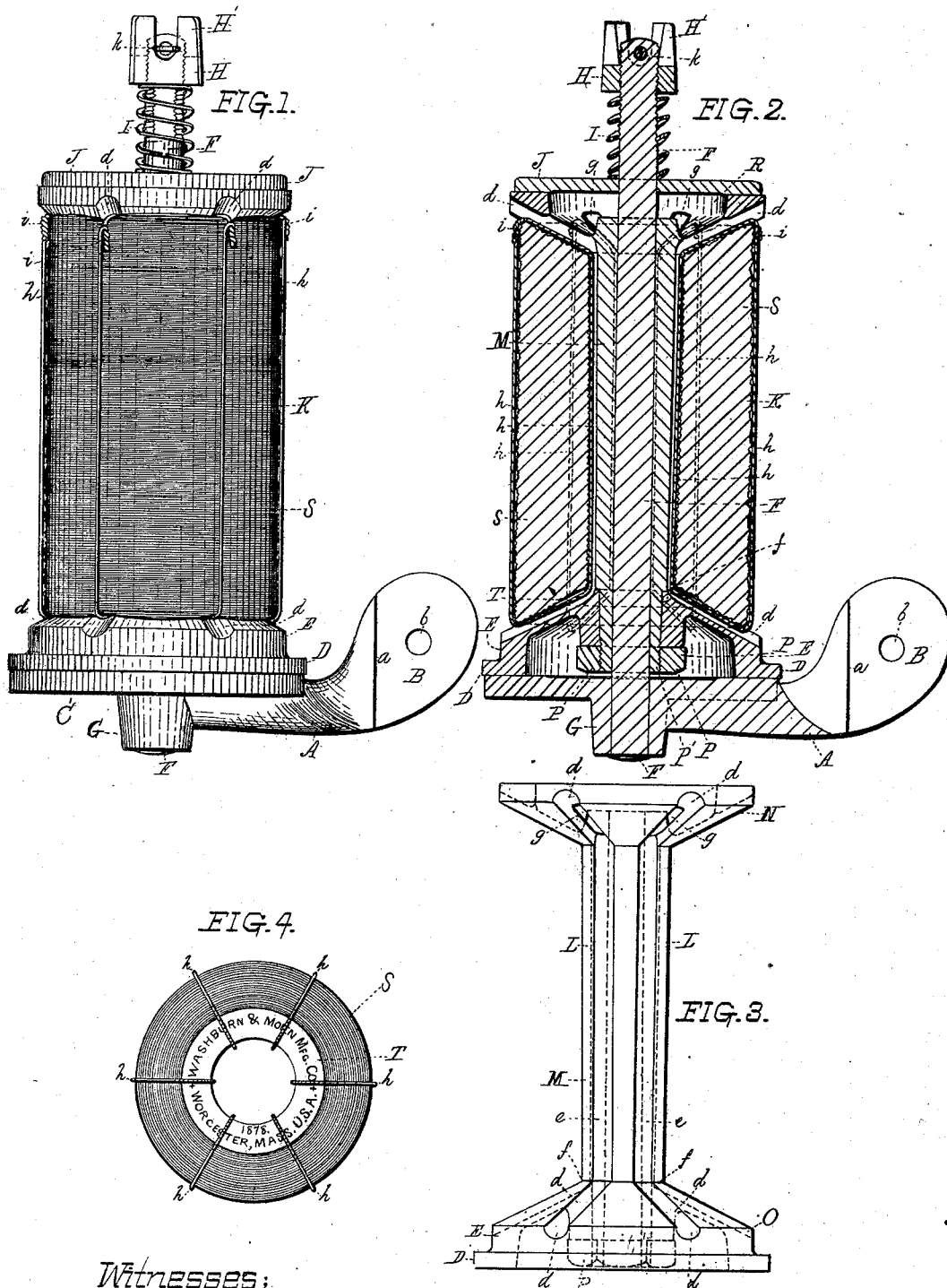


R. C. FAY,
 Bobbin of Wire for Binding Grain.

No. 216,666.

Patented June 17, 1879.



Witnesses;

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IMPROVEMENT IN BOBBINS OF WIRE FOR BINDING GRAIN.

Specification forming part of Letters Patent No. **216,666**, dated June 17, 1879; application filed February 23, 1878.

To all whom it may concern:

Be it known that I, RIMMON C. FAY, of Lincoln, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Bobbins of Wire to be used upon Harvesters or Reapers in Combination with Binding Mechanism for Automatically Binding Grain; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a side view of a bobbin of wire as it appears when arranged for use before the longitudinal wire-holders have been cut and removed. Fig. 2 represents a vertical central section through the bobbin and its holder, as will be hereinafter described. Fig. 3 represents a side view of the empty bobbin; and Fig. 4 represents an end view of the wire as it appears preparatory to being arranged upon the bobbin, as shown in Fig. 1.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

My present invention consists in the combination, with one or both ends of the bobbin of wire, of thin metal heads, as will be hereinafter more fully described.

