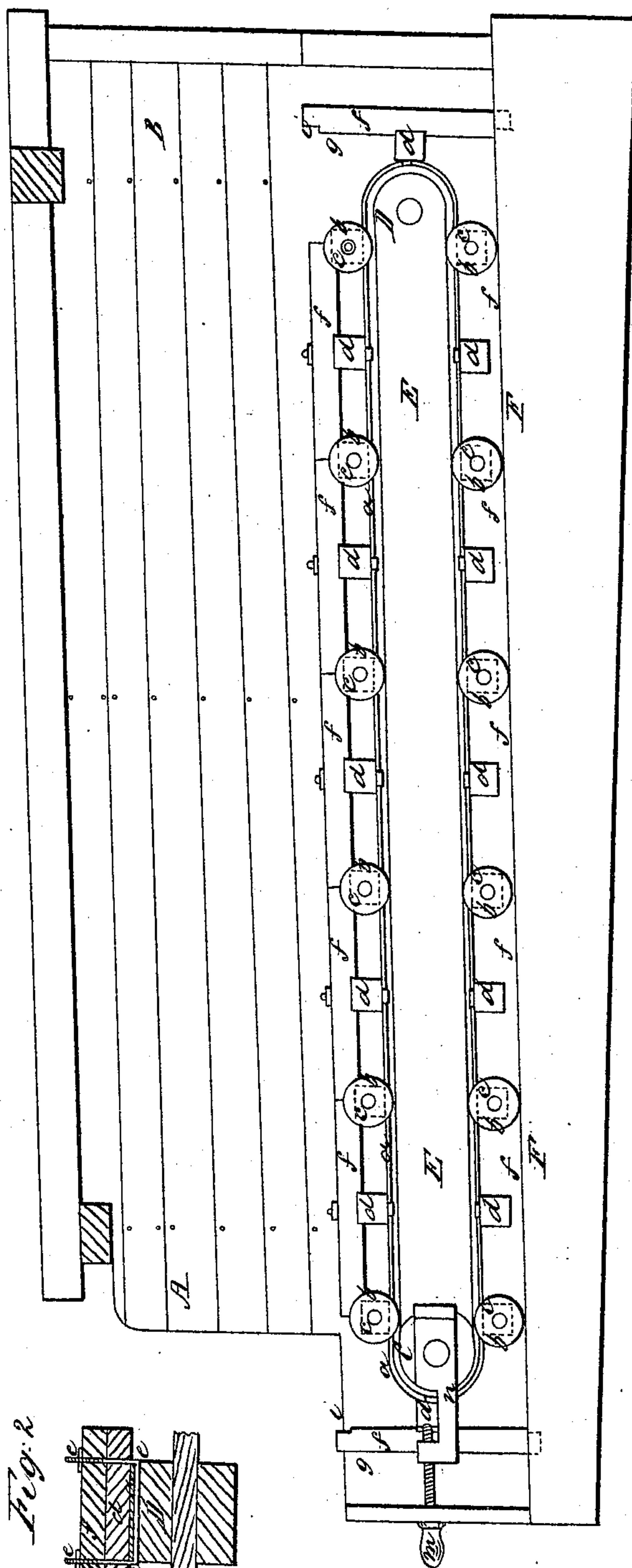


*E. Piner,*  
*Horse Power.*

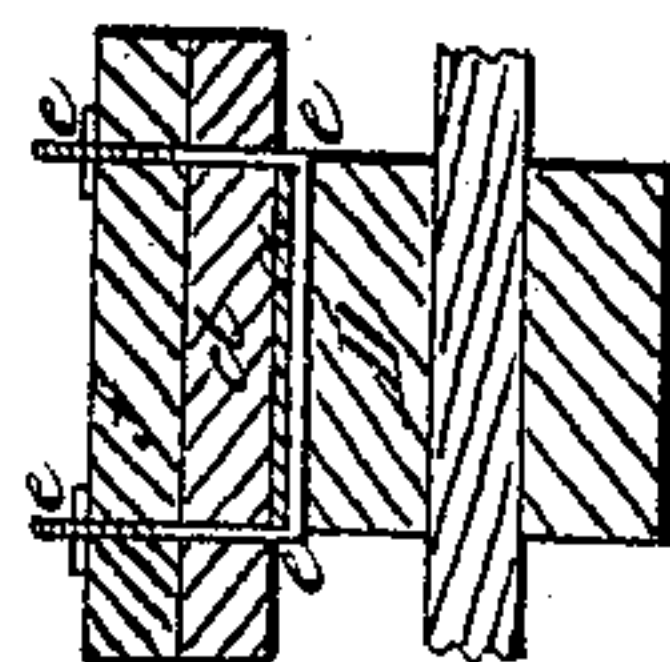
*N<sup>o</sup> 1629.*

*Patented June 10, 1840.*

*Fig. 1*



*Fig. 2*



# UNITED STATES PATENT OFFICE.

ENOCK PIPER, OF CAMDEN, MAINE.

## HORSE-POWER FOR DRIVING MACHINERY.

Specification of Letters Patent No. 1,629, dated June 10, 1840.

*To all whom it may concern:*

Be it known that I, ENOCK PIPER, of Camden, in the county of Waldo, State of Maine, have invented a new Improvement in the Method of Applying Horse-Power to the Driving of Machinery, which I call my "Improved Horse-Power," and which I will describe as follows.

My horsepower machine in its general structure is not dissimilar to many of those in common use. The horse employed in driving it is stationary within a curb or side railing that serves to keep him in place, and his action is applied by treading, to drive a band or belt which passes around two drums from one of which the power obtained is communicated to any machinery intended to be moved.

Figure I is the annexed drawing shows a side elevation of the machine. A B, is one side of the curb, the other side being removed to show the belt, drum, trucks, &c. C D are the ends of the drums, D being elevated a little above the level of the other. They are partly hidden by the ways or bearing of the trucks. The edge of the belt is seen passing around the drums, and from one to the other, as at *a a a a*. It may be 10 inches or more in width according to the strength desired. Transversely on the belt the axles which subtend the trucks *b b b b b*, are placed, and attached to the belt by loop-screwbolts embracing the belt and passing up each side of it through the axles, and secured by nuts let into the axle. The square part of the axles are shown, by dotted lines, through the trucks, as at *c c c c c*. The trucks roll on ways one side being shown at E E and underneath at F F. *d d d d* show the ends of the cross pieces being attached transversely to the belt by loop-screwbolts embracing the belt and passing on each side of it through the cross pieces and the flooring planks *f f f f f*. The screw nuts should be sunk in the wood to prevent interference with the horse's feet. The loop screwbolt is seen at *e e e e*, Fig. 2, which is a section through the middle of the cross piece lengthwise.

