

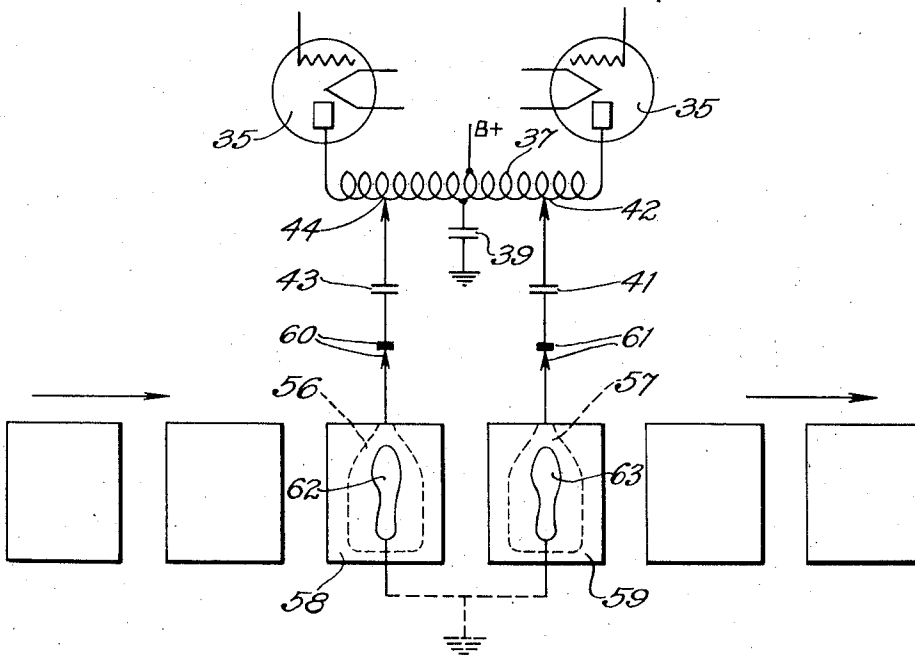
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SHOE CEMENTING APPARATUS

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2,309,303

SHOE CEMENTING APPARATUS

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Original application June 13, 1941, Serial No.
397,874, now Patent No. 2,298,038, dated Octo-
ber 6, 1942. Divided and this application April
7, 1942, Serial No. 437,928

2 Claims. (Cl. 12—37)

This invention relates to electrostatic heating apparatus, and relates more particularly to apparatus utilizing high frequency electrostatic fields for producing heat in an adhesive used for the cementing of shoe parts.

This invention is a division of my copending application Serial No. 397,874, filed June 13, 1941.

The present invention provides a push-pull oscillator circuit for heating two work surfaces simultaneously.

Among the advantages of this push-pull circuit are that the voltage losses through the oscillator tubes are reduced and one oscillator station can simultaneously handle two loads without unbalance, thus replacing the two oscillator stations previously required for this duty.

An object of the invention is to increase the efficiency of shoe cementing apparatus utilizing electrostatic energy.

Another object of the invention is to reduce the cost of shoe cementing apparatus utilizing electrostatic energy.

This invention relates as does the one disclosed in said copending application, generally to the heating of a dielectric such as cement by energy derived from a high frequency electrostatic field as disclosed in the Pitman Patent No. 2,087,480, and is well adapted to the quantity production of shoes utilizing a conveyor system as disclosed generally by the Smith Patent No. 2,109,323.

The invention will now be described with reference to the drawing, which is a diagrammatic view illustrating two shoe circuits being connected in series with each other and to a push-pull type of oscillator.

In sole cementing, it is the practice to roughen the bottom of the lasted shoe and the top of the outsole and to coat these parts with an adhesive such as is disclosed in said Pitman patent. Then the assembly is placed in a press which forces the coated parts together, following which heat may be generated in the adhesive by a high frequency electrostatic field produced as will be described.

The drawing illustrates how two sets of electrodes of the opposed type disclosed in said Smith patent may be connected in a push-pull circuit to a single tank coil 37 and which may receive energy from vacuum tube triodes 35 connected as illustrated in Fig. 3 of said application. The lower electrodes 56 and 57 are contained within the two adjacent presses 58 and 59 respectively. The electrode 56 is connected through the wiping contacts 60 and the condenser 43 to

the tap 44 on the coil 37, and the similar electrode 57 is connected through the wiping contacts 61 and the condenser 41 to the tap 42 on the coil 37. The midpoint of the coil 37 is grounded through the condenser 39. The upper electrodes 62 and 63 which may be metal last bottoms are grounded to their respective presses as disclosed in Fig. 1 of said application.

The presses are arranged in a conveyor system as disclosed in my copending application, Serial No. 390,555. In operation the presses move past the oscillator station and two adjacent presses at a time receive energy directly from the oscillator station through the wiping contacts. The two load circuits taken separately are unbalanced but when connected as disclosed they form a part of a single balanced push-pull circuit, enabling one oscillator station simultaneously to handle two loads without detuning or other adverse effects.

In the system of my said copending application, Serial No. 390,555, separate oscillators are used for each shoe cementing station. Where separate oscillators are so used, it is more advantageous to utilize single ended oscillators. The present invention however, enables the number of oscillator stations to be halved without adverse effects and with decreased cost and operational difficulties.

While one embodiment of the invention has been described for the purpose of illustration, it should be understood that the invention is not limited to the exact apparatus and arrangements of apparatus illustrated, as modifications thereof may be suggested by those skilled in the art without departure from the essence of the invention.

What is claimed is:

1. Shoe treating apparatus comprising a pair of shoe presses; a pair of electrodes for each press; means grounding one electrode of each of said pairs, means forming a push-pull, high frequency, oscillator circuit, and means connecting the other electrodes of said pairs in series across said circuit.

2. Shoe treating apparatus comprising a pair of shoe presses; a pair of electrodes for each press; means grounding one electrode of each of said pairs, means forming a push-pull, high frequency, oscillator output circuit, means grounding said circuit at its electrical center, and means connecting the other electrodes of said pairs in series across said circuit.

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