

1,054,070.

A. WOLOSHIN.
INTERLOCKING FLOOR.
APPLICATION FILED JAN. 2, 1912.

Patented Feb. 25, 1913.

2 SHEETS—SHEET 1.

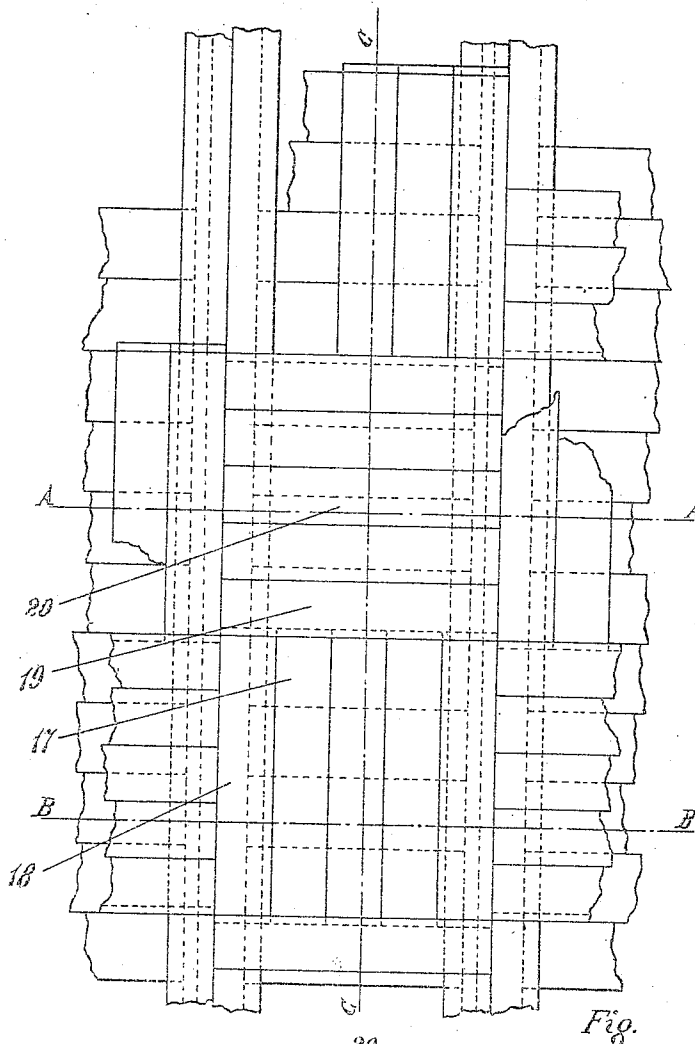


Fig. 1

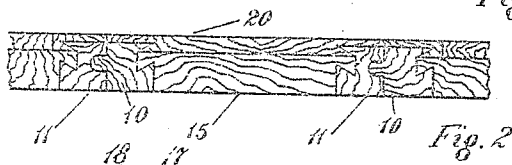


Fig. 2

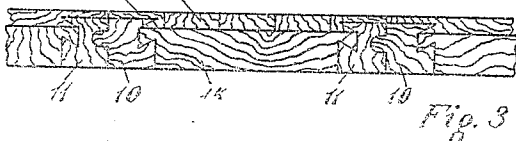


Fig. 3

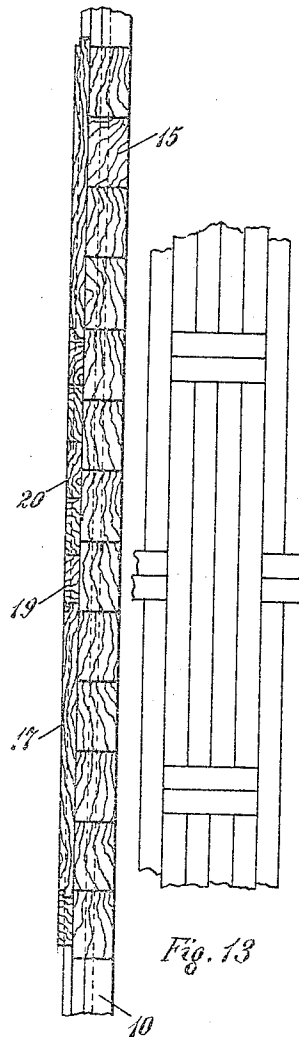


Fig. 4

Fig. 13

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2 SHEETS—SHEET 2.

