

(No Model.)

T. P. CHAMBERS.
BRAKE FOR HORSE POWER MACHINES.

No. 595,522.

Patented Dec. 14, 1897.

FIG. 1.

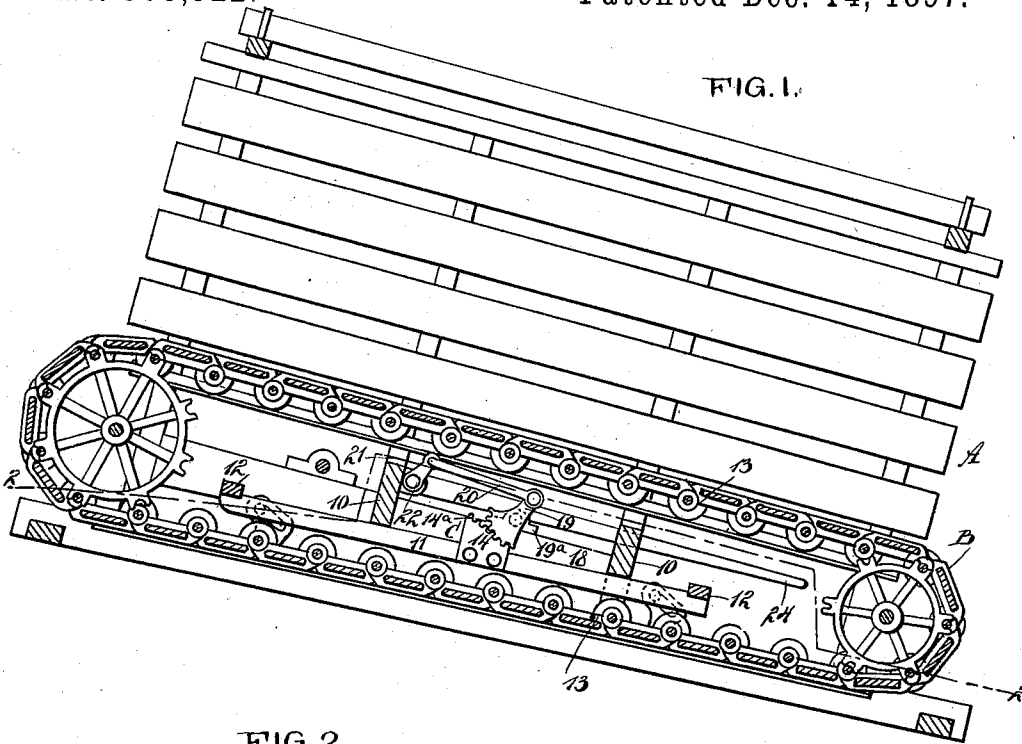


FIG. 2.

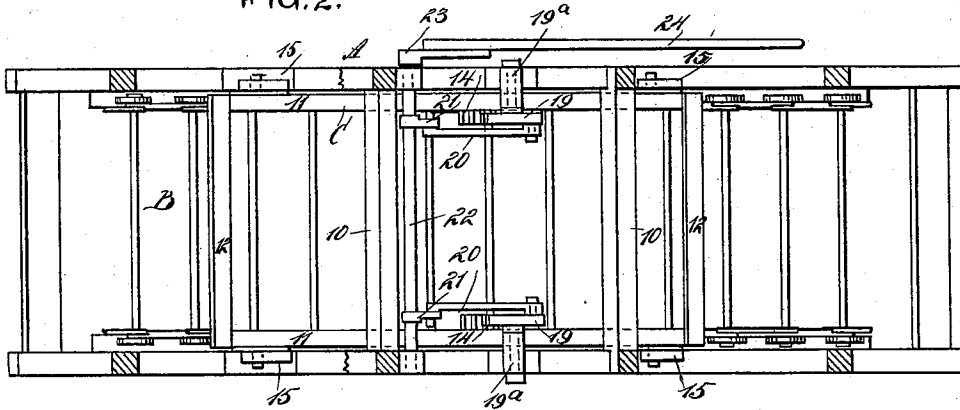
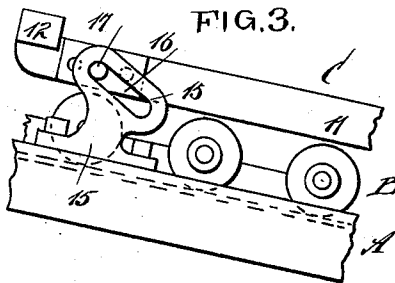


FIG. 3.



WITNESSES:

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THOMAS P. CHAMBERS, OF NEWTOWN, PENNSYLVANIA.

BRAKE FOR HORSE-POWER MACHINES.

SPECIFICATION forming part of Letters Patent No. 595,522, dated December 14, 1897.

Application filed April 16, 1897. Serial No. 632,473. (No model.)

To all whom it may concern:

Be it known that I, THOMAS P. CHAMBERS, of Newtown, in the county of Bucks and State of Pennsylvania, have invented a new and Improved Brake for Horse-Power Machines, of which the following is a full, clear, and exact description.

The object of my invention is to provide a brake for horse-power machines which, in the event the tread-floor should travel too fast for the animal operating the same, it may be stopped entirely or checked to any required extent.

