(12) **United States Patent**
**Heath**

(10) **Patent No.: X9673**
(45) **Date of Patent: May 23, 1836**

(54) **TANNING**

(76) Inventor: **Simeon Heath**

*Simeon Heath.*

*Letters Patent.*

*The Schedule referred to in these Letters Patent, and making part of the same, containing a description in the words of the said Simeon Heath himself, of his improvement in the process of tanning.*

*Be it known that I Simeon Heath, of the town of Pike, in the County of Alleghany, and State of New York, have made a new and useful discovery in the process of tanning hides and skins, called "Heaths improved process in tanning"; which is described as follows.— The hides and skins are prepared in the usual manner. I then make a strong back liquor by leaching. My discovery consists in the addition to the liquor made of lime and alum, or Epsom or Rochelle salts, or some other neutral salts in the following proportion— namely— for a dozen skins use from two to five pounds of alum & salts to salts mixed with the liquor or added separately in such proportion according to the strength of the liquor— as often as the back liquor is renewed a similar or a smaller quantity of this preparation may be applied as the strength of the liquor may require it. By this process skins which have heretofore required from three to six months may now be tanned in as many days, & hides in the same proportion of time according to their thickness.*

*Witnesses*
*Wm P. Elliot*
*Edmund T. Cook*

*Simeon Heath* Esq
1836

252 Words) Drew Not Necessary

(Granted May 23. 1836)

# United States Patent

**Patent No.: X9673**

Isaac Knight, Bellow Patent granted, dated March 19. 1829.
Reissued tenth day of July 1834 & Re-Reissued
April 28. 1836. — Improvement in the
Rail road carriage — Recorded in volume
8th page 105 of Restored Records.

Isaac Knight
Letters Patent

The schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Isaac Knight himself of his improvement in the mode of constructing stores and other buildings ---

A Specification of an improvement in building houses invented by Isaac Knight of the City of Baltimore which improvement he believes to be new and useful and for which he asks a patent. My leading object is to introduce a mode of building storehouses more suited to the present state of our cities; by making the exterior of the building really fire proof. The means he proposes for doing this is to construct the front principally of cast iron, with an earthen roof, or an incombustible covering for the attick floor. Such building being so constructed that the cost will be little or no more than upon the present plan. The principle objection made to cast iron in connection with masonry has been the expansion and contraction of the metal. To prevent it is beyond the reach of art. All that can be done is to avoid the bad effects of it which he proposes to do. Granite pillars are found not to answer in case of fire as when they become hot they burst asunder, and the building falls. Instead of granite he makes the pillars of cast iron. Hollow with three sides generally about ¾ inch thick. the inner side to be open but with flanges. or the corners turned nearly in the form of the letter E. so that they may be built up solid with brick or soap stone to within one inch of the top of the cast iron case. then he places a block of cast iron which may be about two inches in thickness made to fit the inside of the top of the case and on the brick work so the whole weight will rest upon the brick within the pillar

pillars and leave a space of about one inch free to give room for the metal of the case to expand and contract. The caps of the pillars must have flanges extending down the outside of the pillars two or three inches so as to receive the tops of the cast iron case or pillar. The lintel or bressummer which rests on the caps of the pillars he also forms of cast iron with a front and bottom nearly in the form of the letter L. the front above 9 inches in width and one inch in thickness. the bottom one inch thick and one foot wide. There must be a flange at the top to throw the water off. This may also be filled with brick. and when it is intended that the joists are to rest on these lintels or bressummers and run from front to back of the house he then casts a crotch or chair on the inside of the lintel to receive and hold the joists and tie the building. The second story he forms in the same manner as the first, if it is intended to have the whole space between the pillars taken up with doors and windows as below. but if not he then makes the pillars of about one half the size of those in the first story. say six inches square by 12 or 18 in depth; and places two above for one below. also filled with bricks. and with a block of cast iron on their top to accomodate the expansion as before stated and so arranged as that they will answer for the door and window frames and the space between these pillars. and doors or windows which are called sacks. and the space below the windows he also closes up with plates of cast iron of about ½ inch in thickness and of sufficient length and breadth to fit in grooves which are cast for that purpose in the pillars; these cast iron plates may be made to give the appearance of panel work or other wise ornamented according to fancy. The 3d & 4th story is also formed of cast iron in the same manner. The window shutters ought to be of rolled iron as also the doors which should be made to move upon pivots

