

No. 681,510.

A. W. ROBINSON.

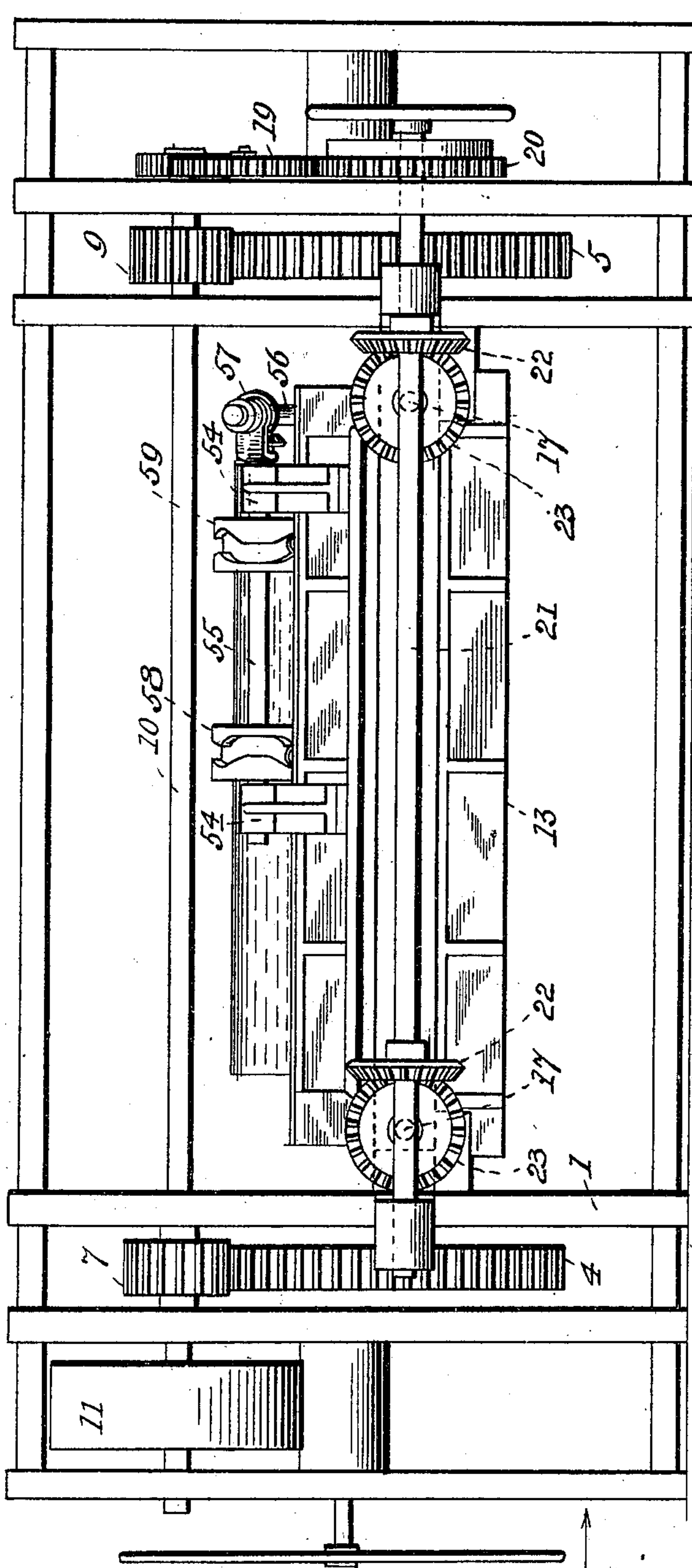
Patented Aug. 27, 1901.

MACHINE FOR PRODUCING BLANKS.

(Application filed June 11, 1901.)

(No Model.)

