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(54) **HORSE POWER**

(76) Inventor: **Rufus Porter**

Russus Porter of Billerica in Massachusetts

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 Russus Porter himself of his improvement "in Portable Horse Power"

To all to whom these presents shall come. Be it known that I Russus Porter of Billerica in the County of Middlesex and State of Massachusetts have invented a new and useful portable Horse Power or machine for the purpose of applying the Power of Horses to the machinery. and that the following is a full and exact description of the construction and operation of said machine as invented by me. A tread floor (or endless floor) is composed of seventeen pieces of plank. each plank being eighteen inches long twelve inches wide and one inch thick. which planks are connected together by the following method. On one side of each plank are two cleats screwed to the plank by nails or screws each cleat being one foot in length. three inches wide and one inch thick. the outward edge of each cleat being within one fourth of an inch of the end of the plank and to this outward edge is a staple of iron attached by screws. each staple being thirteen inches long one and one fourth inch wide and one fourth of an inch thick. the staple being wider than the thickness of the cleat. a rabbit is cut in the end of the planks to accommodate one edge of the staple that the other edge may be even with the face of the cleat. through each end of each staple is a round hole half an inch in diameter. the centre of the holes being parallel with the edges of the the planks. the edges of each two planks being placed in contact. (the ends of the staples passing a little by each other that the sides of each two may come together) a half inch iron rod twenty one inches long is passed through the ends of each four staples: thus connecting together the planks by hinges joints

On each end of each end outside of the staples is a cast iron wheel four inches in diameter and one inch thick. which is secured on the rod by a pin passing through the end of the rod outside of the wheel. All the planks having been planed side by side and connected as above described. the two outside planks are then brought together and hinges connected. thus forming a belt or endless floor. This floor is supported by frames one of the following descriptions

two sills each eight feet and six inches long three inches wide and two inches thick are placed on the ground parallel to each other and being eighteen inches apart are connected by two cross timbers which are tenoned to said sills directly over and twenty two inches above the sills are two plates of the same dimensions as the sills. Each plate is supported by three posts which are tenoned both to the sills and to the plates two of them being set thirteen inches from the ends of the sills and the other in the center. These posts being four inches wide and one and a half inches thick are set near the outward ends of the sills leaving a space twenty one inches between each post and its opposite. To the inside of each three posts a rail is attached by screws or bolts the rail is three inches deep by one and a half inch thick and each end after passing the post is turned emerging downwards forming a semicircle of thirteen inches diameter. These rails support a part of the friction wheels of the bell floor while another post rests on the sills below. These rails are found five inches below the plates and the length of them must be sufficient to fill the space between the friction wheels on each side of the floor. The frame is further supported by a plank eight inches wide which passes from one center post to its opposite being tenoned by double tenons to each immediately below the rails which are also thereby supported. An iron shaft thirty inches in length passes horizontally through the opposite posts at one end of the frame at a point central to the motion of the parts of the floor as they pass over the forward ends of the rails. This shaft is one inch and a half square, being rounded however where it passes through the posts and extending three inches beyond the posts on each side for the purpose of receiving and carrying a grooved wheel. On this shaft inside of the posts are two spiders consisting of four arms each, the ends of which arms being one foot distant from each other and having corresponding notches in them take to the ends of the bell floor inside of the straps they receiving motion from the floor, which is communicated by the grooved wheel attached to other machinery. When the planks composing the floor are put in motion by the feet of the dancers each friction wheel in which it turns after rolling through the depressions and rails back around the sills to the forward end where they rise

...each with a thin plate of iron and the others are guided on the rails by a small square rod of iron being nailed on each rail also bending over the inner outsides of the track of the wheels. Each track of the sill floor is sheathed by a piece of pine board three fourths of an inch thick and of a length and breadth corresponding with those of the planks being nailed on the upper or outward sides of the planks. Two stakes each being two inches square and six feet high are strapped transversally (three on each side of the frame) by straps or straps of iron which are attached to the outward sides of the sills and of the plates. Two of these stakes being at or near the forward corner of the frame each three of them support a side rail for the purpose of keeping the horse in place while he walks on the floor. The side rails consisting of pine boards six inches wide being secured to the inside of the stakes and near the top. Two other boards or planks are also attached to the inside of the stakes immediately above the floor. The lower edges of the planks coming inside of the wheels for the purpose of securing the wheels from damage by the feet of the horse. Two crossbars each being two feet long and two inches square extend across and are secured by bolts one to the two forward and the other to the two back stakes about three feet above the level of the floor one of these bars for the draught of the horse and the other for holding back. Note. That end of the machine in which the shafts is situated is called the forward end. Some each end of each cross bar a small brace extends to the point of contact of the cross stakes and the plate, the end of the brace resting on the plate and bearing against the stakes effectually supports the upper work in sustaining the draught of the horse. The stakes and other upper work may be readily taken down occasionally for the greater convenience in moving the machine from place to place.

The points which I claim as my invention are. The application of the foregoing bevel floor composed of planks the method of securing the same by means of stakes and the application of shifters consisting of wheels or [illegible] as described

Witnesses
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