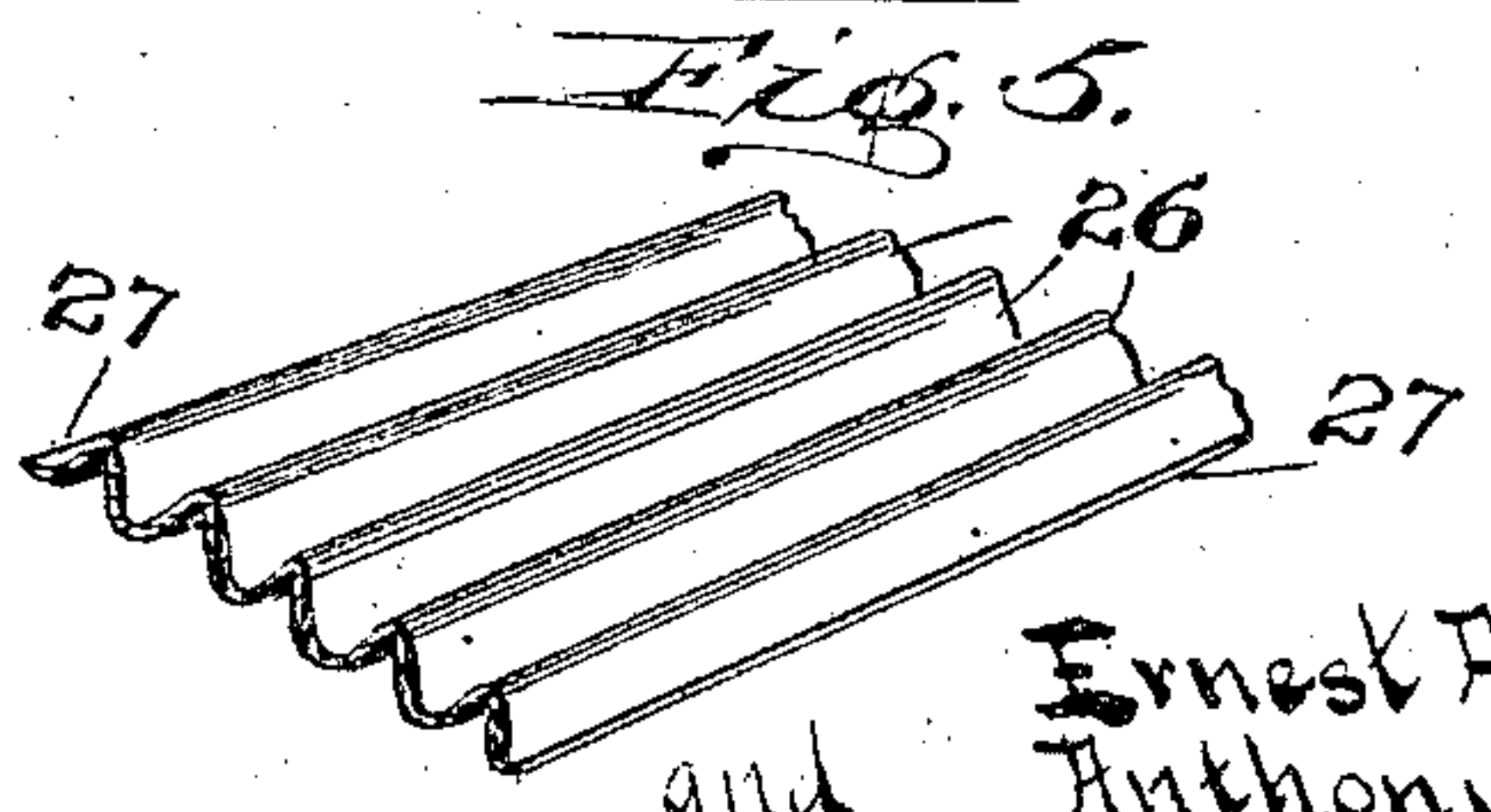
