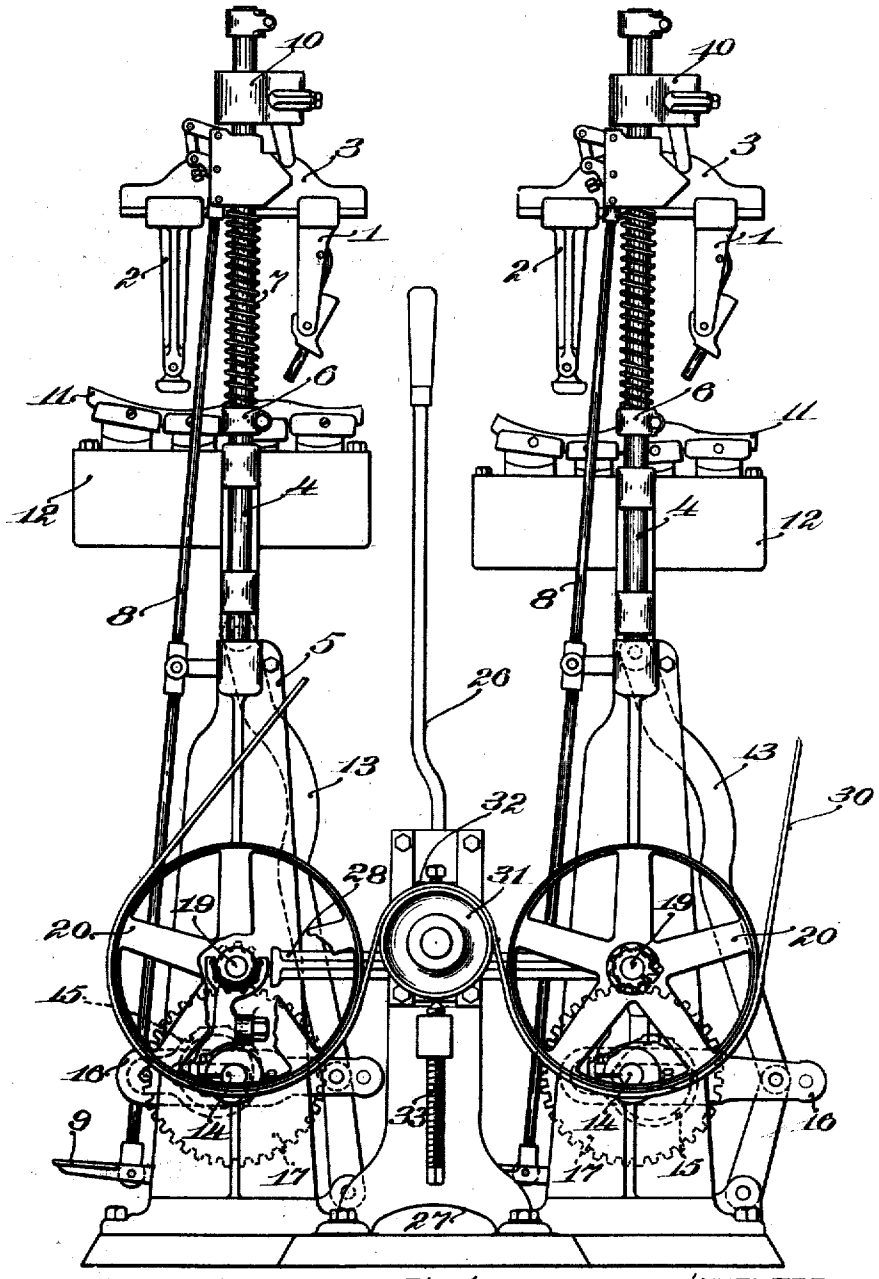
H. A. DAVENPORT.

SOLE PRESSING MACHINE.

APPLICATION FILED JUNE 29, 1905.

930,272. Patented Aug. 3, 1909.

2 SHEETS—SHEET 1.



WITNESSES.

Fig. 1.

INVENTOR.