The flooring plank should be of the width of the curb inside and of a convenient length from axle to axle so that their ends

may swing clear in passing around the drums, say from 20 to 24 inches. Their ends are halved as at *i i* that they may embrace the axles between their shoulders, on the middle of which their ends meet. Thus arranged it is apparent that the flooring planks have no other bearing than on the axles of the trucks, and being fixed only by the middle to the cross pieces, their ends rise from their bearings in passing around the drums, as shown at *g g*. As the cross pieces advance to the straight part of the track, the planks are brought to rest again on the axles.

The advantages of this arrangement are, 1st, the flooring is more firm and has no canting or yielding as it moves along; whereas in the common machines, the flooring is divided up into narrow strips or bars placed across the track and are so unevenly supported as to be constantly vibrating and canting under the horse's feet, which fatigues his limbs and greatly impairs his power of draft; 2d, it has the advantage of greater simplicity and cheapness of construction; and in the greater facility with which it may be repaired; 3d, its movement is subjected to less friction, than that of similar machines in common use.

*m* is a hand screw entering the slide *n* in which the axle of the drum C has its bearing, by which the belt is made more or less taut at pleasure. When the stretching of the belt renders it necessary, the loop-screwbolts may be loosened and slipped along the belt, to adjust the axles and crosspieces to the length of the floor planks.

Now what I claim as my invention and improvement is—

The mode of arranging and sustaining the floor planks by attaching the middle of each to the belt midway between the axles of the trucks and bringing their ends to bear on the axles, yet with liberty to rise from the axles in passing around the drums, as set forth in the foregoing description, and in any similar manner embracing analogous arrangements or principles of action.

ENOCK PIPER.

Witnesses:

H. W. PIPER,  
JESSE PAGE.