

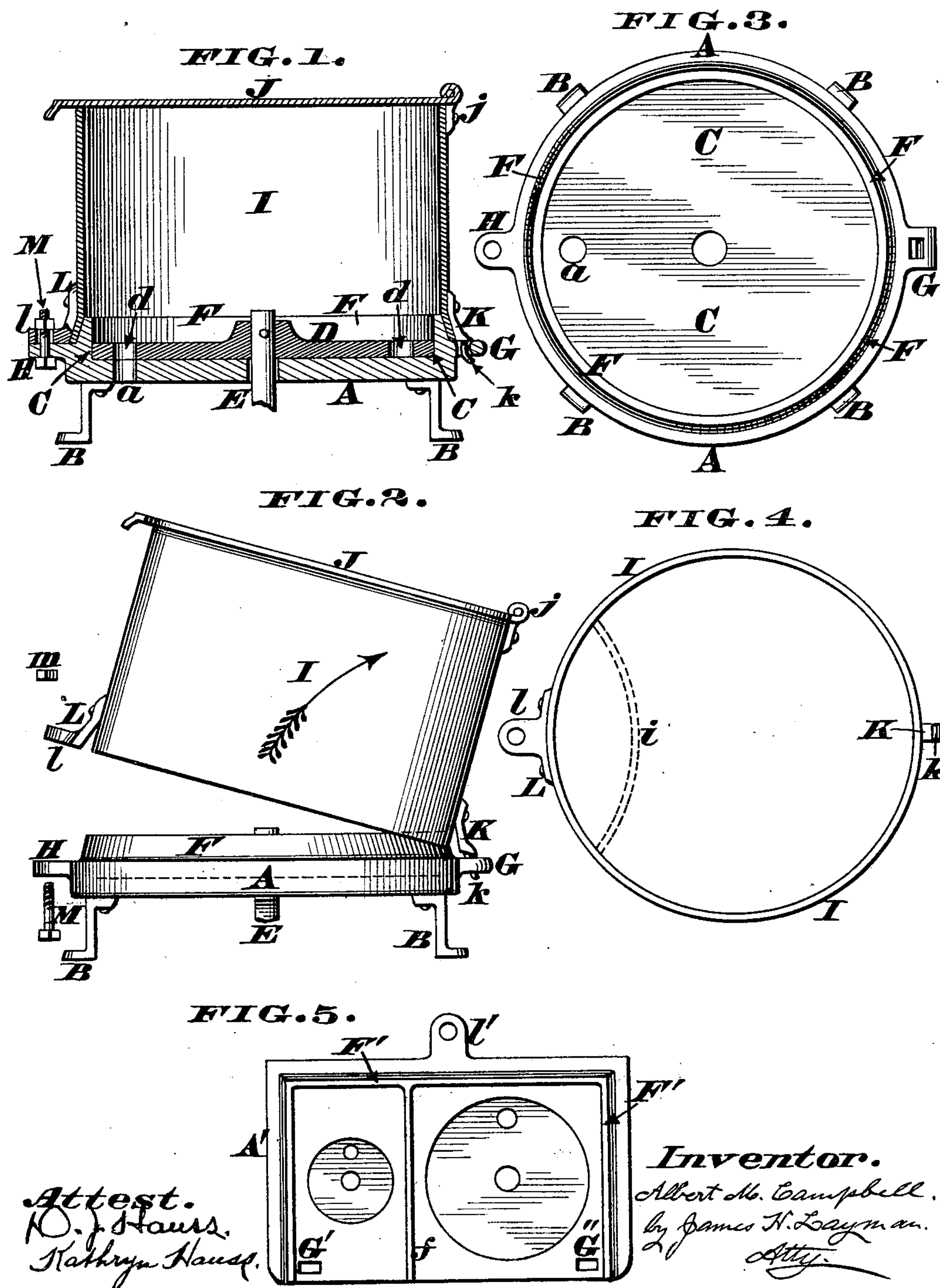
No. 631,358.

Patented Aug. 22, 1899.

A. M. CAMPBELL.  
CORN DRILL HOPPER.

(Application filed Sept. 30, 1898.)

(No Model.)





# UNITED STATES PATENT OFFICE.

ALBERT M. CAMPBELL, OF HARRISON, OHIO.

## CORN-DRILL HOPPER.

SPECIFICATION forming part of Letters Patent No. 631,358, dated August 22, 1899.

Application filed September 30, 1898. Serial No. 692,300. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT M. CAMPBELL, a citizen of the United States, residing at Harrison, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Corn-Drill Hoppers; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the annexed drawings, which form a part of this specification.

