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TRANSPORTABLE APPARATUS FOR APPLYING BITUMINOUS COVERINGS, PARTICULARLY TO CANAL WALLS AND THE LIKE INCLINED SURFACES

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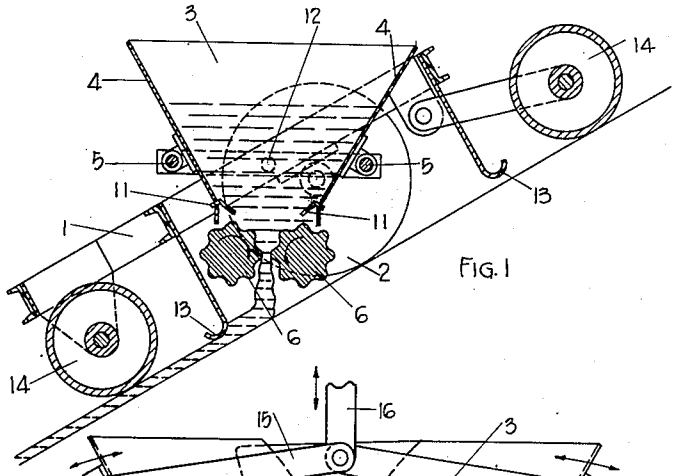


FIG. 1

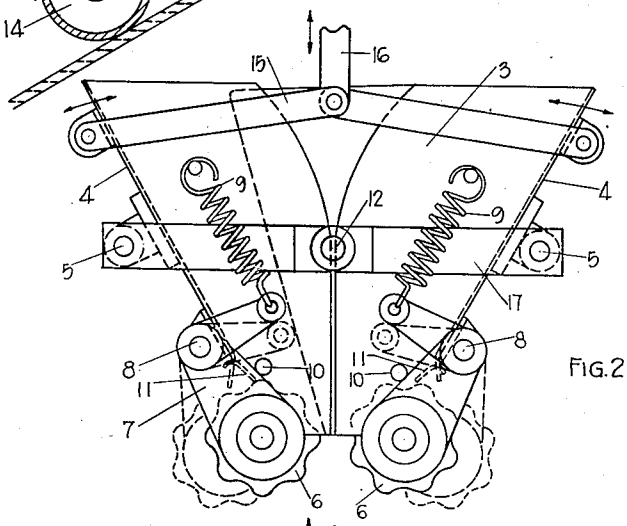


FIG. 2

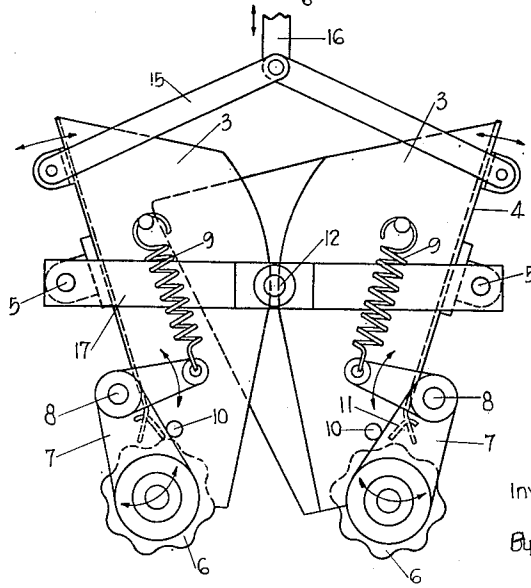


FIG. 3

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TRANSPORTABLE APPARATUS FOR APPLYING BITUMINOUS COVERINGS, PARTICULARLY TO CANAL WALLS AND THE LIKE INCLINED SURFACES

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7 Claims. (Cl. 91—30)

The invention relates to a transportable apparatus for applying bituminous coverings, particularly to canal walls and the like inclined surfaces, comprising a funnel-shaped bitumen container mounted on a carriage frame, the bituminous compound being caused to emerge from the container by means of resiliently positioned conveying rollers. From the known apparatus of this kind the apparatus according to the invention is substantially distinguished in that the bitumen container is swingingly arranged in the carriage frame, the apparatus being adapted thereby for covering inclined surfaces such as canal slopes and the like as the position of the container will be always vertical.