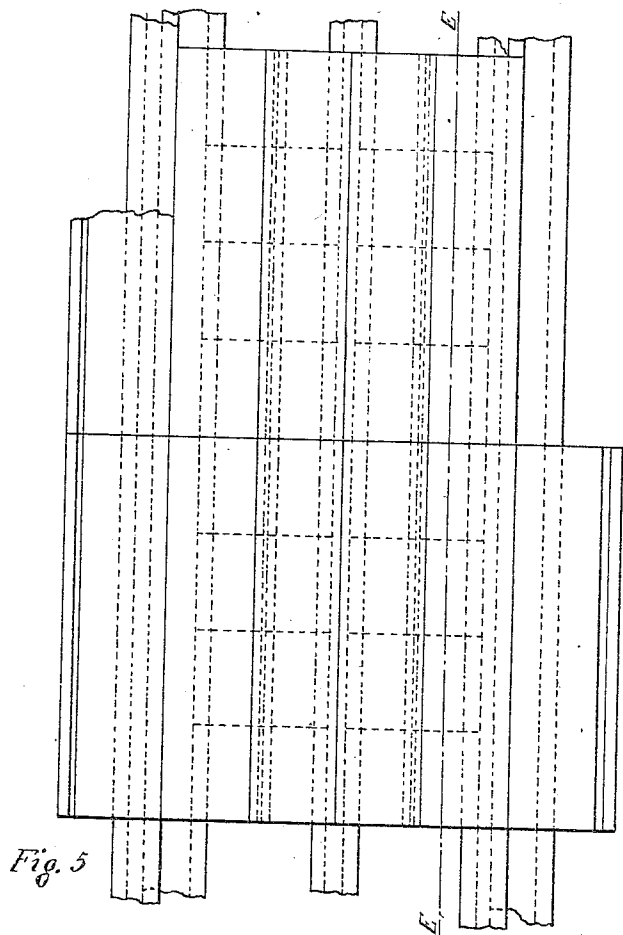


Fig. 5

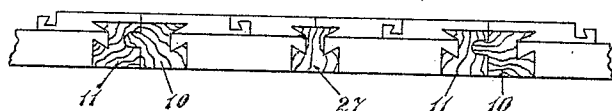


Fig. 6

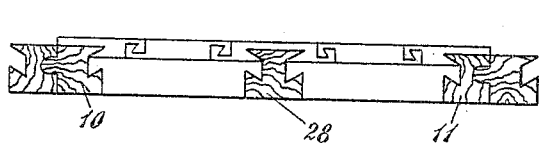


Fig. 7

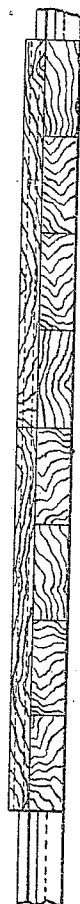


Fig. 8

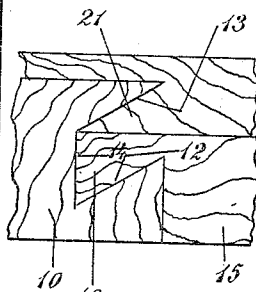


Fig. 9

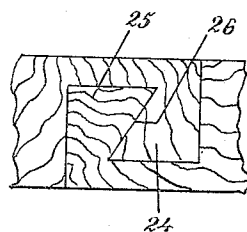


Fig. 10

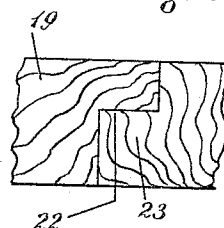


Fig. 11

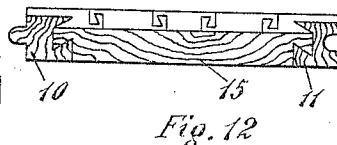


Fig. 12

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UNITED STATES PATENT OFFICE.

AARON WOLOSCHIN, OF NEW YORK, N. Y.

INTERLOCKING FLOOR.

1,054,070.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed January 2, 1912. Serial No. 639,124.

