

No. 624,086.

Patented May 2, 1899.

B. POST & R. GOEHRING.
GRINDING MACHINE.

(Application filed June 18, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

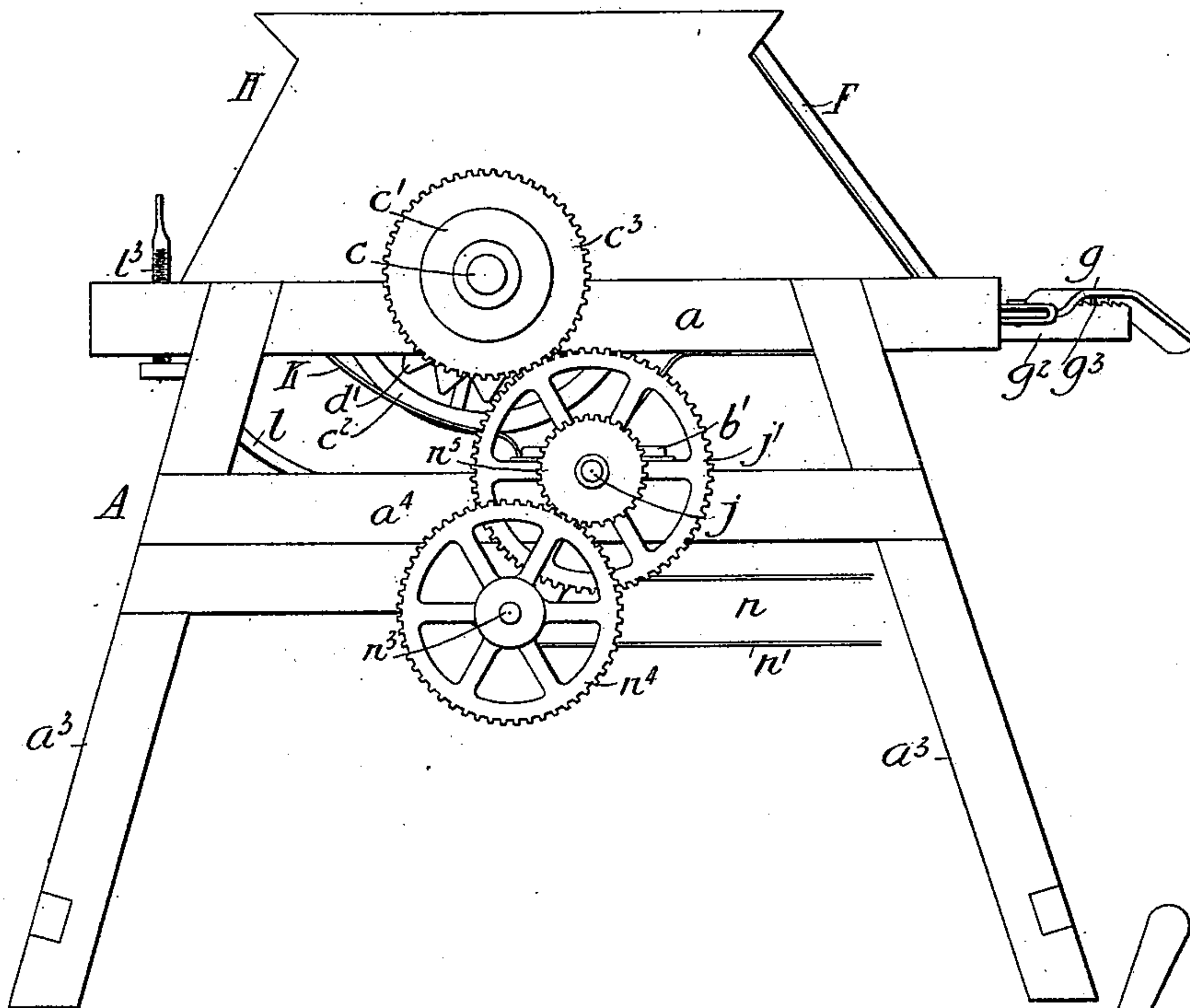
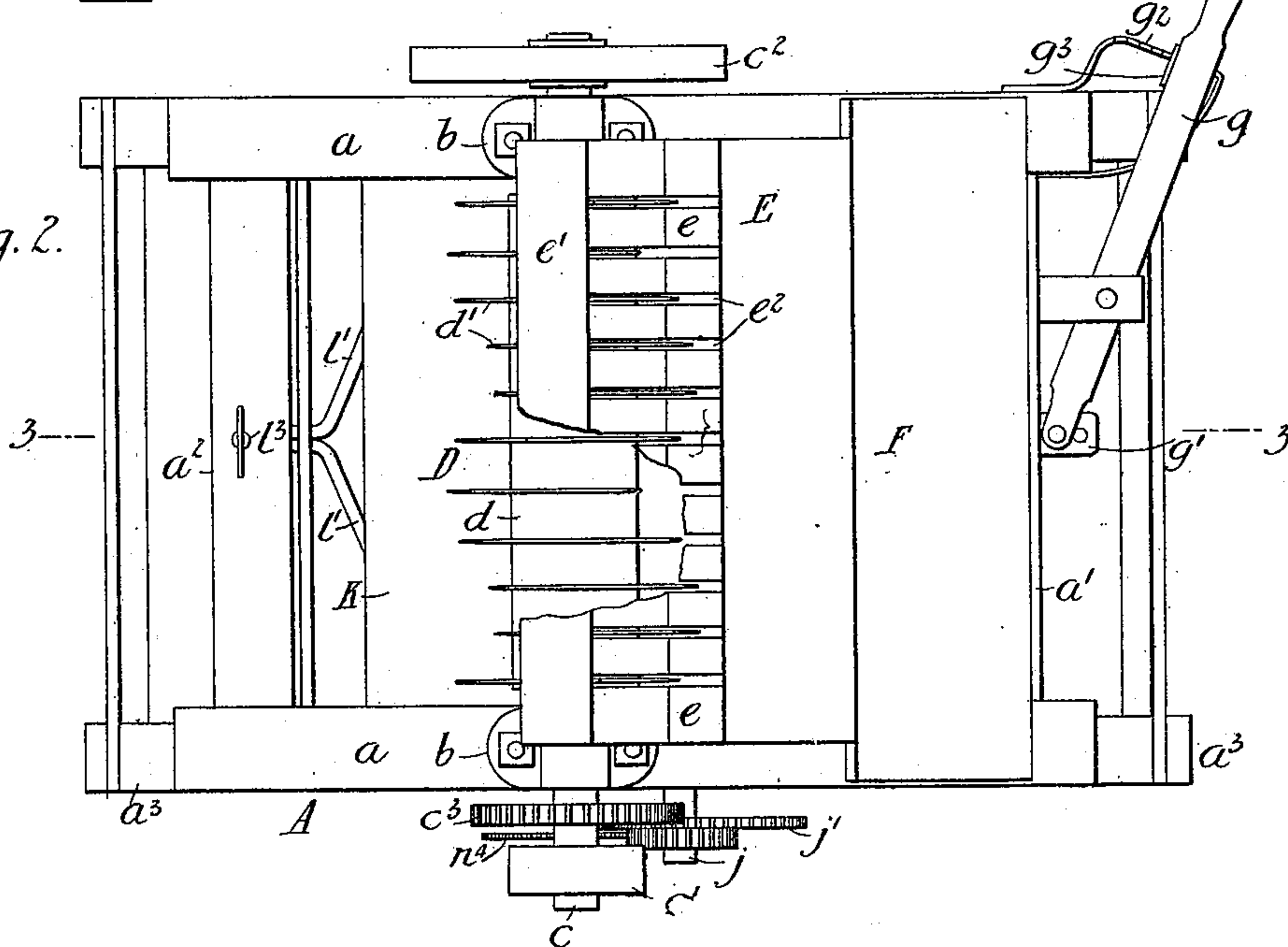


Fig. 2.