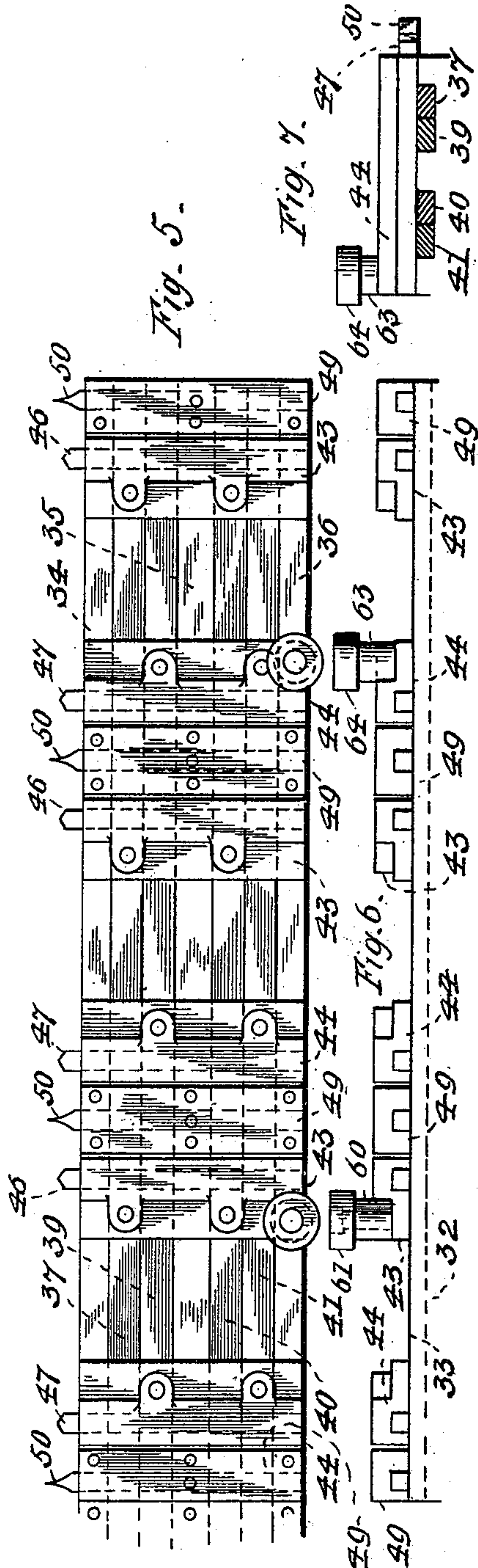
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WITNESSES:—

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Fig. 1.



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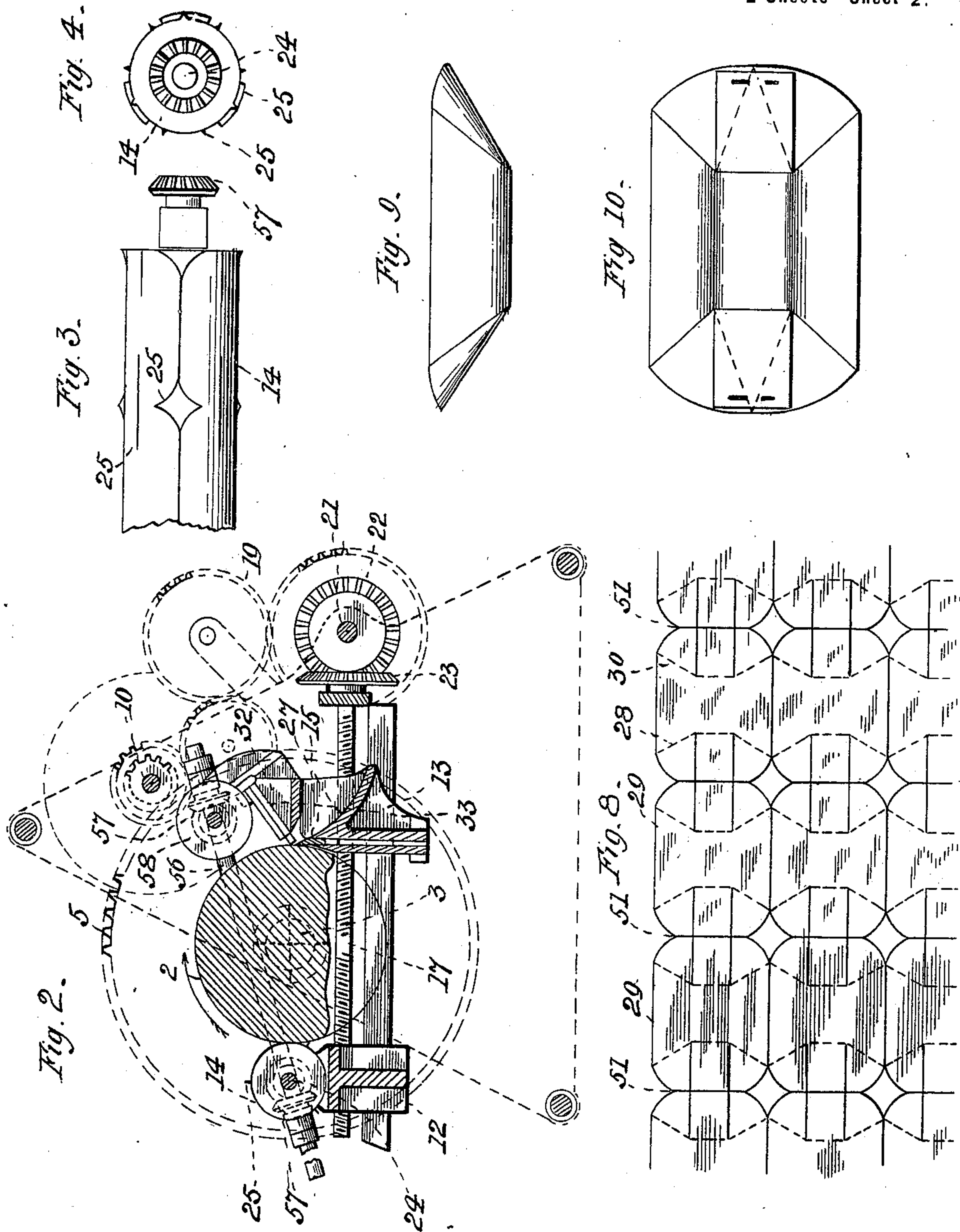
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(No Model.)

