(No Model.) 2 Sheets—Sheet 1.

W. G. KING.

AUTOMATIC OILING DEVICE FOR ROAD ROLLERS.

No. 588,445. Patented Aug. 17, 1897.

Fig. 1.

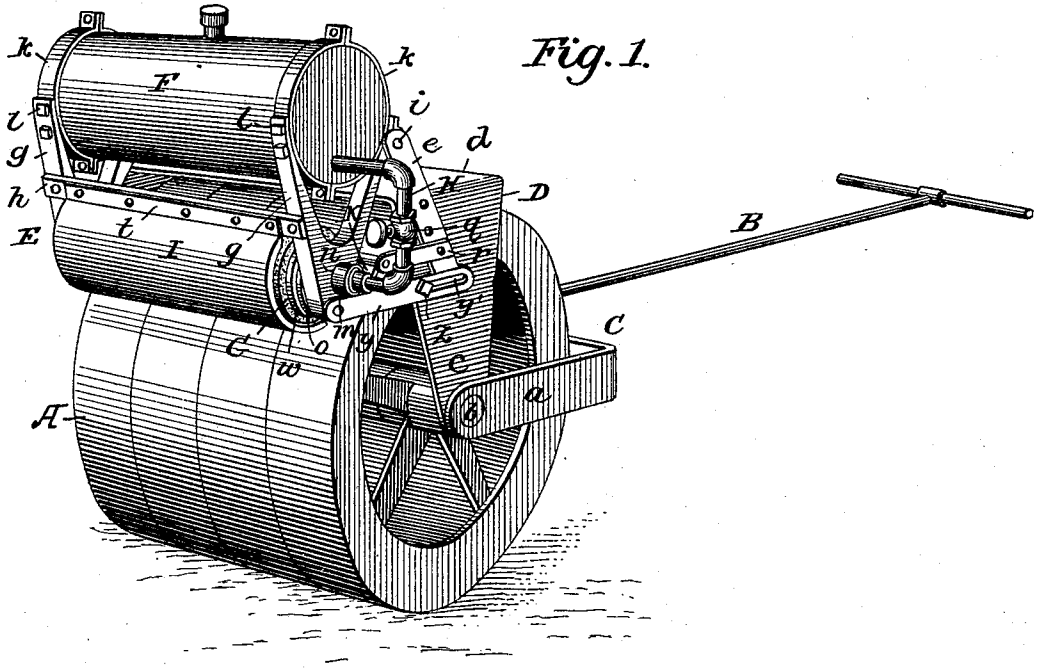
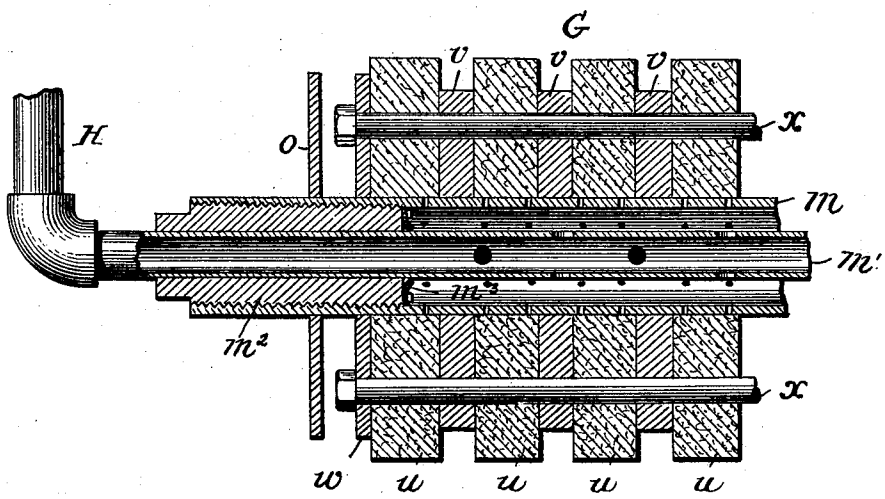


Fig. 3.



