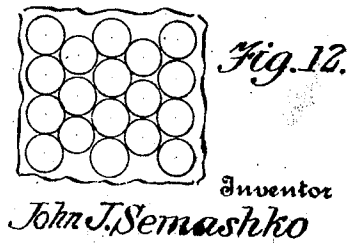
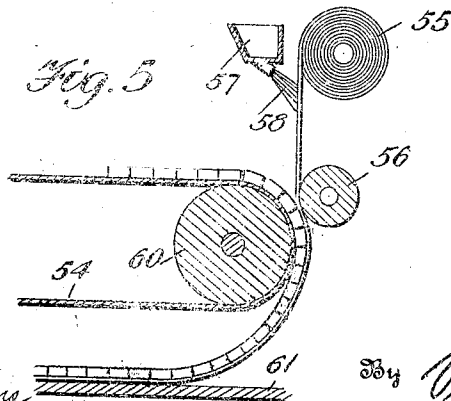
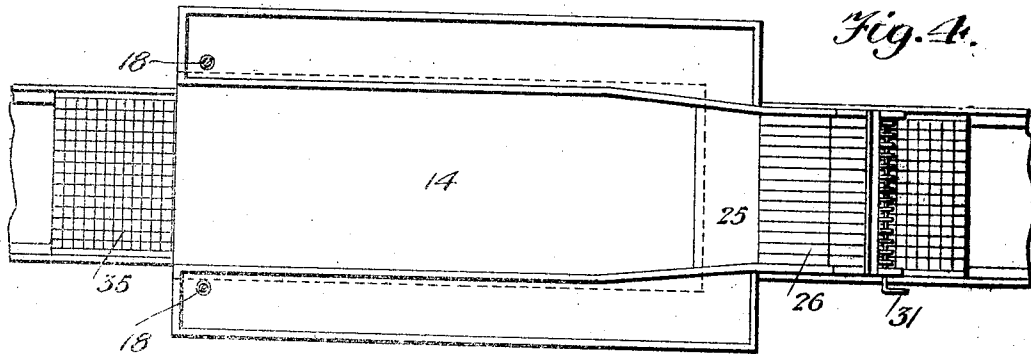
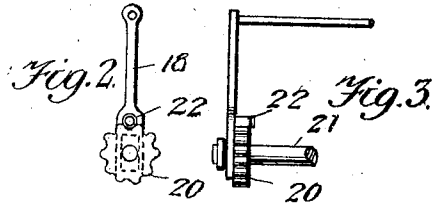
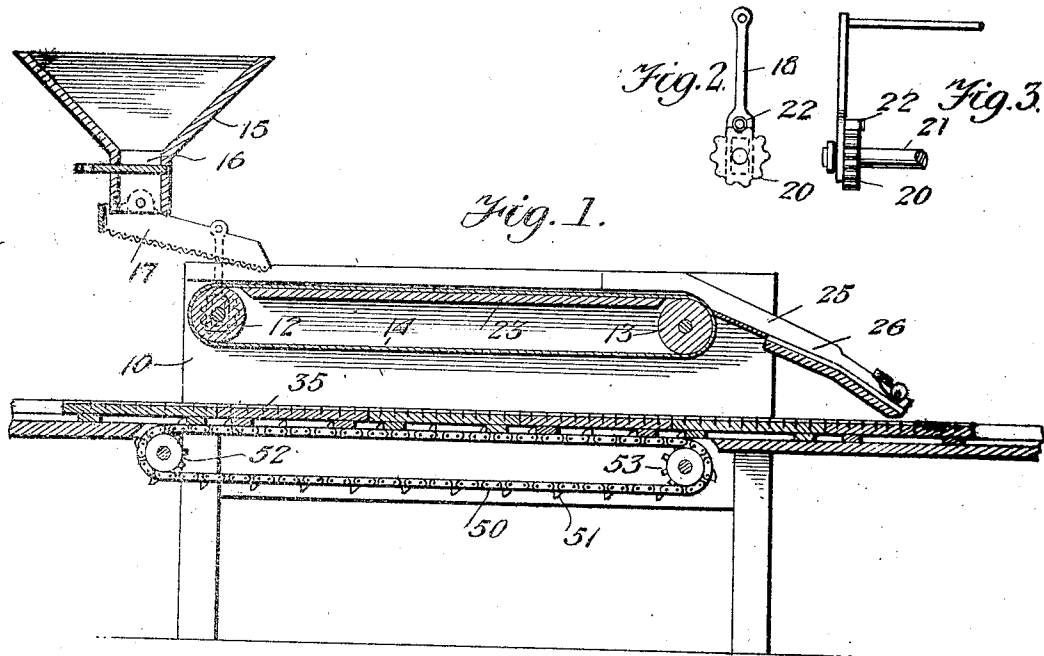


J. J. SEMASHKO.  
MACHINE FOR ASSEMBLING TILES.  
APPLICATION FILED MAY 7, 1918.

1,315,166.