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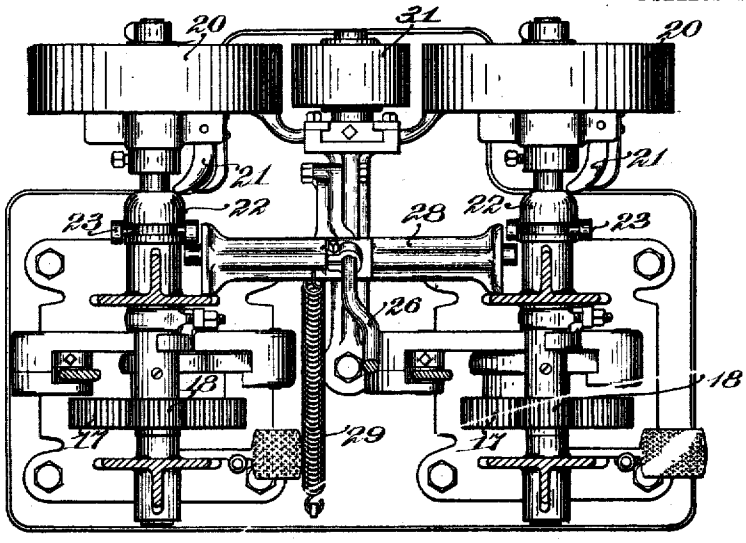

Fig. 2.

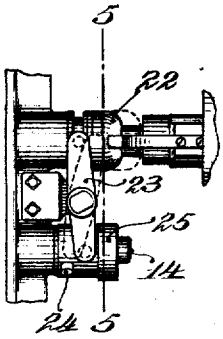

Fig. 4

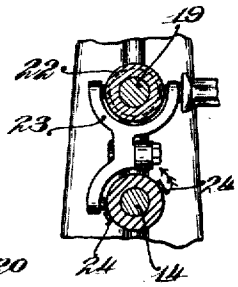

Fig. 5.

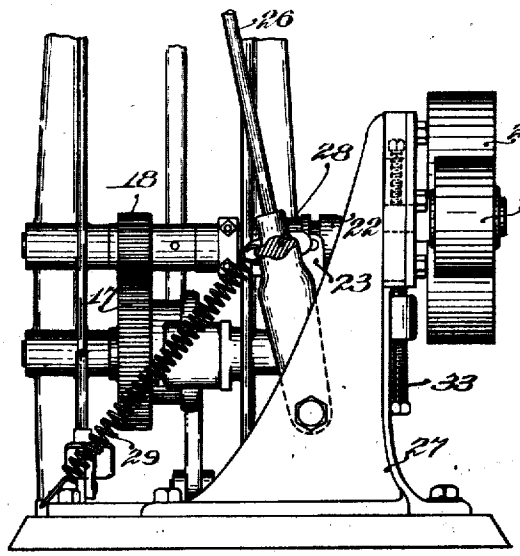

Fig. 3

WITNESSES.

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UNITED STATES PATENT OFFICE.

ERMAN A. DAVENPORT, OF BROCKTON, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SOLE-PRESSING MACHINE.

No. 930,272. Specification of Letters Patent. Patented Aug. 3, 1909.

Application filed June 29, 1905. Serial No. 267,546.

To all whom it may concern:

Be it known that I, HERMAN A. DAVENPORT, a citizen of the United States, residing at Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Sole-Pressing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to sole pressing machines and more particularly to that class of sole pressing machines which comprises a shoe supporting jack and a sole pressing pad and which are used to perform the operation of laying the sole.

Sole laying machines as usually constructed comprise a single shoe supporting jack and a coöperating sole pressing pad and these machines are usually operated in pairs, the two machines being attended to by one workman and one machine being used to lay the soles of right shoes and the other to lay the soles of left shoes. Sole laying machines have, however, been devised comprising two shoe supporting jacks and two coöperating sole pressing forms so that a single machine can be used for operation upon right and left shoes.

