S. W. Davis,

Horse Power.

No. 52,975. Patented Mar. 6, 1866.

Fig. 1.

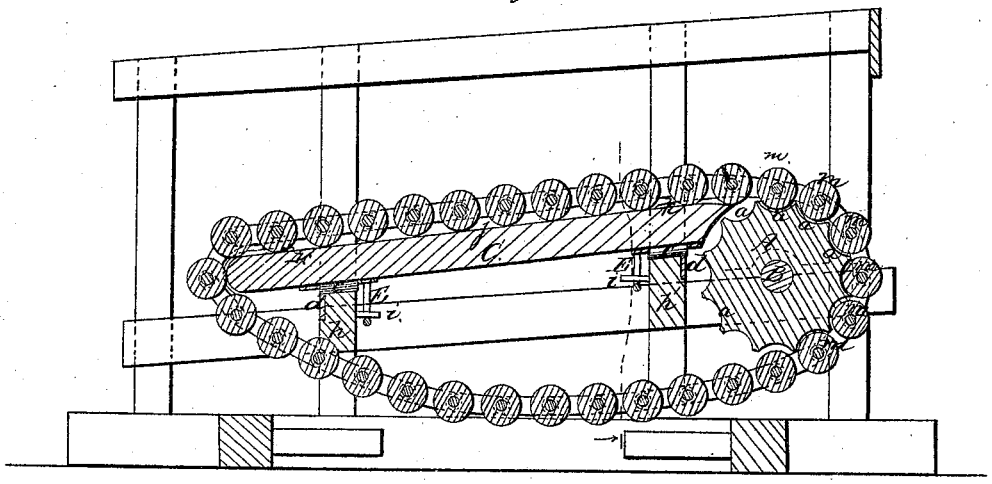


Fig. 2.

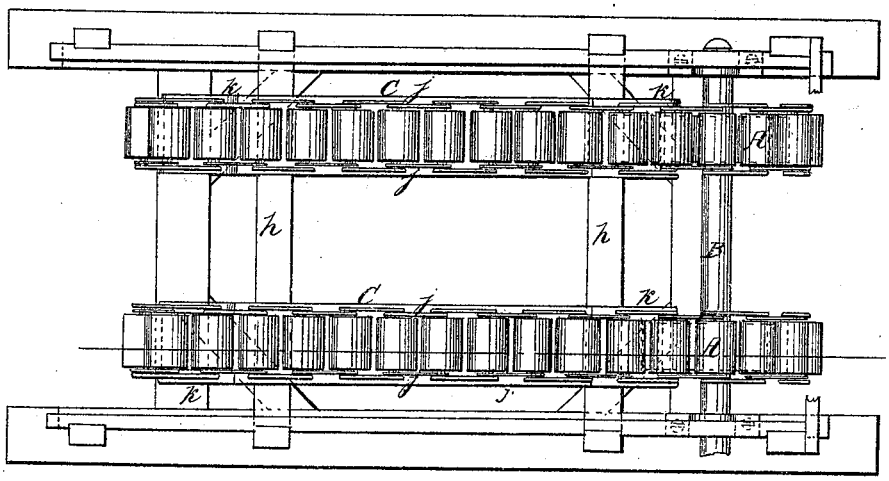
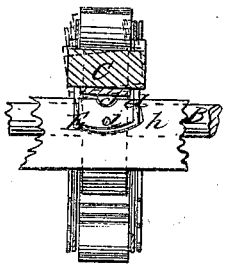


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

S. W. DAVIS, OF PLATTSBURG, NEW YORK.

IMPROVED HORSE-POWER.

Specification forming part of Letters Patent No. **52,975**, dated March 6, 1866.

To all whom it may concern:

Be it known that I, S. W. DAVIS, of Plattsburg, in the county of Clinton and State of New York, have invented a new and useful Improvement in Horse-Power; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side sectional elevation of my improvement. Fig. 2 is a plan view of the same. Fig. 3 is a partial sectional elevation, showing the mode of hanging the decks.

Similar letters of reference indicate corresponding parts.

This invention is designed as an improvement on what is known as "Pitt's anti-friction surface-roll horse-power." The frame of the machine is constructed in the same manner as that usually adopted in all the rolling-floor horse-power machines.

A A′ represent what I term "the roll-governor wheels." They are placed on the main or gear shaft B of the horse-power, inside of the chain of rolls, as shown. One of these wheels, A′, may turn independently of the shaft B, being secured thereon in the proper position by a collar on each side of it.

The periphery of the wheel A′ is composed of a series of segments of circles, *a*, to correspond to the size of the rolls *m* and the distance between them. The construction and arrangement of these segments is such that each segment receives and embraces nearly half of the body of one of the rolls, and thus draws the same in a very firm and uniform manner in a direct path. The rolls, as they move over the decks C′, are thus kept in a position always at right angles, and all tendency of the rolls to press sidewise out of a direct path is overcome, and great ease of movement in the rolls is thus secured.

There is one of these governing-wheels, A or A′, to each string of rolls—viz., two to a one-horse power and three to a two-horse power—and they are placed in such a position on the main shaft as to be in front of the corresponding decks C, as shown. The string of rolls is constructed in the same manner as in all rolling-floored horse-powers.

The decks C are hung in a novel and improved way. The decks are made of scantling dressed perfectly straight and true, with their extremities curved, as shown.

The rolls pass from the governer-wheel directly upon the upper curved extremities of the decks and roll down bearing upon their surface the weight of the bridge and horses in the common manner.

The decks have hitherto been framed permanently into the cross-girts *h* of the machine; but in my improvement the decks are rendered self-adjusting by having wrists *c* at their under sides, which fit into boxes *d* at the upper sides of the girts *h*, as shown in Figs. 1 and 3. The decks are prevented from being displaced from their proper position by means of the open guard-frame E, which projects from the under side of the decks below and in front of the wrists and journals, as shown, each of said guards having a transverse-pin, *i*, within it, which enters the cross-girt *h* and prevents the guard-frames, and with it the decks, from rising out of place, but permitting all the lateral movement that may be necessary for complete self-adjustment of the decks. By having the decks thus made self-adjusting their upper surfaces will always be parallel, and the rolls will not have any tendency to draw off upon either side, so that the rolls will run on a straight path, *e*, with the least amount of friction.

Another feature of my improvement consists in dispensing with the guides or side projections commonly used on the upper side of the decks which have a tendency to retain the dust which collects on the top of the decks and obstructs the pressure of the rolls.

I construct the decks with an entirely open space, *j*, throughout the length of its upper surface except at the extremities thereof, where I have raised edges or guides *k k* to guide the rolls to and from the surface of the decks, as shown. This open space *j* wholly prevents the accumulation of dust, dirt, and other obstructions and thus facilitates the easy movement of the rolls.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of the wrists *c*, boxes *d*, and the guard-frame *e*, by which the decks C are rendered self-adjustable and secured against displacement.

S. W. DAVIS.

Witnesses:
E. M. CHASE,
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