No. 740,637. PATENTED OCT. 6, 1903.

H. L. FERRIS.

SNAPPING ROLLS.

APPLICATION FILED JULY 24, 1900.

NO MODEL.

Fig. 1.

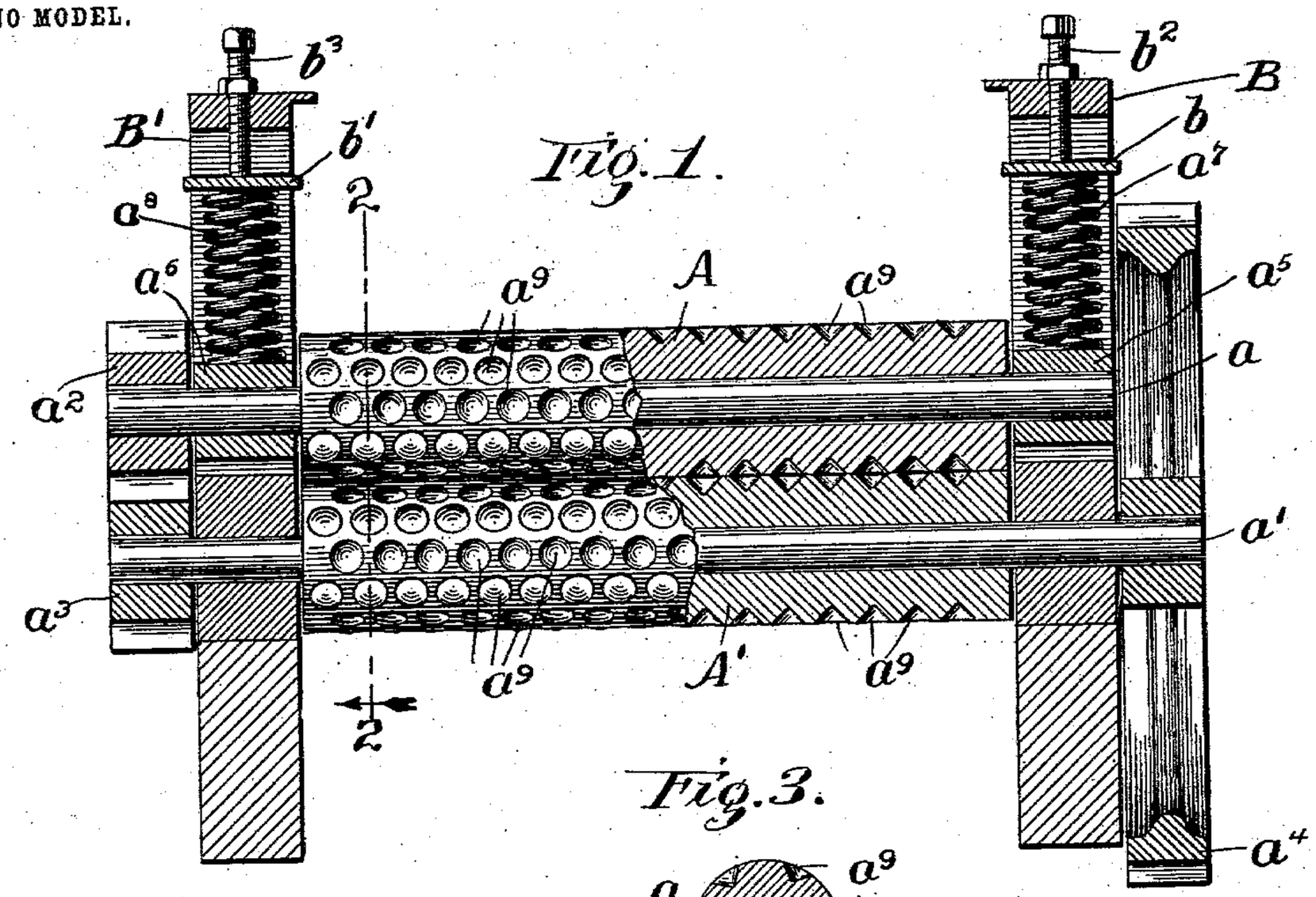


Fig. 3.

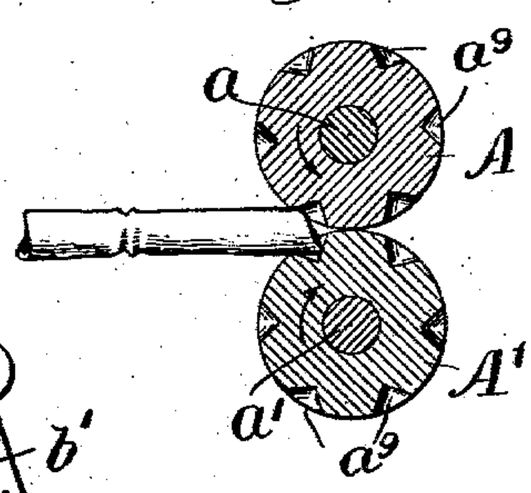


Fig. 2.

