

C. MILLER.
Grain-Elevator for Harvesters.

No. 221,690.

Patented Nov. 18, 1879.

Fig. 1.

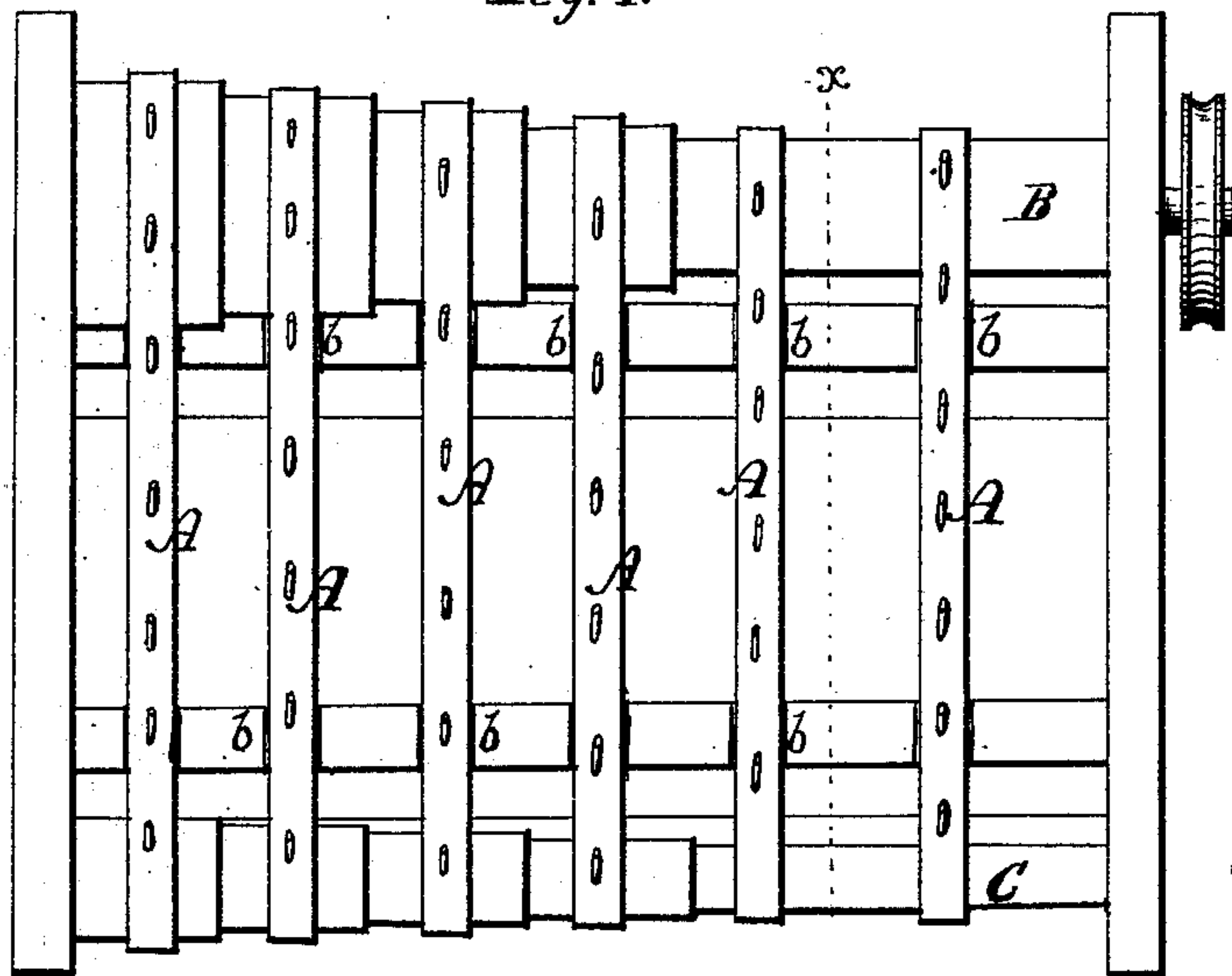


Fig. 2.

