No. 681,060. Patented Aug. 20, 1901.

F. F. LANDIS.

PICKER FOR THRESHING MACHINES.

(Application filed May 5, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

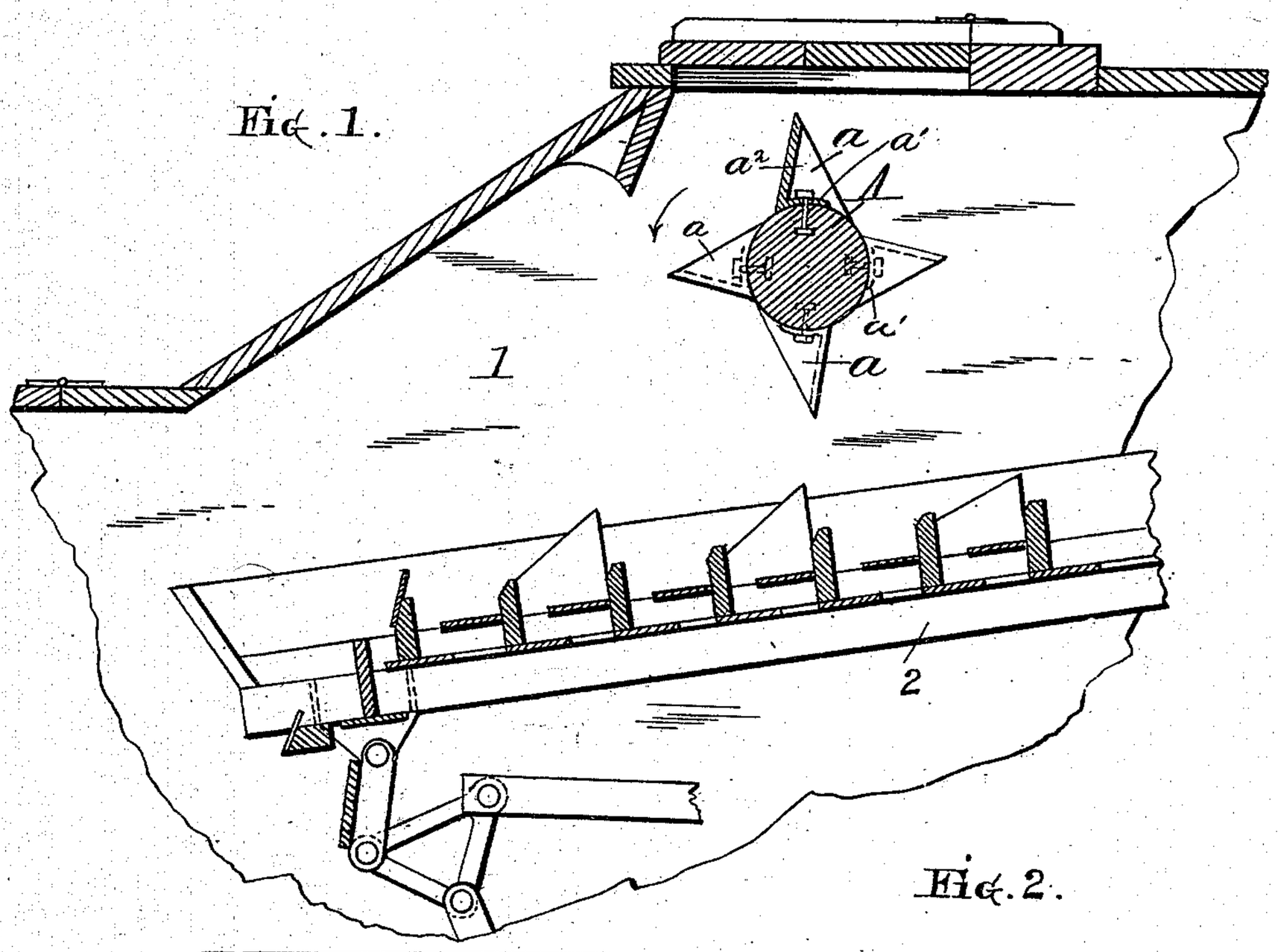

Fig. 2.

