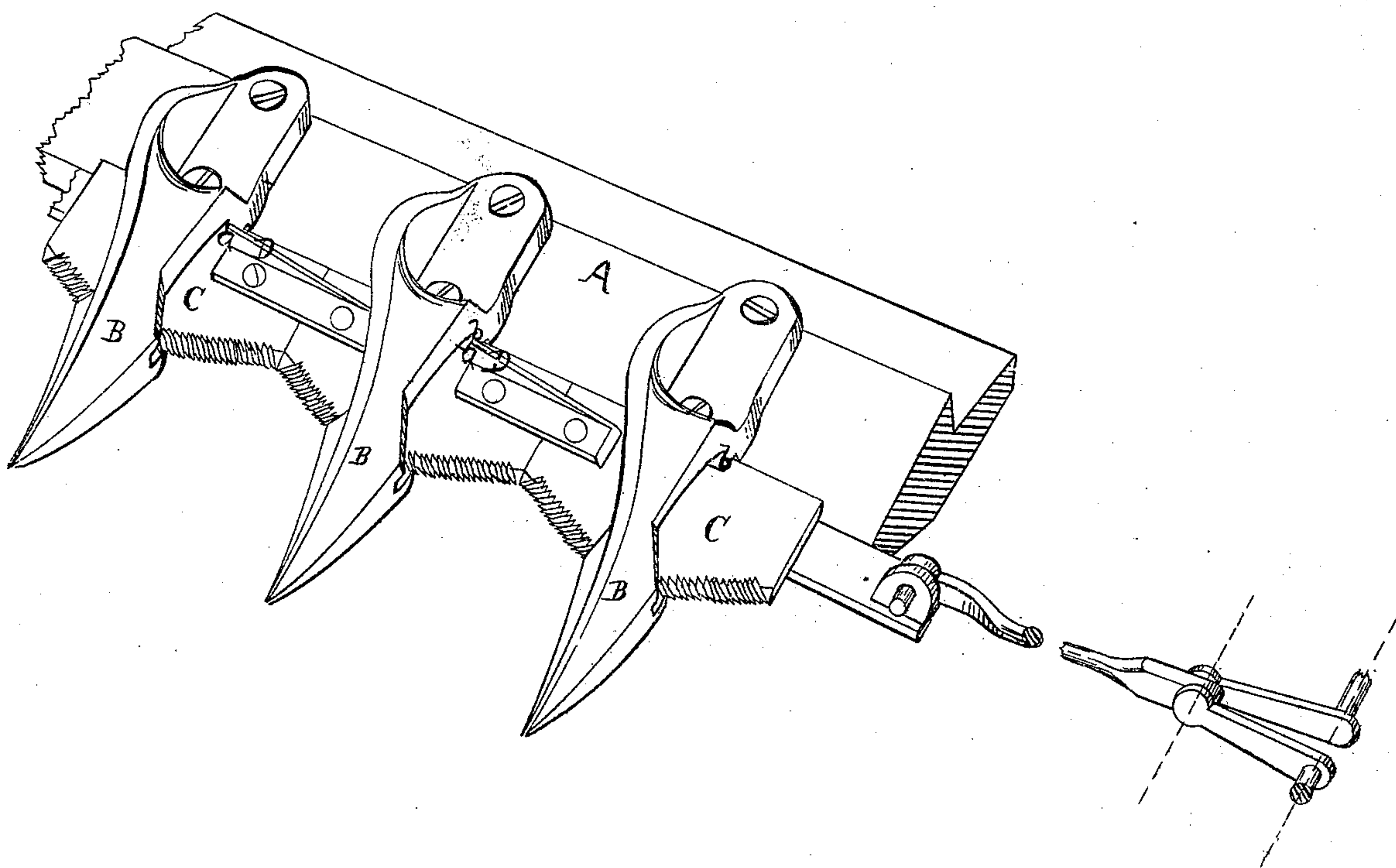


*W. S. McCormick,
Harvester Cutter.*

*No. 2676
33680*

Patented Nov. 5, 1861



UNITED STATES PATENT OFFICE.

WILLIAM S. McCORMICK, OF CHICAGO, ILLINOIS, ASSIGNOR TO CYRUS H. McCORMICK.

IMPROVEMENT IN CUTTING APPARATUS OF REAPING AND MOWING MACHINES.

Specification forming part of Letters Patent No. 33,680, dated November 5, 1861.

To all whom it may concern:

Be it known that I, WILLIAM S. McCORMICK, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cutting Apparatus for Reaping and Mowing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which makes part of this specification, and which represents a view in perspective of a portion of the finger-beam, of the series of fingers, and of the cutter of a mowing-machine embracing my improvements.

The clearance of tough and fine fibers of grass from the slots of the fingers through which the scalloped cutter vibrates in mowing-machines is exceedingly difficult, and cutters have been made with variously-formed projections from their upper, under, and rear sides, for the purpose of tearing off or cutting off such fibrous matter, which, if allowed to accumulate, would soon clog the cutter.

My invention is an improvement upon such contrivances; and it consists in affixing upon the side of the cutter a series of long narrow projections, inclined on one side and vertical on the other, like ratchet-teeth, and parallel to the line of vibration of the cutter, so as to act by their vertical sides as a series of rake-teeth. These projections correspond in number and distance apart with the fingers, and they are so arranged with respect to the fingers and the range of vibration of the cutter is such that the inclined side of the projection is never drawn entirely through the slot of the guard-finger in which it works; nor is the vertical side of the projection pushed through the space between the fingers into the slot of the next finger. This is important, because if the vertical sides of the projections were swept across the spaces between the fingers into the slots of the fingers they would carry with them straws and other obstructing matter into the slot, which would not be brought out again very readily by the inclined side of the projection on the reverse motion, and thus the

clearing-projection, for want of a proper range of motion, would create the very tendency to clog which it was designed to cure.

The finger-beam A, fingers B, and the cutter, as shown in the drawing; are of the kind commonly used in the McCormick mowers, and therefore need not be here described. The motion of the cutter is exactly equal to the distance from center to center of the fingers, and that is the exact distance between the vertical sides *a* of the projections D on the upper sides of the cutters. The motion of the cutter from the vertical toward the inclined side of the projection terminates when the vertical side of the projection is opposite the vertical corner *b* of the slot of the fingers, and the motion of the cutter in the opposite direction terminates when the side *a* of the projection reaches the corner *b* of the next finger. Thus arranged the projections are pushed forward into the slots of the fingers, with their slant sides foremost, and emerge from the slots with their vertical sides foremost, and as these vertical sides can only carry or detach clogging matter on their forward movement, it follows that they act only to push clogging matter out of the slots of the fingers, and never to carry it in. The inclined sides of the projections have but little capacity for pushing anything forward, and tend rather to pass under clogging matter and let it slide over to the front of the vertical side of the projection, by which it is at once seized and torn away and worked out of the slot of the finger.

What I claim is—

The cutter having a series of clearing-projections constructed, arranged, and vibrating as described, in combination with the series of guard-fingers, arranged as described, whereby the liability of the cutting apparatus to clog is diminished, substantially as described.

In testimony whereof I have hereunto subscribed my name.

WM. S. McCORMICK.

Witnesses:

JAMES T. GRIFFIN,
GEORGE M. EVERTS.