

G. B. FRANCIS & B. H. SMITH.
ROLLER PLATFORM.

APPLICATION FILED AUG. 8, 1911.

Patented Oct. 22, 1912.

2 SHEETS—SHEET 1.

1,042,336.

Fig. 1.

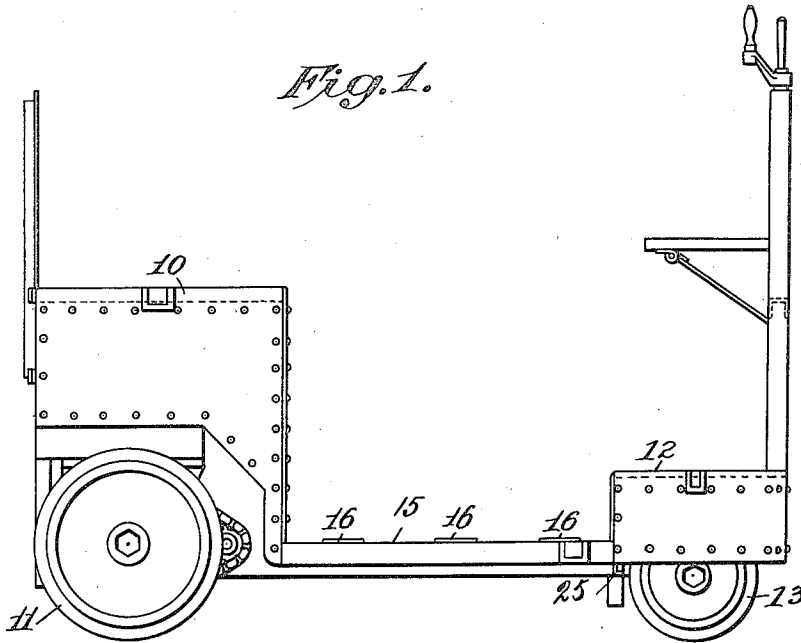
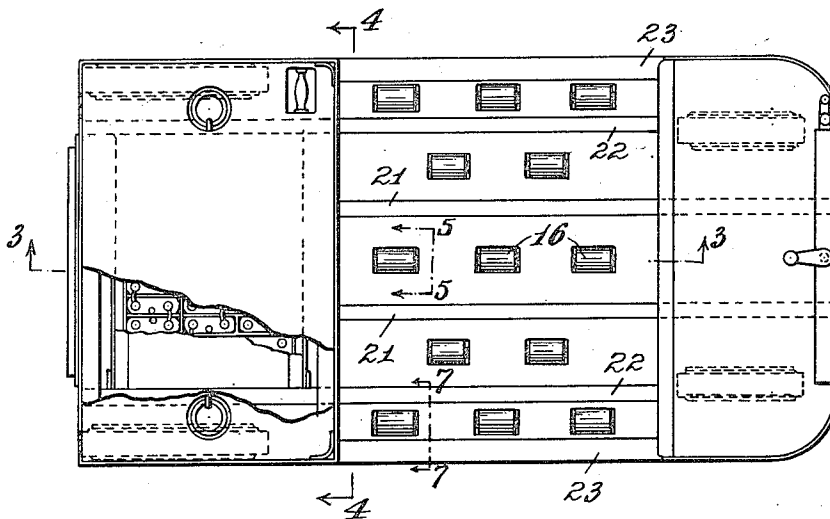


Fig. 2.



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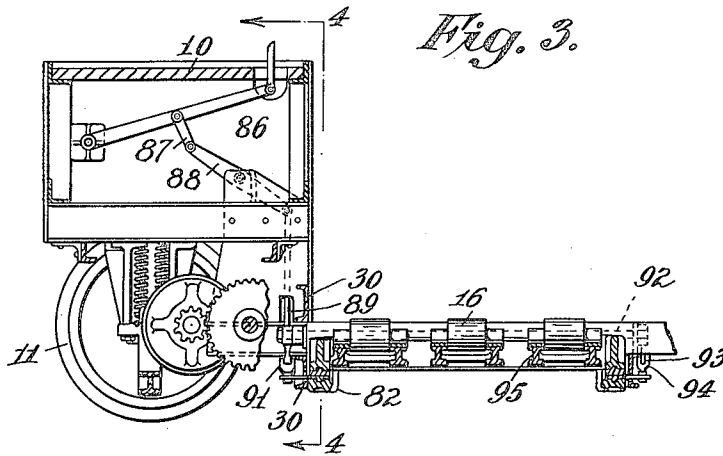


Fig. 3.