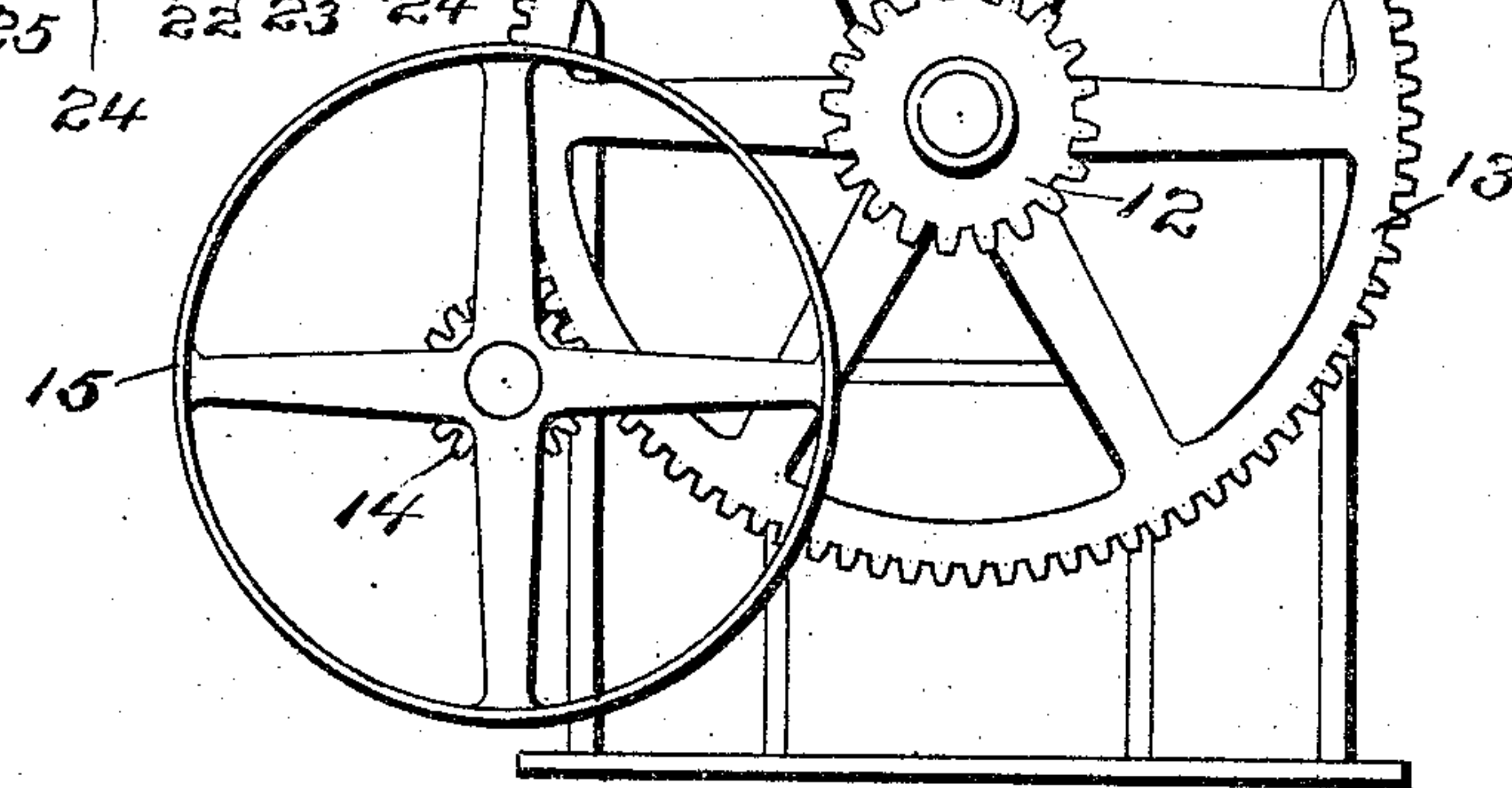
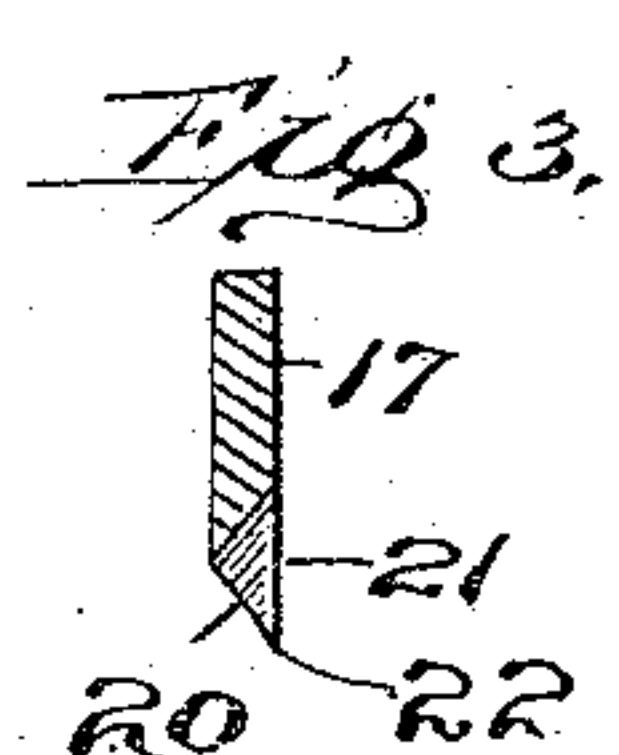
