(No Model.)

T. R. CRANE.

COVERING ATTACHMENT FOR SHOES OF GRAIN DRILLS.

No. 363,602. Patented May 24, 1887.

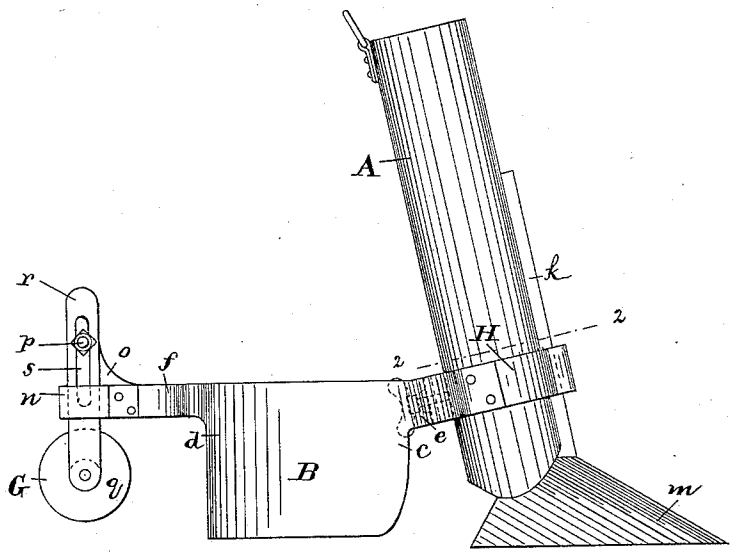

Fig. 1.

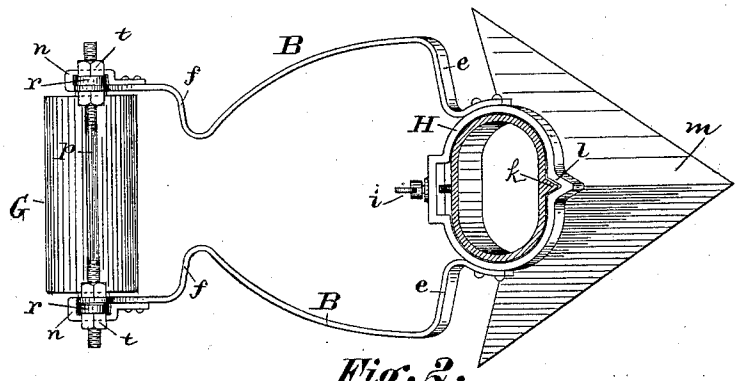

Fig. 2.

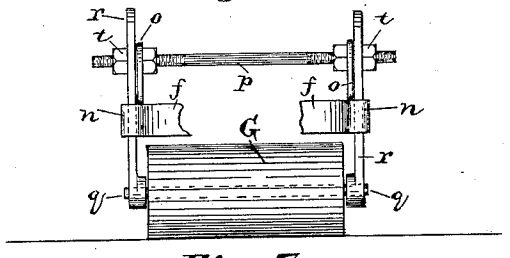

Fig. 3.

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UNITED STATES PATENT OFFICE.

THOMAS R. CRANE, OF HEATHSVILLE, VIRGINIA.

COVERING ATTACHMENT FOR SHOES OF GRAIN-DRILLS.

SPECIFICATION forming part of Letters Patent No. 363,602, dated May 24, 1887.

Application filed February 18, 1887. Serial No. 228,036. (No model.)

To all whom it may concern:

Be it known that I, THOMAS R. CRANE, a citizen of the United States, residing at Heathsville, in the county of Northumberland and State of Virginia, have invented certain new and useful Improvements in Covering Attachments for Shoes of Grain-Drills, of which the following is a specification.

My invention relates to a covering attachment adapted for application to the shoe or drill-tube of any ordinary grain-drill, and is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a drill-tube and my grain-covering attachment secured thereto. Fig. 2 is a top view of the covering attachment and a horizontal section of the drill-tube on the line 2 2. Fig. 3 is a rear view of the covering attachment, showing only the parts connecting the roller.