Further the apparatus according to the invention is distinguished in that the container is made in two halves in a direction transverse to the direction of movement, each of the halves being adapted to swing in such a way as to allow the width of the discharge slot being adjusted, whilst to each of the halves a conveyeing roller is adjustably connected, such rollers having an undulatory cross section, by which a better discharge of the tough mass of bitumen, especially asphalt, is obtained. The resilient bearing of these rollers is obtained by means of swinging bell crank lever arms under the action of tension springs which allow a sufficient sideward movement of the rollers when stones or hard lumps occur, so as to prevent the apparatus from being damaged.

An embodiment of the invention is shown in the accompanying drawing, in which

Fig. 1 shows a vertical section through the apparatus when applied to a slope,

Fig. 2 the funnel-shaped bitumen container on an enlarged scale partially in side view and partially in vertical section illustrating discharge opening in narrow position, Fig. 3 is similar to Fig. 2 except that it shows the discharge opening in wide position.

Within the carriage frame 1 with roller-shaped wheels 2 the bitumen container is swingingly supported on journals 12. The two walls 4 of the container situated in the direction of movement are positioned so as to form a funnel. The funnel-shaped container is divided into two halves, each of which is adapted to swing about a journal 5, the width of the discharge slot of the container being adjustable by toggle joint lever 15 actuated by a rod 16. The two journals 5 are interconnected by means of side bars 17. The container as a unit is free to swing in the carriage frame 1 by means of journals 12. At the bottom end of each half of the container a conveying roller is arranged and adapted to swing together with said half, the two rollers covering the discharge slot of the funnel or controlling the width thereof. Each of the rollers 6 is supported by a bell crank lever 7 rotatable about a journal 8, one arm being under the influence of a powerful tension spring 9 and the other being pressed thereby against a stop 10. By this arrangement the use of a long tension spring and a yielding of the roller to a large extent is possible, thereby avoiding an interruption of the working even when large stones or hard lumps occur. The rollers are undulatorily shaped at their circumference, a positive discharging or pressing out of the tough mass, particularly asphalt, being thereby possible.

The conveying rollers are driven in any known manner by the travelling rollers 2, e. g. by means of a chain drive. Owing to the undulatory cross section of the rollers slots are present between the latter and the adjacent funnel walls. The slots are covered by means of flaps hinged to the funnel walls 4 and sliding with their free ends on the undulatory circumference of the rollers. The quantity discharged can be regulated not only by the swinging of the halves of the container, but also by changing the number of revolutions of the rollers. At the front and rear ends of the bitumen container a device for smoothing the mass discharged is provided, said device comprising a smoothing plate 13 and a smoothing roller 14 if required. With this arrangement the carriage can be used in both directions of movement. When working on slopes the bitumen container swings about its journals 12 and assumes a vertical position. The carriage when used for covering canals may be let down from the top of one of the slopes towards the bottom and drawn up on the opposite slope.

What we claim is:

1. Transportable apparatus for applying bituminous coverings especially to inclined surfaces, comprising a carriage frame, a funnel-shaped container swingingly supported in said frame and adapted to be filled with a bituminous substance, a discharge slot at the bottom of said container and resiliently supported conveying rollers confining said slot.

2. Apparatus according to claim 1, in which the wall of the funnel-shaped container is divided into two halves over a plane transverse to the direction of movement of the carriage, the two halves being each adapted to swing about a journal so as to enable adjustment of the width of the discharge slot.

3. Apparatus according to claim 1, in which the wall of the funnel shaped container is divided into two halves over a plane transverse to the direction of movement of the carriage, the halves of the funnel and the two conveying rollers connected thereto being adapted to swing so as to control the width of the discharge slot of the funnel.

4. Apparatus according to claim 1, in which the conveying rollers are connected to the funnel walls by means of bell crank levers, which stand under the action of tension springs.

5. Apparatus according to claim 1, in which the conveying rollers have an undulatory cross section.

6. Apparatus according to claim 1, in which the conveying rollers have an undulatory cross section and hingedly supported flaps are connected to the funnel walls in such a way as to rest with their free ends on the conveying rollers and cover the slots between the said rollers and the adjacent funnel walls.

7. Apparatus according to claim 1, in which at the front and rear ends of the container a smoothing device is arranged in order to allow the apparatus to be used in both directions of movement.

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