Another object of the invention is to provide a brake capable of accomplishing the above-named results which will be exceedingly simple, durable, and economic.

A further object of the invention is to provide a brake of the character above set forth which will be applicable to any horse-power machine.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a central vertical section through a horse-power machine having the improvement applied. Fig. 2 is a horizontal section on the line 2-2 of Fig. 1; and Fig. 3 is an enlarged view of an end portion of the brake-frame, illustrating its application to the tread-floor.

The housing A for the animal, together with the tread-floor B of the horse-power machine, may be of any desired construction. Between the upper and the lower stretches of the tread-floor a brake-frame C is located, which is the subject-matter of the present invention. This brake-frame is shown as consisting of two cross-bars 10, two side bars 11, and a cross-bar 12 at each end of the side bars. The side bars 11 of the brake-frame are arranged for engagement when necessary with the upper peripheral surfaces of the rollers 13 on the lower stretch of the tread-floor. The brake-frame is prevented from rising too far from the lower set of rollers on the tread-floor through the medium of the cross-beams 10,

which are attached to the base-frame of the housing A.

On each side bar 11 of the brake-frame C a plate 14 is inclined in direction of the inclination of the tread-floor, as is particularly illustrated in Fig. 1. The upper surface of each of the said plates 14 is further provided with teeth 14^a. A guide-hanger 15 is secured to the side beams of the base portion of the housing A near each end of the brake-frame, the upper end portions of the guide-hangers having an inclination corresponding to that of the top of the toothed plates 14, as shown in Fig. 3. Each hanger at its upper inclined end is provided with a transverse slot 16, following the inclination of the upper surface of the hanger, and pins 17 are projected from the side portions of the brake-frame into the said slot 16, as is likewise best shown in Fig. 3.

A longitudinal beam 18 is attached to each end portion of the cross-beams 10, limiting the upward movement of the brake-frame. Bearings or boxes 19^a are secured upon the longitudinal beams 18, the said bearings or boxes being in transverse alinement. Each bearing or box receives the pivot-pin of a toothed segment or sector 19, the teeth of the sectors or segments engaging with the teeth of the plates 14, attached to the brake-frame. A link 20 is attached to the upper end of each sector or segment and also to a crank-arm 21, the said crank-arms being secured upon a shaft 22, which is journaled in the base portion of the machine. At one or both ends of the shaft 22 a lever 24 is attached, usually through the medium of crank-arms 23, as illustrated in Fig. 2.

In the operation of the machine the brake-frame is normally held just clear of the rollers 13 on the lower stretch of the tread-floor. When, however, the said tread-floor moves too rapidly, by raising the lever 24 the sectors or segments 19 are rocked in direction of the lower portion of the tread-floor and the brake-frame is therefore carried downward to a more or less decided engagement with the lower rollers of the tread-floor, stopping the movement of the floor partially or altogether, as may be required.

This brake mechanism is exceedingly simple. It is durable and economic and may be applied to any form of horse-power machine.

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

1. The combination with the tread-floor of a horse-power machine and the base supporting the same, of the brake-frame provided with bars arranged for engagement with the stretch of the floor, and an operating device carried by the said base, said device engaging said bars and by which the latter are moved into and out of engagement with the floor.

2. The combination, with the tread-floor of a horse-power machine, a brake-frame located over the rollers on the lower stretch of the floor, and means for limiting the upward movement of the brake-frame, of a crank-shaft, means for operating the crank-shaft, projections from the brake-frame having inclined toothed surfaces, toothed segments engaging with the toothed surfaces of said projections, and a connection between the segments and the crank-shaft.

3. The combination, with the tread-floor of a horse-power machine, of brakes located over and adapted for engagement with the lower stretch of said tread-floor, a shaft, means for operating the shaft, crank-arms projected from said shaft, extensions from the brakes having inclined toothed upper surfaces, toothed segments engaging with said inclined toothed surfaces of the brakes, being connected with said crank-arms, and stationary guides for the brakes, having an inclination corresponding to that of the toothed extensions from the brakes.

4. The combination, with the tread-floor of a horse-power machine, a brake-frame held for engagement with the lower stretch of said

floor, and means for limiting the upward movement of the brake-frame, of a rock-shaft, extensions from the brake-frame, having their upper surfaces toothed and inclined in direction of the inclination of said floor, and toothed and pivoted segments operating upon the toothed surfaces of said extensions, being operated from said shaft.

5. The combination, with the tread-floor of a horse-power machine, a brake-frame held for engagement with the lower stretch of said floor, and means for limiting the upward movement of the brake-frame, of a rock-shaft, extensions from the brake-frame, having their upper surfaces toothed and inclined in direction of the inclination of said floor, toothed and pivoted segments operating upon the toothed surfaces of the said extensions, being operated from the said shaft, stationary guide-hangers having slots therein, and inclined correspondingly to the inclination of the extensions from the said brake-frame, and pins extending from the brake-frame, into the slots of the said guide-hangers.

6. The combination with a tread-floor of a horse-power machine and the base supporting the same, of the brake located between the stretches of said floor, a shaft carried by said base, an operating device on said shaft and engaging said brake to move into and out of engagement with the stretch of said floor, means for operating said shaft and a stop device on said base and by which the movement of brake away from the stretch of the floor is limited.

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Witnesses:

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