April 12, 1938. J. HARRINGTON, JR 2,113,690

COATING APPARATUS

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Fig. 1.

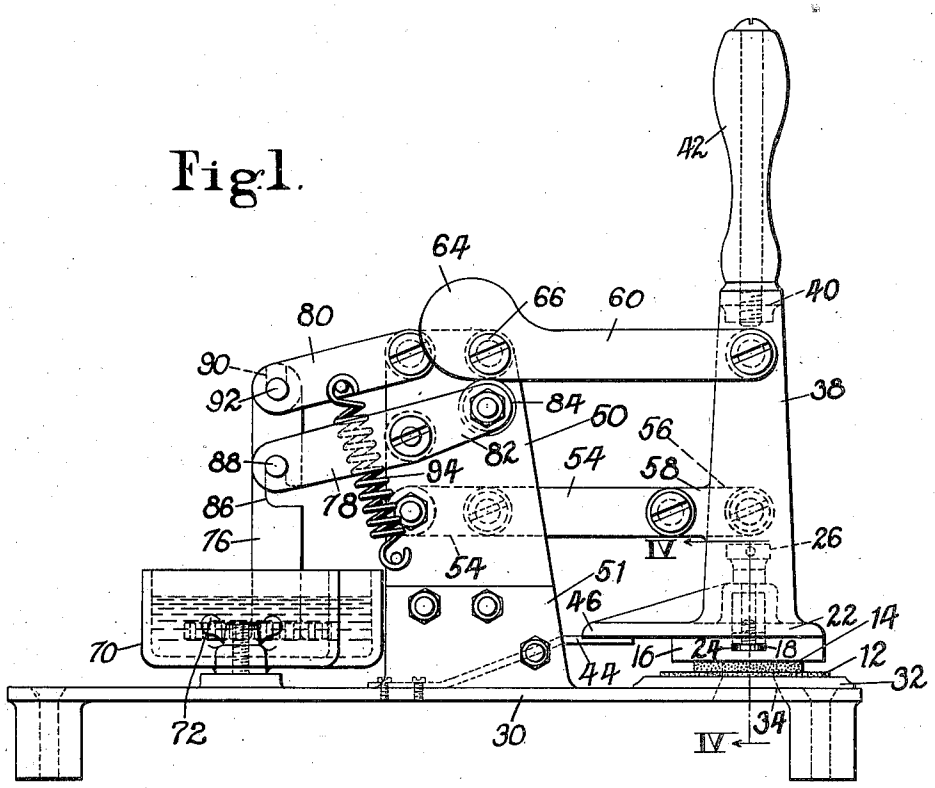
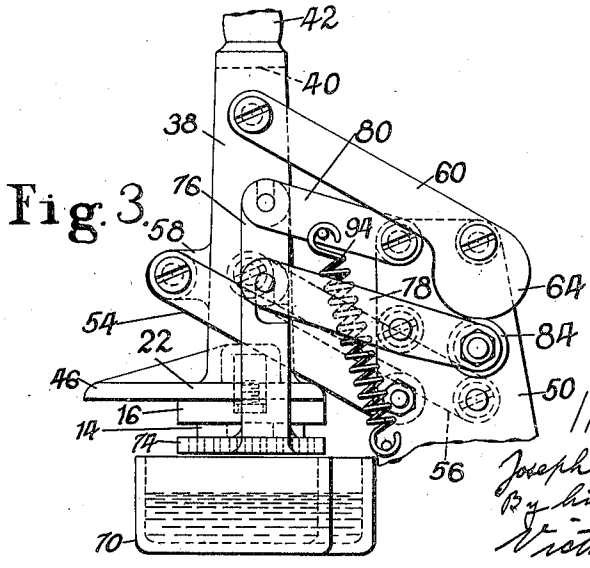


Fig. 3.



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Fig. 2.