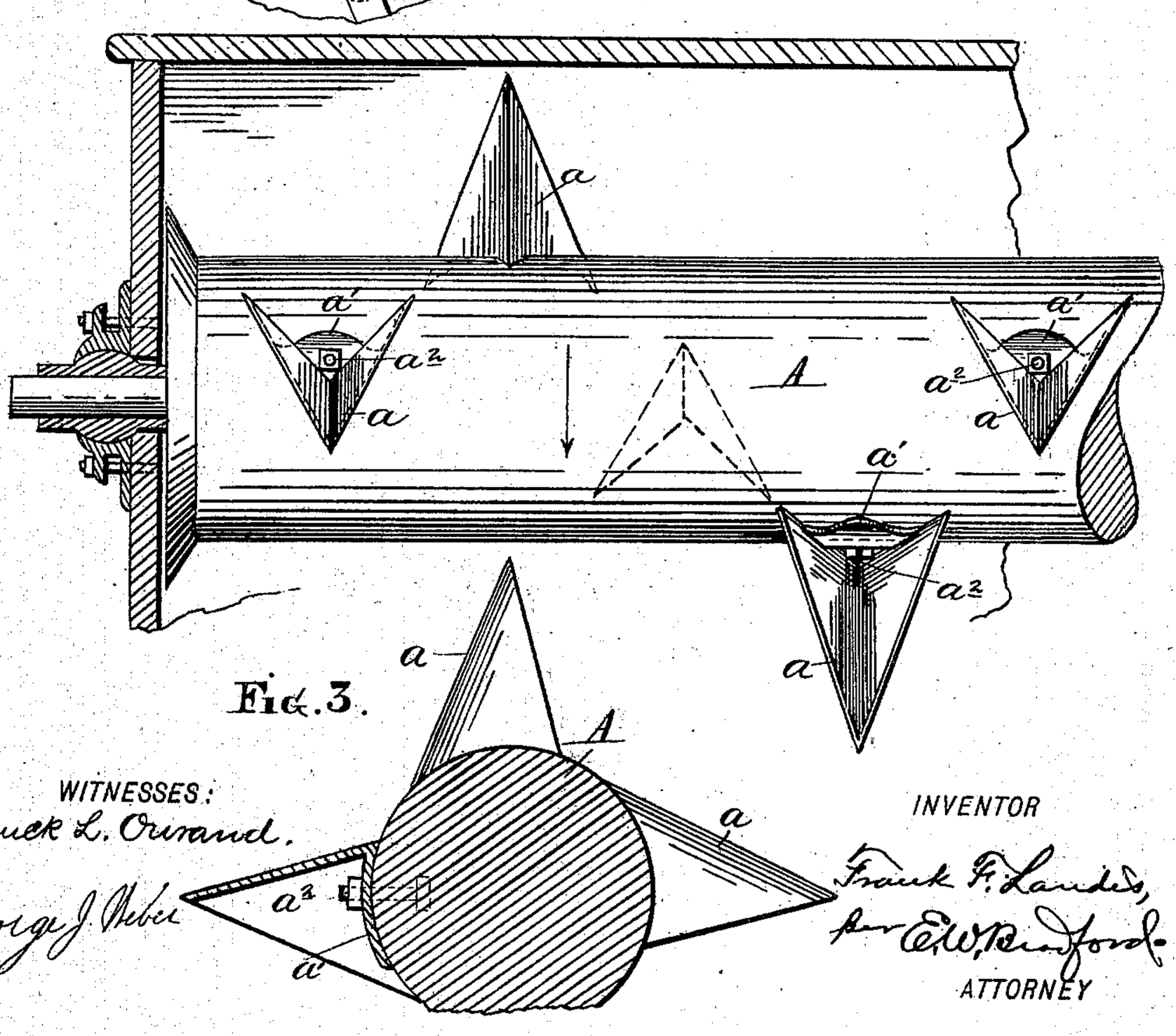

Fig. 3.

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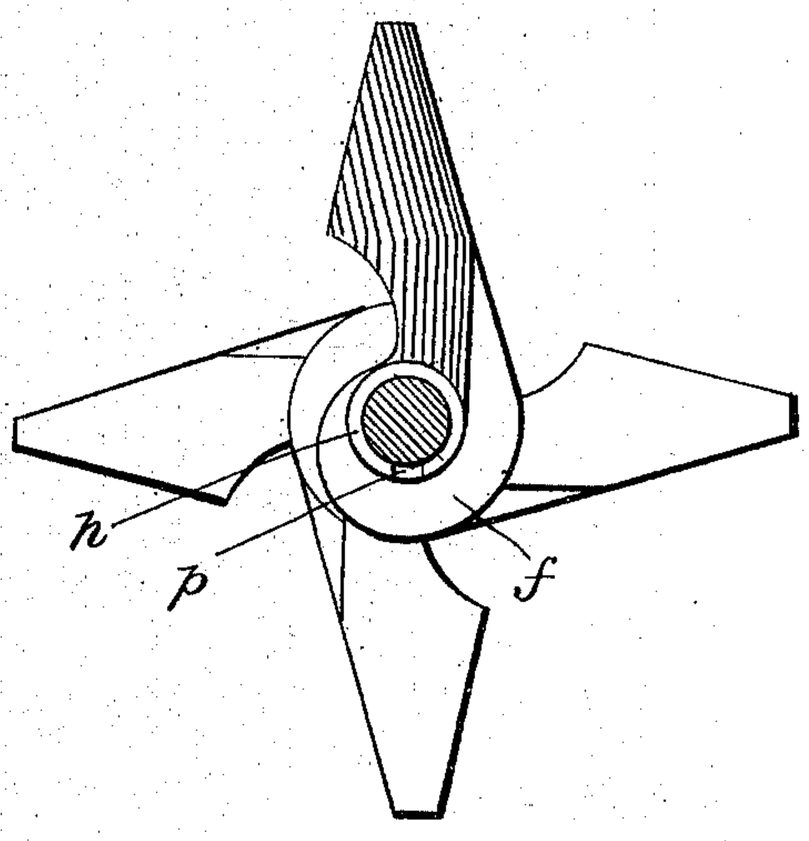
Fig. 4.