The object of the present invention is to provide an improved sole laying machine adapted for operation upon right and left shoes which is simple and compact in construction and efficient in operation, and which can be conveniently used by the operator to lay the soles of either right or left shoe as may be desired.

With this object in view the present invention consists in a sole laying machine having its various parts constructed and arranged as hereinafter described and claimed.

A machine embodying the present invention in its preferred form is illustrated in the accompanying drawings, in which—

Figure 1 is a view in rear elevation of the machine with a portion of one of the driving pulleys broken away to show underlying parts; Fig. 2 is a sectional plan view showing the mechanism in the lower part of the machine; Fig. 3 is a detail view illustrating in side elevation the mechanism illustrated in Fig. 2 for actuating one of the shoe supporting jacks and sole pressing forms together with the shipping mechanism by which the mechanism for actuating both jacks and forms is thrown into operation; Fig. 4 is a detail view in side elevation illustrating the automatic clutch actuating mechanism for throwing one of the driving shafts out of operation, and Fig. 5 is a detail sectional view taken on the line 5—5 of Fig. 4.

The machine illustrated in the drawings comprises two shoe supporting jacks, two sole pressing pads arranged to coöperate respectively therewith, a foot treadle and connecting rod for moving each jack toward its coöperating pad to bring the sole of the shoe supported on the jack into contact with the pad, and a separate shaft and connected mechanism for actuating each pad to force the pad toward the jack with sufficient pressure to properly lay the sole. Each jack and its coöperating pad is constructed and arranged as in the well-known Goodyear sole laying machine and the mechanism for actuating each jack and form to bring the sole of the shoe into engagement with the pad and to lay the sole is also the same as in that machine. The construction and arrangement of these parts and mechanism are clearly illustrated and described in the patent to Holland No. 362,447, dated May 3, 1887, in the patent to Hamm No. 375,549, dated December 27, 1887, and in applicant's prior patent No. 781,636, dated February 7, 1905, and will, therefore, be only briefly described herein.

Each jack comprises a heel post 1 and a toe post 2 adjustably secured upon a cross-head 3 which is mounted to reciprocate upon vertical guide rods 4. The rods 4 project upwardly from side standards 5 and are provided with collars 6 between which and the cross-head 3 coiled springs 7 are interposed. These springs normally hold the cross-heads elevated in the position indicated in Fig. 1 and return the cross-head to this position when they are released after being depressed. Each cross-head is connected by a rod 8 to a foot treadle 9, by means of which the cross-head is moved downwardly to bring the sole of the shoe into contact with the sole pressing pad.

10 indicates clutch collars mounted to slide upon the rods 4 upon the cross-head 3, which clutch collars act to lock the cross-heads in their depressed positions until re-

leased by the operator, as is fully described in the patent to Hamm and in applicant's prior patent hereinbefore referred to.

The sole pressing pads are indicated at 11 and are mounted in pad carriers 12 provided with collars having a sliding engagement with the vertical rods 4. Each carrier 12 is pivotally connected to the upper arm of a toggle lever 13 which is actuated from an eccentric on a shaft 14, journaled in the lower portion of the side standards 5, through an eccentric strap and link 15 and a link 16, the link 16 being provided with a guiding slot through which the shaft 14 passes and the arrangement of the eccentric and links being such that a complete rotation of the shaft 14 raises and lowers the carrier 12 and the pad supported therein. Each shaft has secured thereto a gear 17 which meshes with a pinion 18 upon a driving shaft 19. The driving shafts 19 are arranged parallel with each other and each shaft is provided at its rear end with a driving pulley 20 mounted to rotate loosely thereon. A friction clutch is provided for clutching each driving pulley to its shaft, the clutch being of well-known construction and being actuated to clutch the pulley to the shaft by a pivoted lever 21. The lever 21 extends into the path of movement of a collar 22 mounted to rotate with and move longitudinally on the driving shaft. The collar 22 is provided with a groove which is engaged by a pin projecting from the upper end of the pivoted lever 23. The lower end of the lever 23 is provided with a pin which when the collar 22 is moved to actuate the clutch is brought into the path of movement of two pins 24 located at diametrically opposite points on a collar 25 mounted on the shaft 14 and connected thereto by means of a spring so as to have a slight rotary movement independent of the shaft, as illustrated and described in the patent to Holland above referred to.