WITNESSES

Ben Temple Webster
S. E. Zimmerman

INVENTORS

Bernard Post
Robert Goehring

By *W. W. Dudley & Co.* their Attorneys.

No. 624,086.

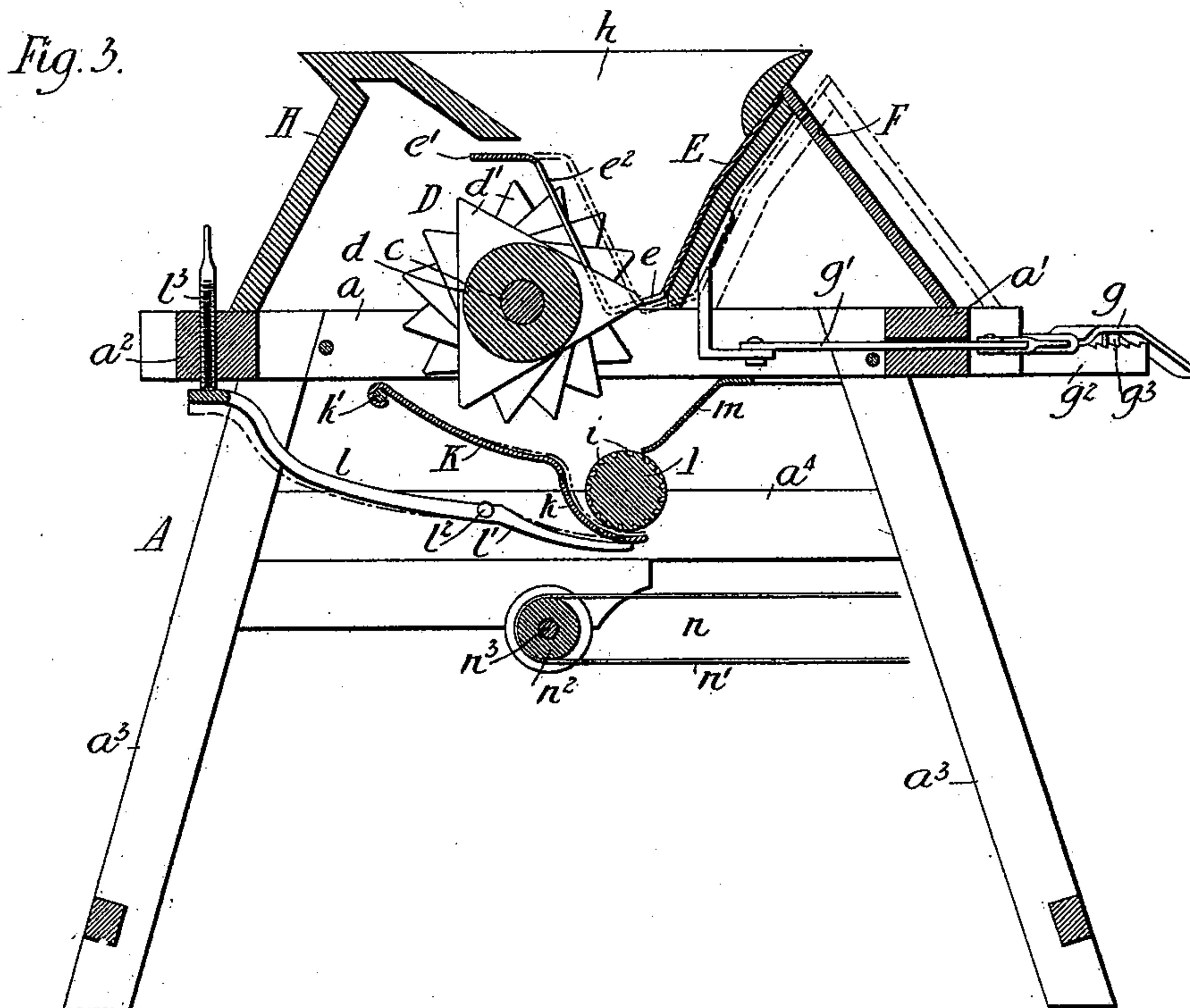
B. POST & R. GOEHRING.
GRINDING MACHINE.

