed to grade clear, may be sorted out and finished and used for clear lumber; but any strips which have knots, discolorations or other defects are sorted out for additional operations in accordance with my invention. A strip of clear grade and a strip of poor grade, both of the same length, may be split and a clear split strip and a poor split strip glued together with the clear split strip constituting the face and the poor split strip constituting the back of the glued strip. The split strips may be finished first and glued together or the glued strip may be finished.

If a strip 8 has defects 10, for example, it may be split at 9 or otherwise divided by sawing into two or more thin strips 11 and the defects cut out by sawing the strip 11 on the broken lines 12, Fig. 3. This divides the defective thin strip 11 into a plurality of clear thin sections 13, Fig. 4. A similar defective thin strip 14 of a poorer grade of lumber than the thin strip 11 may be similarly trimmed and divided into sections 15, Fig. 4. Clear sections 13 and poorer sections 15 are glued at their ends and opposing faces so that sections 13 may be assembled end to end and sections 15 may be assembled end to end and the clear sections 13 assembled face to face upon the poorer sections 15 with the joints staggered, as shown in Fig. 5. I consider it a convenient method of procedure to build up the finished strip 16, Fig. 5, by assembling a clear section 13 and a poorer section 15 alternately in making an assembled strip and this can go on indefinitely to make a continuous strip, if it should be so desired. For all practical purposes it may be better to make the assemblies in predetermined lengths for more convenient handling. The clear sections may be glued to untrimmed poor lengths if desired.

After the sections have been assembled as described the strip formed thereby is given the usual finishing operations, which in flooring, include tonguing and grooving or otherwise patterning the opposite side edges. The facing 17 formed by the sections 13 and the backing 18 formed by the sections 15, Fig. 6, may be equal in thickness as shown in Fig. 6, or the facing may be thinner than the backing, as shown in Fig. 7, so that the groove and the tongue will be formed by finishing the backing.

Lengths of any grade may be backed with

lengths of poorer grade, and these lengths may be continuous or made up by sections.

It is customary to use many short lengths in flooring according to present practice and therefore it will not be objectionable to have end joints formed by the sections 13; and these are the only joints that appear on the surface of the flooring. The poorer material will be just as satisfactory in backing up the better material as if the entire strip was made of the better lumber; and of course it is known that glued joints can be made as strong as required. Thus my invention enables the use of a relatively small quantity of better lumber in the manufacture of a relatively large quantity of finished lumber which will satisfy the requirements of integral better finished lumber for practically all commercial uses.

I have described my invention especially in connection with flooring and in the manufacture of flooring with a facing of clear lumber and a backing of poorer lumber; but it will be understood, of course, that the invention can be used in the manufacture of other kinds of finished lumber and that any of this lumber can be made of any combination of grades or kinds of lumber in accordance with my invention.

I claim:

1. As a new article of manufacture, an integral strip of lumber having a facing consisting of a plurality of short random length sections joined together end to end, a backing consisting of a plurality of short random length sections joined together end to end, the facing sections and backing sections being joined together with the end joints of said sections staggered, and said strip being finished after it is formed.

2. As a new article of manufacture, an integral strip of lumber having a plurality of facing sections joined together end to end and backing sections joined together end to end, the facing sections and backing sections being joined together with their end joints staggered, said strip being finished after it is formed and provided with a tongue and a groove at its side edges, the tongue and the lower side wall and bottom wall of the groove being formed on the backing sections and the upper side wall of the groove being formed on the facing sections.

3. The herein described method of making an integral strip of finished lumber which consists in cutting transversely a strip of better grade lumber and a strip of poorer grade lumber to remove the defective portions thereof, assembling the resulting random lengths of better grade sections in alignment to form a facing strip and the random lengths of poorer grade sections in alignment to form a backing strip and gluing said sections together at their abutting ends and their abutting faces with the end joints of the facing strip and the end joints of the backing strip staggered, and then finishing the integral strip as a single piece.

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