L. Hale,

Horse Power.

No. 3,887. Patented Jan. 16, 1845.

UNITED STATES PATENT OFFICE.

LUKE HALE, OF HOLLIS, NEW HAMPSHIRE.

CONNECTING THE PARTS OF ENDLESS FLOORS FOR HORSE-POWERS.

Specification of Letters Patent No. 3,887, dated January 16, 1845.

To all whom it may concern:

Be it known that I, LUKE HALE, of Hollis, in the State of New Hampshire, have invented a certain new and useful Improvement or Mode of Constructing the Endless Floors of Horse-Powers, of which the following description and accompanying drawings, taken in connection, constitute a full and exact specification.

Figure 1 of the aforesaid drawings represents a top view of a horse power constructed on my improved principles. Fig. 2, is a side elevation of the same. Fig. 3 is a view of the inner side of a part of one of the iron chains to which the floor boards are attached as will be hereinafter described—and Fig. 4 is a view of the lower side of such portion of the iron chain. Fig. 5 is a representation of the front side of the rear portion of each of the links to which the floor boards are bolted. Fig. 6 is a representation of the rear side of the other portion of the last named link. Fig. 7 is a front view of one of the other links, and Fig. 8 is a rear view of the same. Fig. 9 is a bottom view of it and Fig. 10 is a cross section taken through the center of one of the bolts by which the floor board or boards are connected to their respective links. Fig. 11 is an elevation of a change in form of the invention which may be substituted for that herein particularly described.

Each of the floor boards A A bears at each of its ends on three of the links—viz., B, C, C, of the chain—that is to say wholly on the link B, immediately bolted to it and partly on the two other links (C, C,). As the chain is composed of such links put or joined together the one after the other as seen in the drawings, it will be sufficient to describe the particular mode of connecting three of these links together and to the end of the floor board above them, as well as the improvement added to the links to give and maintain stability to the whole. The link B is composed of two parts, viz., *b*, *c*, each of which has an ear (*d* of the one and *e* of the other) projecting from its inner surface near its upper edge and lapping over each other as seen in Fig. 10 when the chain is completed, and each ear has a small rectangular tenon or projection *f*, upon it, which enters into a corresponding mortise or space cast in the opposite portion of the link. The rear portion (*b*) of the link has two tenons or studs *h*, *h*, projecting or cast upon its top edge—the object of the same being to enter corresponding mortises or apertures formed in the lower side of the end of the floor board—in order to prevent the link from turning laterally upon the board. Circular apertures *i*, *i*, are cast in the inner face of each portion *b*, *c*, of the link in order to receive corresponding projections *k*, *k*, cast upon the ends of the other links as seen in the drawings. Each of the other links has a tooth *v*, cast upon its front side, which (tooth) enters into the space between the teeth *m*, *n*, of the wheel D, of the two wheels D, E, around which the endless floor travels.

The rear portion *b*, of the center link is much larger than the adjacent links C, C, or the portion *c*, or in other words each end of it has a bearing *o*, or is extended toward the central part of the rear side of the link C, and is curved upward or otherwise suitably formed so as to rest upon a seat or projection *p*, extending from and cast upon the inner side of the link C. When the several links and portions composing the same and the floor boards are put together they are all firmly held or confined to each other by one screw bolt, *q*, which is passed through the ears *d* and *e* of the center link, and through the end of the floor board.

Instead of having the seats *p*, upon the links C, T, projections or bearings may be cast upon and rise above them as seen at G H, Fig. 11, and may rest against a block F bolted to the end of the top of the floor board A.

From the above it will be seen that when the links of the chain are brought into a straight line with each other, they bear upon one another independent of the floor boards and form one inflexible bar, as it were, to support the floor boards and the horse, thus preventing to a great degree the wear which would be occasioned by the floor boards resting and bearing upon the links C, C, without seats being applied to said links—and projections upon the rear part of the link B, to rest upon such seats.

Having thus set forth my invention I shall claim—

The mode of firmly uniting together by

one screw bolt the several parts of the three links B, C, C—and the floor board—viz, by a combination of ears, *d*, *e*, cast upon the inner sides of the two portions of the link, B, so as to lap over each other and permit the screw bolt to pass through them and operate upon and with respect to the several parts, as described.

In testimony whereof, I have hereto set my signature this third day of December A. D. 1844.

LUKE HALE.

Witnesses:
JAMES HARDY,
WILLIAM ARMS.