Sept. 22, 1936. J. SANDT 2,055,051

STAMPING MACHINE WITH MOVABLE STAMP CARRIAGE FOR LEATHER AND LIKE SOFT MATERIALS

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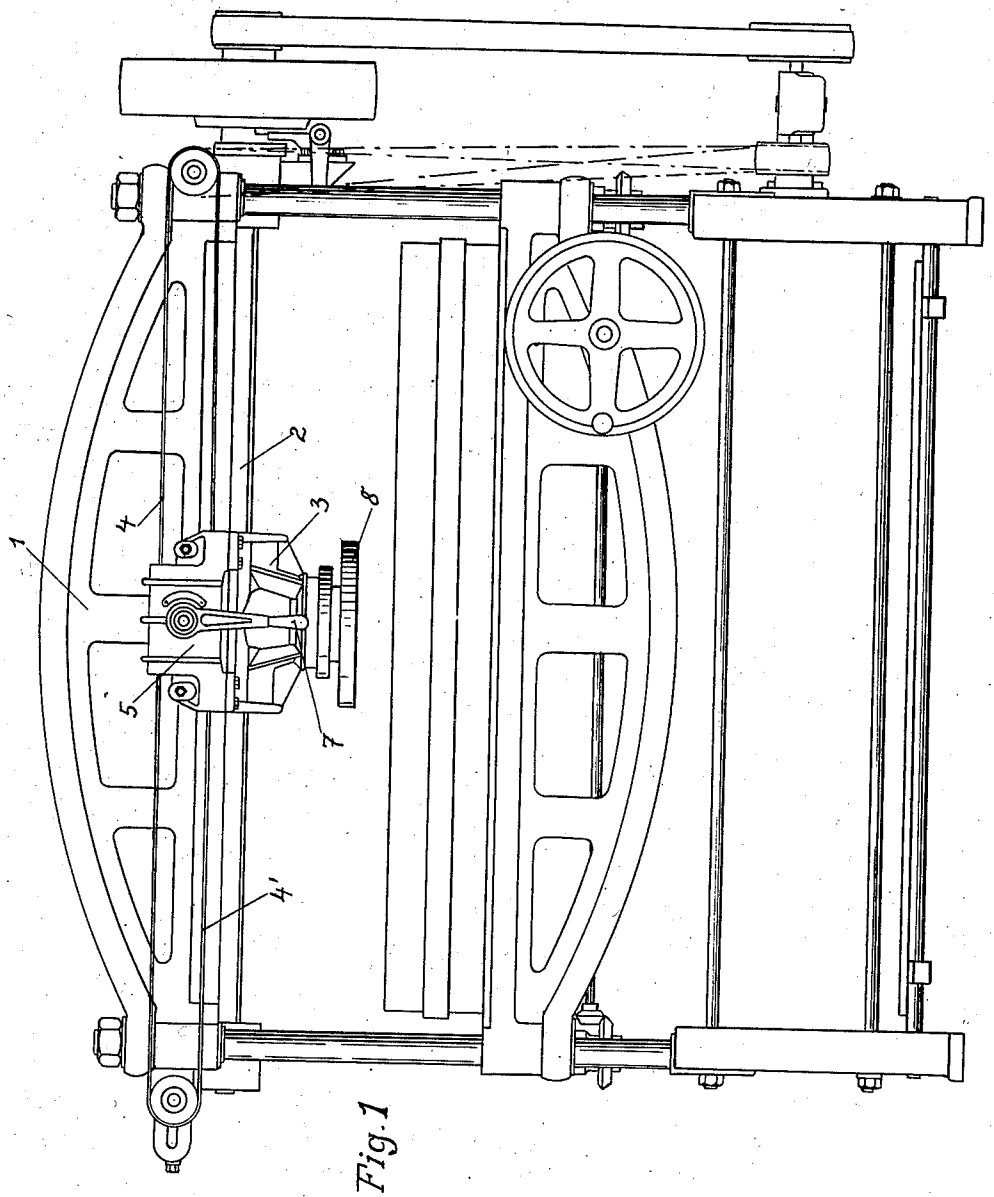


