C. VOSS.

LEATHER ROLLING AND EMBOSSING MACHINE.

APPLICATION FILED JAN. 11, 1915.

1,204,092.

Patented Nov. 7, 1916.

2 SHEETS—SHEET 1.

Fig. 1

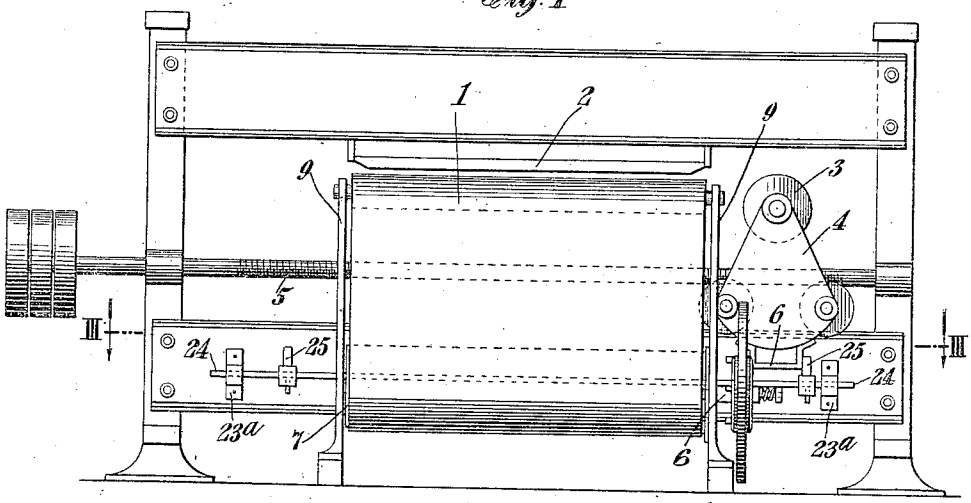
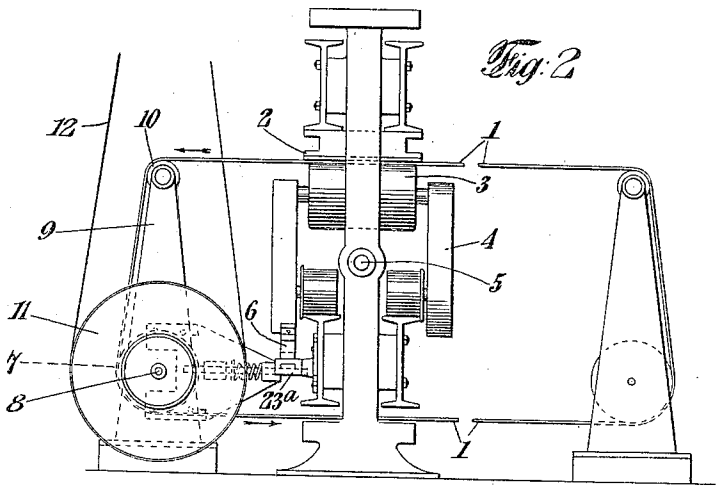


Fig. 2



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Fig. 3

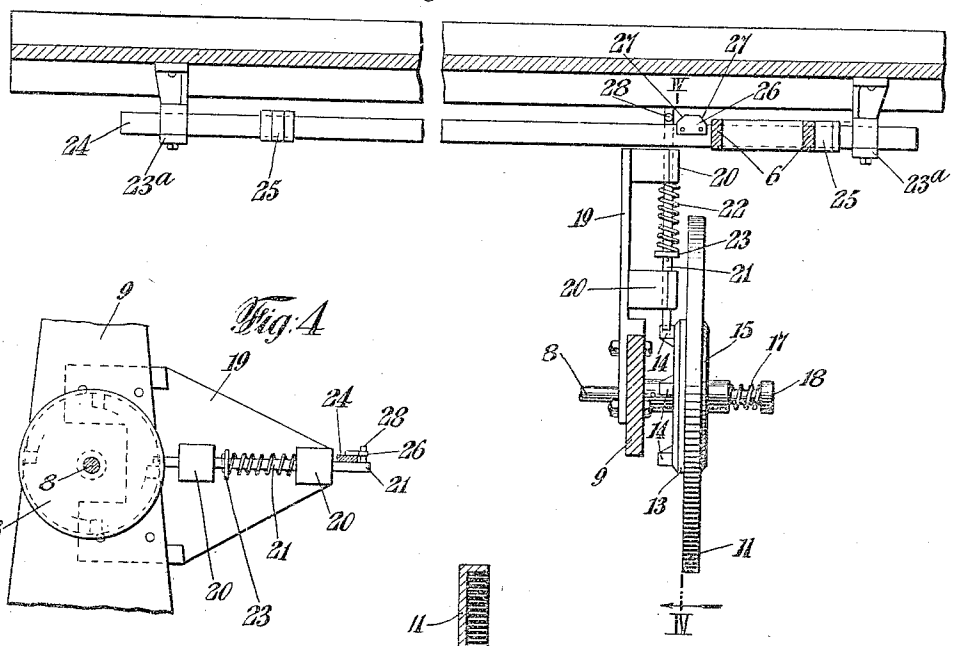
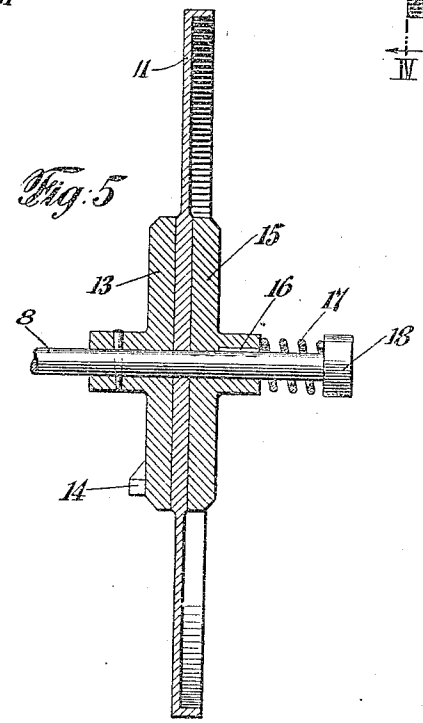