Patented Sept. 2, 1919.  
3 SHEETS—SHEET 1.



Witness.

J. M. Burns

By Victor J. Evans

CHAS. H. KIMBALL

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Fig. 6.

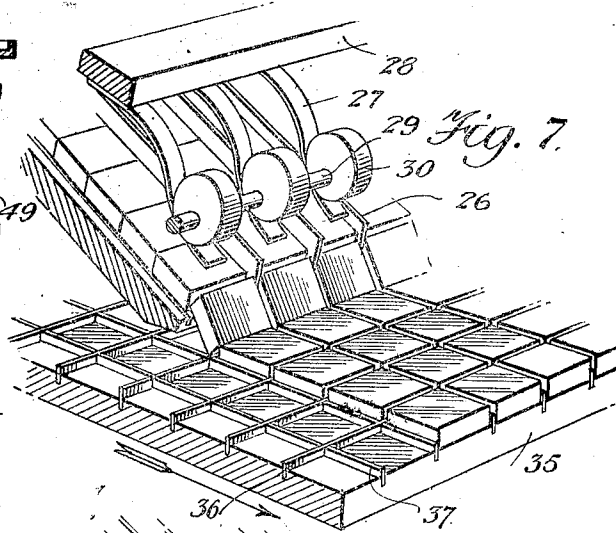
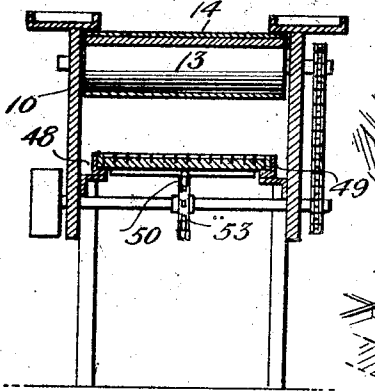


Fig. 10.

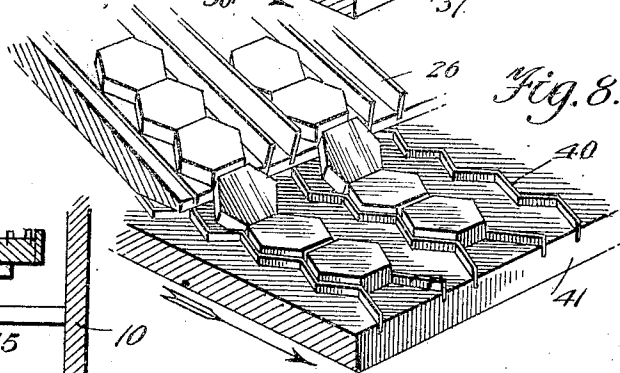
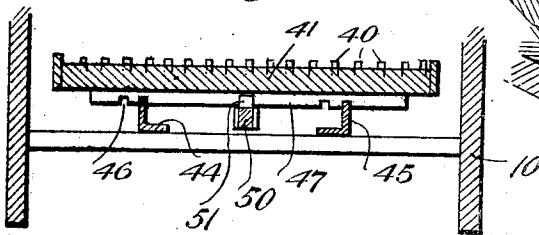


Fig. 8.

Fig. 11.

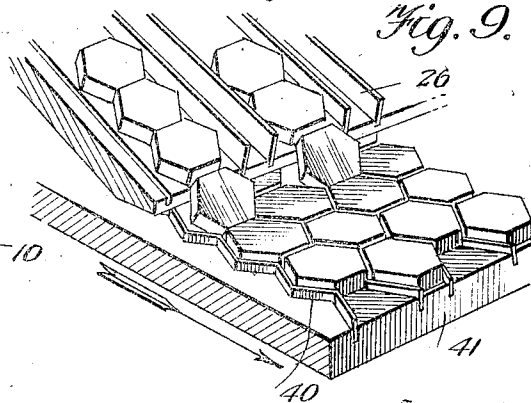
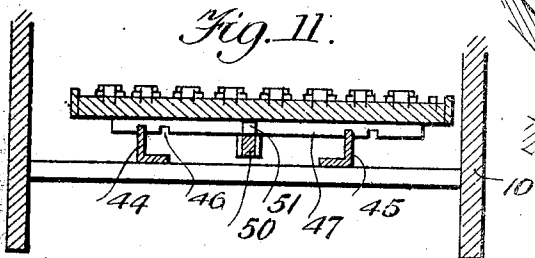


Fig. 9.