Fig. 1

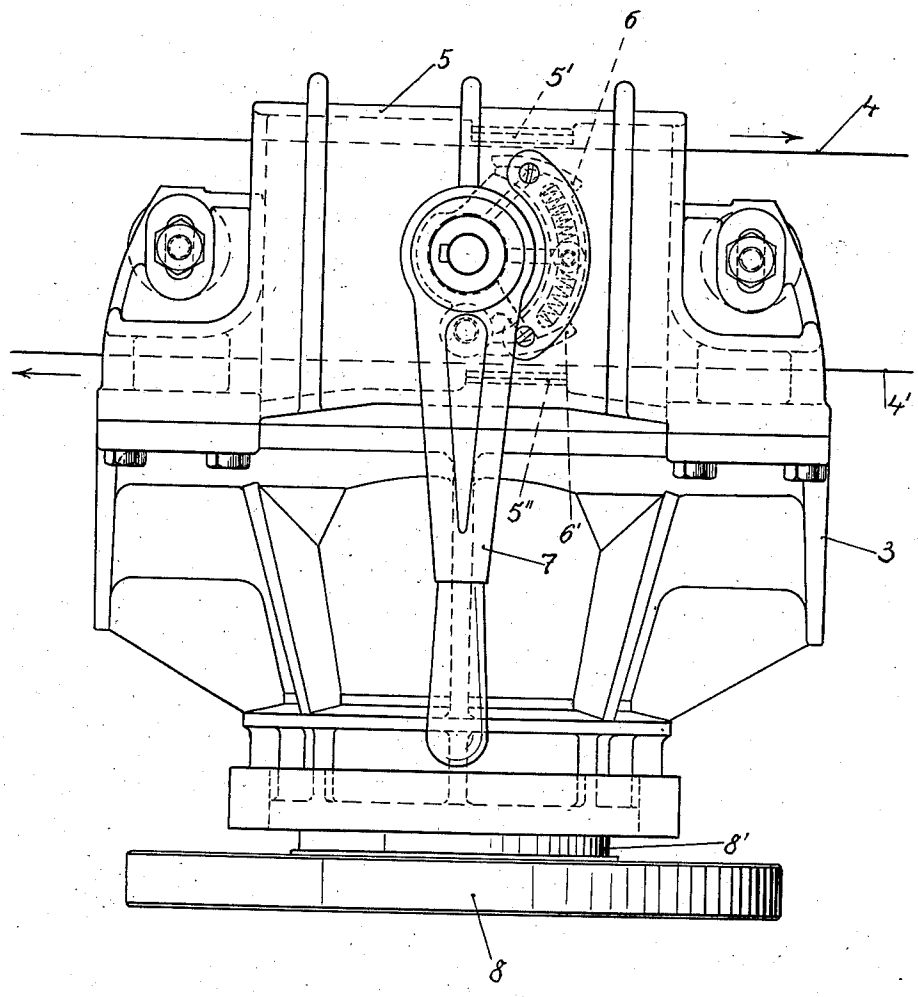
INVENTOR
Julius Sandt
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Fig. 2