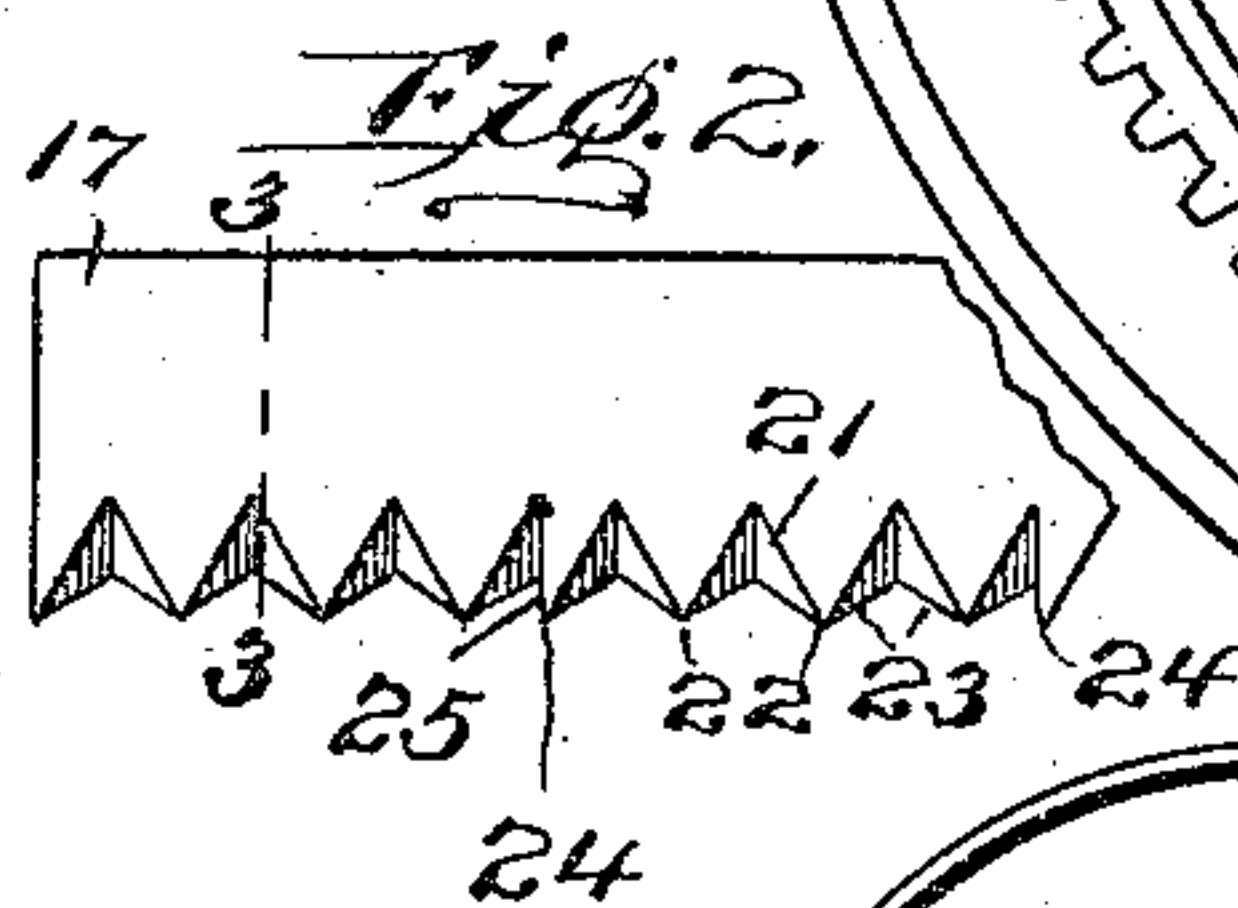
