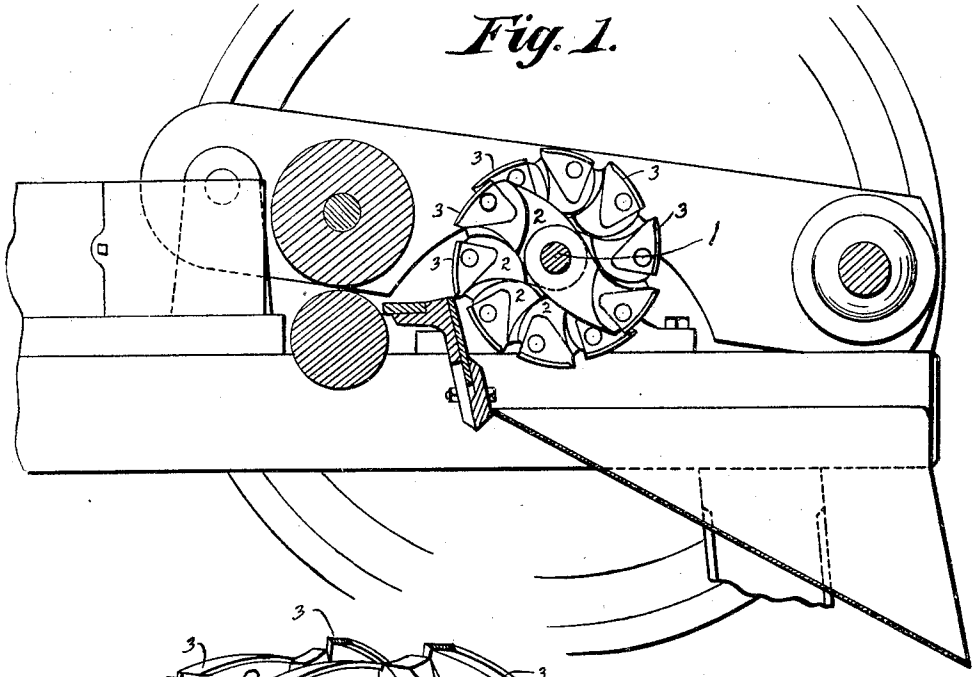
No. 810,204. PATENTED JAN. 16, 1906.

F. G. HARRISON & A. C. JACOBY.

FODDER CUTTER.

APPLICATION FILED AUG. 15, 1903.

Fig. 1.



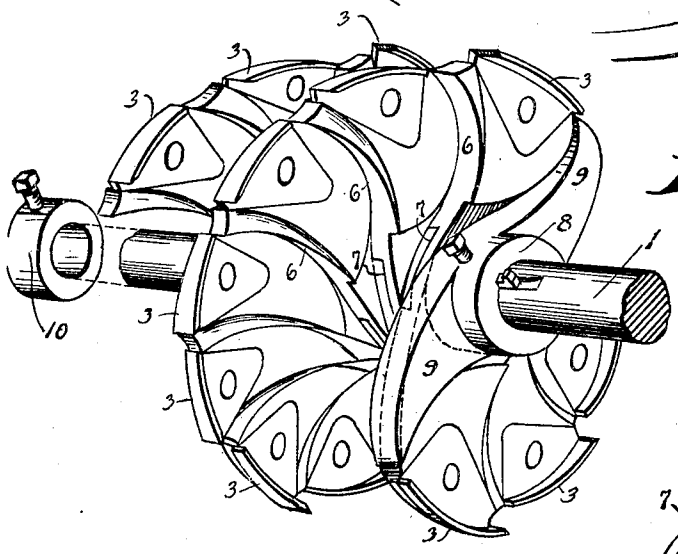


Fig. 2.

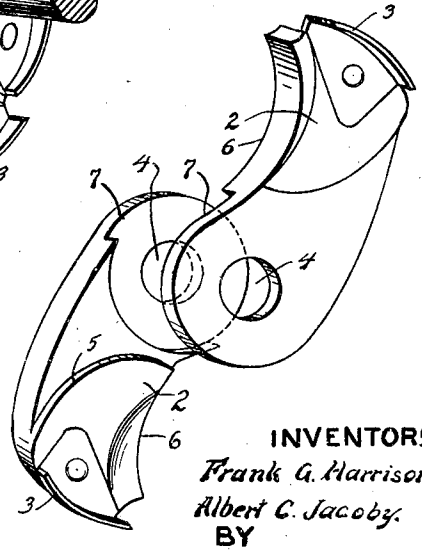


Fig. 3.