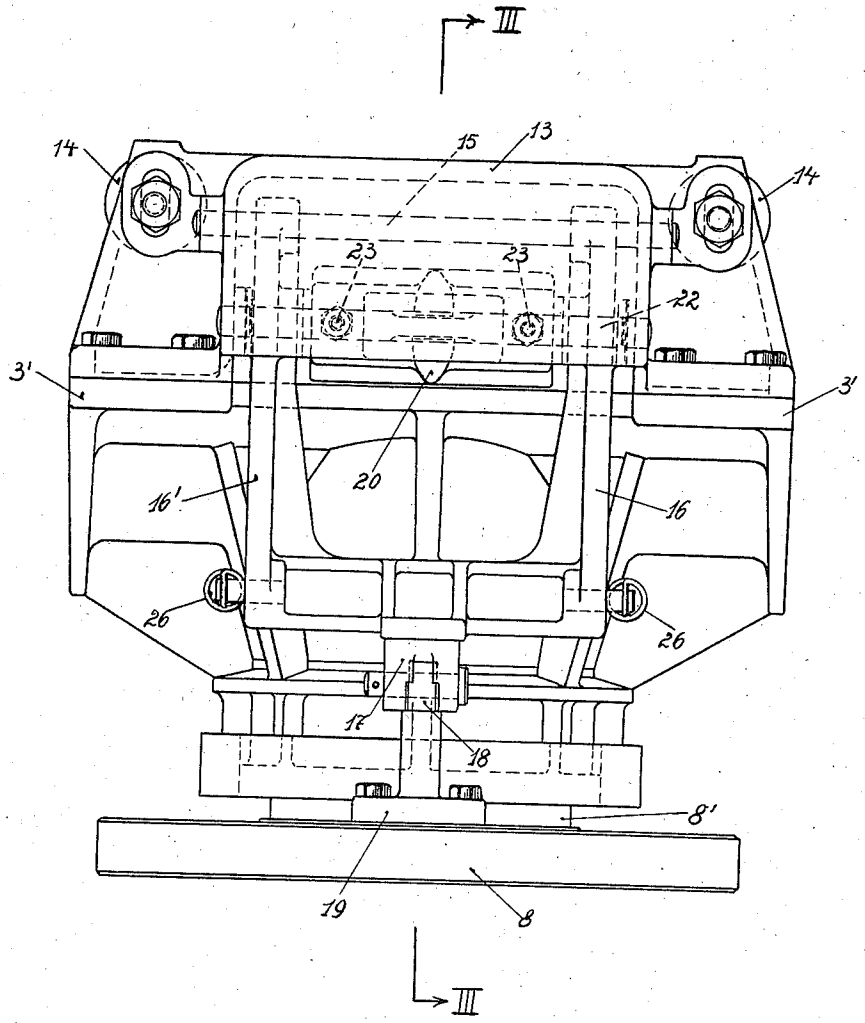
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Fig. 3