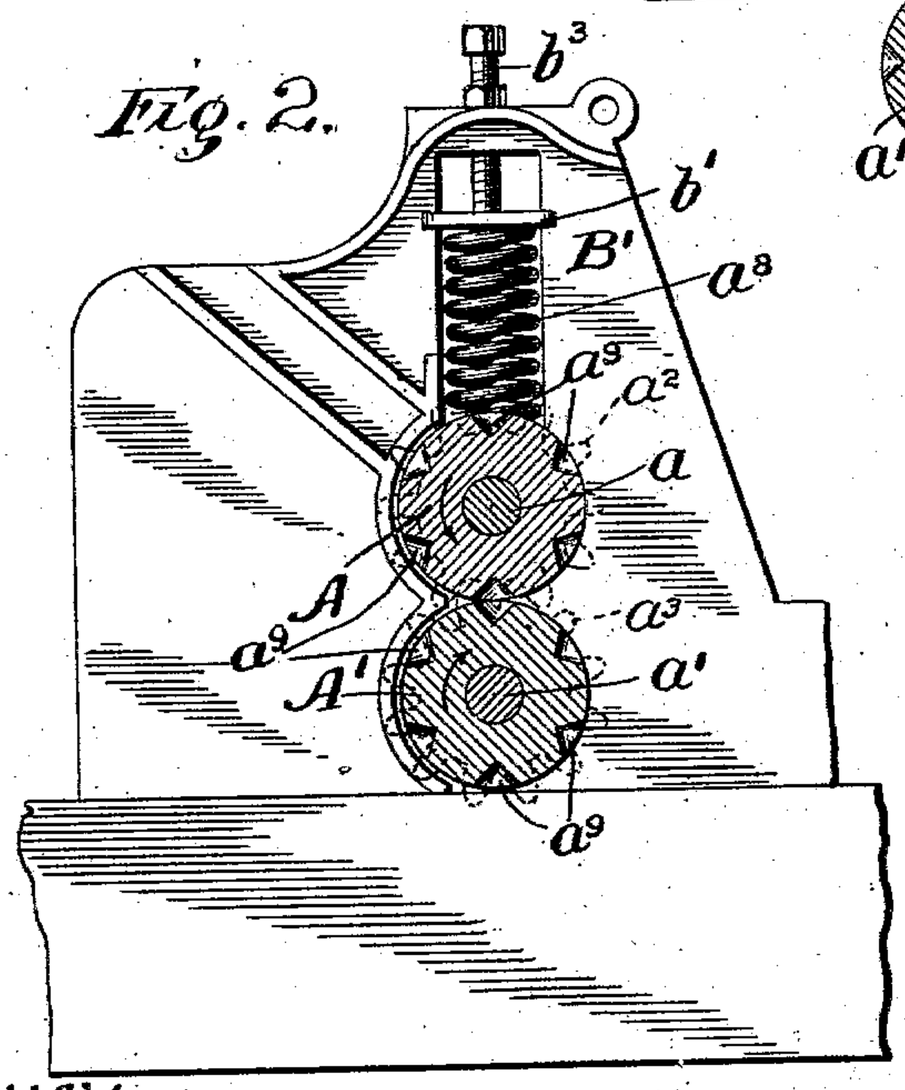
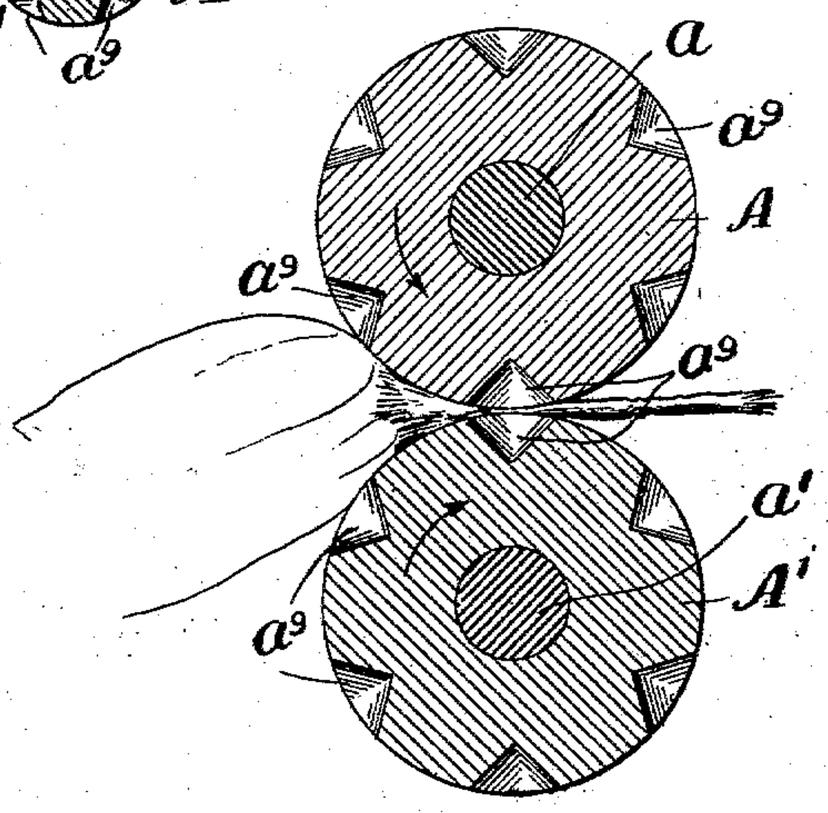


Fig. 4.