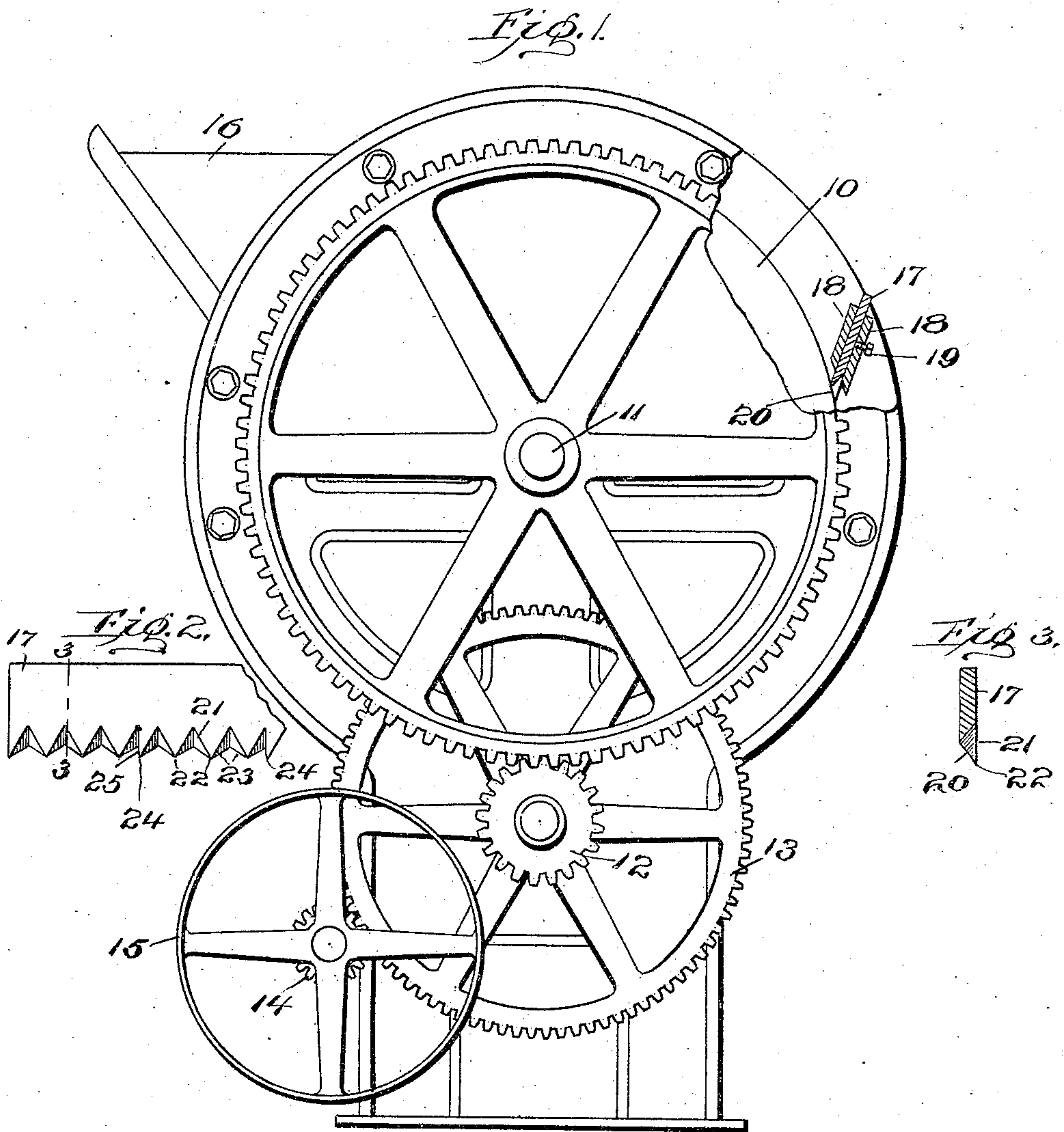