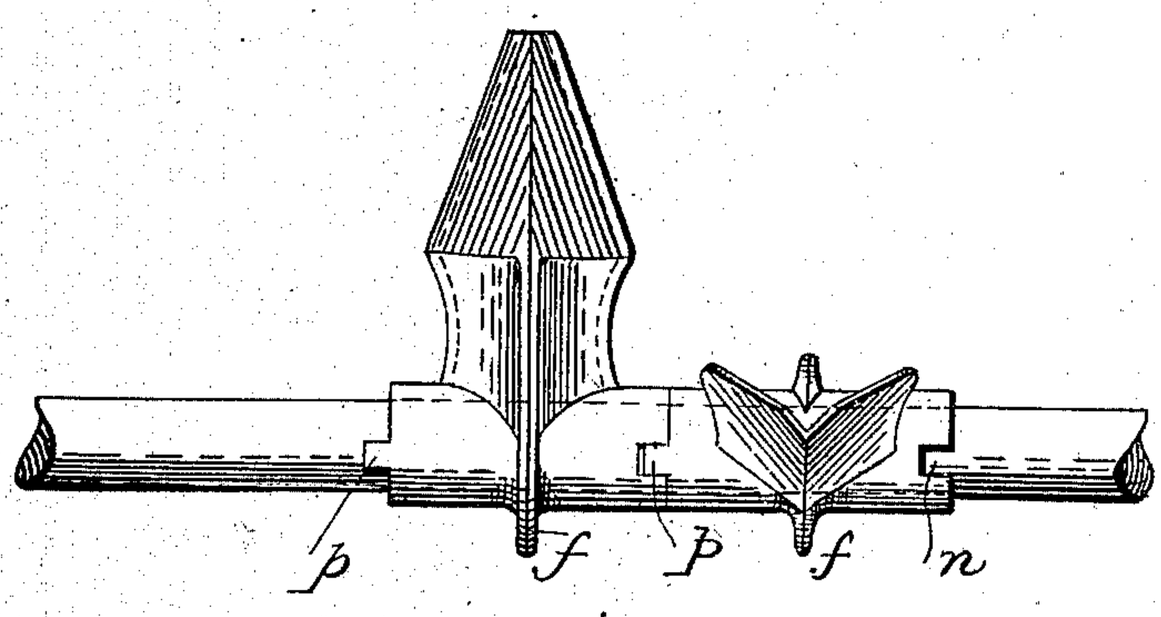


Fig. 5.

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FRANK F. LANDIS, OF WAYNESBORO, PENNSYLVANIA.

PICKER FOR THRESHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 681,060, dated August 20, 1901.

Application filed May 5, 1899. Serial No. 715,712. (No model.)

To all whom it may concern:

Be it known that I, FRANK F. LANDIS, a citizen of the United States, residing at Waynesboro, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Pickers for Threshing-Machines, of which the following is a specification.

"Pickers" or "beaters" heretofore used in threshing-machines have been found to operate with indifferent success. Some forms must be run at high speed in order to free their teeth from straw, which results in throwing the straw back on top of that not touched by the beater or picker and piling it up in bunches, impeding the separation of the grain therefrom, much of which is also beaten along with the straw. Other forms break up the straw, throw the grain along with the straw, and keep the straw compact and prevent the separation of much grain therefrom. Such difficulties have made the use of the device of doubtful value, although frequently a necessity to keep the straw moving fast enough to prevent the machine from becoming clogged.

