

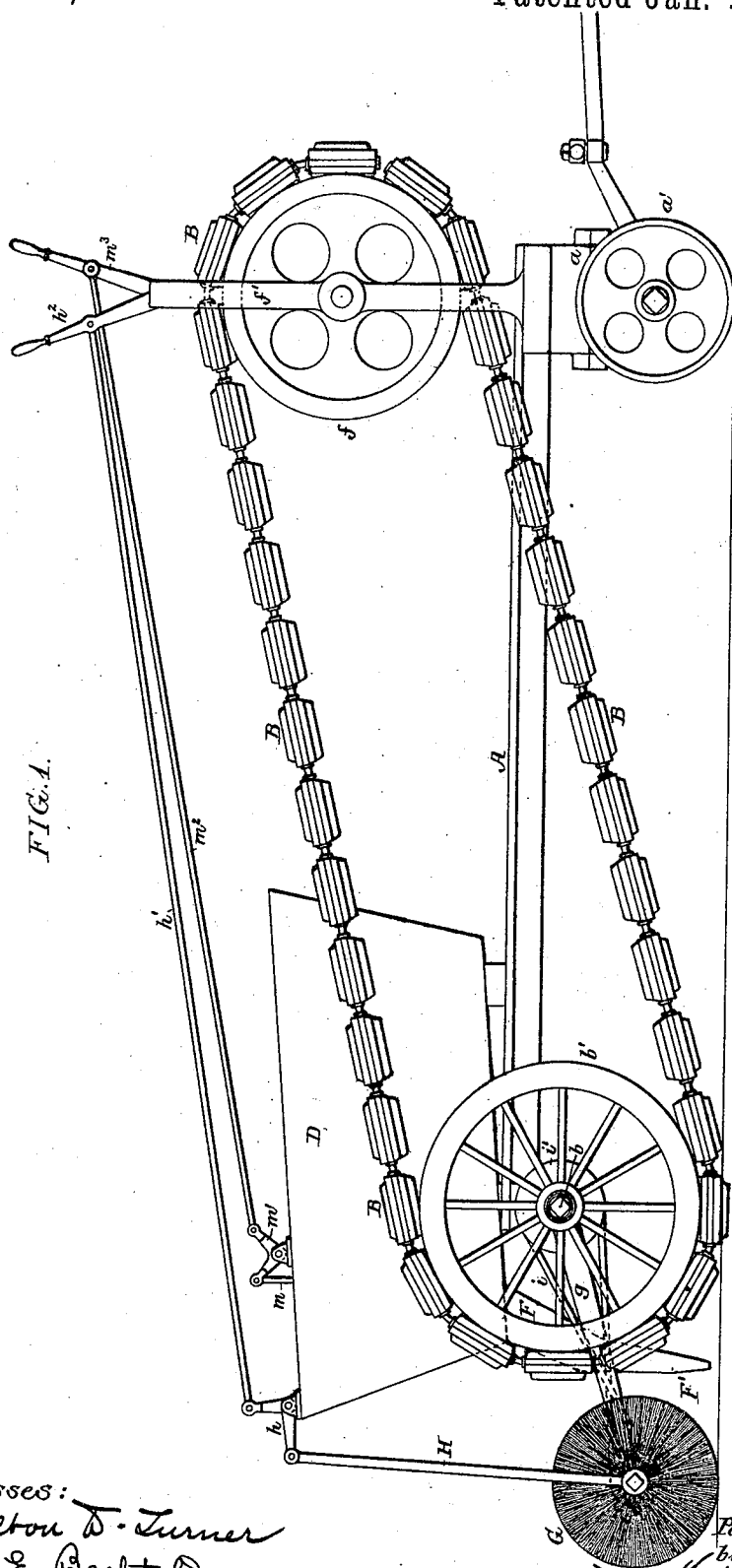
(No Model.)

2 Sheets—Sheet 1.

P. E. BERGEMAN.
PORTABLE ADVERTISING DEVICE.

No. 512,937.

Patented Jan. 16, 1894.



