S. J. Wallace.

Grain Binder.

No. 45885 Patented Jan. 10, 1865.

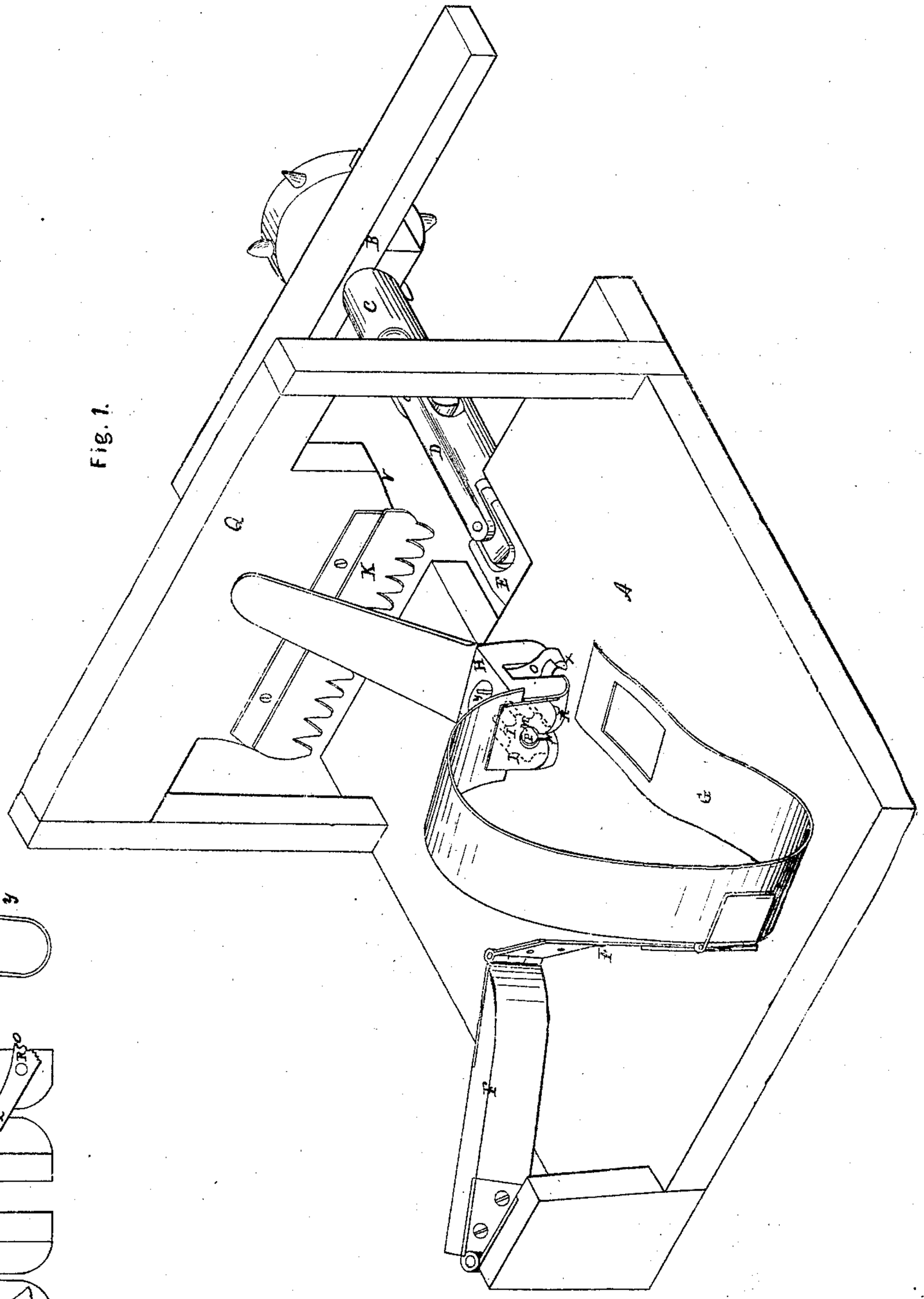


Fig. 1.

Fig. 4.

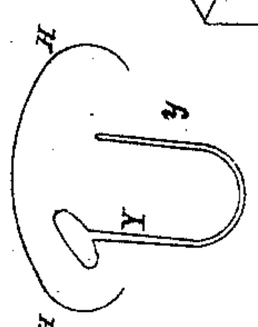


Fig. 3.

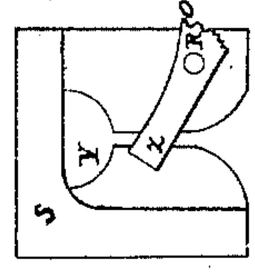
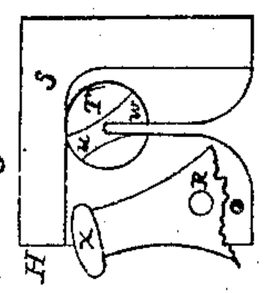


Fig. 2.



UNITED STATES PATENT OFFICE.

SAMUEL JACOB WALLACE, OF CARTHAGE, ILLINOIS.

IMPROVEMENT IN GRAIN-BINDERS.