Witnesses:
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No. 740,637. Patented October 6, 1903.

UNITED STATES PATENT OFFICE.

HENRY L. FERRIS, OF HARVARD, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO HUNT, HELM, FERRIS & COMPANY, OF HARVARD, ILLINOIS, A CORPORATION OF ILLINOIS.

SNAPPING-ROLLS.

SPECIFICATION forming part of Letters Patent No. 740,637, dated October 6, 1903.

Application filed July 24, 1900. Serial No. 24,647. (No model.)

To all whom it may concern:

Be it known that I, HENRY L. FERRIS, a citizen of the United States of America, residing at Harvard, in the county of McHenry and State of Illinois, have invented certain new and useful Improvements in Snapping-Rolls, of which the following is a specification.

My invention relates to certain improvements in snapping-rolls, the purpose of which is to separate the ears of corn from the stalks without injury to the latter and without the shelling of any of the corn therefrom.

Some difficulty has been encountered in devising rolls adapted to grasp positively and quickly the cornstalks and at the same time avoid grasping the ends of the ears so as to shell part of the kernels therefrom. The stalks with the ears on are fed to the snapping-rolls with the butt or larger end forward and a plain roll of practicable size will not take hold of the same. Longitudinally-corrugated rolls have been used; but while they grasp the ends of the stalks they also occasionally nip the end of an ear sufficiently to tear off two or three rows of corn. It is the object of my invention to avoid this by the peculiar formation of the roll, and the said invention consists in certain novel characteristics, which will be fully set forth below.

In the drawings, Figure 1 is a vertical longitudinal section through a pair of feed-rolls, a part at one end of the latter being shown in full. Fig. 2 is a vertical transverse section in line 2 2 of Fig. 1. Fig. 3 is a detail section showing the butt-end of the stalk of corn as the rolls are taking hold of it, and Fig. 4 illustrates the manner in which the ear is pinched from the stalk as the latter is drawn through the rolls.

Referring to the drawings, the rolls are lettered A A′ and are mounted upon shafts a a', geared together by spur-gears a^2 a^3, the shaft a' being driven by the large gear a^4. The shaft a runs in vertically-movable boxes a^5 a^6, pressed toward the shaft a' by springs a^7 a^8, crowded down by plates b b', adjustable by means of screws b^2 b^3, threaded in the standards B B′, in which are also guided the boxes a^5 a^6.

The rolls themselves are preferably cylindrical in shape, and their surfaces are pitted with numerous recesses or pockets a^9, preferably shallow and also preferably arranged in longitudinal rows, the members of the adjacent rows upon each roll being offset and the pockets upon the respective rolls registering as they come around with those upon the other roll. In this way the end of the cornstalk is allowed to slip into the registering pockets, as seen in Fig. 3, and be tightly grasped as the rolls rotate, whereas as far as taking hold of an ear of corn is concerned the operation is practically the same as that of smooth rolls, as will be clearly seen in Fig. 4. This particular arrangement of registering pockets is advantageous because the registering pockets offer to the end of the cornstalk, which is round, an opening curved at both sides, which is much better suited to the round end of the cornstalk than an opening curved on one side and flat on the other side, such as is presented when the recesses of one roll register with the spaces between the recesses of the other. A further advantage lies in the fact that when the depressions register they can be made shallower than they otherwise would, for the reason that at the line of contact between the rolls two depressions together unite to grasp the end of the cornstalk instead of one depression alone being in contact with the stalk, as in the case where the rolls do not register. It is particularly desirable that the depressions shall be as shallow as possible consistent with properly grasping the stalk in order that they shall not bite and mangle the ears of corn.

I claim as new and desire to secure by Letters Patent—

1. In a machine for snapping corn, the combination with a suitable framework and driving mechanism, of a pair of snapping-rolls formed with registering pits or pockets upon their surfaces of proper size to admit the end of a cornstalk, but not the end of an ear; substantially as described.

2. In a machine for snapping corn, the combination with a suitable framework and driving mechanism, of a pair of snapping-rolls

formed with registering pits or pockets arranged in longitudinal rows, the pockets of the various rows being arranged opposite to the spaces between the pockets in the rows upon each side of them; substantially as described.

3. In a machine for snapping corn, the combination with a suitable framework and driving mechanism, of a pair of snapping-rolls formed with substantially circular registering pits or pockets upon their surface, of proper size to admit the end of a cornstalk, but not the end of an ear, substantially as described.

In witness whereof I have hereunto set my hand at Harvard, in the county of McHenry and State of Illinois, this 15th day of June, A. D. 1900.

HENRY L. FERRIS.

Witnesses:
BLAKE B. BELL,
JOHN CROSS.