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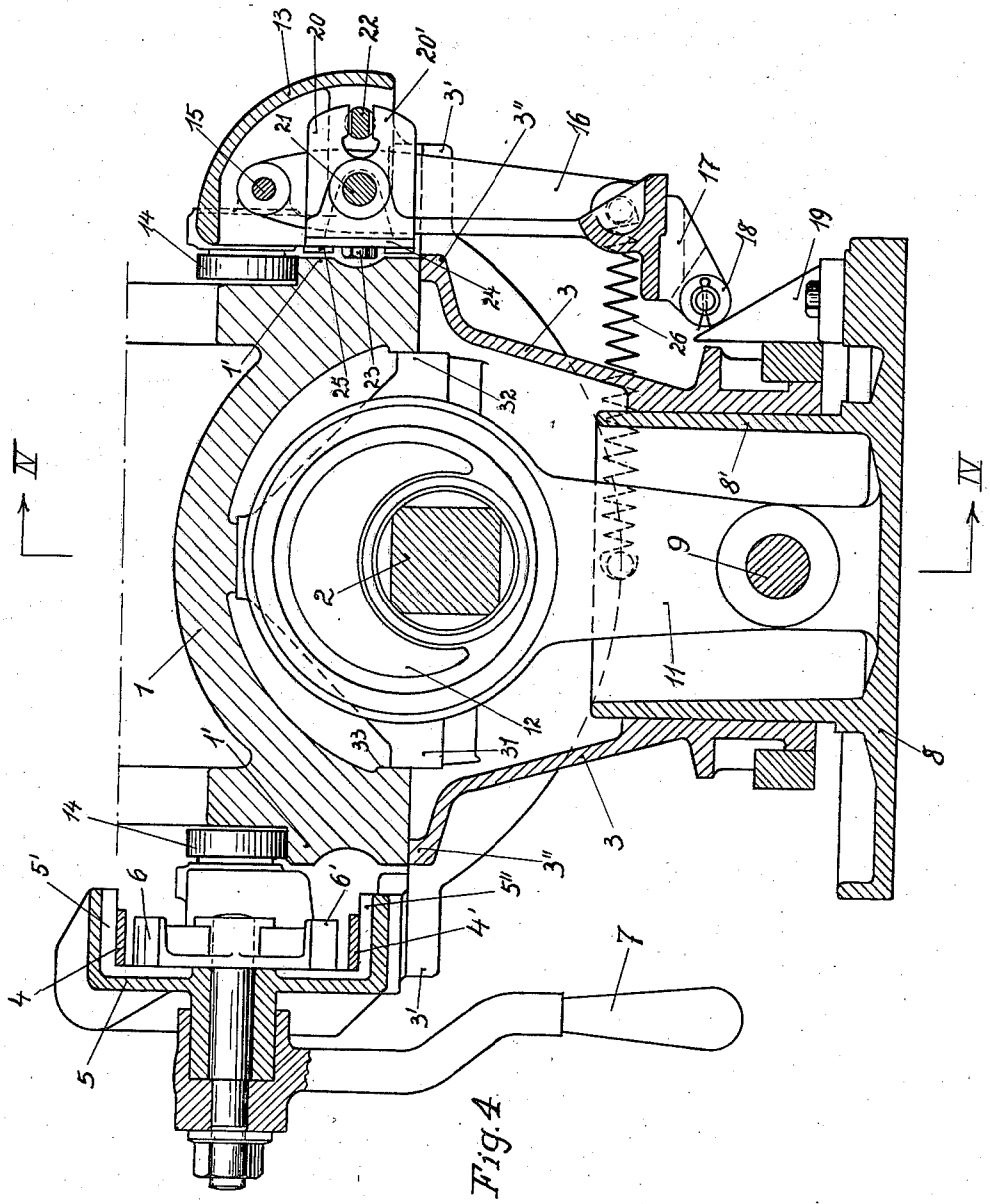


Fig. 4

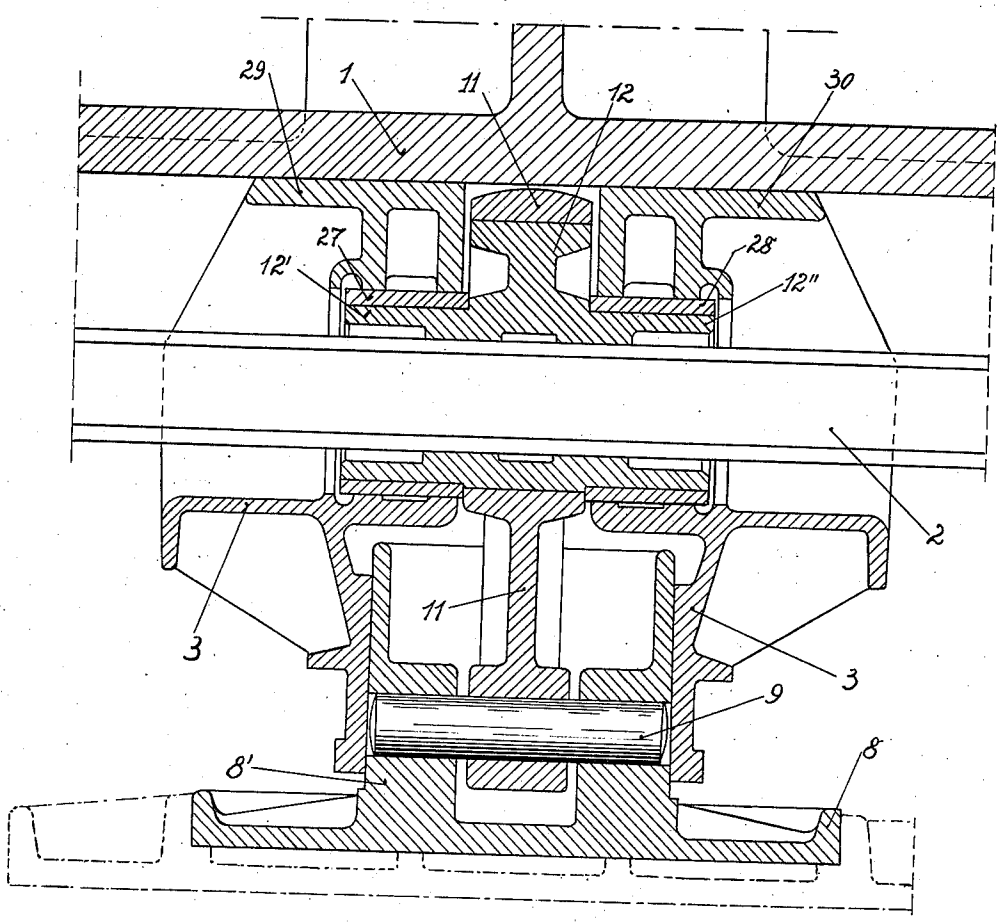
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Fig. 5.



