

No. 756,882.

PATENTED APR. 12, 1904.

C. R. NELSON.
CREASING MACHINE.
APPLICATION FILED AUG. 14, 1903.

NO MODEL.

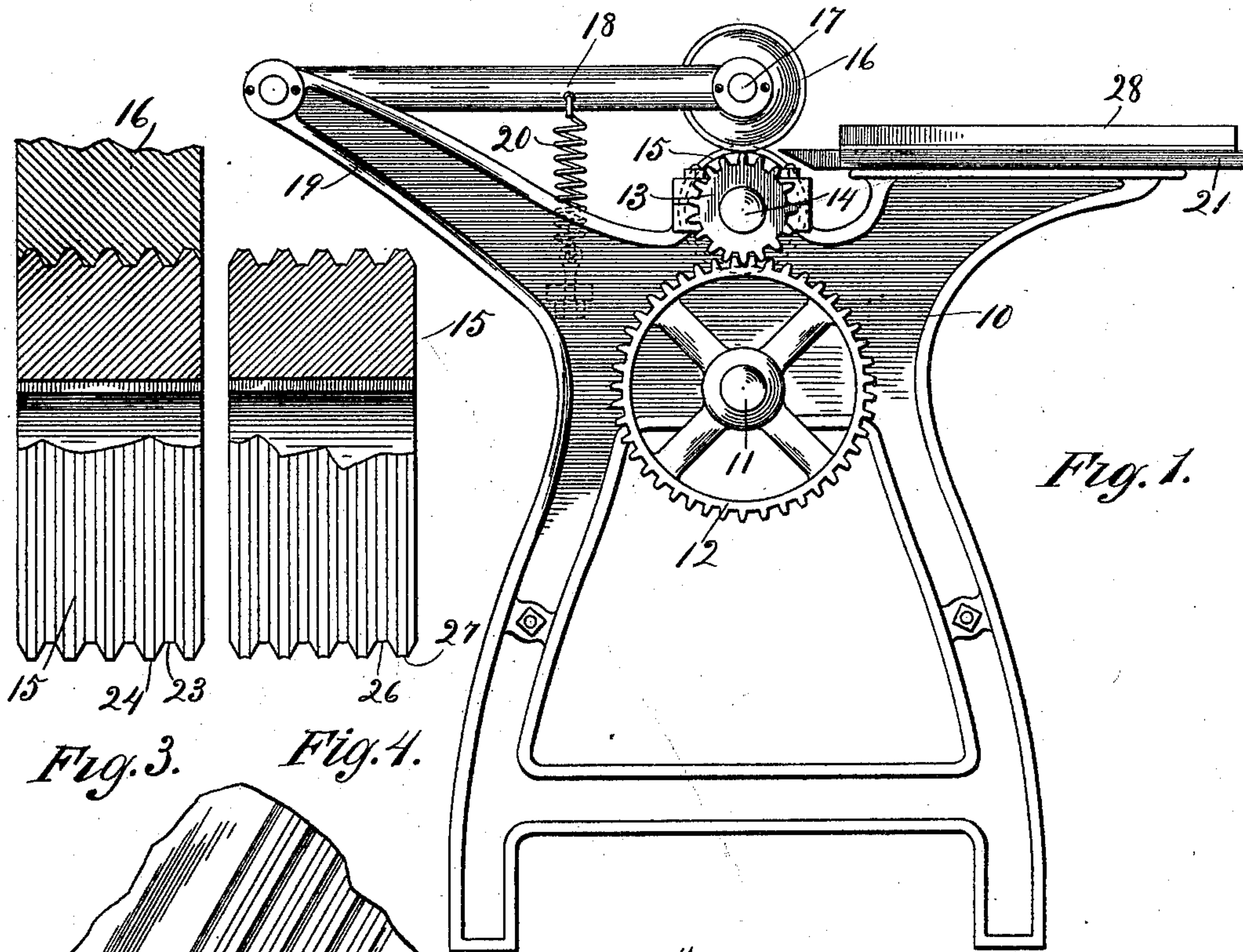


Fig. 1.