WITNESSES

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FRANK G. HARRISON AND ALBERT C. JACOBY, OF MASSILLON, OHIO, ASSIGNORS TO WILLIAMSON R. HARRISON, OF MASSILLON, OHIO.

FODDER-CUTTER.

No. 810,204. Specification of Letters Patent. Patented Jan. 16, 1906.

Application filed August 15, 1903. Serial No. 169,589.

To all whom it may concern:

Be it known that we, FRANK G. HARRISON and ALBERT C. JACOBY, citizens of the United States, residing at Massillon, in the county of Stark and State of Ohio, have invented a new and useful Improvement in Fodder-Cutters, of which the following is a specification.

The invention relates to fodder-cutters having a cylinder composed of spirally-arranged cutting-knives which operate successively on the edge of a cutter-bar to sever the fodder as it is advanced by feed-rollers; and the object of the improvement is to make a cylinder having a double spiral of cutting-knives in such a manner that the knife-blades will be a uniform distance from the axis of the cylinder, thereby insuring a proper meeting of the blade with the cutter-bar. This object is attained by the construction and arrangement of the cylinder and its constituent parts, as illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section of part of a fodder-cutter, showing the relation of the cylinder to the cutter-bar; Fig. 2, a perspective view of part of the cutting-cylinder, showing the manner of assembling the knives thereon; and Fig. 3, a detached view of two companion knives slightly separated.

Similar numerals refer to similar parts throughout the drawings.

The original construction of a cutting-cylinder of this type was to mount a series of single cutting-knives on an axial shaft in such a manner as to form a single spiral of cutting-blades. In this form of cylinder when the cutting edge meets but does not overlap the line of the cutting edges of the adjacent blades the total amount of work which a given cylinder can accomplish in each revolution is measured by the sum of the widths of all the cutting-blades. In practice it has been found necessary to speed such a cylinder some twelve hundred revolutions a minute to accomplish the work which is done by other types at less speed. Such a high speed for the cutting-cylinder is of course mechanically objectionable and has militated against the use of this type of cutters. This difficulty has been overcome by making the cutting-cylinder with a double spiral of cutting-knives—that is, two separate and diametrically opposite spirals which run parallel with each other around the cylinder. Such a cylinder performs just double the amount of work as a cylinder with a single spiral, because two cutting-blades follow each other in the same path in each rotation of the cylinder, and as a result this form of cylinder need only be run at half the speed as the single spiral cylinder to accomplish the same amount of work, and it has been found empirically that it does not take a proportionate increase of power to accomplish this result.

The double spiral of cutting-knives is made by mounting on the cylinder-shaft 1 a series of pairs of knife-arms 2, diametrically disposed and having the knife-blades 3 attached on the outer ends thereof. The apertures 4 are provided in the inner ends of the knife-arms through which the shaft 1 is inserted, and on the side of each arm is provided the shoulder 5, against which the edge 6 of the laterally-adjoining knife-arm is adapted to abut. The inner parts of each knife-arm are halved, so that the arms of each pair will nest together and only occupy the thickness of a single knife along the shaft, as shown at 7.

To form the cylinder, the stop-collar 8, having the radial arms 9, is securely attached on the shaft, as by a key or a set-screw. The cutting-knives are then assembled thereon with the shoulders 5 of the first pair abutting against the edges of the stop-arms and the shoulders of each succeeding pair abutting against the edges of the previous knife-arms, the last pair of knives being held in position by the lock-collar 10. By making the cylinder of pairs of knife-arms assembled in this manner the shaft-aperture in each arm can be bored out exactly the proper distance from the knife-blade, thus insuring a proper meeting of the same with the cutter-bar.

What we claim as our invention, and desire to secure by Letters Patent, is—

A fodder-cutter cylinder comprising an axial shaft having a stop-collar with radial arms fixed thereon, a series of diametrically-disposed and spirally-arranged pairs of knife-arms with side shoulders mounted on the shaft, there being apertures for the shaft on the inner ends of the knife-arms and cutting-blades on the outer ends thereof and the inner parts of the knife-arms being halved to

bring the arms of each pair in the same plane, and the side shoulders of the several knife-arms abutting respectively against the radial arms and the edges of the adjoining knife-arms, and a lock-collar set on the shaft against the last pair of knife-arms.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FRANK G. HARRISON.
ALBERT C. JACOBY.

Witnesses:
T. K. HARRIS,
HARRY FREASE.