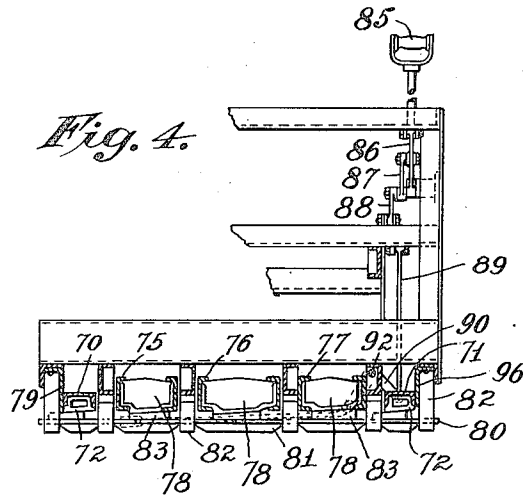


Fig. 4.

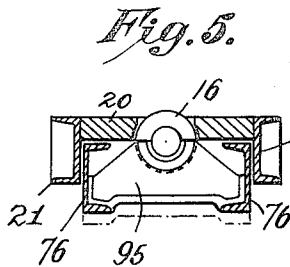


Fig. 5.

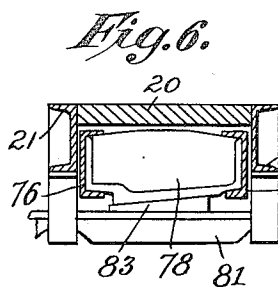


Fig. 6.

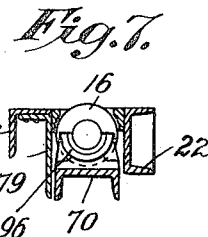


Fig. 7.

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UNITED STATES PATENT OFFICE.

GEORGE B. FRANCIS AND BRONSON H. SMITH, OF NEW YORK, N. Y., ASSIGNORS TO WESTINGHOUSE, CHURCH, KERR & COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

ROLLER-PLATFORM.

1,042,336.

Specification of Letters Patent.

Patented Oct. 22, 1912.

Original application filed March 13, 1911, Serial No. 613,970. Divided and this application filed August 8, 1911. Serial No. 643,008.

To all whom it may concern:

Be it known that we, GEORGE B. FRANCIS and BRONSON H. SMITH, citizens of the United States, residing, respectively, at New York city, county of New York, and State of New York, and New York city, county of Kings, and State of New York, have invented certain new and useful Improvements in Roller-Platforms, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to a platform provided with a system of depressible rollers which, when raised to project through openings in the platform flooring, aid in moving them therefrom, or for shifting articles about on the platform.

The invention is especially adapted to truck platforms or other movable platforms, although it may also be found useful as applied to stationary platforms.

The invention has been made more especially with the idea of its application to a low hung platform of a motor truck, and particularly the motor truck of our original application No. 613,970, filed March 13, 1911, of which application this application is a division.

The object of the invention is to provide improved means for supporting and raising and lowering the rollers, and especially to provide such means without unduly increasing the thickness of the platform.

It is important in motor trucks of the kind to which this invention is shown as applied that the flooring of the low portion of the truck platform shall be as low or as close to the floor on which the truck runs as possible, and, therefore, desirable to avoid any construction of the roller supporting and operating means which would necessitate any considerable increase in the thickness of the platform.

In the accompanying drawings which show the invention as applied to the motor truck of our said application No. 613,970:— Figure 1 is a side view of the truck having its central low hung platform provided with depressible rollers in accordance with the present invention. Fig. 2 is a plan view.

Fig. 3 is a section of the central and rear portions of the truck taken on line 3 of Fig. 2. Fig. 4 is a broken sectional view taken on line 4 of Figs. 2 and 3 with parts omitted. Fig. 5 is an enlarged detail sectional view on line 5 of Fig. 2 showing one of the roller mountings. Fig. 6 is a similar detail view taken on line 4 of Fig. 3 and showing one end of the central roller supporting frame with its lifting device and adjacent parts. Fig. 7 is an enlarged detail section on line 7 of Fig. 2.

Referring to the drawings, the body of the truck consists of a steel platform frame spring-mounted on two rear and two front running wheels. The front and rear portions of the platforms are raised, the rear portion 10 to accommodate the power plant and driving gear and the driving wheels 11, and the front portion 12 to provide clearance for the steering wheels and to accommodate the steering connections. The central portion 15 of the platform is hung low between the end portions to stand close to the floor and is intended for carrying the heavier packages, and this portion of the platform for convenience in loading and unloading the packages is provided with a system of depressible rollers 16 which during transit are intended to be depressed to allow the load to rest directly on the platform flooring, but are quickly and easily raised, as hereinafter described, to permit heavy articles or packages to be rolled on to or off the platform in a direction crosswise of the truck.

The main frame or structure of the truck as shown is of angle bar construction. The central low hung portion of the frame is formed by a number of longitudinal beams which carry the central platform flooring and include two inner channel bars or beams 21, two intermediate channel beams 22 and two outer or side angle bar beams 23. These beams are connected at the front and rear ends of the central platform by transverse channel bars, 25 and 30.

