

W. W. McCARROLL.
MACHINE FOR CURVING ELECTROTYPES.
APPLICATION FILED NOV. 22, 1908.

974,288.

Patented Nov. 1, 1910.

Fig. 2

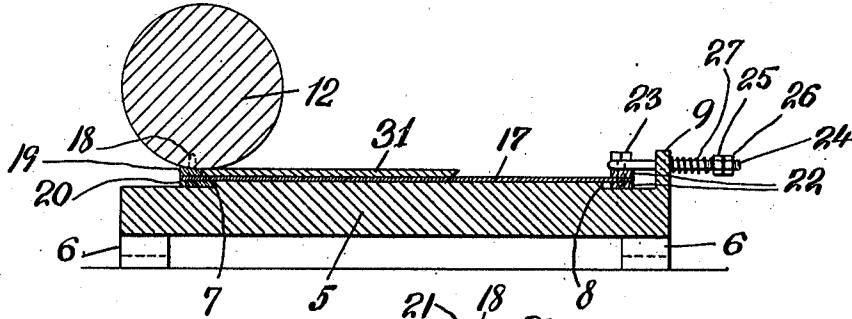


Fig. 3

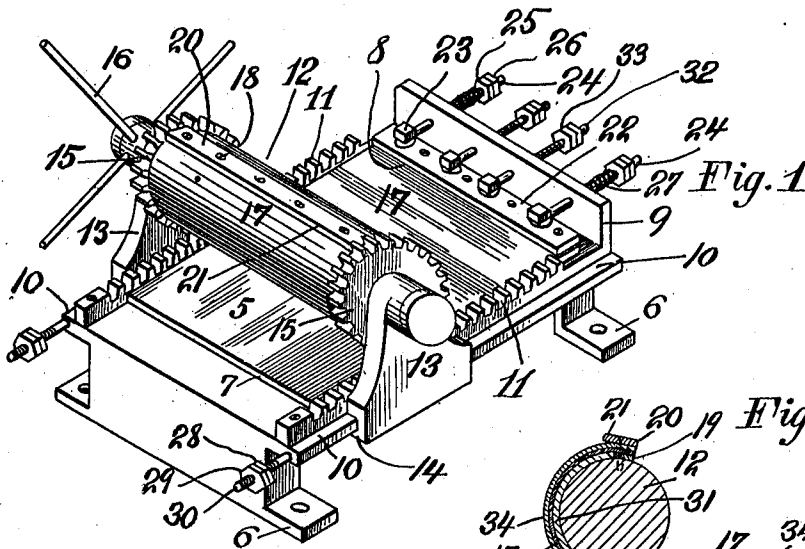
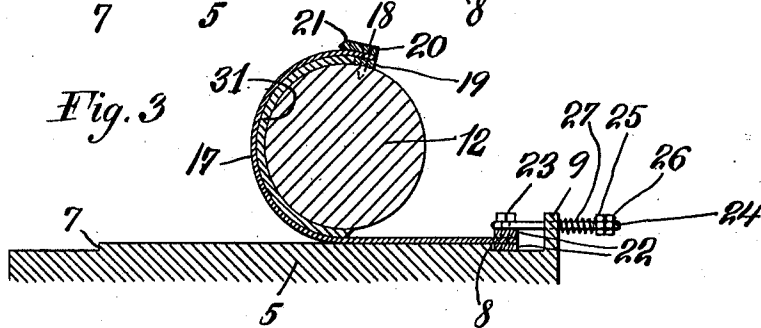
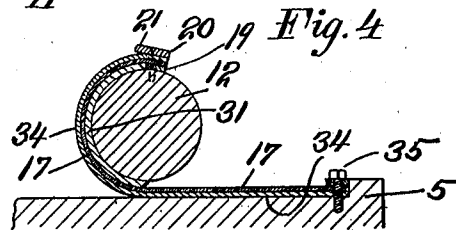


Fig. 1

Fig. 4



Witnesses:

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MACHINE FOR CURVING ELECTROTYPES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALKER W. McCARROLL, a citizen of the United States, residing in Arlington, county of Hudson, and State of New Jersey, have invented an Improvement in Machines for Curving Electrotypes, of which the following is a specification.

This invention relates to improvements in machines for curving electrotypes or other printers' plates and has particular reference to a machine adapted to perform this work in one operation.

One object is to make the machine very simple and strong; still another object is to make all the parts of the machine accessible and to provide for the necessary adjustments.

Other objects will appear as the specification proceeds.

To this end the invention is embodied in a machine as set forth in the following specification and illustrated in the accompanying drawing in which:

Figure 1 is a perspective view of a plate curving machine embodying my invention. Fig. 2 is a longitudinal section through the machine showing the same ready to do the work. Fig. 3 is a view similar to Fig. 2 showing the work completed, and Fig. 4 shows a modification.

Referring to the three first figures the numeral 5 denotes a bed or base having feet 6 and provided with the two shoulders or steps 7 and 8. At the one end there is an upright portion or wall 9 and on either side of the bed there is an overhang forming guides 10, 10. On each side there is fastened to the bed a rack 11, 11 which may be screwed on or fastened otherwise.