To all whom it may concern:

Be it known that I, AARON WOLOSCHIN, a subject of the Czar of Russia, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Interlocking Floors, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates more particularly to parquet floors, and its primary object is to provide a compact and durable form of flooring which shall be easily assembled, and in which the different composing parts shall be securely held in place and interlocking relation to each other.

A further object of this invention is to provide a flooring capable of being readily laid in place by unskilled labor, and capable therefore of effecting a considerable saving over the usual form of parquet flooring, and of affording convenient means for reducing the time required in building operations.

A still further object is to provide a parquet flooring comprising two different strata of wood, one forming the body of the floor in substitution of the under-floor commonly provided, and the other, of more expensive material, forming the surface of the floor proper, held together by means of special joints, which I have to this end devised.

With these and other objects in view, as will more fully appear as the description proceeds, my invention consists in certain constructions and arrangements of parts as will be hereinafter fully described, and claimed in the appended claims.

Referring to the drawings, in which the section lines indicate the direction of the wood grain, Figure 1 is a plan view, partly broken away, illustrating the construction and assembling of my improved flooring in its preferred form; Fig. 2 is a sectional view in elevation through the line A A of Fig. 1; Fig. 3 is a sectional view in elevation through the line B B of Fig. 1; Fig. 4 is a sectional view in elevation through the line C C of Fig. 1; Fig. 5 is a plan view, partly broken away, of a modified form of my improved flooring; Fig. 6 is a front view of the same, partly sectioned; Fig. 7 is a front view in elevation, partly sectioned, of a flooring similar to that illustrated in Figs. 5 and 6, but having each section composed

of five instead of four elements; Fig. 8 is a side sectional view in elevation through line E E of Fig. 5; Fig. 9 is a detail sectional view in elevation illustrating my novel joint for assembling the various elements of the flooring with the longitudinal strips forming the skeleton of the same; Fig. 10 is a detail sectional view in elevation illustrating the side locking of the longitudinal elements forming the floor shown in Figs. 5 to 8; Fig. 11 is a detail sectional view in elevation illustrating the manner of locking the ends of the longitudinally running elements in the floor shown in Figs. 1 to 4; Fig. 12 is a sectional view in elevation of a floor of the type shown in Fig. 1, in which the longitudinal elements are side interlocked in the manner shown in Fig. 10, and locked endwise in the manner shown in Fig. 11; and Fig. 13 is a plan view, in a reduced scale, of a floor in which I prefer to embody all the features illustrated in Figs. 9 to 11, such as shown in section in Fig. 12.

In laying parquet floors, it is common practice to prepare an under floor, and then to build the floor over it, fitting the same piece by piece; this work requires skilled labor and is rather slow.

My improved interlocking floor consists, essentially, of a number of group sections arranged side by side, each section comprising two longitudinal guides or runners 10, 11, adapted to interlock with, and to be retained by part of the elementary sections composing the floor, and to interlock with, and to retain, the remaining sections. To this end, along the inner surface of said runners, I provide a groove, the sectional outline of which is adapted to match with the joint outline of the tenons or fillers provided in said sections. Said sectional outline may assume vastly different forms, the one which I prefer to use being clearly shown in Fig. 9. In this, the section of the groove is represented by two downwardly inclined surfaces, preferably parallel 12, 13, and a bottom 14. The lower part of the groove is occupied by the end tenon 16 of primary base sections 15. These primary base sections are inserted and slid through the grooves in side runners 10, 11, and completely fill the lower part of the space left between the same. In this manner I practically provide an underfloor which is well suited to serve as a base for the upper sec-

tions forming the floor. Sections 15 are therefore solid and substantial in construction, but do not need to be made out of an expensive wood; the same, as shown in the drawings, are considerably thicker than the primary upper sections 17, 18, 19, 20. When all the sections 15 have been assembled, the remaining part of the grooves of runners 10, 11 of the same set, jointly form a dovetailed space between the upper surface of parts 15 and the upper surface of the runners; by suitably forming the lower part of the upper floor sections, I utilize the said dovetailed space for assembling and retaining the same.