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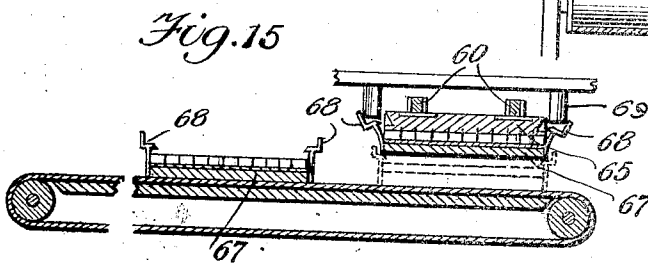
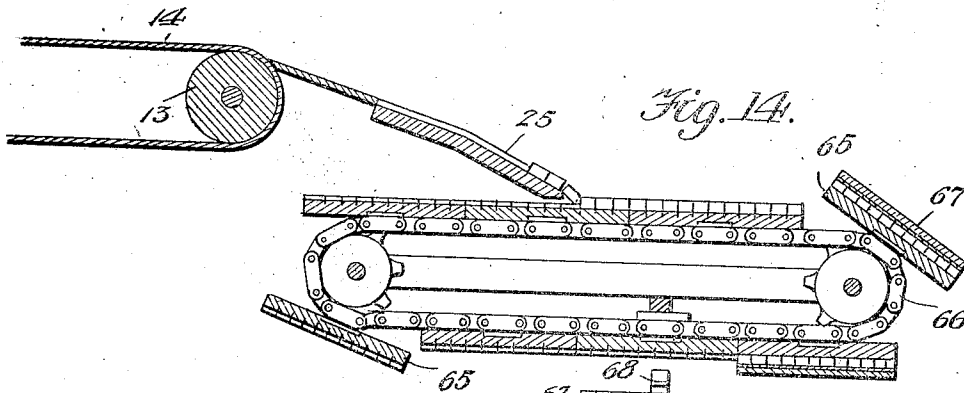
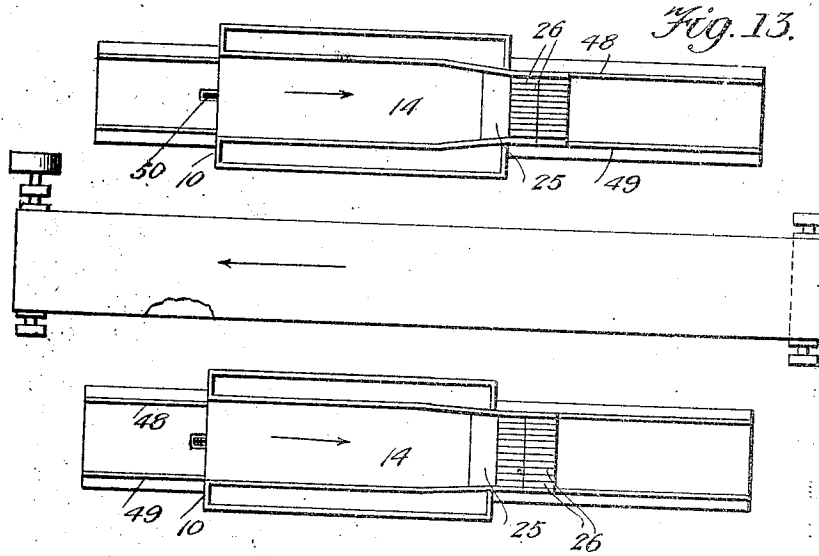
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Attorney

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Patented Sept. 2, 1919.  
3 SHEETS—SHEET 3.



Witness

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# UNITED STATES PATENT OFFICE.

JOHN J. SEMASHKO, OF SOUTH RIVER, NEW JERSEY.

MACHINE FOR ASSEMBLING TILES.

1,315,166.

Specification of Letters Patent.

Patented Sept. 2, 1919.

Application filed May 7, 1918. Serial No. 233,109.