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UNITED STATES PATENT OFFICE.

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MACHINE FOR PRODUCING BLANKS.

SPECIFICATION forming part of Letters Patent No. 681,510, dated August 27, 1901.

Application filed June 11, 1901. Serial No. 64,066. (No model.)

To all whom it may concern:

Be it known that I, ALBERT W. ROBINSON, of Sharptown, in the county of Wicomico and State of Maryland, have invented certain
5 Improvements in Machines for Producing Blanks to be Used in the Manufacture of Veneer Trays, of which the following is a specification.

This invention relates to certain attach-
10 ments to a machine for producing blanks used in the manufacture of veneer trays, whereby the alternate straight and zigzag scoring-line described on the veneer where the same is to be bent is effected by channeling or groov-
15 ing instead of indenting; and the said invention consists in the combination, with channeling or grooving knives, of means whereby the same are reciprocated laterally of the machine and longitudinally of the log from which
20 the veneer blanks are cut, as will hereinafter fully appear.

In the further description of the said invention which follows reference is made to the accompanying drawings, forming a part
25 hereof, and in which—

Figure 1 is a front view of the improved machine. Fig. 2 is an end view of certain parts of Fig. 1 looking in the direction indicated by the straight arrow. Fig. 3 is a side
30 view of the blank-cutting roller, together with certain of its attachments, and Fig. 4 an end view of the same. Fig. 5 is an enlarged top view of portions of the channeling and blank-separating mechanism, and Fig.
35 6 a longitudinal edge view of the same. Fig. 7 is an end view of Fig. 6. Fig. 8 is an enlarged flat view of a number of blanks as they appear when leaving the machine. Figs. 9 and 10 are respectively a side and a top
40 view of a complete tray.

Referring now to the drawings, 1 is the frame of the machine, and 2 (see Fig. 2) the log from which the tray-blanks are cut. This log is supported by the driving and support-
45 ing centers, one only of which is shown in Fig. 2 and that in dotted lines and denoted by 3. The supporting-centers are rotated by means of the gear-wheels 4 and 5 and the pin-
50 10. The driving-pulley is represented by 11.

12 and 13 are respectively the rear and the front head, the former carrying the blank-

cutting roll 14 and the latter the veneer-
slicing knife 15 and the grooving mechanism hereinafter described. It is necessary in the
55 operating of the machine that the heads 12 and 13 should have a regular movement toward the centers of the machine, which support and rotate the log, and they are therefore connected by the rotary threaded shafts
60 17. The portions of the said shafts which pass through the head 12 have left-hand threads, and those which pass through the head 13 are provided with right-hand threads. Consequently when the said shafts are ro-
65 tated in the operation of the machine the heads are drawn toward each other. The threaded shafts 17 are driven from the driving-shaft 10 through the medium of the train of spur gear-wheels 19, the last gear-wheel 20
70 being on a shaft 21, extending longitudinally of the machine and situated in front of the log. Secured on the shaft 21 are the miter gear-wheels 22, and these are in mesh with the similar wheels 23, secured on the thread-
75 ed shafts 17.