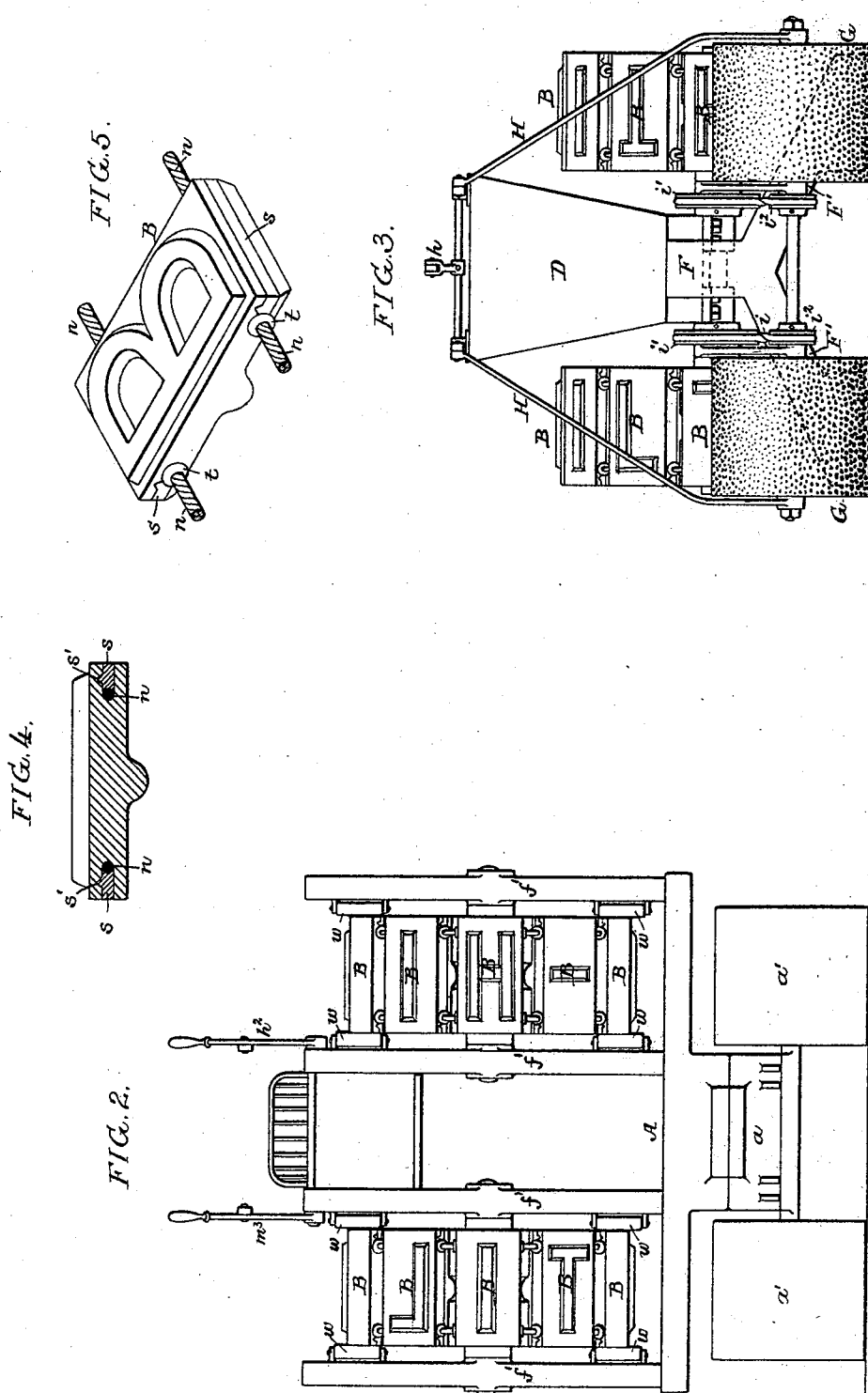
Witnesses:
Hamilton D. Turner
Frank E. Bechtold

Inventor:
Paul E. Bergeman
by his Attorneys
Howson & Howson

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UNITED STATES PATENT OFFICE.

PAUL E. BERGEMAN, OF BERWICK, PENNSYLVANIA.

PORTABLE ADVERTISING DEVICE.

SPECIFICATION forming part of Letters Patent No. 512,937, dated January 16, 1894.

Application filed March 20, 1893. Serial No. 466,850. (No model.)

To all whom it may concern:

Be it known that I, PAUL E. BERGEMAN, a citizen of the United States, and a resident of Berwick, Columbia county, Pennsylvania, have invented certain Improvements in Portable Advertising Devices, of which the following is a specification.

The object of my invention is to provide a method and apparatus whereby letters or other characters or symbols can be formed upon the comparatively soft surfaces of unpaved roads, streets or sidewalks, the distinctive features of the process and of the mechanism for carrying it into effect being too fully described hereinafter to need further preliminary explanation.

In the accompanying drawings:—Figure 1, is a side view of mechanism constructed in accordance with my invention. Fig. 2, is a front view of the same. Fig. 3, is a rear view. Fig. 4, is an enlarged transverse section of one of the elements of the imprinting mechanism; and Fig. 5, is an enlarged perspective view of the same.

A represents a frame or platform having at the front end a pivoted truck *a* with wheels *a'*, and at the rear end bearings for a shaft or axle *b* which has, at its opposite ends, wheels *b'* grooved in their peripheries for the reception of ribs *d* upon the backs of a series of printing blocks *B*, which are connected together as described hereinafter so as to form endless belts which at their front ends pass around wheels or pulleys *f* adapted to bearings in standards *f'* at the front of the platform *A* so that as the apparatus is drawn forward the lettered faces of the blocks *B* will be pressed into the surface of the street or roadway which has been to a certain extent smoothed and compacted by the pressure of the wheels *a'* of the front truck, these wheels being as wide as, or wider than, the printing blocks so that, in the smooth track left in their wake, clean and sharp impressions of the letters on the printing blocks can be readily formed.