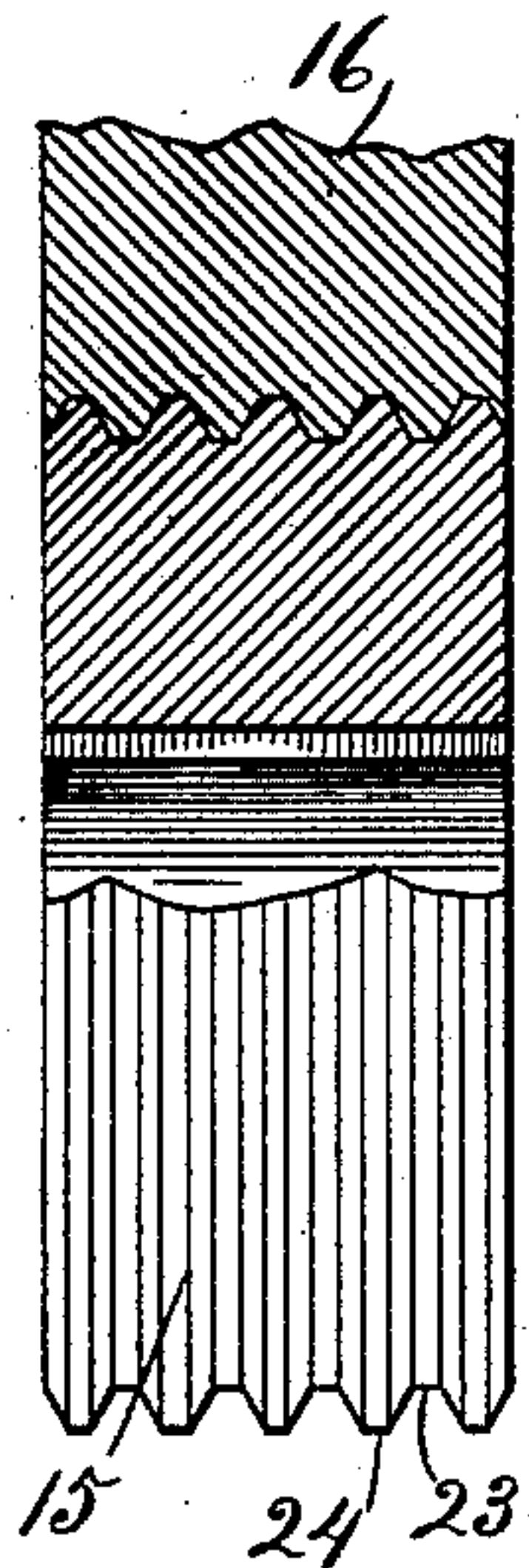


Fig. 3.