The foremost advantage of this construction is that each individual section going to compose a floor can be assembled, glued, scraped, finished and varnished complete in the factory, instead of being laid down in place and assembled piece by piece. It is obvious that floors thus produced can be manufactured at a lower cost, and exactly according to specifications; and the time required to put the same in operation will be immensely reduced. As a direct consequence of my improved method of making floors composed of factory produced individual sections, a further advantage is obtained from the fact that building operations will require less time than heretofore employed, inasmuch as the finishing and the decorating of the interior of a building will not be delayed by the operations now required in the making of the floors. Another advantage resulting from my improved construction lies in the prolonged life of a floor; in fact in floors of the usual construction the sections composing the same do usually warp and go out of place, in many instances on account of the dampness of the underlying concrete; with my floor, the concrete can be allowed to become perfectly dry before laying the floor, without lengthening building operations, and moreover the warping of the different pieces is further prevented by the fact that the same are closely interlocking with each other.

A number of different floor designs can thus be obtained, two of the most representative ones being illustrated in the drawings.

Where the floor is composed of transverse and of longitudinal sections, as is the case in the floor illustrated in Fig. 1, I have, mounted in each set of runners 10, 11, pluralities of primary upper longitudinal sections 17, 18, arranged side by side, filling a transverse space between the runners, equal to their own length; at each end of longitudinal sections 17, 18, I provide one or more primary upper transverse sections 19, 20, according to the design desired, and then I again insert a plurality of longitudinal

sections. In the floor represented in Fig. 1, in which the transverse sections are arranged so as to fill spaces equal to the length of the longitudinal sections, I obtain a chess-board effect. In this style of floor, the primary upper transverse sections are retained in position by dovetailing their lower portion as seen in 21, so as to fill the remaining space between the runners; the upper portion of said sections is long enough to completely cover the surface of the runners, which will thus be concealed from view. If preferred, however, and for the purpose of obtaining a different floor design, the top of the primary upper sections, 19 can be made flush with the upper surface of runners 10, 11. The outer side of the exterior primary upper transverse sections is formed with a recess 22, which in the assembling will be filled by projecting parts or tenons 23 provided at the ends of primary upper longitudinal sections 17, 18; these will therefore be positively retained in place by said primary upper transverse sections. Each of the exterior primary upper longitudinal sections 18 located at opposite sides of each group of longitudinal sections is furthermore shaped on its outer side or edge in such manner as to fill the free part of the corresponding groove in the adjacent runner 10 or 11, while the intermediate longitudinal sections 17 are simply provided with tenons or projections 23 at the ends. A pair of runners 10, 11, a lower stratum comprising a plurality of primary base sections 15 filling the lower part of the space between the same, and an upper stratum comprising a plurality of primary upper sections 17 and 18, or 19 and 20, filling the upper part of the space between the runners, and covering the same so as to come flush with their outer surface, form therefore a complete group section of the floor. Each group section thus formed is joined to the adjacent ones in any suitable manner, for instance by means of a male and female joint, as illustrated in the drawings; in these, runners 10 are formed with the male portion of the joint, while runners 11 are formed with the female portion.

In assembling my improved floor, it is of course better to glue the different parts together; this renders the floor very strong and durable, and practically indestructible. In a floor formed with longitudinal primary upper sections only, such as represented in Fig. 5, I provide means for interlocking the different sections together side by side, there being no means for holding the sections endwise; for this purpose, I find that the joint illustrated in detail in Fig. 10 is much more effective than a simple male and female joint. In my improved joint, the two interlocking sections are

formed in the shape of registering hooks 24, 25, having inclined meeting surfaces 26; any tendency of the floor to bulge, or of the sections to separate, is positively prevented by this joint, on account of the reciprocal action of the hooks and of the dove-tailed housings engaged thereby. In this style of floor I prefer to reinforce the construction by means of the use of intermediate runners 27, 28, as seen in Figs. 6 and 7; these are provided on both sides with grooves similar in principle and in operation to those of runners 10, 11.

Fig. 6 shows a construction of floor in which four longitudinal strips are used for each section; and Fig. 7 shows a similar floor in which there are five strips used, the center strip being formed with a dovetailed groove adapted to receive the top of intermediate runner 28.

In some floor constructions comprising also primary upper transverse sections, and especially where the longitudinal sections are very long in proportion to their width, I prefer to also connect the longitudinal sections side by side as shown in Fig. 10, in addition to securing their ends in the manner illustrated in Fig. 11; such a floor is illustrated in section in Fig. 12, and one of the designs where this construction is well adapted is shown in a reduced scale in Fig. 13.