Patented May 2, 1899.

(Application filed June 18, 1898.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES

Bm Temple Webster
S. E. Zimmerman

INVENTORS

Bernard Post and
Robert Goehring

By *W. W. Dudley & Co* their Attorneys.

UNITED STATES PATENT OFFICE.

BERNHARD POST AND ROBERT GOEHRING, OF MEYERSVILLE, TEXAS.

GRINDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 624,086, dated May 2, 1899.

Application filed June 18, 1898. Serial No. 683,803. (No model.)

To all whom it may concern:

Be it known that we, BERNHARD POST and ROBERT GOEHRING, citizens of the United States, residing at Meyersville, in the county of De Witt and State of Texas, have invented certain new and useful Improvements in Grinding-Machines; and we do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 This invention relates to grinding-machines, and is particularly directed to improvements in the class of machines employed for crushing corn and the like, the object of the invention being to combine in a simply-constructed and efficient machine mechanism for cutting or dividing the corn and mechanism for further reducing it by a crushing or grinding operation. The invention also has for its object the provision of means
25 whereby the said mechanisms may be easily and quickly adjusted to suit varying conditions.

The invention consists of the construction and relative arrangement of the several parts
30 of the machine, all of which will be found fully and clearly disclosed in the following detailed description, which is to be read in connection with the accompanying drawings, in which—

35 Figure 1 is a side elevation of our improved grinding-machine. Fig. 2 is a top plan view, the casing being removed; and Fig. 3 is a vertical sectional view taken on line 3 3 of Fig. 2 and showing in full and dotted lines adjusted positions of certain of the parts.

Referring to the said drawings by letter, A denotes the frame of the machine, the same consisting of side bars $a a$, end bars $a' a^2$, supporting legs or standards $a^3 a^3$, and lower side
45 bars $a^4 a^4$. On the side bars $a a$ are boxes $b b$, in which is journaled the operating-shaft c , carrying a drive-pulley c' and a fly-wheel c^2 . Rigidly mounted on the shaft between its bearings is a revolving cutter D, consisting of
50 cylindrical sections $d d$, between which are knives $d' d'$, triangular in form and so disposed as to be brought successively into op-

eration, the points to this end being arranged in spiral alinement.

E denotes a hopper-plate secured at its
55 outer end to a casing-section F, slidably supported on the side bars $a a$, said plate extending downwardly from the section at an angle to afford a base e , and thence upwardly at an angle and in the path of the knives $d' d'$, and
60 finally rearwardly, as at e' . In the hopper-plate are slots $e^2 e^2$, which extend through the base and through the inclined side and afford openings through which the knives are successively brought and also outlets for the
65 cut corn. To regulate the cut of the knives, the hopper-plate is capable of adjustment to or from the cutter, the means employed consisting of a lever g , pivoted on the end bar a' and having connection through a rod g' , passed
70 through a slot in said bar, with the casing-section F, by which arrangement movement of the lever is communicated to the casing-section and hopper-plate, certain adjusted positions of these parts being shown in full and dotted
75 lines in Fig. 3. To maintain such adjustment, there is provided in the path of the outer end of the lever a rack-bar g^2 , the teeth of which are engaged by a projection g^3 on the lever, disengagement being accomplished
80 by raising the latter, as will be understood.

H denotes a casing which is removably placed on the top of the frame to afford a housing for the cutter, and in the upper side of the casing is a hopper-shaped opening h ,
85 the walls of which form a continuation of the hopper-plate E.

Below the cutter is a grinding or crushing roll I. This roll is rigidly mounted on a shaft j , journaled in boxes $b' b'$ on the lower
90 side bars $a^4 a^4$, and motion is given to the roll through a gear-wheel j' , carried by the shaft j , which meshes with a gear-wheel c^3 on the shaft c . The roll is provided on its periphery with spirally-arranged corrugations
95 or plates $i i$, which are brought to an edge and operate to further reduce the corn as it comes from the cutter.