The depressible rollers 16 of the central low platform are mounted to project when elevated through openings in the platform flooring. In order to provide for the raising

and lowering of these rollers without unduly increasing the thickness of the platform and thereby increasing the height of the platform flooring, the rollers are divided into sets and each set is carried by a frame mounted to move vertically between two of the platform beams. As shown in the drawings, five such roller carrying frames are provided. The two outer frames 70 and 71 are formed by inverted channel bars extending the length of the platform and each provided at each end with a supporting block 72. The other three roller carrying frames 75, 76 and 77 are each formed of two channel bars set with their recessed sides facing and connected at their ends by supporting blocks 78. The inner roller frames 75, 76 and 77 have their channel bars set such distance apart as to fit easily between and to be guided in their upward and downward movement by the platform beams between which they are placed, and the outer frame 70 and 71 are similarly guided between the platform beams 22 and guide plates 79 depending from the side bars or beams 23 of the platform.

For supporting and raising and lowering the roller carrying frames, there is provided at each end of the low central platform an endwise movable bar 80 which is mounted to slide on a way formed by a bar 81 hung beneath the platform beams at the end of the platform by brackets 82. The bars 80 carry or have formed thereon a number of inclined supports or wedges 83, one for each of the roller carrying frames, and on which the correspondingly inclined under faces of the supporting blocks 72 and 78 rest. The wedge carriers or bars 80 are reciprocated endwise by means of a handle 85 extending upward through a hole in the rear platform flooring at one side of the machine from a lever 86 which is connected by a link 87 with a lever 88, which in turn is connected by a vertical link 89 with one arm of a bell-crank lever 90 the other arm of which is connected by a horizontally extending link 91 with a pin or arm projecting from the rearmost wedge carrier. The bell crank 90 is fast on a rock shaft 92 which extends longitudinally of the machine in the recess of one of the platform beams 22 and carries at the front of the platform an arm 93 which is connected by a horizontally extending link 94 with a pin or stud projecting from the forward wedge carrier. When the handle 85 is raised to lift the lever 86 to the position shown in Figs. 3 and 4, the wedge carriers are, through the connections just described, moved to the position shown in Fig. 4 to lift the roller frames and cause the rollers to project slightly above the platform flooring, and when the handle is pushed downward the wedge carriers are drawn back to the right in Fig. 4, thereby

moving the wedges to permit the roller frames to drop to lower the rollers below the surface of the platform flooring. The rollers may be mounted on the roller frames in any suitable manner. As shown in Fig. 3 and by the detailed view Fig. 5, the rollers carried by the inner frames 75, 76 and 77 are mounted in bearing blocks 95 which are set on the lower flanges of the channel bars of the frames and are provided with half bearings in which the roller spindles are set. The rollers carried by the outer frames 70 and 71 are similarly mounted in small bearing blocks 96 secured on the upper side of the channel bars of these frames as shown in Fig. 7.

What is claimed is:—

1. The combination with a platform comprising a plurality of beams extending in the same direction and flooring carried by said beams, of a plurality of sets of rollers, a carrying frame for each set of rollers mounted to move vertically between adjacent platform beams, and means for bodily raising and lowering the roller carrying frames, whereby the rollers may be elevated to project above the platform floor through openings therein and depressed to a position below the floor surface.

2. The combination with a truck platform comprising a plurality of longitudinal beams and flooring supported by said beams, of a plurality of roller carrying frames set between adjacent beams, a plurality of rollers carried by each of said frames, supporting wedges at each end of the roller carrying frames, and means for moving said wedges simultaneously to raise or lower the frames, whereby the rollers may be elevated to project above the platform floor through openings therein and depressed to a position below the floor surface.

3. The combination with a platform comprising a plurality of parallel beams and flooring carried by said beams, of a plurality of roller carrying frames set between adjacent platform beams, a plurality of rollers carried by each of said frames, transverse bars carried by the platform beams and movable endwise transversely of the platform beams for raising and lowering the roller carrying frames, and means for moving said bars simultaneously, whereby when the bars are moved in one direction all the rollers will be elevated to project above the platform flooring through openings therein and when the bars are moved in the other direction the rollers will be depressed to a position below the floor surface.

4. The combination with a platform comprising parallel beams and flooring carried by said beams, of a roller carrying frame mounted between said beams and formed of two channel bars set with their recessed sides facing and connected at their ends by

supporting blocks, a plurality of rollers carried by said frame, and supports for said supporting blocks movable to raise and lower the supporting blocks and frame,
5 whereby the rollers may be elevated to project above the platform flooring and depressed to a position below the floor surface.

In testimony whereof, we have hereunto

set our hands, in the presence of two subscribing witnesses.

GEORGE B. FRANCIS.
BRONSON H. SMITH.

Witnesses:

W. L. MURRAY,
A. L. KENT.