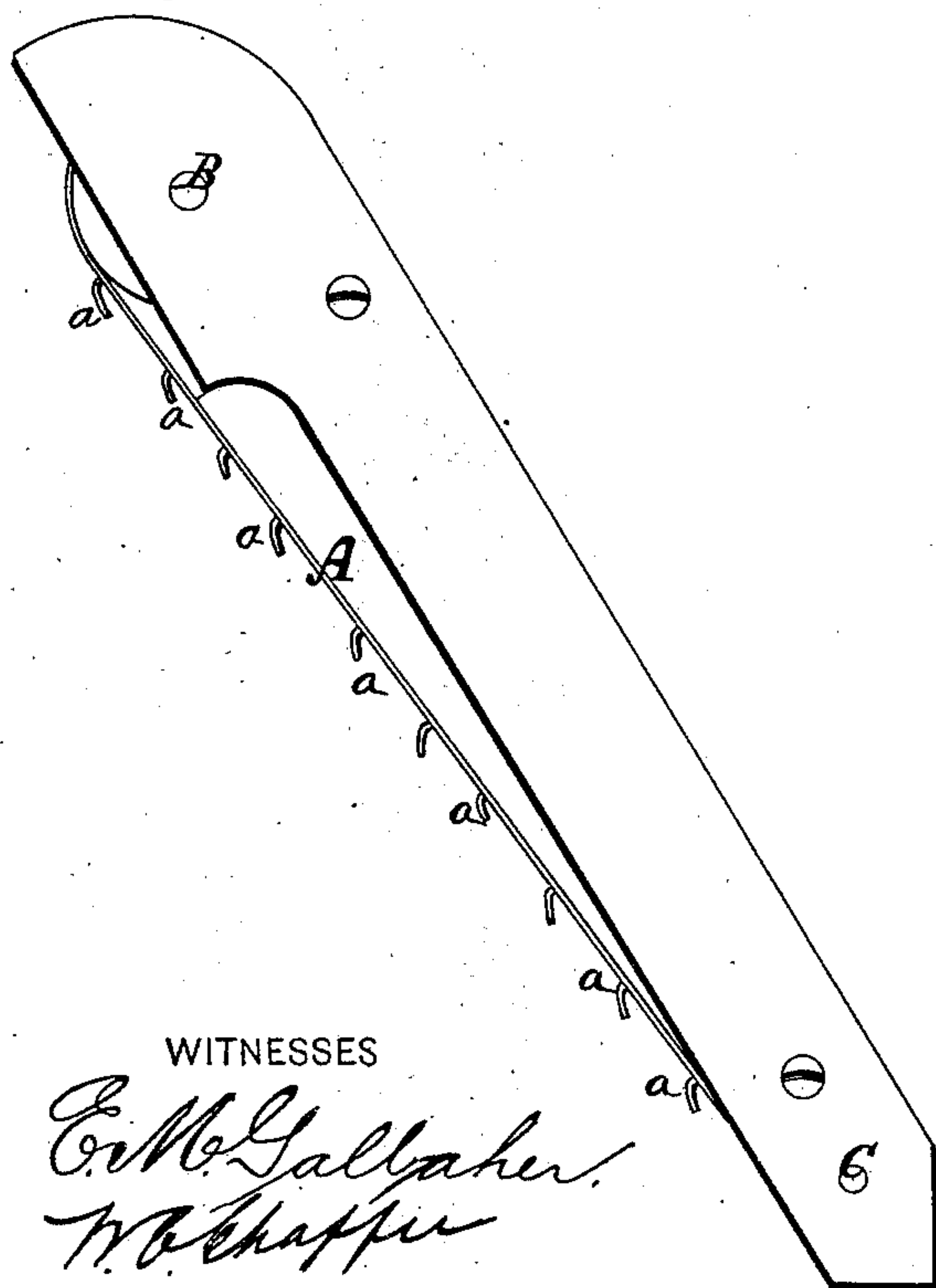
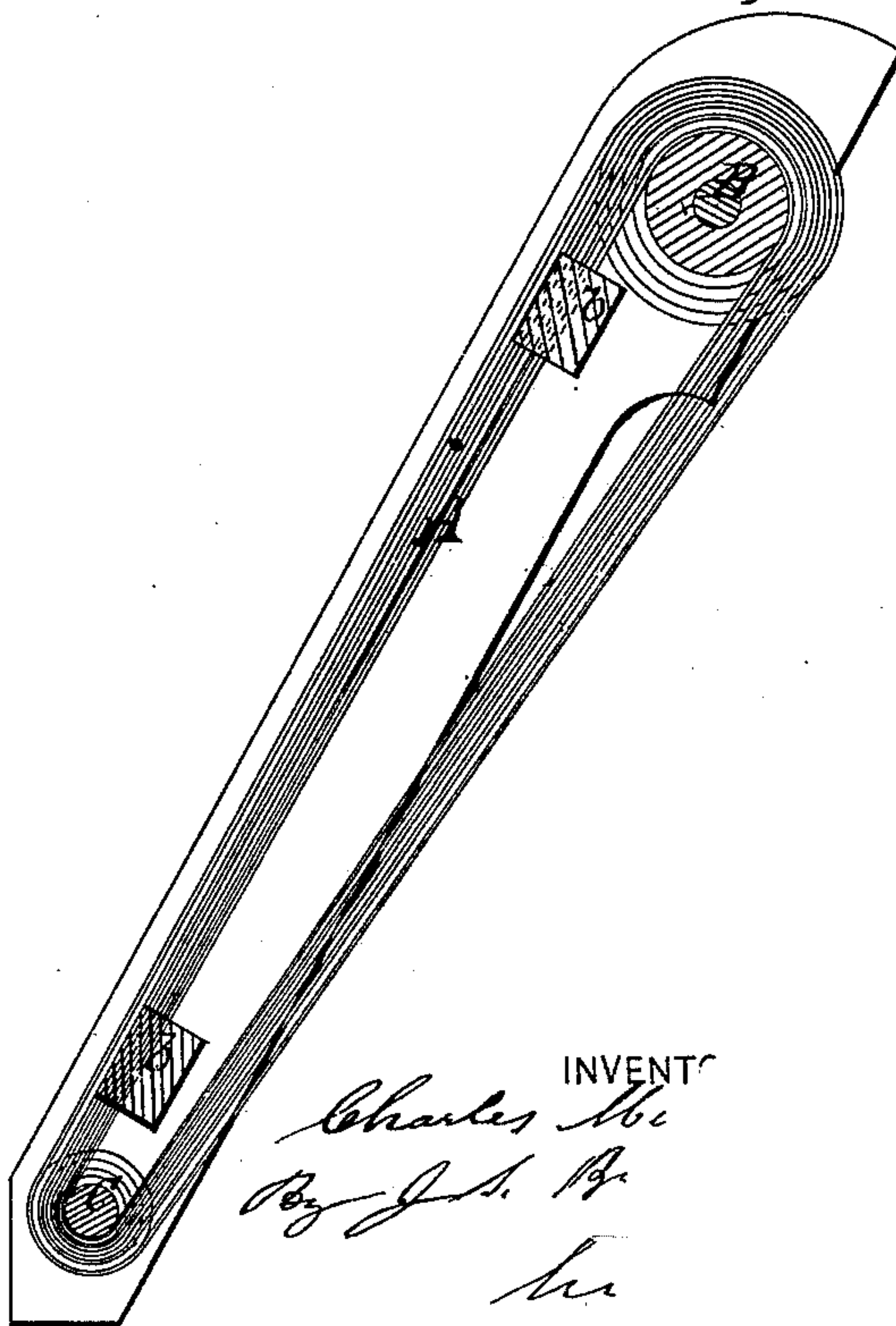