*To all whom it may concern:*

Be it known that I, JOHN J. SEMASHKO, a citizen of Russia, residing at South River, in the county of Middlesex and State of New Jersey, have invented new and useful Improvements in Machines for Assembling Tiles, of which the following is a specification.

This invention relates to machines for assembling tiles, and one object is to provide an apparatus by means of which small square, hexagonal, or circular tiles may be assembled in regular order, and in spaced relation, and have a sheet of paper applied thereto, whereby these tiles may be used for flooring purposes in the same manner in which tiles assembled by hand, are employed.

It has been the practice to assemble tiles for the purpose indicated by placing the latter indiscriminately on a board provided with divisional strips, the board then being given a vibratory movement for the purpose of moving the tiles into the spaces between the strips, after which it is necessary to manually reverse the position of a large number of tiles in order that the smooth surface thereof may be exposed. By means of the present invention, the manual labor is almost entirely dispensed with, it merely being necessary to place the tiles in a hopper from which they are discharged and caused to travel over a belt where they are so placed that the smooth surface will be exposed, the tiles then passing through a chute to a series of boards moved by means of a conveyer, the tiles falling into proper position without further attention on the part of the operators. The tiles are then ready to receive a gummed sheet of paper and are then ready for use.

The invention consists in the novel construction for effecting the results above outlined, and especially in the means for conducting the tiles from the belt, below the hopper, to the boards provided with spaced strips. It consists further in the means whereby spaces left vacant between certain of the strips accommodating hexagonal tiles are filled upon the passage of the boards through the apparatus a second time. The invention still further consists in providing a conveyer carrying boards permanently secured thereto, with means for holding the tiles on the boards when the latter are in-

verted, and means for disengaging the holding devices permitting the series of tiles with a sheet of paper applied thereto to be discharged.

In the accompanying drawings forming 60 part of this application:

Figure 1 is a view in vertical longitudinal section,

Figs. 2 and 3 are detail views showing means for vibrating a screen below the 65 hopper,

Fig. 4 is a top plan view, the hopper being omitted,

Fig. 5 is a fragmentary view in vertical section showing means for applying a 70 gummed strip to the tiles when the latter are assembled directly on a conveyer or belt.

Fig. 6 is a vertical transverse section,

Fig. 7 is a perspective view showing the tiles being discharged from the chute to a 75 board provided with a plurality of spaced strips,

Figs. 8 and 9 show modified forms of boards for receiving hexagonal tiles,

Figs. 10 and 11 are vertical transverse sections showing means for supporting the 80 boards and permitting the shifting of the same to a new position for filling the spaces left vacant after the first passage of the boards through the apparatus, 85

Fig. 12 is a fragmentary view showing a number of tiles of circular form,

Fig. 13 is a detached view showing diagrammatically portions of two machines with a conveyer belt between the machines for 90 returning empty boards to be again fed through the apparatus.

Fig. 14 is a vertical longitudinal section showing a conveyer or chain with a series of boards secured thereto and showing means 95 for holding the tiles in position while the boards are inverted,

Fig. 15 shows a conveyer traveling at an angle compared with the direction of travel of the conveyer of Fig. 14 and showing 100 means for detaching from the lower run of the conveyer of Fig. 14, the boards holding the tiles secured to the paper sheets.

The framework of the machine is designated 10 and in the latter are mounted a 105 plurality of rollers 12 and 13 on which travels a belt 14; a hopper is designated 15 and is provided with a cut off device 16 through which the tiles are fed to the apparatus. A pivotally mounted screen 17 is 110

vibrated by means of an arm 18 actuated from a toothed wheel 20 carried by the axle 21 of the roller 12. An offset device 22 is engaged by the teeth of the notched member 20 and provides the vibratory movement. The upper run of the belt 14 is supported by a board or the like 23, the tiles are discharged through a downwardly extending chute 25 including a plurality of division members shown in Fig. 7 and designated 26. These division strips 26 are spaced sufficiently to accommodate tiles of the size to be employed. A plurality of resilient strips 27 are secured to a bar 28 and are deflected as shown into approximate contact with the surface of the tiles about to be discharged from between the strips 26. A rotatable rod or shaft 29 carries a plurality of eccentrically mounted disks 30, and the operation of the latter by means of a crank 31 permits of the interruption of the flow of tiles from the chute 25. The division strips 26 are so located that the tiles contact with the upper edges thereof when they first engage these strips and they gradually adjust themselves to the required position for travel between the strips and do not engage the upper end portion thereof in such a manner as to cause obstruction.