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STAMPING MACHINE WITH MOVABLE STAMP CARRIAGE FOR LEATHER AND LIKE SOFT MATERIALS

Julius Sandt, Pirmasens, Germany

Application October 23, 1934, Serial No. 749,667
In Germany August 20, 1934

3 Claims. (Cl. 101—3)

For stamping out leather and like soft materials stamping machines are used in a known way, having stamp carriages movably fixed to their cross heads, which carry the drive for causing the stamping motion. As the stamp carriage contains the operating parts of the stamping device the weight of the carriage is relatively great. Therefore the movement of the carriages on the cross heads has been effected by machine power, so that the worker only needs to operate a hand or foot lever in order to set the carriage in motion. In spite of the use of machine power the movement of the stamp carriage begins relatively slowly owing to its inertia.

According to the invention the carriage or the housing of the carriage consists entirely or partly of light metal. Due to the reduction of weight thus obtained, the stamp carriage receives an increased mobility, which enables the movement of the stamp carriage to be initiated more rapidly than formerly. Due to the construction of the carriage casing of light metal a considerable saving of time in the use of the machine is obtained so that a saving can be made in wages. Now as a stamp carriage of light metal is more easily inclined to move than a stamp carriage of heavy metal and as the stamp carriage must stand absolutely still in the moment of the stamping movement, a brake, coupling or other arrangement is provided, in accordance with the invention, by which the carriage is firmly held during the stamping operation. The brake is brought automatically to its working position before the application of the stamping thrust and after the application of the stamping thrust is returned automatically to its release position. The brake may be controlled amongst other ways by the press part of the stamp. Due to the brake, the stamp carriage is firmly held to the cross head of the machine. The brake must always be so arranged that it is released during the time in which the carriage is being moved and that it is energised at the beginning of the stamping movement. Between the stamping knife and the stamping plate there is in general a certain clearance space. Therefore, while the press part moves through the clearance space and operates the brake, the stamp carriage is brought securely to rest so that at the moment of the stamping operation the stamp carriage is firmly fixed to the cross head of the stamping machine. The invention is illustrated by an exemplary construction in the drawings and these show:—

Fig. 1 an elevation of the stamping machine,

Fig. 2 a front elevation of the stamp carriage from the operating side,

Fig. 3 a rear elevation of the stamp carriage,

Fig. 4 a section on the line III—III of Fig. 3,

Fig. 5 a section on the line IV—IV of Fig. 4.

In the cross head 1 a driving shaft 2 is housed which is coupled to the power drive of the machine by the operation of a coupling member and each time makes one revolution. The stamp carriage 3 is housed and guided on the guide rails 1^1 of the cross head 1 by means of rollers 14. The movement of the carriage 3 is performed by power through a driving belt, whose upper and lower sides 4 and 4^1 move in the direction of the arrows shown in Fig. 2 and can be coupled to the stamp carriage as desired.