Fig. 4

Fig. 5



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UNITED STATES PATENT OFFICE.

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LEATHER ROLLING AND EMBOSSING MACHINE.

1,204,092. Specification of Letters Patent. Patented Nov. 7, 1916.

Application filed January 11, 1915. Serial No. 1,560.

To all whom it may concern:

Be it known that I, CARL VOSS, a subject of the Emperor of Germany, and resident of Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Leather Rolling and Embossing Machines, of which the following is a specification.

This invention relates to improvements in that class of leather rolling and embossing machines covered by my Patent No. 1,090,433, dated March 17, 1914, in which the leather to be embossed is carried under the pressing die by an endless carrier belt. The movement of the carrier belt must be intermittent in order to move the leather forward after each pressing operation.

One of the main objects of this invention is to provide means for controlling the intermittent movement of the endless carrier belt, so that said belt will be automatically moved forward a predetermined distance after each pressing operation.

Another object of the invention is to provide a carrier belt controlling mechanism adapted to be operated by the carriage carrying the leather pressing roller, when said carriage completes each pressing operation.

There are other important objects and advantages of the invention which will more fully hereinafter appear.

In the drawings Figure 1 is a side elevation of a leather pressing machine with my invention applied thereto; Fig. 2 an end view thereof; Fig. 3 a horizontal sectional view on the line III—III of Fig. 2, the leather-carrying belt and the end frames of the machine being omitted; Fig. 4 a detail view of the driving clutch releasing means, said view being a sectional view taken approximately on the line IV—IV of Fig. 3; and Fig. 5 a sectional view of the driving clutch.

Referring to the various parts by numerals, 1 designates the endless carrier belt on which the leather to be embossed is placed and by which it is carried through the machine under the embossing die 2. The embossing roller 3 is mounted in a carriage 4, said carriage being moved back and forth in the machine by means of a screw shaft 5. This carriage is provided at its lower end with an abutment 6.

The carrier belt 1 is driven by means of a drum 7 secured to a shaft 8 mounted in standards 9. The carrier belt runs over suitable supporting rolls in the upper ends of standards 9, as shown at 10 in Fig. 2. Loosely mounted on the drum shaft 8 is a loose driving pulley 11 over which a driving belt 12 runs constantly, said belt being driven from any suitable source of power. Secured rigidly to the shaft 8 adjoining the loose pulley 11 is a stop-disk 13, said disk being provided with four stop-lugs 14 on its inner face, the outer face of said stop-disk bearing against the inner face of the loose driving pulley 11, shown clearly in Fig. 5. Mounted also on the shaft 8 is a clutch-disk 15, said disk being loosely mounted on the shaft 8 for a longitudinal movement thereon but being secured to the shaft for rotation therewith by means of a key and key-way 16. To yieldingly press the clutch-disk 15 against the outer face of the driving pulley, a spring 17 bears on said clutch-disk, said spring being interposed between said disk and a stop 18 on the shaft 8. Said spring is so tensioned as to cause the rotation of the clutch disks and the shaft 8 with the driving pulley when the stop disk is released, as will be fully hereinafter described.