The object of my said invention is to provide a picker for use in threshing-machines which will overcome these difficulties and will operate to move the straw along freely and loosen it up to facilitate the separation of the grain therefrom without throwing said grain along with the straw or breaking up the straw with the force of its stroke. I accomplish this object by the peculiar form of tooth employed and manner of mounting the same, as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a longitudinal section through a portion of a threshing-machine separator, showing one of my improved form of pickers in one of the positions it may occupy in relation to the other parts of the machine; Fig. 2, a side elevation of one of the picker-drums on an enlarged scale; Fig. 3, a cross-section through said picker-drum; Fig. 4, a side elevation of a modified form, and Fig. 5 a front elevation of the same.

The separator-casing 1 and straw-bottom 2 are or may be of any improved construction and arrangement and need no special description.

The picker preferably consists of a drum or a cylinder A, mounted on a suitable shaft or gudgeons in bearings provided at the proper point or points on the separator-frame. It is provided with picker-teeth a of substantially the form of pyramids, which can be made of sheet metal or cast, as preferred. Their bases form equilateral triangles which are maintained to the point. The front of the tooth is thus a sharp edge, its sides extending back therefrom at angles of substantially sixty degrees and its back preferably being open. It is formed with a base-flange a', made to fit the surface of the cylinder, and a bolt a^2 extends through said flange and secures the tooth in place. The front or operating edge of the tooth extends from the surface of the cylinder at a tangent of a circle of about half the diameter of the cylinder and having the same center. They are mounted on the drum or cylinder one behind the other about the width of the base of each and to one side of each other, so that they do not run in rows either longitudinally or circumferentially.

In the construction shown in Figs. 4 and 5 I mount the teeth directly upon the shaft, omitting the large drum. In such construction the form of the outer portion of the teeth is the same as that above described, but the lower portion of each is narrowed and is cast with or joined to a hollow hub h. Said hubs are formed with notches n on one end and projections p on the other, the notches and projections of the adjacent hubs being adapted to interlock, thus forming practically a continuous hub or sleeve around the shaft. The front or operating edge of each tooth is continued in the form of a flange f, extending at the same angle for a distance, practically to the plane of the hub, and then around the shaft, narrowing to the surface of the hub on its rear side. Said flange prevents the straw from wrapping around the teeth. This form secures the same result in operation as the construction above described, while being of smaller cost and requiring less labor in

fitting, as the several sections are slid onto the shaft one after another and secured by a key at each end very quickly and cheaply.

In operation the picker can be speeded just as required to move the straw at the necessary rate of speed to thin the bed of straw. The form of the teeth and the direction of their operating edges enable them to clear the straw freely at a comparatively slow speed for a revolving picker, or, when run at a high speed, without interfering with separation. All the grain struck by the teeth will be deflected sidewise by the inclined form of their sides and will not be thrown back into or on top of the straw that has passed. The straw will not be broken up by the action of the teeth, as their form cannot bend a straw at most more than at right angles and will shed said straw easily. All the advantages for which pickers have been designed are thus secured without the disadvantages which have heretofore attended their use.

By having the teeth arranged out of line with each other the grain deflected by one will not be thrown against another, and throwing back into the straw is thus overcome.

The word "picker" as used in the claims will of course be understood to refer to a picker for loosening up the straw and assisting in its passage through the machine, such functions and objects being clearly indicated in the above specification, and not to refer to the threshing-cylinder of the machine.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a threshing-machine, the combination, with a straw-carrier, of a picker located above said straw-carrier to act upon the straw carried thereby, comprising a cylinder having mounted thereon teeth of pyramidal form arranged with a narrow edge forward in the direction of rotation, substantially as set forth.

2. In a threshing-machine, the combination, with a straw-carrier, of a picker located above said straw-carrier, comprising a shaft having teeth mounted thereon formed with triangular bases and narrow advancing edges and flaring sides, substantially as set forth.

3. In a threshing-machine, the combination, with a straw-carrier, of a picker of the character described, comprising a shaft armed with teeth formed with narrow advance edges and rearwardly-flaring sides, said advance edges being set on a tangent, substantially as set forth.

4. In a threshing-machine, the combination, with a straw-carrier, of a picker located above the straw-carrier, comprising a cylinder and teeth formed with flaring sides mounted thereon, said teeth being arranged in different longitudinal and circumferential lines, substantially as set forth.

5. A picker for threshing-machines, of the character described, comprising a shaft and teeth extending out therefrom, said teeth being each of pyramidal form and formed with a narrow advance edge and sides extending back therefrom at an angle in opposite directions, said advance edge being set to extend tangentially, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Waynesboro, Pennsylvania, this 10th day of April, A. D. 1899.

FRANK F. LANDIS. [L. S.]

Witnesses:
T. S. CUNNINGHAM,
E. W. BRADFORD.