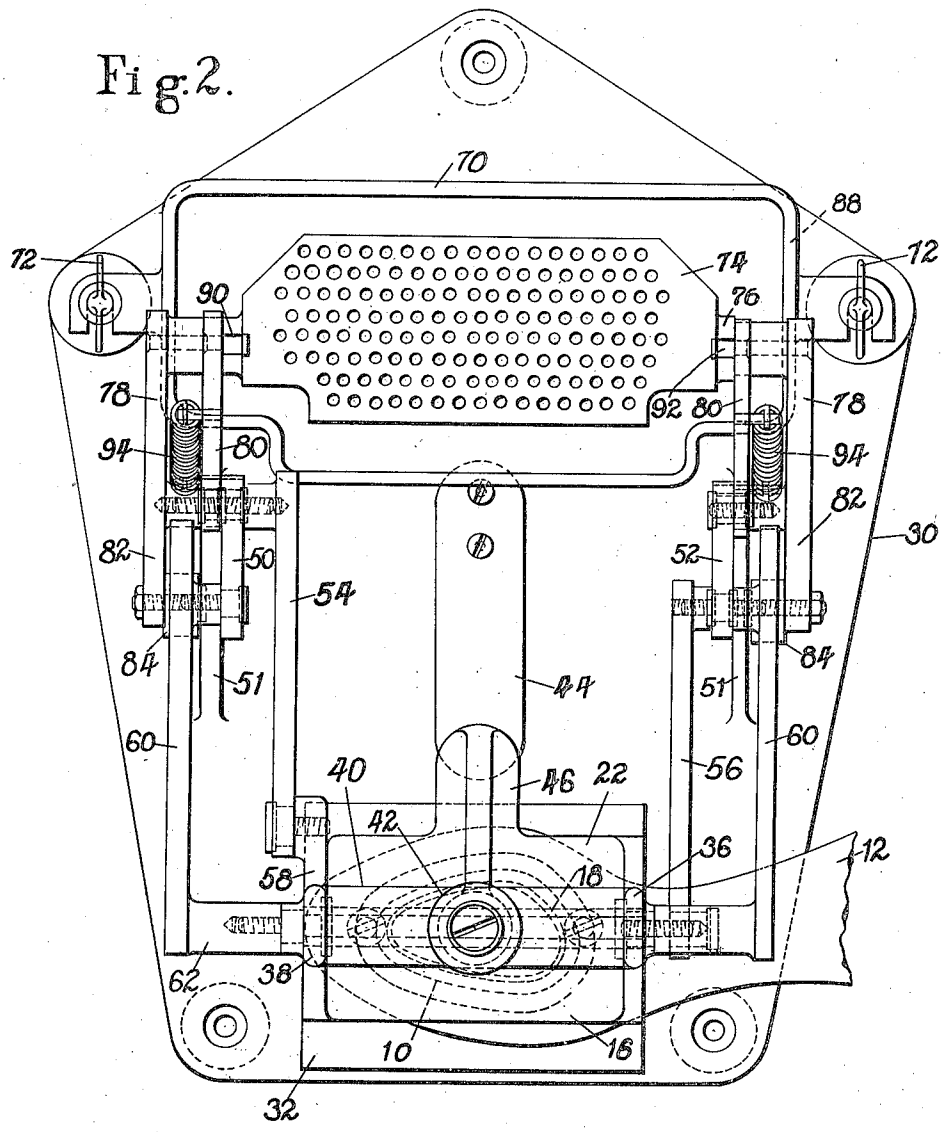
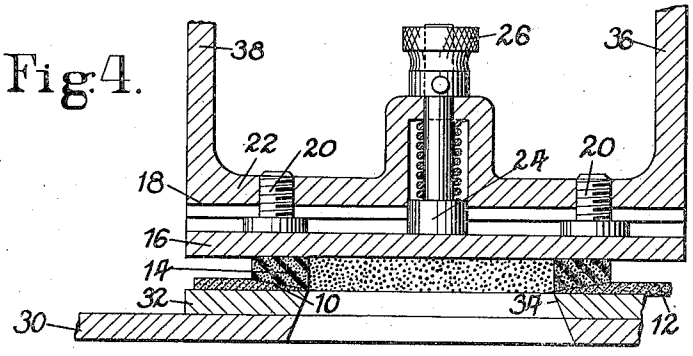


Fig. 4.



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UNITED STATES PATENT OFFICE

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COATING APPARATUS

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Application July 3, 1937, Serial No. 151,879

4 Claims. (Cl. 12—80)

This invention relates to improvements in coating apparatus and is herein illustrated as embodied in a cementing machine for shoe parts.

Machines of the impression type in which an applying pad is movable from a position where it picks up a supply of coating material to a position where it applies the coating material to the work in the fashion of a rubber stamp are extensively employed for marking various shoe parts. They have to a limited extent been utilized for applying cement. When used for marking, an ordinary absorbent pad is satisfactory for delivering a supply of ink to the applying member. This, however, is not satisfactory for cement since the pad would so rapidly become gummed up.

In view of this, an object of the invention is to provide in a machine of this type an improved cement-supplying arrangement whereby just the desired quantity may be delivered to the applying pad as the latter is swung to its pick-up position.

In the illustrated embodiment and in accordance with a feature of the invention, a shallow cement-supply receptacle has associated with it a supplying member movable from a position where it is submerged beneath the level of the cement to an upper position where it contacts with the face of the applying pad as the latter is swung to its rear or pick-up position. As illustrated also, this supplying member, in the form of a pick-up grid, is mounted on parallel links and the applying member or pad, also mounted on parallel links, is interconnected with the pick-up grid as by means of a cam on one of the links of the applying pad designed to cooperate directly with one of the links of the pick-up grid to raise the latter.

These and other features of the invention will be best understood from a consideration of the following description taken in connection with the accompanying drawings, in which—

Fig. 1 is a side elevation of the machine;

Fig. 2 is a plan view thereof;

Fig. 3 is a fragmentary side elevation showing the applying pad in contact with the pick-up grid, and

Fig. 4 is a vertical section on the line IV—IV of Fig. 1 through the applying pad and a piece of work.