A series of boards 35 is provided for receiving the tiles as they are discharged from chute 25, these boards being provided with strips 36 and 37 extending at right angles with each other as shown in Fig. 7, in the event that square tiles are being employed. If hexagonal tiles are to be used the strips are of zigzag formation as shown in Figs. 8 and 9, these strips being designated 40 and the boards upon which they are carried are shown at 41. In using hexagonal tiles it is necessary to feed the board through the machine twice as shown in the figure last mentioned, the first operation providing for filling alternate spaces between strips 40, and the second operation providing for filling the spaces left vacant.

In Figs. 10 and 11 I have shown a plurality of track members 44 and 45 formed of angle iron and adapted to engage grooves 46 formed on strips 47 carried by the under sides of the boards. These grooves are so arranged as shown in Figs. 10 and 11 that the boards may be transferred from one position to another position in order that the empty spaces between rows of strips 40, already filled, may be supplied with tiles upon the second passage of the boards through the machine.

The arrangement of the angle bars constituting the track members of the machine designed for square tiles is shown in Fig. 6, these track members being designated 48 and 49. The boards are carried along the track by means of a conveyer comprising a chain 50 the links of which are provided

with engaging devices 51, the chain being supported and operated by sprocket wheels designated respectively 52 and 53.

A roll of paper is designated 55, the sheet being fed over roller 56 serving to guide the paper into contact with the smooth upper surface of the tiles. Glue is fed from a supply trough 57 to a brush or series of brushes 58 for applying glue to the surface of the paper coming into contact with the upper surface of the tiles. The tiles with the paper applied thereto pass downwardly between rollers 56 and 60 to any suitable receiving device 61, the sheet of tiles being then ready for use.

In the form shown in Fig. 14 the tiles are fed from the chute 25 to a series of boards which are permanently mounted on a conveyer chain. These boards are designated 65 and are mounted on conveyer chain 66. The paper is applied to the upper surface of the tiles and a separate board 67 is then applied and is secured in any suitable manner as by means of spring catches 68, these catches being released by suitable devices 69 at the proper moment for discharging the sheet of tiles with the paper attached when the boards 65 have reached their point of discharge, these boards then being in an inverted position.

When circular tiles such as those shown in Fig. 12 are applied to a gummed sheet, and it is not necessary to assemble them in any particular manner but merely to bring their edges into contact, the apparatus illustrated in Fig. 5 may be employed for applying the glue to the sheet of paper and bringing the latter into contact with the tiles carried upon a suitable belt 54.

What is claimed is:

1. In a machine of the class described, a conveyer, means for feeding tiles thereto, a chute including a plurality of independent channels, means for controlling the passage of tiles through the channels, a receiving device including a plurality of strips certain of which are spaced to correspond with the channels of the chute, means for moving the receiving means longitudinally with reference to the chute, the receiving means including a plurality of sets of guides, and supporting means engaging either set upon shifting the receiving means transversely with reference to the path of travel thereof.
2. In a machine of the class described, a traveling belt, means for feeding tiles thereto, a chute extending from one end of the belt and downwardly inclined, a series of boards provided with spaced strips, the chute also being provided with strips similarly spaced, means for moving the boards longitudinally with reference to the lower end of the chute, a track for supporting the boards, said boards being provided with guiding devices permitting the shifting of

the boards laterally to position for filling, from the chute, the vacant spaces between certain of the strips of the boards, upon the passage of the boards through the machine

5 a second time.

3. In a machine of the class described, a traveling belt, a chute cooperating therewith and adapted to receive objects moved from the upper run of the belt, a receiving device located below the chute, said chute including a plurality of parallel channels, a resilient device projecting into each channel, an eccentrically mounted device contacting with each resilient device, and means

10 for operating said eccentrically mounted devices simultaneously.

4. In a machine of the class described, a

tile feeding device, and a tile receiving device carrying on the surface thereof a series of spaced division members each presenting 20 a surface conforming to the uneven side of a row of tiles being fed, and means for shifting the position of the receiving device in a direction at a right angle with the path of travel of the tiles in the receiving device 25 carrying said division members.

5. In a device of the class described, tile feeding means, tile receiving means, and means for shifting uniformly-spaced rows of the tiles, laterally with reference to their 30 path of travel, permitting other tiles to be fed between said rows.

In testimony whereof I affix my signature.

JOHN J. SEMASHKO.