C. COLAHAN.
Grain Binder.

No. 201,993. Patented April 2, 1878.

Fig 1

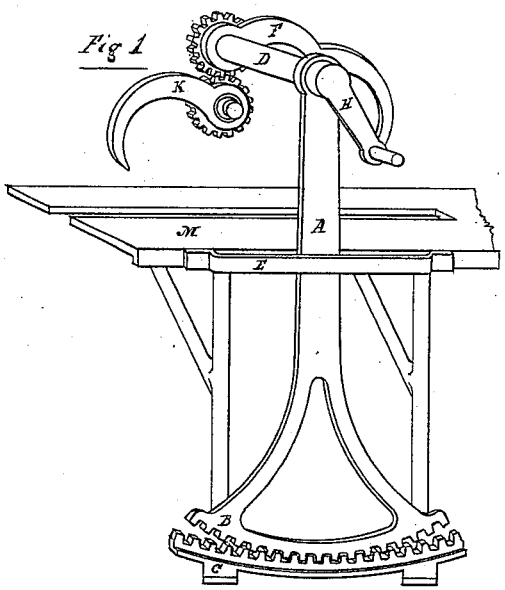



Fig 2

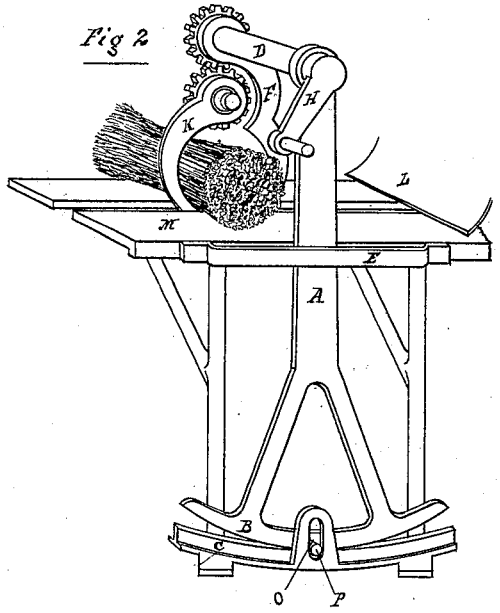



Fig 3

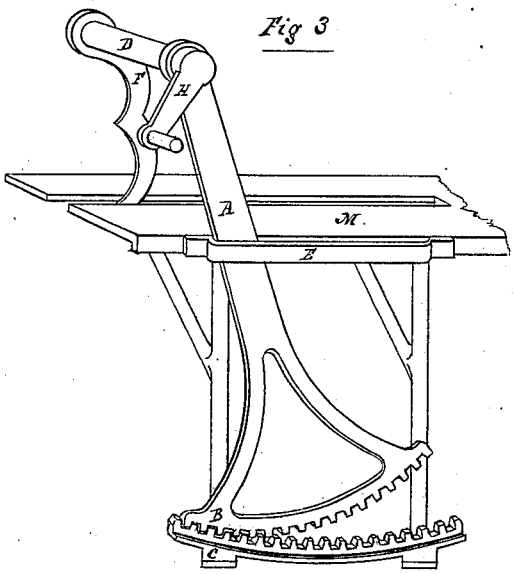
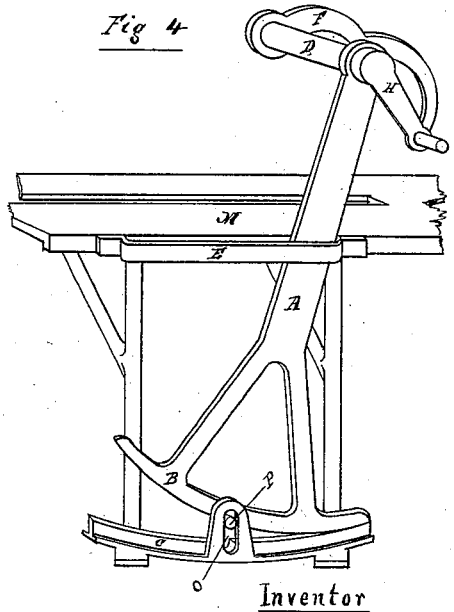



Fig 4




Witnesses
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# UNITED STATES PATENT OFFICE.

CHARLES COLAHAN, OF CLEVELAND, OHIO.

## IMPROVEMENT IN GRAIN-BINDERS.

Specification forming part of Letters Patent No. **201,993**, dated April 2, 1878; application filed December 31, 1877.