The machine is illustrated as utilized for the application of a band of cement to the beveled annular opening **10** in the forepart of an insole **12** but it will be understood that the machine is adapted for use for various sorts of work merely by changing the shape of the applying die or pad **14**. This pad may be made of any suitable material but is here shown as comprising an annular member of sponge rubber, shaped like the opening in the insole and beveled on its under face. This pad is cemented to the under face of a plate **16** having a transverse groove **18** with overhanging edges so that it may be slid over the heads of screws **20** depending from a carrier frame **22**. In this carrier frame is a spring-pressed plunger **24** for holding the plate **16** of the pad in centered position on the carrier **22**. This plunger may be lifted by means of a thumb piece **26** when it is desired to change applying pads.

The machine frame **30** comprises a base plate on which is supported a work table **32**, this table and the base plate of the machine being provided with an opening **34** corresponding to the opening in the insole **12** so that any cement inadvertently squeezed out or spattered from the pad will fall through the opening without smearing the work table. The carrier **22** comprises a rectangular bottom piece, in which is mounted the plunger **24**, and superposed on which are side members **36**, **38** connected by a crossbar **40** provided at the top with an operating handle **42**. The impact as the applying pad **14** contacts with the work is lessened by means of a spring **44** mounted on the base plate of the frame **30** and engaged by a lip **46** on the carrier **22**.

In order that the applying pad may be swung from its operative or applying position at the front of the machine to an inoperative or pick-up position at the rear of the machine, the frame of the machine is provided with spaced uprights **50** and **52**, bolted to flanges **51** integral with the base, and on which the carrier **22** is swingably mounted by means of parallel links. One set of these, attached at one end to the uprights and at the other end near the bottom of the side pieces of the carrier, comprises links **54** and **56** which are of the same length but are staggered so that the link **54** is secured to a projection **58** (Figs. 1 and 3) on the side bar **38** while the link **56** is attached directly to the side bar **36**. In addition, similar links **60** of another set have at their front ends inward projections **62** whereby they are pivotally attached to the side frames **36** and **38** of the carrier and at their rear ends are provided with cams **64** through which pass pivot screws **66** to pivotally support them on the outer sides of the uprights **50** and **52**.

The machine is also provided with cement-supplying apparatus which is mounted near the rear of the base of the frame **30**, considered as viewed by an operator facing the right end of the machine, as shown in Fig. 1, and this appa-

ratus comprises a removably mounted receptacle 70 attached to the base of the frame by thumb screws 72. In this receptacle is a perforated grid plate 74, the form of which may be varied in accordance with the shape of the applying pad 14 and which is adapted to be immersed in the cement in the receptacle, as shown in Fig. 1, or to be lifted above the level of the cement, as shown in Fig. 3. To this end, the grid has vertical hangers 76 enabling the grid to be secured to parallel links 78 and 80 arranged in pairs and pivotally secured to the uprights 50 and 52. The lower links 78 are extended at 82 forwardly of their pivot points and provided with rollers 84 engaged by the cams 64 on the links 60 of the pad carrier whereby the grid may be raised from the receptacle. It will be noted that the grid is detachably secured to these links 78 and 80 so that it may be removed for cleaning or for substitution of a grid of different shape, and to this end the hangers 76 have angled slots 86 for the reception of pins 88 at the ends of the links 78 and also have vertical slots 90 open at their upper ends for the reception of pins 92 at the ends of the links 80, these pins 92 being held in engagement with the hangers 76 by coiled springs 94.

In the use of the machine, pieces of work 12 are placed on the work table 32 and the operator, grasping the handle 42, oscillates the applying pad 14 from its cement-receiving position, as shown in Fig. 3, to its applying position, as shown in Fig. 1. The arrangement of the carrier links for the applying member and for the supplying member and of the cams 64 enables the grid 74 to be withdrawn from the receptacle and returned thereto with a minimum of disturbance of the cement in the receptacle.

Having described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a coating apparatus, an applying member mounted for movement from an applying position to a coating-pick-up position, a movably supported coating-supplying member, and cam means associated with said applying member for lifting said supplying member into contact with the applying member as the latter is moved to its pick-up position.

2. In a coating apparatus, a coating-applying member, parallel links supporting said member for swinging movement from a coating-receiving position to an applying position, a receptacle, a coating-supplying member dipping in the material in said receptacle, means for supporting said supplying member for movement into and out of the material in the receptacle, and a cam on one of the links cooperating directly with said latter supporting means to raise the supplying member out of the receptacle as the applying member is swung to pick-up position.

3. In a cementing machine, a frame, a work support thereon, a cement-applying member supported on parallel links pivoted to said frame, a cement receptacle on the frame, a grid in said receptacle, parallel links supporting said grid, and a direct connection between the two sets of links whereby the swinging of the applying member away from the work lifts the grid to contact with the applying member and supply cement thereto.

4. In a cementing machine, a frame, a work support on said frame, a cement-applying pad, parallel links swingably supporting said pad, a cement receptacle on the frame, a grid movable in said receptacle, parallel links supporting said grid for movement into and out of the receptacle, a roll on one of said grid-supporting links, and a cam on one of the links supporting the applying member positioned to cooperate with said roll to lift the grid from the receptacle into contact with the applying member as the latter is swung to inoperative or pick-up position.

JOSEPH HARRINGTON, JR.