The letter A designates the drill-tube of a grain-drill. While a special drill-tube is here shown, it is proper to state that my improved covering attachment is applicable to any ordinary or well-known drill-tube.

The covering attachment comprises two vertical wings, B, widest apart at their front ends, *c*, and therefrom to their rear ends, *d*, converging or approaching each other, and at said rear ends separated by about half the distance only which separates the front ends. Each front end has a shank, *e*, which is united to a suitable clamp device, which effects the attachment of the coverer to the drill-tube. Each rear end also has a shank, *f*, to which is attached a roller, G, which follows the said two wings. The clamp device in the present instance consists of a collar, H, which encircles the said tube A. This collar may be in one or two pieces. The collar is provided with a screw, *i*, by which it is tightened or set fast on the tube. It will thus be seen that the clamp device provides for attachment directly to the drill-tube, and also for adjustment up or down on the drill-tube to any desired height.

While it may not be necessary in some cases to employ means for preventing the clamp and covering attachment from turning laterally on the drill-tube, to provide against such a difficulty I have here shown a drill-tube having on one side a vertical exterior rib, *k*, and the clamping-collar H has on its interior a notch, *l*, to receive the said rib. While the vertical rib in nowise interferes with the up and down adjustment of the covering attachment, it will prevent it from turning laterally.

The roller G is so connected with the rear shanks, *f*, as to be vertically adjustable, and from this combination several important results are obtained—to wit, first, the position of the roller may be changed with respect either to the covering-wings or to the point or furrow-opener *m*, whereby as the roller acts as a sort of carriage for the drill-tube and point the depth to which the said point will enter the soil may be regulated, and also as the roller travels along on the ground-surface it will give steadiness to the said point and prevent its tendency to bob up and down, and so keep the point constantly to the proper performance of its duty. In the second place, as part of the covering device, the roller depresses the loose soil which the covering-wings have scraped over the grain. The construction by which the vertical adjustment of the roller is effected consists of a vertical loop or eye, *n*, at the end of each rear shank, *f*, and a short standard, *o*, projecting above the said loop. A rod, *p*, has position horizontally through the top of the said two short standards *o*, and connects the two rear shanks. The ends of this rod are screw-threaded. The roller G turns on a shaft, *q*, at each end of which is a supporting-standard, *r*. Each standard has a vertical slot, *s*, and passes up through one of the vertical loops *n*. The ends of the horizontal rod *p* occupy the vertical slots *s* of the roller-standards, and a nut, *t*, at each end, tightens the said standards wherever they may be set. It will thus be seen the position of the roller G may be vertically adjusted. The seed or grain passing down the drill-tube A falls into the furrow made by the point *m*. The covering-wings B draw the two high sides of the furrow to the center and scrape the surface nearly level, while the roller follows and depresses the loose soil at the center.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination of a drill-tube provided on one side with a vertical exterior rib, *k*, a collar, H, encircling the drill-tube and having

on its interior a notch, *l*, to receive the said rib, whereby it may be adjusted up or down on the drill-tube without liability of turning laterally, and provided with a set-screw, *i*, two covering-wings, B, having their front ends united to the said encircling-collar, and a revolving roller, G, attached to the rear ends of the said wings, as and for the purpose set forth.

2. A covering attachment for drill-tubes, comprising the combination of two wings, B, widest apart at their front ends, *e*, and therefrom converging to their rear ends, but separated at the said rear ends, a clamp device for attachment to a drill-tube, united to the front ends of the wings, and a roller, G, revolving in bearing in suitable standards and having a vertically-adjustable connection with the rear ends of the said wings, for the purpose set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

THOMAS R. CRANE.

Witnesses:
JOHN E. MORRIS,
JNO. T. MADDOX.