Carried by the rear head 12 is a shaft 24, carrying the blank-cutting roll 14, before referred to. This roll is provided with the cut-
80 ting-knives 25, (shown particularly in Figs. 3 and 4,) which project sufficiently from the surface of the roll which is in contact with the surface of the log to cut to a depth equal to the thickness of the veneer.

The knife 15, before referred to, which slices
85 the veneer from the log, the surface of which has previously been acted upon by the knives of the rolls 14, is secured to the front head 13, which has the hollow curved surface 27 to assist in carrying off the blanks. (Shown in
90 Fig. 8 and represented therein by 29.)

The machine thus far described is of common construction and embodies no part of the present invention.

I will now describe the devices which pro-
95 duce instead of indentations channels or grooves in the blanks to a depth of, say, about one-half the thickness of the veneer, and which channels follow the dotted lines 28 and
100 30 in Fig. 8.

Secured to or forming a part of the front head 13 is a stand 32, having the inclined surface 33. To this surface are fastened the three stationary and separated bars 34, 35,

and 36. Between the bars 34 and 35 are situated the longitudinally-sliding bars 37 and 39, and between the ones 35 and 36 are similar bars 40 and 41. The sliding bars 37 and 40 are connected by the bridges 43 and the ones 39 and 41 by the bridges 44, and all these bridges serve as holders for the channeling-knives 46 and 47, respectively. Other bridges 49 unite the stationary bars 34, 35, and 36, and they are therefore stationary or fixed, and these carry the blank-separating blades 50, which sever the blanks at 51. (See Fig. 8.)

In order that the channeling or grooving knives 46 and 47 in the operation of the machine should describe the alternate straight and zigzag dotted lines 28 and 30, (shown in Fig. 8,) it is necessary that they should have a reciprocating movement laterally of the machine or, in other words, longitudinally of the log. To effect this operation of the channeling or grooving knives, the stand 32 is fitted with brackets 54, which support the rotary shaft 55. The said shaft receives its rotation from the shaft 24, before referred to, through the agency of the counter-shaft 56 and the miter gear-wheels 57, which have a common diameter, so that one rotation of the friction-driven roll 14 effects a single rotation of the shaft 56. Secured on the shaft 56 are the grooved cams 58 and 59, and one of the bridges 43 is provided with a pin 60, carrying a roller 61, which enters the groove of the cam 58. One of the other bridges 44 is also provided with a pin 63, carrying a roller 64, which enters the groove of the cam 59. The shape of the grooves of the cams 58 and 59 is such that the channeling or grooving knives 46 and 47 move in opposite directions, so as to make them follow the dotted lines 28 and 30, respectively. (See Fig. 8.) As the miter gear-wheel 57 must move inward with the blank-cutting roll 14 and the rear head 12, it is driven by a feather on its shaft instead of by a key.

In the operation of the machine the log is rotated in the direction indicated by the curved arrow in Fig. 2 and is first operated upon by the blank-cutting roll 14, the knives of which penetrate to a depth corresponding to the thickness of the veneer, and then the cut portion is scored by the channeling or grooving knives and the blanks separated,

after which the blanks are sliced from the log and fall from the machine. The blanks are then formed into trays in a subsequent operation by attaching together their adjoining edges, as shown in Figs. 9 and 10.

It will be understood that channeled or grooved veneer has many advantages over that which is merely scored without removing a portion of its surface. When scored it is liable to split off where bent, as it must be bent from the side that is scored. Channeled or grooved veneer is bent the opposite way, thus rendering it less liable to split or break, and the veneer being much thinner where channeled or grooved bends easily and makes a much stronger package. The corners formed at the junction of the groove and flat portion of the veneer, exterior of the groove, will not come together to produce leverage to strain the thin portion of the veneer at the bottom of the groove. The trays are therefore much stronger than those produced from veneer that has been simply scored or indented.

I claim as my invention—

1. In a machine for producing blanks to be used in the manufacture of veneer trays, the combination of channeling or grooving knives with means to effect their lateral motion so as to produce zigzag bending channeled lines, substantially as specified.

2. In a machine for producing blanks to be used in the manufacture of veneer trays, the combination of fixed separating-blades, channeling or grooving knives arranged in pairs situated centrally of the separating-blades, and means to effect a lateral movement of the knives of each pair in opposite directions, whereby the veneer is cut into lengths and zigzag bending channeled lines effected substantially as specified.

3. In a machine for producing blanks to be used in the manufacture of veneer trays or packages, the combination of channeling or grooving knives, with means to effect their lateral motion so as to produce zigzag or curved bending channeled or grooved lines, substantially as specified.

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Witnesses:

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