

J. P. BIRD,
SCORING MACHINE.
APPLICATION FILED SEPT. 23, 1907.

907,674.

Patented Dec. 22, 1908.

Fig. 1.

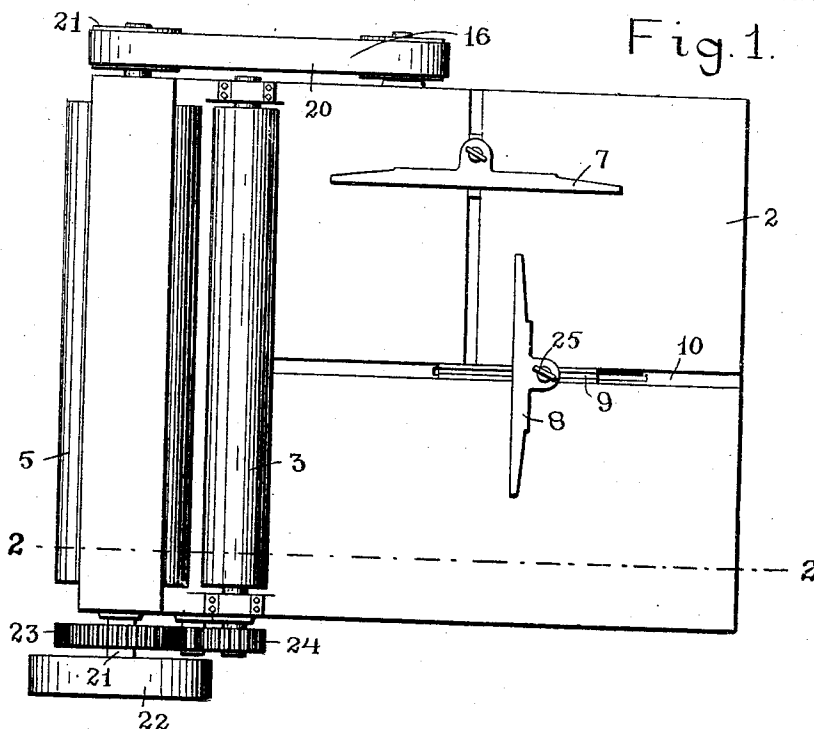
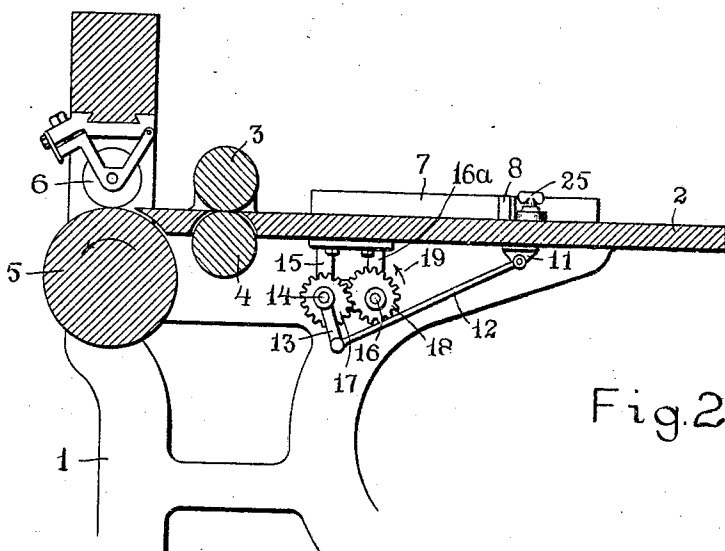


Fig. 2.

Witnesses

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JAMES PHILIP BIRD, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO HOBBS MANUFACTURING COMPANY, OF WORCESTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

SCORING-MACHINE.

No. 907,674.

Specification of Letters Patent.

Patented Dec. 22, 1908.

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To all whom it may concern:

Be it known that I, JAMES PHILIP BIRD, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in a Scoring-Machine, of which the following is a specification, accompanied by drawings, forming a part of the same, in which—

Figure 1 represents a plan view of a scoring machine embodying my invention. Fig. 2 is a side elevation shown in section on line 2—2, Fig. 1.

Similar reference letters and figures refer to similar parts in the different views.

My invention relates to that class of scoring machines employed for the purpose of scoring cardboard in the manufacture of paper boxes, and comprises, in the present instance, a framework 1, a table 2 for the cardboard, feed rolls 3 and 4 between which the cardboard is carried forward to the scoring mechanism, consisting of a roll 5 and rotating cutting disks 6 acting in conjunction with the roll 5 to partially cut or score the cardboard on lines upon which the cardboard is eventually to be bent in the manufacture of paper boxes.

Mounted upon the table 2 is a side gage 7 and a reciprocating pushing plate 8 adjustably attached to a slide 9 sliding in ways 10 in the table and provided with a depending lug 11 which is connected by a link 12 with a crank arm 13, carried upon a shaft 14, journaled in brackets 15 depending from the under side of the table 2. The shaft 14 is operatively connected with a shaft 16 journaled in brackets 16^a by means of elliptical gears 17 and 18. The shaft 16 and elliptical gear 18 is driven in the direction of the arrow 19, by means of a belt connection 20 with a shaft 21, upon which the roll 5 is mounted, said shaft 21 being driven by a belt pulley 22. The shaft 21 has also a connection by gears 23 and 24 with the feed rolls 3 and 4. The pushing plate 8 is adjustably attached to the slide 9 by means of a thumb screw 25.

In operation the pushing plate 8 is given a reciprocating movement having a varying

speed by means of an elliptical gear connection between the crank shaft 14 and the driving shaft 16, by which the motion of the pushing plate is retarded at each end of its stroke and accelerated during the middle of its stroke. The adjustment of the pushing plate upon the slide 9 is for the purpose of accommodating the pushing plate to different widths of cardboard. The retardation of the pushing plate at the beginning of its stroke brings it into slow and gentle contact with the edge of the cardboard, and the retardation of the pushing plate at the end of its stroke causes the advancing edge of the cardboard to be brought into gentle contact with the feed rolls 3 and 4, thereby obviating the buckling of the cardboard which would occur if the advancing movement of the cardboard as pushed by the plate 8 was faster than the speed of the feed rolls 3 and 4.

I claim,

1. In a scoring machine, the combination with a table and a scoring mechanism on said table, means for advancing a sheet of cardboard on said table into contact with said scoring mechanism, said means arranged to operate at different speeds, with its slowest speed occurring when said cardboard comes in contact with said scoring mechanism.

2. In a scoring machine, the combination with a table, a scoring mechanism on said table and a pair of feed rolls in front of said scoring mechanism, of means for bringing a sheet of cardboard into contact with said feed rolls, said means arranged to operate at different speeds, with its slowest speed occurring when said cardboard comes in contact with said rolls.

3. In a scoring machine, the combination with a table, a scoring mechanism on said table and a pair of feed rolls in front of said scoring mechanism, of a reciprocating pusher arranged to advance a sheet of cardboard into contact with said rolls, means for reciprocating said pusher at different speeds, with its slowest speed occurring at the beginning and end of its reciprocating movement.

4. In a scoring machine, the combination with a table, a scoring mechanism on said

table and a pair of feed rolls in front of said scoring mechanism, of a reciprocating pusher arranged to advance a sheet of cardboard into contact with said rolls, means for reciprocating said pusher, comprising elliptical gears arranged to vary the speed of said pusher, with its slowest speed occurring at

the beginning and end of its reciprocating movement.

JAMES PHILIP BIRD.

Witnesses:

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