My interlocking floor can be made of any suitable material besides wood, its construction being also well suited for rubber tiling and flooring, composition, and the like; therefore I do not wish to limit myself to the use of any particular material.

From the foregoing it is seen that I provide a novel construction of interlocking floors, and novel means for joining the different elements composing the same; in the various arrangements described, the lower sections are used to retain the runners, and the upper sections are retained thereby. The reason for this is that, assuming that the upper sections be made of finer and costlier material, the thickness of the same will have to be kept as much as possible within narrow limits; it is therefore better that the interlocking part of the same be constituted by the dove-tailed male section, in which the inner points are the strongest. On the other hand it can be seen, that in order to provide a hook joint such as adopted in connection with the lower sections having the same strength, it would be necessary to use a thicker material. It is obvious however, that the ways of joining the upper and lower sections can be inverted, without materially departing from the spirit of my invention. My improved floor is also suitable for being assembled in place with single runners such as illustrated in 27, 28; and in this connection

it may also be stated, that since the lower sections are the first ones to be laid down, it is preferable that the same be used to retain in position the extra loose runners, inasmuch as the fact that the runners cannot free themselves from the elementary sections is one of the important factors in insuring the ease and speed in the operation.

Having thus described and ascertained the nature of my invention, what I claim as new, and desire to secure by Letters Patent of the United States is:

1. A floor composed of group sections, each comprising two side runners, a strata of primary base sections having their lower face flush with the lower face of said runners, and a strata of primary upper sections lying directly on said base sections, said two strata of primary sections being jointly interlocking with, and retained by said runners; substantially as set forth.

2. A floor composed of a plurality of runners, a strata of primary base sections having their lower face flush with the lower face of said runners interlocking with, and retaining said runners in a fixed relation to each other, and a strata of primary upper sections lying directly over said base sections interlocking with, and retained in position by said runners; substantially as set forth.

3. In an interlocking floor, a plurality of longitudinal primary sections forming an even surface and interlocking side by side, their sides being formed with reciprocally interlocking hook formed tenons and grooves, the outer face of each of said tenons and the inner face of each of said grooves being substantially at right angles to the surface of said sections, and the inner face of said tenons and the outer face of each of said grooves registering therewith being inclined so as to form a dove-tailed joint; substantially as set forth.

4. A floor composed of a plurality of independent group sections, each comprising two side runners provided with a groove along their inner surfaces having two sides inclined in about the same direction, a plurality of primary base sections provided with tenons registering with the lower part of said grooves, and a plurality of primary upper sections provided with tenons registering with the remaining portion of said grooves; substantially as set forth.

5. In an interlocking floor, and in combination with a plurality of primary base sections, and a plurality of primary upper sections, runners interlocking therewith having grooves along their inner faces, said grooves having two sides inclined in about the same direction; for the purposes as set forth.

6. In an interlocking floor, and in combination with side runners, primary floor sec-

tions formed of transverse primary sections interlocking with and retained by said runners, and primary floor sections composed of exterior longitudinal primary sections interlocking with and retained by said runners and by the outer transverse primary sections of the adjacent primary floor section, and of interior longitudinal primary sections interlocking with and retained by said outer transverse primary sections; substantially as set forth.

7. A floor composed of independent group sections interlocking with each other, each comprising two side runners provided with a groove having two surfaces inclined in about the same direction, along their inner faces, a plurality of primary base sections provided with tenons which engage the lower portion of said grooves and are retained by the same, upper floor sections comprising a plurality of transverse primary sections having tenons registering with and retained by the remaining portion of said grooves, and upper floor sections comprising a plurality of longitudinal primary sections retained in position by the outer transverse

primary sections of adjacent floor sections; substantially as set forth.

8. The combination of a plurality of independent group sections interlocking with each other to form a floor, each comprising two side runners provided with a groove having two downwardly inclined sides along their inner faces, a plurality of primary base sections provided with tenons interlocking with, and retained in the lower portion of said grooves, upper floor sections comprising a plurality of transverse primary sections having a male dovetailed portion engaging the remaining portion of said grooves and retained thereby, and upper floor sections comprising a plurality of interlocking longitudinal primary sections retained in position by the outer transverse primary sections of adjacent floor sections; substantially as described, and for the purposes as set forth.

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