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(No Model.) 2 Sheets—Sheet 2.

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AUTOMATIC OILING DEVICE FOR ROAD ROLLERS.

No. 588,445. Patented Aug. 17, 1897.

Fig. 2.

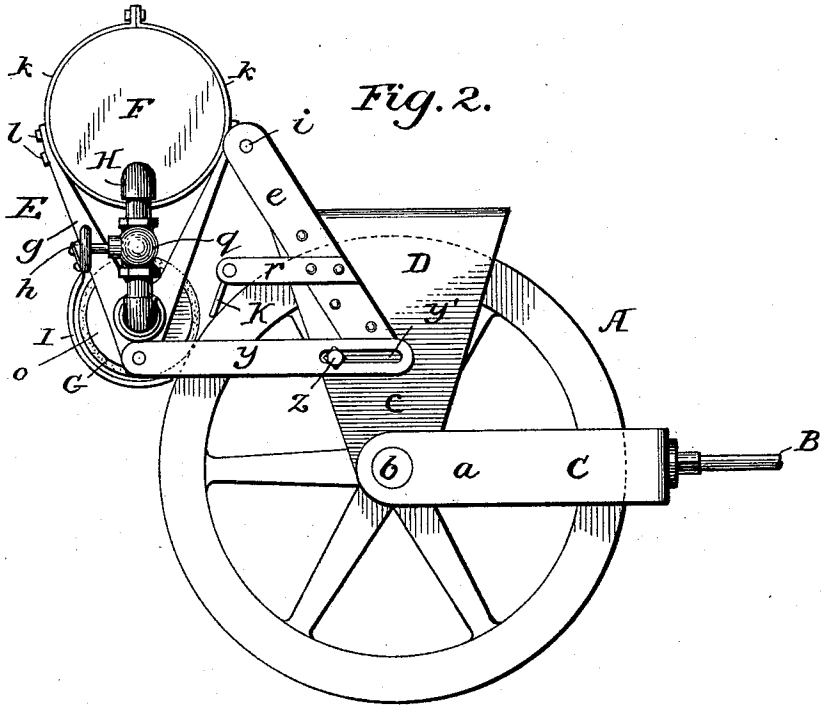
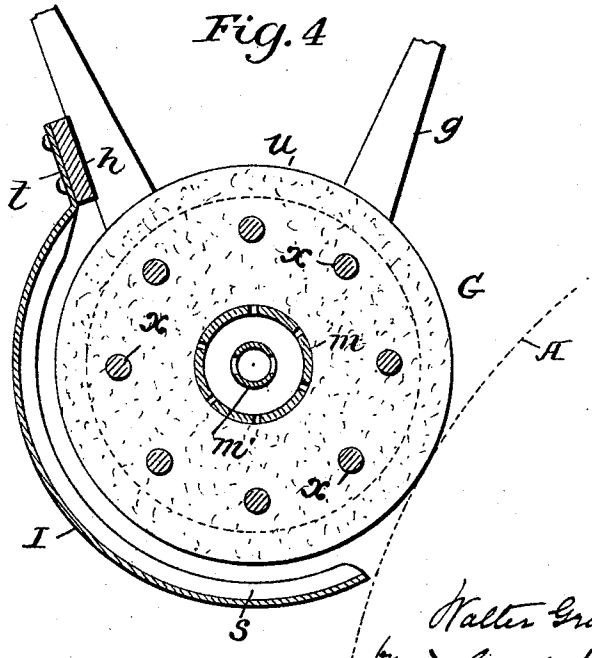


Fig. 4



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UNITED STATES PATENT OFFICE.

WALTER GRANT KING, OF BUFFALO, NEW YORK, ASSIGNOR TO THE BARBER ASPHALT PAVING COMPANY, OF WASHINGTON, DISTRICT OF COLUMBIA, AND NEW YORK, N. Y.

