

J. GARRARD.
GRAIN BINDER.

No. 176,293.

Patented April 18, 1876.

FIG. 1.

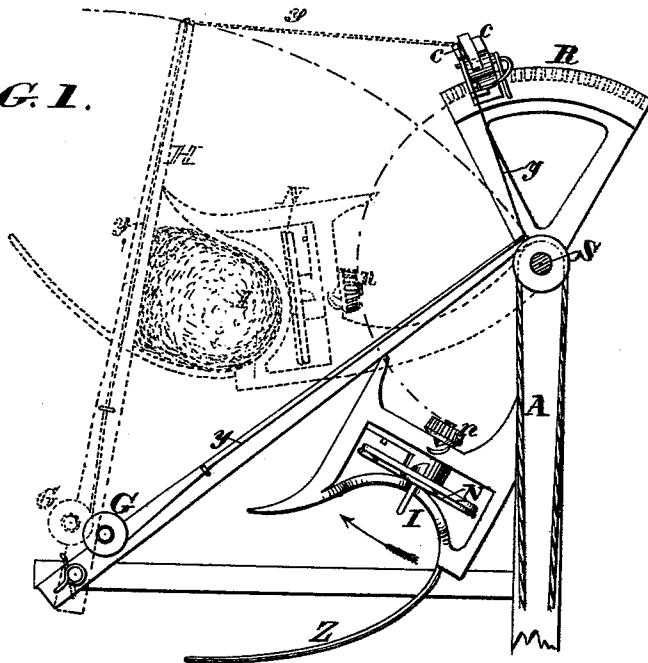
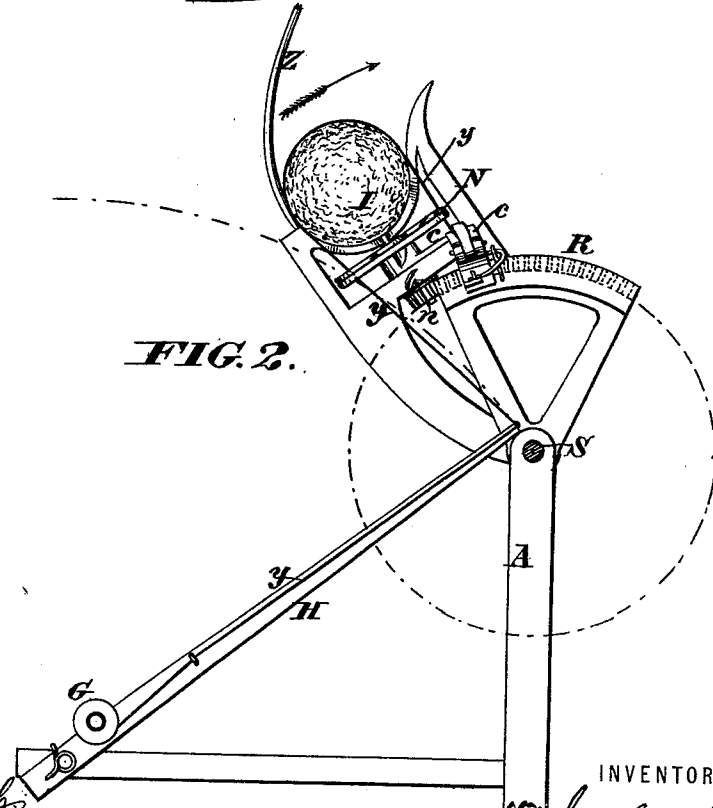


FIG. 2.



WITNESSES
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UNITED STATES PATENT OFFICE

JEPHTHA GARRARD, OF CINCINNATI, OHIO, ASSIGNOR TO EXCELSIOR GRAIN-BINDER COMPANY, LIMITED, OF NEW YORK, N. Y.

IMPROVEMENT IN GRAIN-BINDERS.

Specification forming part of Letters Patent No. **176,293**, dated April 18, 1876; application filed November 13, 1875.

To all whom it may concern:

Be it known that I, JEPHTHA GARRARD, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Grain-Binders, of which the following is a specification:

My invention consists in combining with a swinging or revolving cradle or grain-holder a pressure-arm or former fixed at a point outside the radius or sweep of the cradle, and employed to bunch the grain therein as a preliminary to the application of the binding-wire.

In the accompanying drawings, Figure 1 is an elevation, showing the cradle and the former in full lines in their lowest positions, and in dotted lines partly elevated. Fig. 2 shows the positions of the parts when the continued elevation of the cradle has permitted the former to return to its lower position, drawing the wire around the bundle in position to be caught by the twister, the rotation of which begins at this point.

In carrying out my invention I employ a cradle or grain-holder, I, and any desirable number of carrying arms or fingers, Z, revolved by a shaft, S. A pressure-arm or former, H, is fixed at a point outside the sweep of the carrying-arms, in such a position that the grain, as it is carried up by the cradle, will be

brought in contact with the said former-arm, so as to bunch it into an approximately cylindrical shape as a preliminary to the drawing around it of the band. The band is formed from wire *y*, wound on a reel, G, and carried either by way of the former-arm H, or otherwise, as preferred, to nippers *c c*, so constructed and operated as to cut off each band as it is formed, and catch and hold the extremity of the remaining wire. The twister N is rotated by its pinion *n* coming into mesh with a stationary segment-rack, R, attached to supporting-standards A, and having attached to it the cams or other devices which operate the nippers.

These and other details of the machine will be found fully described in other applications which I have made or shall hereafter make for Letters Patent.

The following is what I claim as new and desire to secure by Letters Patent:

The combination, with the carrying-arm or cradle I, of a former, H, whose fixed point is outside of the sweep or radius of the circle described by said arm, substantially as and for the purpose set forth.

JEPHTHA GARRARD.

Witnesses:

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