No. 850,004.

PATENTED APR. 9, 1907.

E. A. HOUCHIN & A. HUBER.  
APPARATUS FOR FLUTING SHEETS OF SOAP.

APPLICATION FILED APR. 27, 1906.



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# UNITED STATES PATENT OFFICE.

ERNEST A. HOUCHIN AND ANTHONY HUBER, OF BROOKLYN, NEW YORK.

## APPARATUS FOR FLUTING SHEETS OF SOAP.

No. 850,004.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed April 27, 1906. Serial No. 314,097.

*To all whom it may concern:*

Be it known that we, ERNEST A. HOUCHIN and ANTHONY HUBER, citizens of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Apparatus for Fluting Sheets of Soap; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an apparatus for fluting sheets of soap, and has for an object to provide a device arranged to take soap in a liquid form and chill it in the form of a sheet upon the periphery of the drum and embodying means for removing it from the said drum-surface in fluted sheets.

A further object of the invention is to provide means for operation in connection with a soap-chilling cylinder and provided with an edge in contact with said cylinder, the conformation of which removes the soap from the cylinder in fluted sheets.

A further object of the invention is to provide a scraper for use in connection with the soap-chilling cylinder embodying an edge of such conformation that the soap sheet is removed from the surface of the cylinder in fluted form and cut into strips parallel with the fluting.

With these and other objects in view the invention comprises certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawings, Figure 1 is a view in end elevation of a machine embodying this invention. Fig. 2 is a view in side elevation of a scraper used in association with the soap-chilling cylinder and showing the conformation used for removing the soap in fluted sheets. Fig. 3 is a transverse sectional view of the scraper, taken on line 3 3 of Fig. 2. Fig. 4 is a view of the scraper in end elevation. Fig. 5 is a perspective view of a sheet of soap fluted by the operation of the apparatus forming the subject of this invention.

Like characters of reference designate corresponding parts throughout the several views.

This invention is designed and arranged for use and operation in connection with a soap-chilling cylinder of any usual, ordinary,

or approved form, as the cylinder 10, journaled upon the shaft 11 and rotated by means of the train of gears (shown at 12, 13, and 14) and the pulley 15. The chilling-cylinder 10 may receive a sheet of soap thereupon in any usual and approved manner, as by rotating in a reservoir of liquid soap, by a feeding-roller rotating toward and in association with said cylinder, or by means of a hopper 16, shown in association therewith, which when filled with liquid soap and the cylinders rotated carries a film of soap from the hopper with it in its rotary movement.