Mounted upon the rear portion of the platform *A* is a box or receptacle *D* from which extends a spout *F* forked or widened at the lower end so as to terminate in broad nozzles *F'*, one of which is located directly in the rear of each of the printing belts, and in the rear

of each of these nozzles is a brush *G*, the shaft which carries these brushes being hung by means of arms *g* from the rear axle or shaft *b* and being connected to a lifting frame *H*, the upper end of which is connected to a bell crank lever *h* mounted on a bracket on the box *D*, this lever being connected by a rod *h'* to a lever *h''* so located at the front of the machine as to be within convenient reach of the driver. The brushes *G* are rotated in the direction of the arrow, Fig. 1, by means of a belt *i* adapted to a pulley *i'* on the shaft *b* and to a pulley *i''* on the brush shaft.

The box or receptacle *D* is intended to contain sand or other fine granular material, preferably of a color strongly contrasting with the color of the street or roadway, such granular material being, if desired, dyed in order to impart the desired contrasting color thereto.

The flow of the sand from the box *D* into the spout *F* is regulated by a valve of any desired character, for instance, by a valve similar to that of an ordinary watering cart, this valve being connected by a rod *m* to a bell crank lever *m'* which is mounted above the box and is connected by a rod *m''* to a lever *m'''* within reach of the driver.

Each series of printing blocks *B* is connected together in belt form by means of a pair of cords or ropes *n* which are let into recesses formed in the opposite sides of each block, these recesses being then closed by means of plugs or filling pieces *s*, as shown in Figs. 4 and 5, each of said plugs having a rib *s'* so that it is prevented from slipping sidewise out of position.

Knots or other enlargements *t* are formed upon the cords or ropes *n* between successive blocks *B* so as to properly separate said blocks and provide for the necessary articulation of the belt in passing around the pulleys *b'* and *f*.

Suitable antifriction rollers *w* on the standards *f'* prevent contact of the printing blocks with said standards and not only insure the easy movement of the printing belts but serve to maintain them in proper engagement with the pulleys *f*.

The operation of the device is as follows:—The apparatus being drawn over the ground, the broad wheels *a'* of the leading truck form two smooth tracks upon the surface of the road or street in which tracks are imprinted

in succession the letters, signs, or symbols, carried by the blocks B, and immediately after such impressions have been formed, a thin sheet of sand is spread over each track from the spout F', this sand being constantly swept forward by the brushes G so as to leave the surface of the track free or comparatively free from sand, and brush the latter into the depressions formed by the letters or other characters formed upon the blocks B, so as to leave, in the wake of the machine, two parallel rows of letters or characters constituting successive repetitions of a word, phrase, or other announcement. At crossings, hard spots in the road, or other points at which it is desirable to cut off the distribution of granular material from the box D, the valve controlling the flow from said box may be closed and the brushes may then be lifted from the roadway until such time as it is again desired to distribute the sand.

It will be evident that in carrying out my invention but one of the printing belts may be used, or, on the other hand, there may be more than two, if desired, and the printing blocks may be constructed with the letters or other characters in intaglio instead of relief, so as to form said characters in relief upon the roadway, the surfaces of the characters in this case being swept clean, and the spaces between the characters being filled with the granular material. The printing blocks may also be formed around the periphery of a large wheel instead of being in the form of a belt, although the latter is preferred as providing for the use of a much larger number of blocks.

Instead of the brush G a rotary blower might be used with good effect in some cases, in fact, many of the details of the machine may be altered without departing from the main features of my invention.

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

1. The combination, in apparatus for forming letters or characters upon the surface of unpaved streets, roads, &c., of a platform or truck having a leading wheel for forming a track, and a series of traveling printing blocks for forming impressions in said track, substantially as specified.

2. The combination, in apparatus for forming letters or characters in the surface of unpaved streets, roads, &c., of a truck having a series of traveling printing blocks for forming impressions in said surface, and a spout for delivering sand or other granular material into said impressions, substantially as specified.

3. The combination, in apparatus for forming letters or characters upon the surface of unpaved streets, roads, &c., of a truck having a series of traveling printing blocks for forming impressions in said surface, a spout for delivering the sand in the rear of said printing blocks, and a brush or equivalent device for removing the sand from the high portions of said impressions, substantially as specified.

4. The within described endless printing belt, consisting of the series of printing blocks, the ropes or cords connecting the same, and having filling pieces between the blocks, and plugs for retaining said ropes or cords within the recesses in the blocks, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PAUL E. BERGEMAN.

Witnesses:

A. P. BREIHOF,
E. W. GARRISON.