This invention relates to those sheet-metal hoppers usually applied to corn-drills and other similar agricultural implements; and my improvement consists in constructing these grain-boxes in such a manner as to permit their ready inclination to one side whenever it is desired to inspect or change the feed-wheel or drop-plate, although the hoppers are capable of being so securely closed as to prevent the accidental escape of grain under them. To accomplish this result, the base-plate, to which the hopper is coupled, has an upwardly-projecting annular flange, the outer wall of which slopes inwardly and upwardly, and the upper edge of this inclined wall is practically of the same diameter as the lower edge of said hopper. This lower edge of the hopper is free from surrounding hoops or bands in order that the sheet metal may be somewhat yielding. Consequently when the hopper is closed the aforesaid free or unbound edge wedges tightly over this tapering flange, and thereby affords a very close junction with the base-plate. Again, a peculiar form of hinge device enables the convenient opening and closing of the hopper, while a simple bolt and nut lock it to the base and prevent any accidental elevation of said hopper, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a vertical section showing one form of my hopper closed and separated from the frame of an implement. Fig. 2 is a side elevation showing said hopper in the act of being swung forward on its hinge connection. Fig. 3 is a plan of the base-plate of the hopper. Fig. 4 is a plan of the lower or meeting edge of the sheet-metal hopper, its lid being omitted. Fig. 5 is a plan of a modification of my invention.

A represents a casting constituting the base-plate for the hopper, and B are feet or other

standards wherewith said plate is secured upon the frame of a corn-drill or other grain-delivering implement. The upper side of this plate has a circular pit C to admit a horizontal feed-wheel D, having the customary arrangement of grain-receptacles *d*. This wheel is carried by a vertical shaft E and the latter is driven by gear connections from any one of the ground-wheels of the implement; but these gears are not shown in the drawings, because they are old and well-known devices and form no part of my invention. Projecting upwardly from the base-plate is an annular flange F, whose inner wall is in line with the pit C, while its outer wall slopes inwardly and upwardly at any suitable pitch.

G is a perforated ear projecting laterally from the front of the base-plate, and H is a similar lug at the rear of said plate, said ear and lug being diametrically opposite each other, as shown in Fig. 3. The base-plate is pierced at *a* to permit corn descending into the grain spout or tube. Adapted to be mounted upon this plate is a hopper I, made of any suitable sheet metal, and having hinged to its top, as at *j*, a lid or cover J. Attached to the front of this hopper and near its lower edge is a short bar K, terminating at its lower end with a bend *k*, capable of being hooked into the ear G, as shown in Fig. 1. Secured to the rear of the hopper and also near its lower edge is a short annular plate L, provided with a perforated lug *l*, as shown in Fig. 4. With the exception of this plate L and bar K the lower edge of hopper I is free from attachments or stiffeners of any kind, and for this reason said edge is sufficiently yielding to be sprung over the inclined or outer wall of the plate-flange F.

M is an ordinary bolt that traverses the two perforated lugs H *l*, and thereby securely locks the hopper in its closed position.

To couple the hopper I to the base-plate A, it is necessary only to cant said hopper forward to enable the engagement of the hook *k* with the ear G and then swing down the rear side of said hopper with sufficient care to bring the lug *l* in line with the other lug H, after which act the bolt M is passed through said lugs and the nut *m* screwed home upon said bolt. This engagement of the nut with the bolt draws the hopper down very firmly



upon the base-plate and causes the inclined flange F to wedge tightly into the lower end of the hopper I, thereby slightly expanding the latter and effecting a close joint between said members A and I. Therefore the hopper is locked against vertical and lateral shifting and there is no danger of corn rattling out of the grain-box and being jammed in between the gear-wheels that drive the feed-wheel shaft E.

Whenever it is desired to inspect the feed-wheel D or to apply another drop-plate to shaft E, the nut *m* is first unscrewed from the bolt M and then the grain-box I is swung forward, as indicated by the arrow in Fig. 2, the ear G and hook *k* serving as a hinge to permit this movement to take place, and thereby obtain the most convenient access to the rotary device fitted in the pit C.

In the above-described illustrations the hopper has as a matter of clearness been shown as a true cylinder; but its rear side may be coved or indented, as suggested by the dotted arc *i* in Fig. 4. Again, in another modification (shown in Fig. 5) the base-plate A' is substantially rectangular, and the flange F' has a central division *f*, in order that said plate may have attached to it a divided hop-

per, one part being for grain and the other part for a fertilizer. Furthermore, this illustration shows a pair of slotted ears G' G'' near the front of said plate to receive two hooks attached to the hopper and a single perforated lug *l'* at the rear of plate A'.

I claim as my invention—

In an agricultural implement, the within-described specific construction of appliances, which construction combines the base-plate A perforated at *a*, and provided with a circular pit C, having at top an annular flange F, the outer wall of which slopes inwardly and upwardly; the feed-plate D, journaled in said pit, and furnished with grain-receptacles *d*; and the sheet-metal hopper I, coupled to said base-plate, A, and provided with a fastener, the lower edge of said hopper being entirely devoid of hoops or bands, in order that it may expand freely when forced down over said flange F, in the manner set forth, and for the purpose stated.

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

ALBERT M. CAMPBELL.

Witnesses:

ELMORE E. CAMPBELL,  
JAMES W. TEBBS.