At any approved point upon the frame the scraper 17 is secured in any approved manner, as by being slidably inserted between guides 18 and held in operative engagement with the peripheral surface of the cylinder by means of the set-screw 19. The scraper 17, which forms the essence of this invention, comprises a strip of material of any approved and convenient width and thickness, having one edge beveled, as at 20, upon a curve to conform with the curvature with the cylinder with which it is to be operated and at such an angle relative to the plane of the strip that the said strip may stand at an angle of approximately forty-five degrees relative to the tangent to the cylinder, as particularly shown in Fig. 1.

The operating edge of the scraper 17 is formed by filing or otherwise milling the said edge, as at 21, to produce spaced points 22, formed along the acute edge of the strip, whereby the inclined portions between the point 22, as at 23, bear upon the peripheral surface of the cylinder. At desired intervals along the edge of the said strip the teeth-like points 22 are replaced by points 24, one side of which, as 25, is perpendicular to the plane of the strip. The perpendicular edges 25 may be spaced at such intervals as is found convenient or as experience may dictate and are employed for cutting the soap-sheets into strips of the desired width.

In practice as the soap sheet is carried to the periphery of the chilling-cylinder it comes in contact first with the points 22 and the portions thus engaged are lifted from the cylinder to form the corrugations 26, the remaining portions of the sheet being lifted as the cylinder progresses by the inclined edges 23 and the last adhering portion being removed by the portion of the scraper forming the angle of the V-shaped notch, so that the sheet of soap appears as in Fig. 5. When



the point 24 engages the sheet of soap, there being no inclined edge upon one side thereof, the said sheet is slitted or split by the action of the edge 25, so that the parallel edges 27 are formed, as shown in Fig. 5.

While the scraper is here shown as formed with teeth substantially V-shaped, it is obvious that the shape may be somewhat modified, as found expedient and desirable in the formation of the fluted sheets of soap.

The advantage gained by forming the sheet of soap in such fluted condition is that the said chips or sheets so formed are exposed in the drying apparatus to the action of the heated air therein and are not engaged by any object to prevent the free circulation of air to all or nearly all portions of the sheet.

Another advantage is that in forming the sheet in such fluted condition strength is added in the well-known manner, so that the film of soap operated upon may be very much thinner than is the case in flat or plane sheets, and thereby more sensitive to the action of the drying-air.

What we claim is—

1. In a device of the class described, the combination with a cylinder, of means in contact with said cylinder, and arranged to remove material from the cylinder in sheets fluted upon both sides.

2. In a device of the class described, the combination with a cylinder, of means in contact with the surface of the cylinder, arranged to remove material from the cylinder in strips fluted upon both sides.

3. In a device of the class described, the combination with a cylinder, of a scraper provided with an edge in contact with the periphery of the cylinder and of such conformation as to remove material therefrom in sheets fluted upon both sides.

4. In a device of the class described, the combination with a cylinder, of a scraper

having one edge in contact with the said cylinder, and of such conformation that material is removed thereby from the cylinder in a plurality of fluted strips.

5. In a device of the class described, a scraper arranged for operation in association with a soap-chilling cylinder, and having one edge beveled and provided with spaced reversely-inclined chisel edges arranged for contact with the peripheral surface of the cylinder.

6. In a device of the class described, a scraper arranged for operation in association with a soap-chilling cylinder, and having a beveled edge provided with spaced substantially V-shaped notches, and with substantially perpendicular edges replacing the V-shaped notches at predetermined intervals thereupon.

7. In a device of the class described, a scraper arranged for use in association with a soap-chilling cylinder and having a beveled edge arranged for contact with the peripheral surface of the cylinder, provided with substantially V-shaped notches, and with spaced means for splitting the material upon the cylinder into strips.

8. In a device of the class described, a scraper arranged for use in association with a soap-chilling cylinder, and having an edge arranged for operative contact with the peripheral surface of said cylinder, means spaced along said edge for splitting the material into strips, and means spaced between the splitting means for forming material into fluted strips.

In testimony whereof we affix our signatures in presence of two witnesses.

ERNEST A. HOUCHIN.  
ANTHONY HUBER.

Witnesses:

H. G. DISQUE,  
ARTHUR FALK.