K is a plate which coöperates with the roll in the grinding or crushing operation, the
100 plate at that portion k adjacent to the roll being semicircular in cross-section and serving to bring the corn into close contact with the latter, to be acted upon by the grinding

or crushing edges. The plate extends from side to side of the machine and is pivotally hung at its upper end on a rod l' , fixed to the side bars a , and means are employed to
 5 adjust the plate with reference to the roll to regulate the degree of reduction of the material, consisting of a lever l , the arms l' of which are pivotally secured to the lower side bars a^4 at l^2 and engaging at their ends the
 10 under side of the plate below the roll I. The lever at its other end is brought into proximity with the end bar a^2 , and a set-screw l^3 is passed through said bar into engagement with this end of the lever. By turning the
 15 screw l the lever is moved to bring the lower end of the plate to or from the roll to adjust the space for the corn and to thereby control the degree of fineness of the material. m denotes a guide-plate to direct the corn as it
 20 comes from the knives to the grinding or crushing roll. The corn after being ground or crushed may fall into receptacles placed below the roll; but we prefer to employ a conveyer, such as n , for the purpose of carrying
 25 the material away from the machine to a wagon or the like. This conveyer consists of an endless apron n' , passed around rollers n^2 , one of which is mounted on a shaft n^3 , journaled in bearings on the under side of
 30 the lower side bars a^4 , and motion is imparted to said apron through a gear n^4 on the shaft n^3 , meshing with a gear n^5 on the shaft j of the crushing or grinding roll.

In the operation of our invention the machine being set in motion corn or the like is
 35 fed into the hopper and is acted upon by the knives, which reduce it to a sufficiently fine state to permit of its passage through the slot-openings in the hopper-plate, from whence it
 40 falls onto the guide-plate m , and is directed thereby to the grinding or crushing roll, after which it falls onto the conveyer and is carried away.

Our improved machine, while adapted for
 45 crushing or grinding a variety of materials, is more especially serviceable in reducing corn for fodder, and the construction employed enables the crushing or grinding of the corn with the husks, thereby dispensing with the
 50 present necessity of shucking the ears prior to the crushing or grinding operation.

The simplicity of construction of our machine precludes disorder of the parts and enables cheap production. The provisions for
 55 adjustment greatly add to the general effi-

ciency of the machine, and as these adjustments may be readily effected the amount of manual labor incident to the operation is reduced to the minimum.

We claim as our invention—

1. In a machine of the class described, the combination of a revoluble cutter, a hopper, a hopper-plate forming a continuation of the hopper, said plate being of approximately V
 60 form in cross-section and provided in its base 65 and in the side adjacent to the cutter with slots through which the cutter-knives project, and means for adjusting the plate independent of the hopper to vary the degree of projection of the knives through the slotted side
 70 and base, substantially as described.

2. In a machine of the class described, the combination of a revoluble cutter, a hopper, a hopper-plate forming a continuation of the
 75 hopper, said plate being of approximately V 75 form in cross-section and provided in its base and in the side adjacent to the cutter with slots through which the cutter-knives project, and means for adjusting the plate independently of the hopper to vary the degree of pro-
 80 jection of the knives through the slotted side and base consisting of a lever having rod connection with the casing and locking means for said lever.

3. In a machine of the class described, the
 85 combination of a revoluble cutter having the described form and arrangement of knives, a hopper, a hopper-plate forming a continuation of the hopper, said plate being of approxi-
 90 mately V form in cross-section and provided 90 in its base and the side adjacent to the cutter with slots through which the knives are successively brought, a slidable casing carrying the plate having means for adjusting its position to bring the plate to or from the cutter,
 95 a hopper below the plate and cutter formed with a fixed wall and a movable wall pivoted at its rear end to the casing of the machine and having its lower end curved as described, a grinding-roll in operative relation to the
 100 curved portion of the movable wall, and means for adjusting the movable wall to or from the roll.

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

BERNHARD POST.

ROBERT GOEHRING.

Witnesses:

PHILIP URBAN,

WILLIAM HAYDON.