In the drawings, the part marked A represents the stand for supporting the bobbin of wire, said stand being provided with a flanged projection, B, by which the stand is bolted or secured to some portion of the harvester or reaper. The flange or shoulder *a* fitting against some part of the harvester, a single bolt passing through the hole *b* is quite sufficient to hold the stand in position.

Stand A is made with a circular base, C, turned true upon its upper side to receive and support the circular head or flange D of the lower bobbin-head, E. Stand A is also provided with a central spindle, F, which is securely fastened at its lower end in the hub G of stand A, and is provided with a screw-thread at its upper end to receive the nut H, which is used or employed for compressing spring I between nut H and the friction-disk J, which is slipped over the end of spindle F after the

bobbin of wire K has been placed in position upon spindle F, as indicated in Figs. 1 and 2 of the drawings.

The empty bobbin L is formed from a grooved cylinder or barrel, M, and two grooved heads, N and O, the latter head being made removable, and held in place by a nut, P, which screws upon the end of barrel M, as indicated in full lines, Fig. 2, and dotted lines, Fig. 3, while head N, in this instance, is cast with the barrel M. The heads are formed convex upon their inner sides, and with a series of grooves, *d*, and which grooves are in the same line or plane as those marked *e* in the cylinder or barrel M; and by the use of a steady-pin or equivalent device the removable head O, when secured in position as indicated in the drawings, can always be set so that its grooves *d* will be in line with the corresponding groove in the barrel M and head N. The end of barrel M to which head O is attached is turned down so as to leave a shoulder, *f*, against which head O is held or pressed by nut P, which screws upon a thread cut upon the turned-down portion P' of barrel M. Head O is formed with a concavity or concave in its outside, whereby nut P, when screwed into position, is held above the lower edge or side of flange D, as indicated in Figs. 2 and 3 of the drawings. Head N also is formed with a concavity R, and also with openings *g*, extending through the lower parts of grooves *d*.

The wire S is coiled or wound upon the bobbin in a uniform and even manner, and is then secured together by means of tie-wires *h*, which pass through grooves *d d* in the heads N and O and grooves *e* in the barrel M, the ends of said tie or binding wires *h* being twisted together, as indicated at *i*. The wire S, thus coiled and tied, may be removed and packed for transportation, and, when wanted for use, replaced upon a corresponding bobbin, after which the tie-wires *h* are cut and pulled out, thus leaving the wire S upon its bobbin ready to be unwound by the binding mechanism of the harvester.

By screwing nut H down or up a greater or less amount of friction may be imparted to the bobbin-heads N and O, since they are pressed under such circumstances between the

circular base C and the circular disk J. The upper part of nut H is slotted or has four projecting corners, H', which enable the operator to insert a holding-pin, k, through a hole in the upper end of spindle F after nut H has been turned to give the desired friction upon the bobbin-heads N and O, for preventing the wire kinking or becoming entangled when the binder is in operation.

In Fig. 2, which is designed to represent a vertical central section of the parts shown in Fig. 1, the central portion of the coil of wire S is indicated by simple section-lines upon a white ground, since an attempt to show a section of the wire itself would very much darken or obscure the parts most essential to be shown.

Tin or other thin metal heads, T, are placed upon the inside of heads N and O before they are filled, or before the wire is coiled or wound upon barrel M, so that when the tying-wires h are secured in position such thin head or heads will be fastened to the concave ends of the coil of wire, as represented in Fig. 4 of the drawings; and these pieces T may extend over a portion of the head, as indicated in Fig. 4, or they may extend over the entire head, and they will serve to keep the wire in place when it is being unwound, while at the same time the pieces T serve to help support and prevent the coils of the wire at the end from becoming displaced by any sudden concussion, such, for instance, as the putting down the coil of wire upon the floor or ground, or letting it drop into place on the spindle in the binder. Those skilled in the art to which my invention belongs will readily understand and appreciate

the great practical advantages resulting from the use of the head-pieces T.

Barrel M is made tapering from head N to head O, so that the coil of wire S, after head O has been removed, can be put on or removed from such barrel or spindle with ease, while at the same time insuring a perfect fit when the coil of wire S is in position.

For greater convenience, if preferred, the metal at the bottoms of some of the grooves e in barrel M may be slotted through their entire length, so that when head O is removed the barrel will contract slightly, thus enabling it to be removed from the coil of wire with greater facility.

If preferred, both heads may be made removable from the barrel, or they may be made so that they can be separated, by having the barrel in sections; and grooves d and e may extend through or only partially through their respective parts M, N, and O, a sufficient amount of metal being left to connect and hold the respective grooved parts together.

Having described my improvement in bobbins of wire, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

The combination, with one or both ends of the coil of wire S, of thin convex metal pieces T, substantially as and for the purposes set forth.

RIMMON C. FAY.

Witnesses:

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EDWIN E. MOORE.