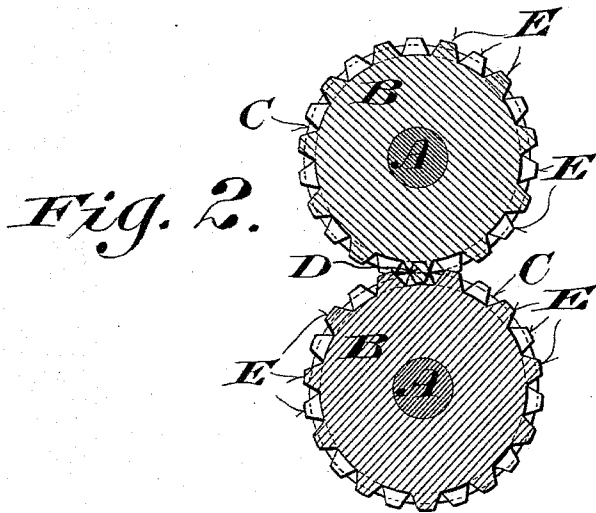
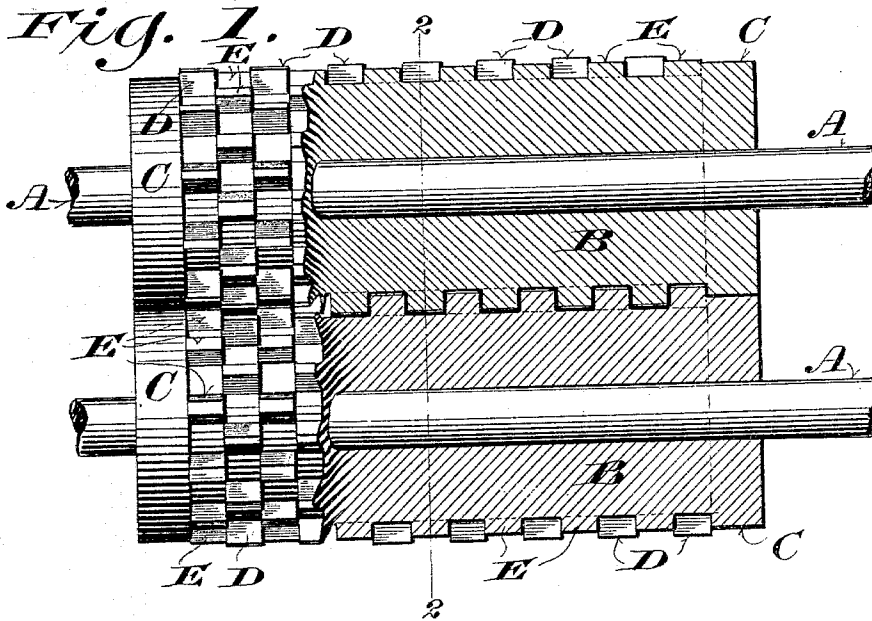


(No Model.)

W. & C. A. GUTENKUNST.
FEED ROLLER.

No. 545,286.

Patented Aug. 27, 1895.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM GUTENKUNST AND CHARLES A. GUTENKUNST, OF MILWAUKEE,
WISCONSIN.

FEED-ROLLER.

SPECIFICATION forming part of Letters Patent No. 545,286, dated August 27, 1895.

Application filed January 14, 1895. Serial No. 534,785. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM GUTENKUNST and CHARLES A. GUTENKUNST, citizens of the United States, residing at Milwaukee, county of Milwaukee, State of Wisconsin, have invented a certain new and useful Improvement in Feed-Rollers; and we 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to new and useful improvements in the construction of "feed-rollers" for feed-cutters, corn-huskers, and machines of similar nature, and our said invention consists in the matters hereinafter described, and pointed out in the appended claims.

In the accompanying drawings illustrating our invention, Figure 1 is a broken side elevation of a pair of feed-rollers constructed in accordance therewith. Fig. 2 is a vertical transverse section of the same, taken on line 2 2 of Fig. 1.

Heretofore it has been found that in the operation of corn-husking machines, feed-cutting machines, or other machines operating upon long material, such as cornstalks or the like, the long leaves of the corn or other material often become twisted or wrapped around the feed-rollers and materially interfere with the feeding of material into the machine. Furthermore, it often happens that in stripping the ears of corn from the stalks the stalk or part of the husk will enter between the feed-rollers and the ear of corn will come into contact with the faces of the rollers and will hang in this position, the stalk or the husk being loosely grasped by the rollers and not pulled away from the ear. This greatly interferes with the operation of the machine and with the feeding of material thereto.