12 represents a cylinder or roller which may be solid as shown or which may be lightened in large size machines. This roller is journaled in bearings 13, 13 provided with flanges 14, which grip and cooperate with the guides 10. Inside each bearing the roller carries a gear 15, 15 meshing with the racks 11. To one side there is provided handles 16 for manually turning the roller and rolling the gears 15 on the racks 11.

One or more blankets 17 of sheet steel or like material is fastened to the roller by screws 18. A spacer 19 is inserted between the cylinder and the blanket and outside the latter is laid a cover plate 20 which is wider than the spacer 19 and projects beyond this latter to the one side as shown at 21. The

other end of the blanket is fastened between strips 22, 22 and through the three layers thus formed pass bolts 23. Tension bolts 24 pass loosely through the upright wall 9 and the inner ends of the said bolts grip around the bolts 23 as shown while the outer ends are threaded and provided with nuts and lock nuts 25 and 26. Springs 27 are coiled around the bolts 24 between the bed and the nuts 25. At the opposite end stops are provided by the nuts and lock nuts 28 and 29 on bolts or studs 30.

The operation is as follows: Normally the parts assume the position shown in Fig. 2 where the roller 12 is at the end of its forward movement, the bearings 13 abutting the stops 28 or nearly so. The plate 20 is lying against the shoulder 7 so that the sheet 17 is lying flat on the bed 5, while there is a slight clearance between the strips 22 and the shoulder 8.

When it is desired to curve an electrotpe or similar plate 31, the same is laid on the sheet 17 and up against the spacer 19 shown in Fig. 1. Next the roller 12 is rotated rearward or to the right until it reaches the position shown in Fig. 2 in which it is seen that the plate 31 is curved around the roller and held against the same by the flexible sheet 17. Next the roller is rotated to the left and the plate 31 is readily detached in curved form and ready for use on the plate cylinder of a press or other machine.

In order that the machine shall work perfectly and easily the curving is preferably done under tension which in this instance is furnished by the springs 27 against the pull of which the roller 12 is drawn as the plate 31 is being curved. Hence when the operator commences to roll the cylinder there is a slight pull on the sheet against the springs 27. The overhang 21 on the cover 20 prevents the inner edge of the plate from denting the sheet as seen in Fig. 3.

In some instances it may be desirable to completely lock the sheet against longitudinal movement on the plates or to limit the pull of the springs 27 without disturbing the adjustment of the said springs. This may be accomplished by means of the bolts and nuts 32 and 33, shown in Fig. 1. By tightening up on these nuts the bolts pull the sheet close up against the upright 9 as is easily understood from the drawing.

In Fig. 4 I have illustrated another ten-

sion means for keeping the plate 31 against the cylinder 12. In this figure 34 represents a rubber or other elastic sheet laid to the one side of the steel sheet 17 and of a length less
 5 than that of the steel sheet. Both sheets are fastened to the base by bolts 35. When the roller is rotated the sheets are wound up together. This stretches the rubber sheet to press firmly against the steel sheet and the
 10 plate 31.

The above is thought to fully illustrate my invention which has proven very successful. I claim all such changes as properly come within the spirit and scope of the
 15 claims.

Therefore I claim:

1. In a machine of the class described the combination of a fixed support, a flexible member mounted to lie flat on said support,
 20 tension members interposed between the latter and the said flexible member and a rotating member for curving the said flexible member.

2. In a machine of the class described the combination of a rotatable member, a flexible member fastened to the same and adapted to curve around said rotatable member when the latter is rotated and tension means fastened to the opposite end of said flexible
 25 member.

3. In a machine of the class described the combination of a bed, a cylinder movable on the same, blankets the one end of which are fast to said cylinder and tension members
 30 interposed between the other ends of said blankets and the said bed.

4. In a machine of the class described the

combination of a cylinder, a bed, a blanket on the latter and fast to said cylinder at the one end, yielding means for fastening the
 40 other end of said blanket to the bed and mechanism for operating the said cylinder on the bed to curve the blanket around the same.

5. In a machine of the class described the combination of a bed, a rack fastened at either side thereof, guides on said bed, a cylinder, gears on the same for meshing with the said racks, bearings for the said
 50 cylinder, means for guiding the same on the said guides, a blanket fastened to the said cylinder and adapted to be curved around the same and yielding means interposed between said blanket and said bed.

6. In a machine of the class described the combination of a bed, blankets laid on the same, yielding means interposed between the bed and the blankets and means for curving the latter against the tension of the said
 60 yielding means which latter are fastened to the said bed and the said curving means.

7. In a machine of the class described the combination of a bed, a cylinder, a flexible blanket, an elastic blanket, both of the said blankets being adapted to be wrapped
 65 around the said cylinder the elastic blanket being outside of the metal blanket the one end of the said blanket being fastened to the cylinder, the other end to the said bed and means for operating the said cylinder.

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Witnesses:

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