Specification forming part of Letters Patent No. 45,885, *dated January* 10, 1865.

To all whom it may concern:

Be it known that I, SAMUEL JACOB WALLACE, of Carthage, in the county of Hancock and State of Illinois, have invented a new and useful Improvement in Machines for Harvesting and Binding; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a front perspective view. Figs. 2 and 3 are sectional views of binder-head. Fig. 4 is a perspective sectional view of wire-holder.

Like letters refer to like parts.

A represents grain-platform of harvester. B is the dratt-frame. C is a driving-journal on frame B. D is universal-jointed connection from journal C to journal E on grain-platform A. F F is jointed arm bearing binding apparatus G. H is binder-head of binding apparatus G. L is shield over end of twister P. M is opening in shield L over hollow core of twister P. N is slot in shield L for passage of wire. I is twister-pinion. K is cog-rack on frame Q. O is an armed wheel in binder-head H, revolving on rivet R. S and S are solid part of binder-head H, cut to show internal parts. T is the end of twister, with a channel, U, cut across its face, and slot W for wire. X is part on arm of wheel O designed to play into channel U. Z is end of arm of wheel O playing over slot of holder Y. Y is wire-holder. *y* is recurved part of wire-holder. V is compressor-shoe on frame Q.

The nature of my invention consists, first, in providing a sliding part, playing over slot of wire-holder, to press counter-twist of wire from it; second, in providing a binding apparatus on a movable part, so that it may be made to travel in relation to grain-platform, designed to enable it to be made part of or to accompany rake, gathering grain from the platform, in making self-raking machines self-binding; third, in combining with the twisting device a longitudinal sectional rack, having relative action from a part independent of arm bearing the twister, to cause its action when the bearing part may be traveling with regard to the other, designed to facilitate the operating of twister and to enable binders to be made self-operating; fourth, in providing a rack arranged on a frame on harvester with regard to traveling binder, so as to operate twister-pinion, designed to enable binders to be made self-operating; fifth, in providing a compressor-shoe, arranged with regard to traveling binder, so that both its arms may pass under the shoe and be compressed together, designed to enable binders to be made self-closing; sixth, in providing a slotted wire holder of parallel plates, bent or recurved back on the side opposite twister, designed to form a holding part to catch the counter-twist on end of wire when pressed out of and released from first or ordinary holding part, and in the operation of binding to cause the counter-twist to come back onto the first holding part, so as to be properly held for the intertwisting of the wires.

To enable others skilled in the art to make and apply my improvement, I will describe its construction.

First, a driving-journal, C, on draft-frame B, is united by a universal-jointed connection, D, with a journal, E, on grain-platform A, so as to revolve and convey power to journal E, without requiring a stationary relation of the platform with the draft-frame B.

Second, a shield, L, is placed over end of twister P, with slot N, and an opening, M, over center of twister P, for the passage and play of wire, so that the wire may be conducted securely and fully into the slot and the hollow core of twister P, and be securely retained during twisting.

Third, a grooved channel, U, or equivalent device, is formed across end of twister T, so that a counterpart, X, may come into connection with it to retain T from turning when not in use.

Fourth, a sliding part, Z, is made on arm of wheel O, so as to pass over and along slot of holder Y, to press counter-twist of wire from it.

Fifth, an apparatus for binding, G, is made and attached to a movable arm, F, or other movable or equivalent part, so that it may travel in relation to the platform A, for gathering and binding grain.

Sixth, a longitudinal sectional rack, K, is mounted on a bearing part or relative arm, Q A, or other bearing part, independent of the part or arm G F, or other part bearing twister-pinion I, or other twisting device, but is ar-

ranged and combined therewith, so that when the twister may be traveling with relation to the rack K, it shall be operated, directly or otherwise, by the rack K, to make the twister self-operating.

Seventh, a rack, K, is arranged on a frame, Q, on harvester, with regard to traveling binder G, so as to operate twister-pinion I, and make the binder self-operating.

Eighth, a compressor-shoe, V, is arranged on frame Q with regard to traveling binder G, that its arms may pass under shoe V and be compressed together, to self-close binder.

Ninth, a slotted wire-holder of parallel plates, Y, is bent or recurved back on the side opposite twister T, forming a supplementary holder, *y*, to catch the counter-twist on end of wire when pressed out of and released from holder Y, and cause it to come back onto the holder Y, in the operation of binding, to be properly held for intertwisting of the wires.

Having thus described the nature and construction of my invention, I claim—

1. The arm Z of wheel O, sliding over slot of wire-holder Y, substantially as and for the purpose specified.

2. The binder G, in combination with a movable arm, F, or other equivalent movable part, so that the binder may be made traveling in relation to platform A, substantially as and for the purpose specified.

3. The combination of the rack K and twister I, substantially as and for the purpose specified.

4. The rack K arranged on frame Q, substantially as and for the purpose specified.

5. The compressor-shoe V arranged on frame Q, substantially as and for the purpose specified.

6. The slotted wire-holder Y, bent or recurved, substantially as and for the purpose specified.

SAMUEL JACOB WALLACE.

Witnesses:

JAMES SAMPLE,

M. W. MCQUARY.