pivot hinges steeled at their bottoms or be sometimes placed the doors in grooves in such a way that they will slide up and down in them by means of a ballance weight passing over pulleys. The roof he in general makes nearly flat without rafters, but places joists on the walls nearly similar to the floor joists, on these joists he puts a floor of rough boards then a layer of Roman Cement in which he lays a pavement of pressed brick of about two inches in thickness the joints very small and well filled with water cement liquid lead or other suitable materials which if properly done will cement the whole together water tight. then over this pavement of brick so cemented together with lead or otherwise he puts several coats of tar well mixed with ashes lime clay or fine sand in sufficient quantity to render the tar incombustible, upon this plan a reservoir if required may be formed upon the roof of the house to hold the water falling upon it. This may be done by raising the coping stones of the wall (which stone constitute the outer edge of the roof) to allow these stones to project a few inches above or higher than the pavement of the roof so as to confine the water which may fall on it, and which may be drawn off at pleasure by means of spouts with valves fixed near the roof having wires attached to them, by which they are opened which rods may extend down to a convenient discharging place in the spout, there ought to be a pallisading of cast iron fixed in the coping stones of the wall both for ornament and safety.

Another mode of securing the house from fire is this. if it be not desired to have a roof of the kind last described or which will not be entirely fire proof. he then puts one or more courses of bricks between the top of the joists of the upper or garret floor and the plate of wood on which the foot of the rafters are secured and then to lay a pavement of brick with suitable cement, or some other incombustible

the material over the garret floor, so as that no fire can be communicated from the roof of the floor rejoist, and thirdly in case the roof should take fire and burn off, the other parts of the building would be safe). (There ought to be an iron trap door over the stair (way) this would add greatly to the security of property in store houses, and at very small cost and might be affixed to houses already built with wooden roofs. What I claim as new in my improved mode of building stores and similar structures is the rendering them wholly or in great degree fire proof, in the manner herein described, that is to say, the constructing the columns which support the front in part of brick or some similar material and in part of cast iron, allowing the weight to rest upon cast iron blocks fitted in the iron case and on the brick in such a way that the iron forming the sides may expand and contract freely by changes of temperature, the superincumbent weight being borne by the brick work which form the interior of the column. My claim is to the manner of allowing the iron case to expand and contract as herein set forth. I also claim the manner of forming the front of the house above the columns as herein before set forth. I also claim the forming of the roof with thin paving brick cemented together in the way described and in connection with a covering upon this brick pavement of clay sand ashes or lime or some similar compound. I likewise claim the covering the upper floor with brick or some other incombustible substance in connection with there being also two or more courses of brick laid above the joists of the floor so as to elevate the raising plate upon which the rafters rest and prevent it's having any communication by combustible materials with the joists of floor so that the roof might burn off without endangering the lower parts of the building care being always taken to close the head of the stair way or the opening into the loft by a metal door. Isaac Knight

Witnesses. Gilbert E. Ebberson. Saml Sleeman

1548 wd

Joel Houston Anson Hinman and Jonas Ingraham
Letters Patent

The schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Joel Houston, Anson Hinman, and Jonas Ingraham themselves of their improvement in the Dry Dock

To all to whom these presents shall come. Joel Houston Anson Hinman and Jonas Ingraham of the City of Buffalo, County of Erie and State of New York send greeting. Be it known that we the said Joel Houston Anson Hinman and Jonas Ingraham have invented a new and useful improvement not known or used before in the making of a newly constructed Dry Dock by which a very important advantage is gained over the dry docks or rail ways now in use for repairing vessels, boats or other naval craft. This improvement consists in having a large reservoir placed a convenient distance from the sides of the lock the floor or bottom of which reservoir, to be on a level with the top or coping of the sides of the lock, and which reservoir is to be filled by means of a pump from the water below or on the floor of the lock. From the side of said reservoir is a conductor or penstock, leading the water from the reservoir into the lock, to raise the vessel high enough to float the same on the cradle, after the vessel shall have been brought on the centre of the cradle. The cradle is composed of a centre stationary block and side blocks which are movable with a hand inserted in the outer ends of each slide block to operated in rag teeth. The flood gates are then to be hoisted which draws the water from the cradle and leaves the vessel and cradle dry. While the vessel is repairing the reservoir is to be filled again after the vessel is repaired. The gates are to be closed and the lock is to be filled by taking the water from the reservoir by means of the penstock as before,

for sufficient to float the vessel from the cradle into the lock. then by hoisting the flood gates, the vessel comes down. by which time the lock gates are open and the vessel set afloat.

We claim the invention of a new principle in the application of an elevated reservoir, to be filled with water and to be used in raising or letting down vessels boats or other craft as an improvement upon the method of raising vessels heretofore used. also the improvement of the slide blocks by means of a hand, in each slide block dropping into cog teeth set in a groove. In witness whereof we have hereunto set subscribed our names the eleventh day of January A.D. 1836.

Witness
Lowell Chapin
A.H. Palmer

Joel Houston
Anson Kinman
Jonas Ingraham

Exd.
Drawing

473 wds