AUTOMATIC OILING DEVICE FOR ROAD-ROLLERS.

SPECIFICATION forming part of Letters Patent No. 588,445, dated August 17, 1897.

Application filed November 9, 1896. Serial No. 611,518. (No model.)

To all whom it may concern:

Be it known that I, WALTER GRANT KING, a citizen of the United States, residing at Buffalo, Erie county, State of New York, have invented certain new and useful Improvements in Automatic Oiling Devices for Road-Rollers, of which the following is a specification.

This invention is an improvement in road-rollers of the kind adapted more especially for compacting, smoothing, and finishing asphalt and other similar pavements; and the invention consists in a road-roller provided with an oiling device having the features of construction and mode of operation substantially as hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a perspective view of a road-roller embodying my improvements. Fig. 2 is a side view thereof, the handle being broken off. Fig. 3 is an enlarged central longitudinal section of part of the oiling-roller, and Fig. 4 is an enlarged cross-section of the oiling-roller and the guard and drip-tray therefor.

Referring to the drawings, A is a road-roller of usual construction, provided with an operating-handle B, secured to or terminating in a yoke C, the arms *a a* of which fit over and loosely engage the ends of the axle *b*, all as is well understood.

Mounted upon the yoke C or upon the ends of the axle *b* of the roller is a frame D, of any suitable construction, but which, as shown, is composed of standards *c c*, forming part of or connected at their lower ends to the yoke and at their upper ends to a cross-piece *d*, while secured to the standards and projecting upwardly and rearwardly therefrom are supports *e e*.

E is a supplemental frame which, as illustrated, consists of substantially V-shaped end pieces *g g*, secured together by one or more cross-bars *h*. This frame is pivotally connected at *i i* to the free ends of the supports *e e* and carries an oil-reservoir F between the arms of the end pieces *g g*, the reservoir being secured in place in any convenient way, as by sectional bands *k k*, surrounding its ends, and attached to the end pieces *g g* by bolts *l l*, or otherwise.

An oiling-roller G of some absorbent material is mounted upon a perforated tubular axle *m*, rotatably supported in bearings *n n* in the end pieces of the frame E, the roller being held free from contact with said end pieces and against endwise movement between the latter by collars *o o* on the axle and bearing against the inner faces of the end pieces.

A supply-pipe H, having a regulating-valve *q* in the line thereof, leads from the oil-reservoir to the interior of the roller G, a perforated horizontal section *m'* of said pipe extending through the axle *m* of said roller, one end of said section being suitably closed by a plug or otherwise. The section *m'* of the supply-pipe is supported concentrically within the axle *m* by intermediate hollow end plugs m^2, which, with suitable washers m^3 of packing material, constitute packings which effectually provide against escape of the oil, while at the same time permitting free rotation of the oiling-roller and its tubular axle *m* round the said section *m'*.

I is a combined dust-guard and drip-tray for the oiling-roller G, it being secured at its upper edge *t* to the cross-bar *h* of the frame E and arranged to inclose the outer lower portion of said roller. This combined guard and tray is preferably made of sheet metal and extends at its lower inner edge to the opposite side of the roller G and slightly above the lowermost portion of the latter, the lower edge of the tray terminating in close proximity to the periphery of the main roller A when the parts are in operative position, as best shown in Figs. 2 and 4. The ends of the combined guard and tray are turned over at right angles to the body portion to form inwardly-extending flanges *s*, so that any surplus oil dripping from the roller G upon the tray will be retained thereby.

It will be seen that as the frame E, carrying the roller G and its adjuncts, is suspended at one side and at or near the top from the main frame D it naturally swings at the lower end toward the roller A, thus insuring at all times a proper contact of the oiling-roller with said roller A. Any convenient means may be provided for adjusting and maintaining the oiling-roller away from the

main roller when desired—as, for instance, during the transportation of the apparatus. Thus links y may be pivoted to the frame E and be provided with slots y' to receive bolts z on the frame D, so that by tightening the bolts the frame may be locked in its adjusted position, while by loosening the bolts the frame E is free to swing on its supports.