It is the object of our present invention to construct an improved form of feed-rollers which will effectually obviate the aforesaid difficulties and at the same time will insure the satisfactory feeding of the material to the machine.

To this end we construct our improved feed-rollers in substantially the manner illustrated in the drawings, said rollers being provided with intermeshing teeth of a construction to be presently described.

We prefer in practice to construct the rollers from interior axial shafts A A of machine-steel, and exterior toothed portions B B of chilled-iron or highly-tempered steel fitted thereto. At opposite ends of the exterior toothed portions B B are provided annular raised bearing-faces C C, arranged to have a rolling contact with each other when the rollers are in operation. These raised annular faces C C serve to hold the rollers apart to a desired extent. Upon each roller are arranged a plurality of rows of teeth, the teeth being constructed substantially as shown in the drawings and arranged so as to break spaces over the entire surfaces of the rollers.

The teeth D D of one or more of the rows upon each roller are made of just sufficient height to enable them to touch the surface of the cylindric body of the opposed roller, and the teeth E E of the other rows upon each roller are made somewhat shorter, so as to afford considerable clearance between them and the cylindric face of the opposed roller.

The arrangement of the teeth upon the working surfaces is such that the teeth forming the rows upon each roller break spaces with each other, both longitudinally and circumferentially of the rollers, throughout the surfaces of the rollers.

The rollers are arranged and geared together, so that when revolved the teeth of either roller will mesh with the teeth upon the other or opposed roller, said long or high teeth D D in the rotation of the rollers pressing upon the cylindric face of the opposed roller in the manner described. By this construction, as the material is fed into the machine it is engaged by the teeth upon the faces thereof and drawn between the rollers in an obvious manner, and any long and flexible blades or leaves that would be likely to coil or wrap around the rollers will be cut or pinched in two between the cylindric faces of the body portions of the rollers and the faces or tops of the high or long teeth D D. This effectually prevents the material from

coiling or wrapping around the feed-rollers and clogging or interfering with the operation of the rollers. By this construction, in case an ear of corn should become lodged, in the manner described, in front of the feed-rollers, so as to be held in contact therewith by the grasp of the rollers on the stalk or husk, the long or high teeth D D of either roller will, when they come against the cylindric face of the opposed roller, operate to cut or pinch off the stalk or husk or to tear the same from the ear of corn, so as to free the ear and permit it to drop.

By the arrangement of the annular raised bearing-faces C C, as described, the rollers are held apart so as to take all strain or pressure off from the teeth D D and prevent wear thereof, said teeth being permitted to just touch the cylindric faces of the opposed roller, so as to perform the operation of cutting or pinching off the material.

By reason of the described construction of the rollers with the tool-steel central shafts A A and the exterior chilled or highly-tempered portions the rollers are rendered very durable and substantial, the tough tool-steel centers affording the necessary strength and the hard outer portions resisting wear.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. A pair of feed rollers each provided with one or more rows of long or high teeth, and with intermediate blank spaces and having the remainder of its surface provided with shorter or lower teeth, and said teeth being arranged in a generally quincunx order over the entire surface of said roller, and said rollers being geared together so as to

bring the teeth of each roller into mesh both longitudinally and circumferentially with the teeth of the opposed roller, and said long or high teeth on each roller being arranged to enter the spaces between the long or high teeth of the opposed roller, and to engage with the cylindric surface of said opposed roller, substantially as described.

2. A pair of feed rollers each provided with rows of teeth, the teeth forming the several rows being arranged so as to alternate lengthwise and circumferentially of the rollers, and the teeth of one or more of the rows on each roller being made longer or higher than the teeth of the other rows, and adapted to bear against the cylindric body of the opposed roller, said rollers being geared together so as to bring said teeth into mesh both longitudinally and circumferentially of the rollers, and raised annular bearing faces at opposite ends of said rollers adapted for engagement with each other, substantially as and for the purpose described.

3. An improved feed-roller comprising a central shaft of tool-steel or analogous tough material, and an exterior portion of chilled or highly tempered material, provided with rows of grinding teeth, one or more rows of cutting teeth, longer or higher than said grasping teeth, substantially as and for the purpose described.

In testimony whereof we sign this specification in the presence of two witnesses.

WILLIAM GUTENKUNST.
CHARLES A. GUTENKUNST.

WITNESSES:
N. E. WILES,
E. W. STOUT.