With this object a hand lever 7, having two shoes 6 and 6^1 and which is movable to both sides, is provided on the carrier frame 5. According to the direction in which the hand lever 7 is turned the upper side 4 of the belt is pressed against the projection 5^1 by the shoe 6 or the lower side 4^1 of the belt is pressed against the projection 5^{11} by the shoe 6^1. The direction in which the lever 7 is turned simultaneously indicates the direction in which the stamp carriage will then move on the cross head.

The stamp plate 8 is arranged in a known manner with a cylindrical guide 8^1 in which the gudgeon pin 9 for driving the stamp plate is housed. On the gudgeon pin 9 an eccentric lever 11 is pivoted which encloses the eccentric bearing 12. The eccentric bearing 12 has two cylindrical projections 12^1 and 12^{11} on its sides. These lie in the bushes 27 and 28, which are held by the two parts 29 and 30 of the carriage 3. The parts 29 and 30 in particular take up the stamping thrust and transfer it directly to the cross head 1. In this way the driving shaft 2 is relieved of the stamping thrust, so that it is not put under any injurious stresses. The upper part of the stamp carriage 3 opens upward somewhat fork shaped owing to the parts 29 and 30. The lower part of the stamp carriage takes up eccentric stamping thrust and transfers this to the cross head due to the edges 3'' pressing on the guide rails 1^1 of the cross head 1. The upper part of the carriage is provided with sliding members 31 and 32 which slide along the rails 33 and 34 of the cross head and effect the lateral guidance of the stamp carriage on the inner edges of the guide rails 1^1 of the cross head.

A housing 13 is attached to the truss 3^1 on the rear side of the stamp carriage. In this housing

is fixed the pivot shaft 15 for a double armed brake lever 16. At the lower end of the double armed lever a fork frame 17 is attached, which carries the roller 18. This roller works together with a wedge piece 19 on the upper side of the press part 8. In the double armed brake lever a pin 21 is fixed on which the brake 20 is rotatably fixed. This by means of a jaw 20' provided on the rear end of the brake enclosing a guide rod 22 which is arranged in the housing 13. A special brake shoe 24 which carries brake linings 25 is fastened to the front side of the brake by means of the screws 23. On the lower end of the double armed brake lever two tension springs 26 are arranged. If the press part 8 is in the raised position as shown in Figure 2 the brake is released so that the carriage can be moved on the press part. As soon as the press part 8 begins to fall, the wedge piece 19 moves away from the roller 18 so that the double armed brake lever can be drawn under the action of the tension spring 26 and the brake 20 pressed on the guide rails 1^1 of the cross head. On the other hand if the press part 8 is raised then the wedge piece 19 moves under the roller 18 so that the brake levers 16, 16^1 are swung about the pivot pin 15 against the action of the springs 26 and the brake is released. Due to the arrangement of the brake 20 on the pivot 21 and due to the guiding of the brake on the rod 22, the brake surfaces are always caused to lie completely on the guide rails 1^1 of the cross head.

What I claim is

1. In a stamping machine, a frame including a cross head, power means carried by the cross head, and a carriage movable longitudinally of the cross head by the power means, said carriage being constructed of light metal to permit the use of reduced power means to increase the speed of operation and to reduce inertia resistance, a stamp plate movable with respect to the carriage, a brake for the carriage, and means automatically controlled in the movement of the stamp plate for governing the brake.

2. In a stamping machine, a cross head, a carriage mounted for movement longitudinally thereof, means for operating the carriage in either direction on the cross head, a brake to hold the carriage fixed in any position on the cross head, a stamp plate operative in the carriage, and means to permit automatic setting of the brake as the stamp plate moves to operative position.

3. In a stamping machine, a cross head, a carriage mounted for movement longitudinally thereof, means for operating the carriage in either direction on the cross head, a brake to hold the carriage fixed in any position on the cross head, a stamp plate operative in the carriage, and means to permit automatic setting of the brake as the stamp plate moves to operative position, said means releasing the brake as the stamp plate moves toward inoperative position.

JULIUS SANDT.