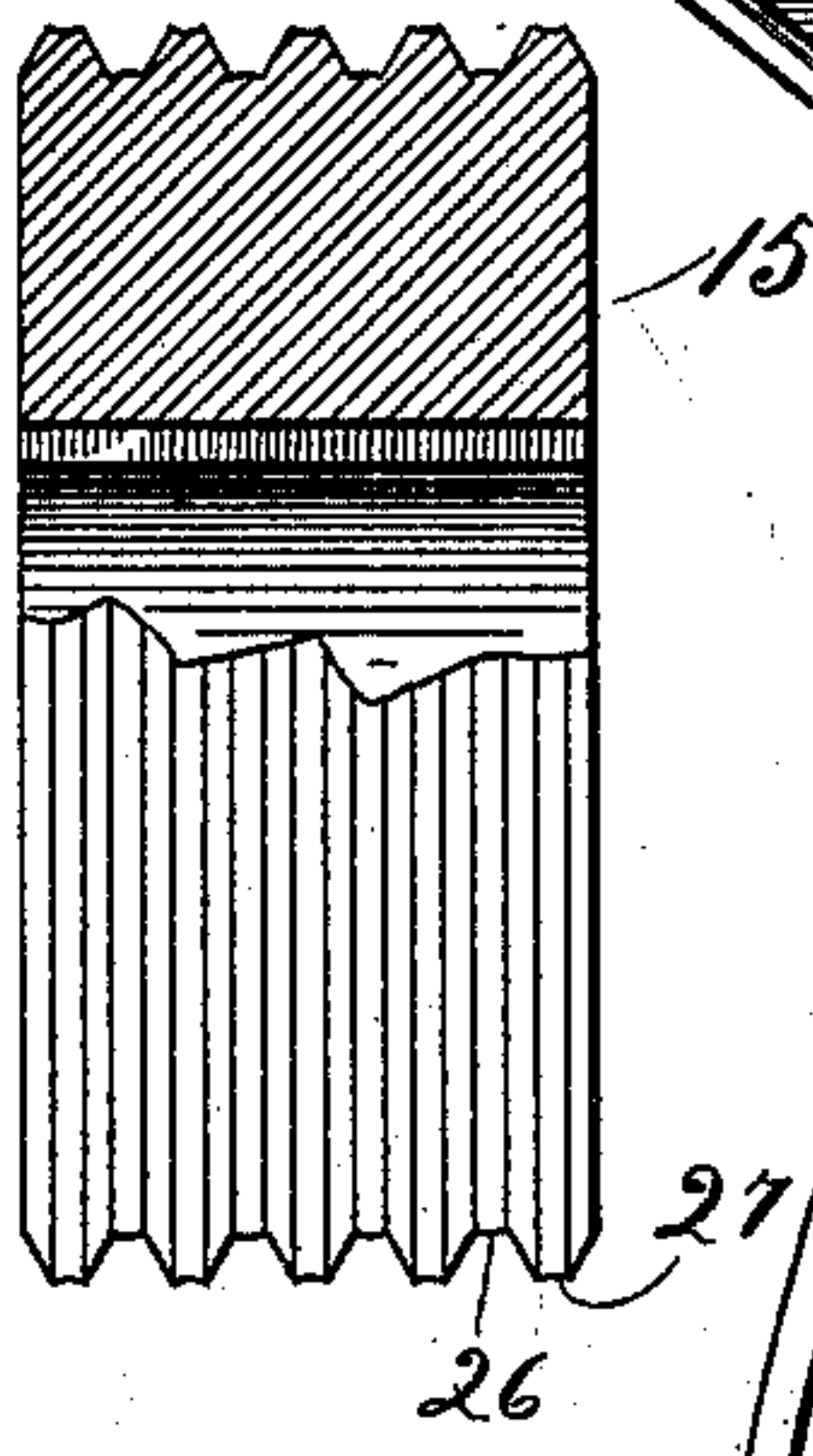


Fig. 4.