*To all whom it may concern:*

Be it known that I, CHAS. COLAHAN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Grain-Binders; and I do hereby 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 it, reference being had to the accompanying drawings, which form part of this specification.

The object of my invention is to provide a mechanism cheap, simple, and durable in its construction and operation, and by which the grain may be gathered from the point of its reception on the horizontal binding-table of the ordinary harvester by the gathering or gaveling arm, and moved back on said table to the point of discharging the bundle on the outer side of said table. The band which is passed around the gavel by the gaveling-arm is secured at some intermediate point, and while the grain is in the grasp of the compressor and gaveling-arm.

My invention consists in the construction of a rocking vibrating support for said gaveling-arm, that will permit the withdrawal of the gavel and the gathering in of same on a horizontal binding-table, while the binding-arm and compressor are maintained in a fixed perpendicular position during the withdrawal of said gavel, and the lower point of the said arm may be brought in contact with the device that secures the ends of the band, and which band-securing device may be below the binding-table, in or near the recess or slot through which the gaveling or band-carrying arm enters and travels in the process of gathering and withdrawing the sheaf.

At the outer edge of the table, at the proper time of releasing the sheaf, the arm may vibrate and leave the sheaf on the outer edge of the table; or said arm may rotate and discharge the bound sheaf by a properly-regulated crank movement, and, in either case, again advance and gather in the ensuing sheaf, and travel back, as may be desired, on the platform.

In the accompanying drawings, like letters refer to like parts, each figure representing the different positions of my invention in its operation, and of which I will now proceed to give more particular description.

A represents the standard that supports the gaveling device. B represents the base or curvilinear support on which the standard A rests, and which said standard A and base B I have shown in one piece. C represents the supporting-segment, and upon which the standard A and its base B are rocked. Said piece C is sustained from above, and is a part of the binding attachment.

Figures 1 and 2 represent different forms of construction of the base B and support C, Figs. 1 and 3 representing a geared surface, and Figs. 2 and 4 a smooth surface. With the smooth surface, as shown in Figs. 2 and 4, I have constructed on support C an elevated upright projection, in which is a perpendicular groove or slot, O, while on piece or base B, I have placed a lug or pin, P, and as said standard is rocked during the reciprocation of said binding-arm, the projection or pin P will travel up and down in slot O, as represented in Figs. 2 and 4, thus preventing transverse or slipping movement of said standard A on its base, securing a steady guide, with the assistance of side guides, which may be used.

The base B passes over the supporting-segment with a rolling motion, and by giving the proper relative curves to the base and its supporting-segment the nose of the binder-arm, when down, can be caused to travel in any path rendered desirable by the exigencies of the machines now in use. It is obvious that the same result may be accomplished by the use of more than one rocking and supporting arm—as, for instance, by connecting two arms rocking in same vertical plane by a bar which supports the gaveling device.

The gaveling device secured on said standard is of the ordinary construction, and may be used with a vibrating or rotating arm, F, and may be actuated by a pitman with a rod attached to crank H, and said pitman-rod may be attached at a point at or near pin P at the base of said standard, which may serve as a proportionate equally-fixed point of attachment for the power to be conveyed from the main drive-wheel of harvester by means of

chain or usual devices; or said crank H may be actuated by attachment located on side of table M at guide E, in connection with pin P.

If desirable, a compressor may be dispensed with, or, if used, the gaveling-arm F may be attached rigidly to a hollow shaft supported on a solid shaft connected to the arm, and to the opposite end of which may be a projecting lug carrying the pin or trunnion, on which may be supported compressor K, and between the compressor K and its driving-gear or actuating mechanism may be interposed a spring or elastic substance, to secure a yielding compressor; or a spring may be used on the inner side of a rigidly-attached arm, K, which is a well-known device.

My binding device is intended to be mounted on a laterally-adjustable frame, similar to that shown in my pending application for patent filed in United States Patent Office, May 9, 1877.

Having thus described my improvement, what I claim as new is—

1. The gaveling device, in combination with a support formed and arranged to rock and roll upon a bed at its lower end, substantially as described.

2. The standard A, constructed and supported on base B, in combination with pin P, concave way or track C, and slot O, constructed substantially as shown, and for the purposes described.

3. A grain-binding device supported on a rocking reciprocating standard, in combination with ratcheted base B, toothed support C, whereby the gaveling-arm is reciprocated on a horizontal table, substantially as set forth and described.

4. A concave stationary way or track, in combination with a convex moving support to a grain-binding apparatus, the stationary concave track being described on different radius from the convex moving support.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHAS. COLAHAN

Witnesses:

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WELLS W. LEGGETT.