Secured to the standard 9 adjacent the driving pulley is a supporting plate or frame 19, said frame extending inwardly toward the main frame of the machine. In bearings 20 secured to said frame 19 is mounted a horizontal, reciprocable locking bolt 21, the outer end of which is normally in the path of the stop-lugs 14, shown clearly in Figs. 3 and 4. The locking bolt is normally maintained in the path of the stop-lugs by means of a spring 22 which surrounds said bolt and is confined between a stop 23 and the inner bearing 20. In bearings 23^a secured to the main frame of the machine is mounted a longitudinally movable control-bar 24. On this bar are adjustably secured contact lugs 25 which extend upwardly from said bar and lie in the path of the abutment 6 on the carriage 4. These contact lugs are arranged near the ends of the travel of the carriage so that they will be engaged by the abutment 6 as the carriage nears the end of its longitudinal movement and will cause

the controller-bar to be moved longitudinally in its bearings, said controller-bar being moved by the carriage as it approaches the ends of its movement in either direction. Secured to the controller-bar is a trip-lug 26 having inclined cam surfaces 27. On the inner end of the locking bolt 21 is an upwardly extending pin 28, said pin lying close to the inner edge of the controller-bar 24 and directly in the path of the trip-lug 26. As the controller-bar is moved by the abutment 6 of the carriage the cam surfaces 27 of the trip-lug engage the pin 28 and move the locking bolt inwardly a sufficient distance to release its outer end from the stop-lug with which it is engaged. When the trip-lug has been moved beyond the pin 28 in either direction, the spring 22 immediately forces the locking bolt back into the path of the stop-lugs so that upon the rotation of the stop-disk the next stop-lug on said disk will engage the locking bolt and prevent further rotation of the shaft 8. The friction between the clutch-disk 15, stop-disk 13 and the driving pulley 11 is sufficient to cause the rotation of the shaft 8, and the consequent movement of the transfer belt, the instant the locking bolt is released from one of the stop-lugs. Said friction, however, is not sufficient to prevent the rotation of the driving pulley when the shaft 8 is locked against rotation.

The stop-lugs are properly placed on the stop-disk 13 to secure the proper feed of the leather to the embossing die, said feed being equal to the width of the die, so that an impressed portion of the leather will be fed to the die upon each release of the locking bolt. By reason of the friction clutch, the driving pulley 11 will instantly pick up the shaft 8 and rotate it the required distance the moment the locking bolt is released from one of the stop lugs. And the transfer belt will be instantly stopped the moment the locking bolt engages one of the locking lugs. It is necessary in a machine of this class that the transfer belt be fed with great accuracy. It is manifest that if the leather is not accurately fed a predetermined distance for each movement of the pressing roller, the pattern impressed in the leather will not be properly joined and will not be uniform. An automatically operating feeding mechanism constructed as described herein will move the transfer belt accurately for each pressing operation. It is manifest that the contact lugs on the controller-bar may be adjusted to secure the proper timing of the machine. It is also manifest that the stop-lugs may be properly placed on the stop-disk to secure the proper movement of the transfer belt.

What I claim is:

1. A leather pressing machine comprising an endless transfer belt, a pressing roller, a carriage for said roller, means for moving said roller carriage back and forth across the transfer belt, means for moving the transfer belt, means for intermittently connecting the transfer belt moving means to said belt and disconnecting it therefrom, and means operated by the pressing roller carriage at the end of its movement in either direction to intermittently connect the transfer belt moving means to said belt and to disconnect it therefrom, the time interval between the connection and disconnection of said mechanism permitting the movement of the transfer belt a predetermined distance.

2. A leather pressing machine comprising a frame, a pressing roller, a carriage for said roller, means for reciprocating the carriage in the frame, an endless transfer belt, driving means for said transfer belt, a clutch to connect the transfer belt to the driving mechanism, and means operated by the pressing roller carriage when it approaches the end of its movement in either direction for automatically releasing and then locking the clutch.

3. A leather pressing machine comprising a frame, a pressing roller, a carriage for said roller, means for reciprocating the carriage in the frame, an endless transfer belt, a driving pulley for said belt, means for operatively connecting and disconnecting said driving pulley to the belt and means operated by the pressing roller carriage as it approaches the end of its movement in either direction for operating said connecting and disconnecting means.

4. A leather pressing machine comprising a frame, a pressing roller, a carriage for said roller, means for reciprocating the carriage in the frame, an endless transfer belt, a drum for said belt, a shaft for said drum, a stop-disk rigidly mounted on said shaft and carrying stop-lugs, a driving pulley loosely mounted on said shaft and bearing against the stop-disk, a clutch-disk longitudinally movable on said shaft and adapted to rotate therewith, a spring pressing said clutch disk against the driving pulley, a spring-pressed locking bolt normally engaging one of said stop-lugs, a controller-bar, means whereby the carriage will move the controller-bar as said carriage approaches the end of its movement in either direction, means carried by the controller-bar to withdraw the locking bolt to disengage it from the stop-lug and to then release it and permit it to engage the next stop-lug on the stop-disk.

5. A leather pressing machine comprising a frame, a pressing roller, a carriage for said roller, means for reciprocating the carriage in the frame, an endless transfer belt, a friction driving means for said belt, means for normally holding said friction driving

means out of operation, and means operated by the carriage as it approaches the limit of its movement in either direction to release said friction driving means to feed the transfer belt a predetermined distance and to then lock the said driving means before the reversal of movement of the carriage.

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

CARL VOSS.

Witnesses:
W. H. RUEPING,
DANA C. LAMB.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."