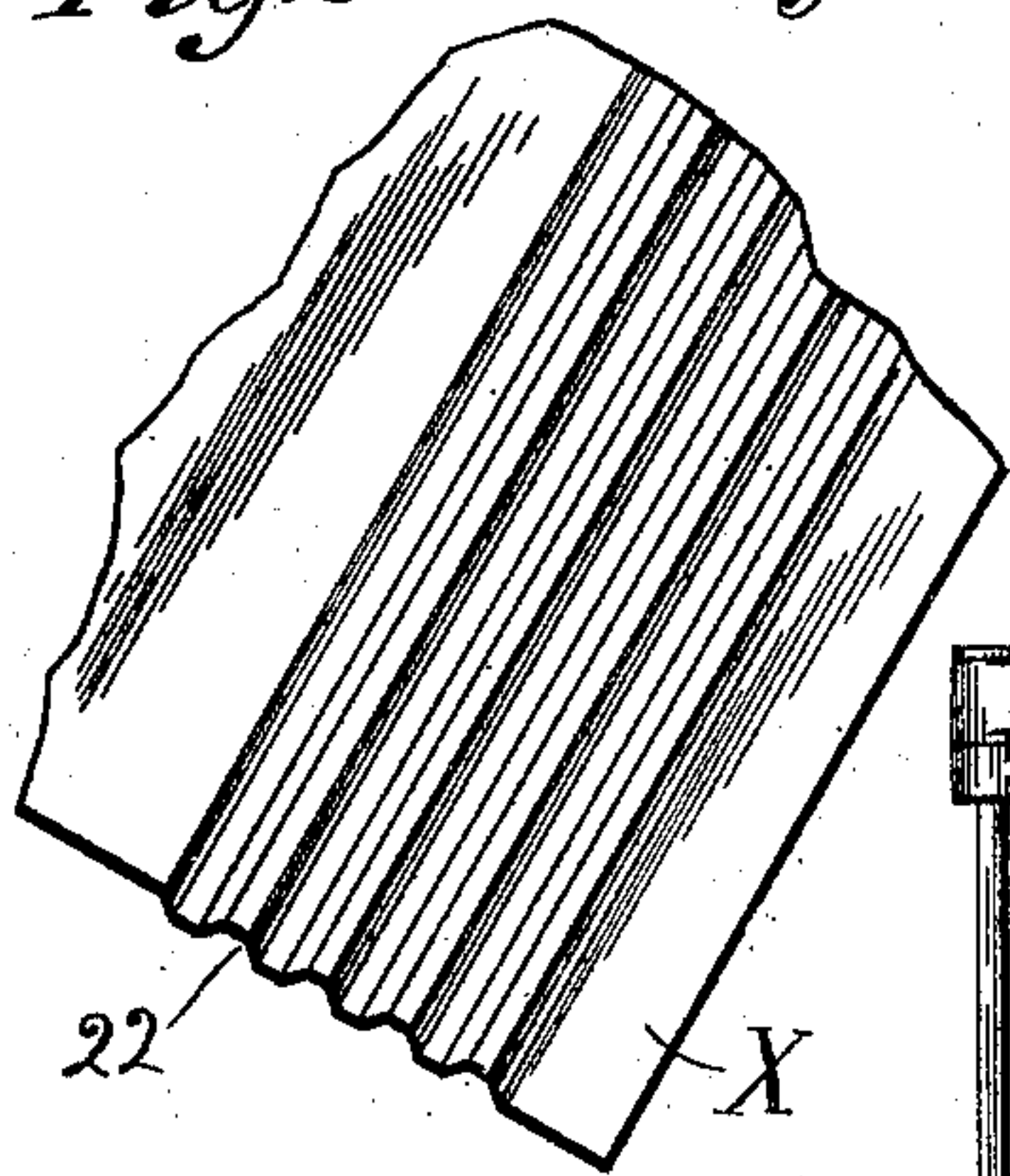


Fig. 5.

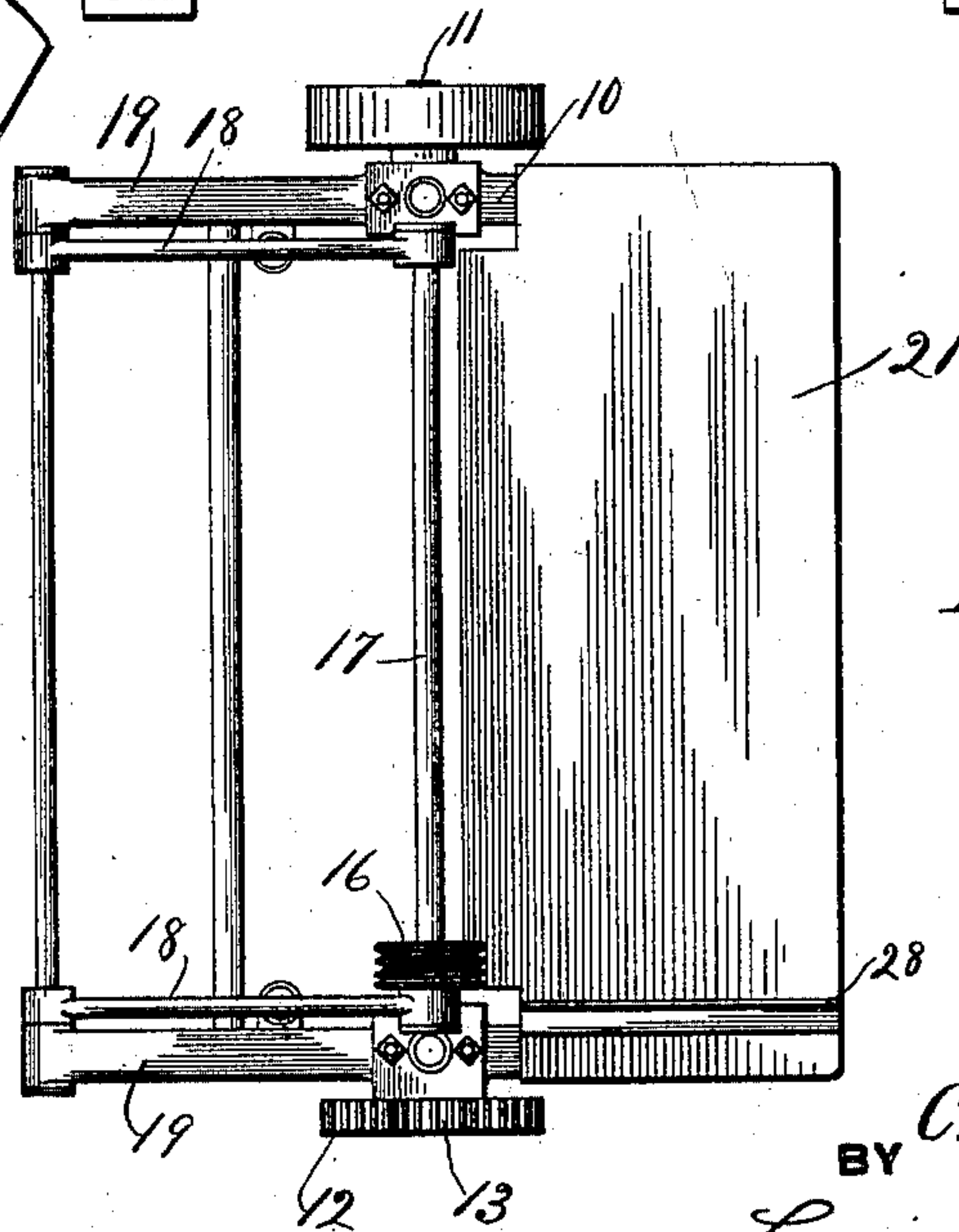


Fig. 2.