The shafts 19 and the mechanism driven thereby are entirely independent of each other, so that after the driving pulleys are clutched to the shafts the two sole pressing pads are operated independently and the shafts are automatically thrown out of operation independently. In order to enable the movements of both sole pressing pads to be conveniently controlled by the operator a lever 26 is provided the upper end of which is located between the shoe supporting jacks in convenient position to be grasped by the operator and the lower end of which is pivotally mounted upon a standard 27 projecting upwardly from the base of the machine between the driving shafts 19. The lever 26 is provided with a cross-bar 28 from the ends of which pins project into a position to engage the upper ends of the levers 23. The lever 26 is normally held in the position indicated in Figs. 2 and 3 by means of a coiled spring 29 connecting the cross-bar 28 with the base of the machine. When the lever is in this position the pins on the ends of the cross-bar 28 permit the clutch operating collars 22 to move to the position indicated in Fig. 2, in which position of the collars the driving pulleys are disconnected from the driving shaft. A rearward movement of the lever 26 by the operator moves both clutch collars simultaneously and connects both driving pulleys to their shafts so that the actuating mechanism of both sole pressing pads is thrown into operation. A single movement of the lever 26 thus throws the actuating mechanism of both sole pressing pads into operation and both mechanisms are caused to operate simultaneously.

Each mechanism is automatically thrown out of operation after the shaft 14 and the eccentric thereon has made a half revolution, so that each pad is stopped alternately in its highest and in its lowest position. The mechanisms may be arranged to raise both pads simultaneously so that the soles of the shoes on both jacks are brought under pressure at the same time. Preferably, however, the mechanisms are so arranged that one pad is stopped in its lowest position when the other is stopped in its highest position, the sole of the shoe on one jack being under pressure when the sole of the shoe on the other jack is relieved of pressure. To cause the machine to operate in either of the ways above suggested it is merely necessary to move one of the levers 23 by hand without moving the other lever, so that only one driving shaft 19 is thrown into operation and the shaft 14 connected thereto is caused to make a half revolution while the other shaft 14 remains stationary.

Both driving pulleys 20 may be conveniently driven by a single belt 30, which belt passes over the pulleys in the same direction and over an idler pulley 31. The pulley 31 is journaled on a stud projecting from a block 32 mounted in a vertical guide-way on the standard 27 and resting upon the upper end of a screw 33, by means of which the block 32 and pulley 31 may be adjusted to tighten the belt 30 as may be desired.

The invention having been thus described, what is claimed is:—

1. A sole pressing machine, having, in combination, two shoe supporting jacks, two sole pressing pads coöperating therewith, a separate shaft and connected mechanism for relatively actuating each jack and its coöperating pad to press the sole of a shoe supported on the jack, means under the control of the operator whereby both shafts can be thrown into operation simultaneously, means acting automatically and independently of each other to throw each shaft out

of operation both when the shoe on the jack connected therewith is under pressure and when the shoe is relieved of pressure and means whereby one shaft can be thrown into operation without throwing the other shaft into operation to change the timed relation of the shafts when thrown into operation simultaneously.

2. A sole pressing machine having in combination two shoe supporting jacks, two sole pressing pads coöperating therewith, means for actuating each jack to bring the sole of a shoe supported thereon into engagement with a pad, a separate shaft and connected mechanism for actuating each pad to thereafter press the sole of a shoe supported on the jack, means under the control of the operator whereby both shafts can be thrown into operation simultaneously, and means acting automatically and independently of each other to throw each shaft out of operation.

In testimony whereof I affix my signature in presence of two witnesses.

HERMAN A. DAVENPORT.

Witnesses:
FRED O. FISH,
HORACE VAN EVEREN.