The roller G may, if desired, be made of one continuous piece of any suitable material, but, as preferred and shown in Fig. 3, it is composed of a series of felt disks u u, alternately arranged upon the axle m, with relatively thin wood or other spacing-pieces v v. These felt disks and their spacing-pieces are firmly clamped together between metal washers w at the ends of the roller by means of bolts x x, extending therethrough and having end nuts by which the parts may be suitably tightened. When thus made up of disks and spacing-pieces, the roller G may also in some instances be surrounded by a jacket of absorbent material, but this is usually unnecessary, as the disks spread laterally at their outer edges when in use, and thus present a practically unbroken and uniform surface.

A scraper K is pivoted between arms r r on the main frame D, in position to bear with its edge upon the periphery of the roller A, to remove therefrom any coarse material which may adhere thereto.

The roller G lying in contact with the roller A and the valve q being open oil from the reservoir flows to the interior of the oiling-roller and is evenly distributed therein by the perforated section m' of the supply-pipe. The oil then passes out through the perforations in the axle m into the body of the roller, saturating the latter, and as the road-roller is moved back and forth over the surface under operation the roller G uniformly distributes the oil over the periphery of the road-roller. Any excess of oil on the roller G falls into the drip-tray I below and may be removed therefrom as desired, the upward extension of said tray at the same time serving to effectually protect the oiling-roller against dust or dirt.

By properly adjusting the valve the amount of oil fed to the roller may of course be controlled.

Without limiting myself to the precise construction set forth, I claim—

1. The combination of a road-roller, a main frame thereon extending above the roller, a supplemental frame pivotally suspended from said main frame at one side of a vertical central line and above the roller, an oiling-roller mounted in the lower portion of said supplemental frame, an oil-reservoir also carried by said latter frame, and connections between the reservoir and oiling-roller for supplying the latter with oil, substantially as described.

2. The combination of the road-roller, the operating-handle thereof, the main frame extending above said roller, a supplemental frame suspended from the upper part of the main frame, a reservoir supported by said supplemental frame, an oiling-roller journaled in the latter below the reservoir, connections between the reservoir and oiling-roller for supplying oil thereto, and adjusting devices for said supplemental frame, substantially as described.

3. The combination of a road-roller, an oil-reservoir, an oiling-roller having a tubular perforated axle, a supply-pipe leading from the reservoir to said axle and terminating in a perforated section arranged concentrically within the axle, and stuffing-boxes between said axle and perforated section, substantially as described.

4. The combination of the road-roller, an oil-reservoir, an oiling-roller, connections between the latter and reservoir, and a combined dust-guard and drip-tray partly inclosing the oiling-roller, substantially as described.

5. The combination of the road-roller, a swinging frame supported thereon and comprising end pieces and a cross-bar connecting them, an oiling-roller journaled in the end pieces, a semicylindrical dust-guard and drip-tray carried by said cross-bar and partly inclosing the oiling-roller, end flanges on said guard and tray, and means for feeding oil to said oiling-roller, substantially as described.

6. The combination of the road-roller, the frame D, the supplemental frame E pivoted thereto and comprising V-shaped end pieces, the reservoir supported by the arms of said end pieces, the roller G journaled in the lower part of the end pieces, the pipe H, and the links y pivoted to the frame E and having a sliding connection with the frame D, substantially as described.

7. The combination with the road-roller and oil-reservoir, of an oiling-roller composed of a tubular perforated axle, absorbent disks and spacing-pieces alternately arranged thereon, end washers, and clamping-bolts extending through said disks, spacing-pieces and washers, and connections between said reservoir and axle, substantially as described.

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

WALTER GRANT KING.

Witnesses:
CARLETON GREENE,
R. C. SHELDON.