WITNESSES:

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CHARLES R. NELSON, OF CHICAGO, ILLINOIS.

CREASING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 756,882, dated April 12, 1904.

Application filed August 14, 1903. Serial No. 169,497. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. NELSON, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Creasing-Machines, of which the following is a specification and which are illustrated in the accompanying drawings, forming a part thereof.

10 This invention relates to machines for creasing sheets of paper used in loose-leaf books, such as ledgers, the sheets being creased adjacent to their inner edges, so that they will lie flat when the book is opened, the creases forming, in a sense, a hinge.

15 It has heretofore been found practically impossible to crease the heavy paper such as is required in account-books by machinery, the difficulty being to form the creases perfectly straight and parallel with the edge of the sheet. The more common practice has been to crease the sheets by hand operation, which is necessarily very slow and consequently expensive. It is preferable to form several
20 creases in the sheet close together, and it is necessary that they be strictly straight, for if they curve even slightly they tend to stiffen the sheet, while the purpose of introducing them is to increase its flexibility.

25 This invention resides in the rolls and peripheral groove, the grooves being so formed that by passing a sheet between them it is properly creased.

30 The invention is fully hereinafter described and is illustrated in the accompanying drawings, in which—

35 Figure 1 is an end elevation of a machine embodying the invention. Fig. 2 is a plan view of the same. Fig. 3 is a detail, partly in section, of a pair of creasing-rolls. Fig. 4 is a detail, partly in section, of a slightly-modified form of the creasing-roll; and Fig. 5 is a detail in perspective of a sheet of paper after having been operated upon by the creasing-
45 machine.

The particular form of the body of the ma-

chine is immaterial. As shown, it comprises a frame 10, within which is journaled a power-shaft 11, carrying a gear-wheel 12, which meshes with a pinion 13, fixed upon a shaft 14, 50 carrying a creasing-roll 15, which is one of a pair, its companion roll 16 being mounted upon a shaft 17, journaled in a swinging frame 18, pivoted to a pair of bracket-arms 19 19, projecting from the frame 10. A spring 20 or 55 equivalent device draws the roll 16 down upon the roll 15.

A table 21 is provided for the bundle of loose sheets X, from which they may be fed between the rolls, and, emerging therefrom, are 60 provided with creases, as shown at 22 in Fig. 5, which render the sheet more flexible near its attaching edge, while leaving the major portion of its body smooth and available for use.

The rolls 15 and 16 are circumferentially 65 grooved, the grooves being V-shaped, but flattened at their bottoms, as shown at 23, the apexes of the intervening ridges being correspondingly flattened, as shown at 24. Preferably the bottoms of the grooves are rendered 70 slightly convex, as shown at 26, the apexes of the intervening ridges being concave, as shown at 27, so that the two will intermesh. A sheet of paper being fed between the two rolls is creased without mutilation, but is stretched 75 by the ribs of the rolls, so that it is rendered thinner where creased, the creases being formed without contracting the sheet, leaving its width entirely unchanged. This stretching is accomplished by the form of the roll-faces, 80 as their ribs draw the material down into the grooves and hold it against lateral slippage, the concavo-convex contour of the meeting portions of the rolls (shown in Fig. 4) contributing to this action. 85

I claim as my invention—

1. In a creasing-machine, in combination, a pair of complementary intermeshing circumferentially-ribbed rolls, having the apexes of their ribs concaved and the apexes of the bottoms of the grooves between their ribs convexed.

2. In a creasing-machine, in combination, a
frame, a roll journaled in the frame, a swing-
ing frame, a roll journaled in the swinging
frame and bearing upon the first-mentioned
5 roll, the faces of said rolls being correspond-
ingly circumferentially ribbed, the apexes of
their ribs and the bottoms of the interven-

ing grooves being concaved, and means for
rotating the rolls.

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Witnesses:

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