Fig. 3.



WITNESSES

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CHARLES MILLER, OF AKRON, OHIO.

IMPROVEMENT IN GRAIN-ELEVATORS FOR HARVESTERS.

Specification forming part of Letters Patent No. **221,690**, dated November 18, 1879; application filed October 16, 1877.

To all whom it may concern:

Be it known that I, CHARLES MILLER, of Akron, in the county of Summit and State of Ohio, have invented an Improved Grain-Elevator for Harvesters; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a plan view of the improved elevator; Fig. 2, a side elevation thereof; Fig. 3, a vertical section of the same in a plane indicated by the line *x x*, Fig. 1, and looking in the direction opposite to the view in Fig. 2.

Like letters designate corresponding parts in all of the figures.

The purpose of my improved construction of the elevator is to correct the position of the grain which is delivered to it by the traveling platform in an oblique position, and to deliver it to the binding table or receptacle in proper position, both ends reaching the table at the same time, as hereinafter set forth.

My invention consists in the peculiar construction of the shafts on which the belts or divisions of the endless apron—the essential part of the elevator—are mounted, whereby greater simplicity and durability, as well as efficiency, are obtained, as hereinafter specified.

The elevator is composed of a series of belts or bands, *A A*, provided with suitable teeth or projections *a a*, and all mounted on two parallel shafts, *B C*, the upper shaft, *B*, as represented, being the driving-shaft, to give motion to the traveling belts. Each shaft is composed of sections or divisions, having different diameters, to receive the several belts, the diameter of the front divisions being greatest, and the diameters diminishing therefrom gradually to the rear end, where the diameter is the least, so that the belts at the front end shall travel fastest, and those nearer the rear end gradually shall travel more slowly, and most slowly at the rear end. The increase of speed at the front end is adjusted to be just sufficient to bring the stalks of grain parallel, and of even height at the top of the elevator, while the lat-

erally-traveling platform, on which the grain first falls, always delivers the heads of the grain at the rear thereof in advance of the butts of the straw next to the cutter-bar at the front edge of the platform.

The variation in diameter of the divisions of the lower shaft, *C*, corresponds with and is equal to that of the diameter of the divisions of the upper shaft, so that just the same variation of speed will be allowed to the different belts thereby as the upper shaft produces, since all the parts of the shaft turn at the same time and speed; but the diameters of the lower shaft are not necessarily just the same as the corresponding diameters of the upper shaft. They are preferably less, as represented. Thus, while I produce all the variations of speed required for the different belts, it is accomplished by the simplest possible means, by the simple variation of the diameters of the divisions of the shafts; and while great simplicity of construction is obtained, great durability and freedom from derangement also are gained.

There may be notches *b b*, or equivalent guides, in the cross-bars of the frame of the elevator to keep the belts in position. The degree of inclination given to the elevator is the ordinary one, as indicated.

Since the shafts are of considerably greater diameter at the front than at the rear end, and the upper surface of the elevator should be of even height from front to rear, the axes of the two shafts may be set a little lower at the front than at the rear end, to compensate for the increased radius of the said shafts.

What I claim as my invention, and desire to secure by Letters Patent, is—

A differential elevator, constructed with its traveling belts *A A* mounted on shafts *B C*, having divisions of greatest diameter at the front end, and gradually diminishing in diameter therefrom to the rear end, substantially as and for the purpose herein specified.

CHAS. MILLER.

Witnesses:

THOMAS W. GOODWIN,
SOL. J. BUCHER.