No. 719,272. PATENTED JAN. 27, 1903.

J. STEEP.

GRAIN DRILL.

APPLICATION FILED NOV. 4, 1902.

NO MODEL.

Fig. 1.

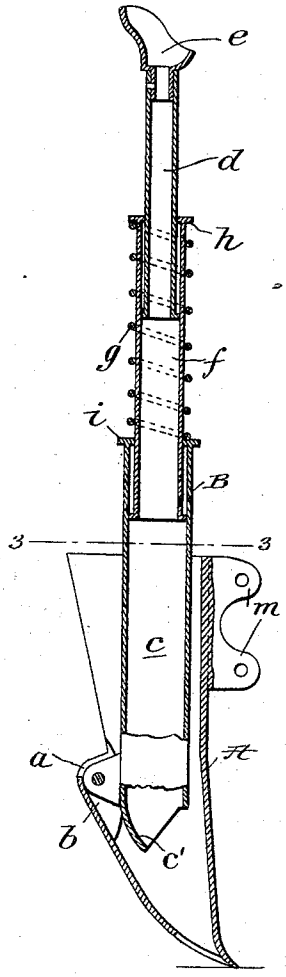


Fig. 2.

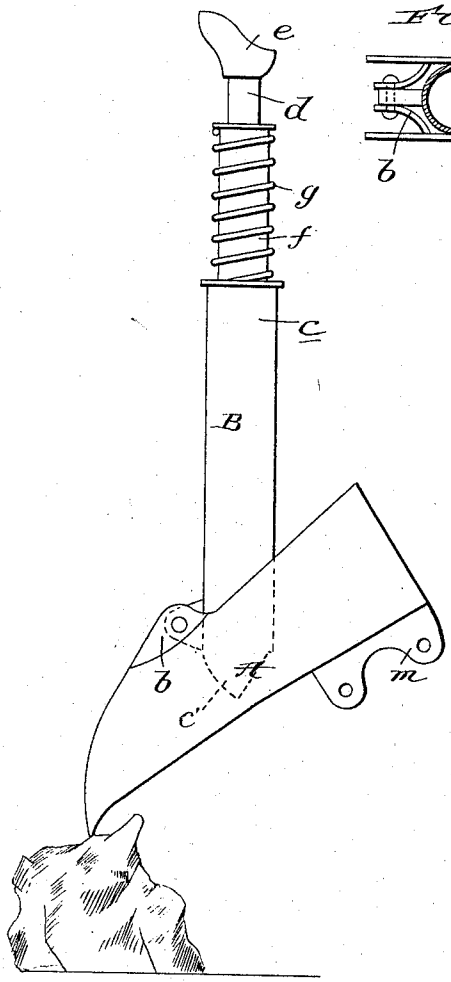
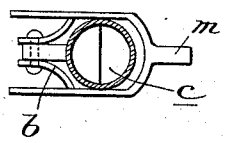


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES STEEP, OF CLINTON, CANADA.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 719,272, dated January 27, 1903.

Application filed November 4, 1902. Serial No. 130,073. (No model.)

To all whom it may concern:

Be it known that I, JAMES STEEP, a citizen of Canada, residing at Clinton, in the Province of Ontario and Dominion of Canada, have invented new and useful Improvements in Grain-Drills, of which the following is a specification.

My invention relates to improvements in grain-drills; and it has for its general object to provide a tubular hanger for a seeding device—*i. e.*, a hoe or shoe—embodying such a construction that the sending device is held to its work under normal conditions and yet is adapted to readily ride over stones and other obstructions in its path without being injured by the same.

With the foregoing in mind the invention will be fully understood from the following description and claims, when taken in connection with the accompanying drawings, in which—

Figure 1 is a vertical section illustrating my improved tubular hanger as connected to a hoe. Fig. 2 is a side elevation of the same, illustrating the manner in which the hoe rides over a stone or other obstruction; and Fig. 3 is a transverse section taken in the plane indicated by the broken line 3 3 of Fig. 1.

Similar letters of reference designate corresponding parts in all of the several views of the drawings, referring to which—

A is a grain-drill hoe, the boot of which is open at its back from an intermediate point *a* in its height to its upper end and is provided immediately below said point *a* with apertured lugs *b*, and B is my improved tubular hanger for connecting the hoe with the body or hopper of a grain-drill. This hanger in the preferred embodiment of my invention comprises a lower tubular section *c*, which is pivotally connected to the lugs *b* of the hoe, an upper tubular section *d*, which has a cup *e* at its upper end designed to be connected to the body or hopper of a drill, an intermediate tubular section *f*, which receives the upper section *d* and is received in turn by the lower section *c*, and a coiled spring *g*, which surrounds the section *f* and is interposed between an abutment *h* thereon and an abutment *i* on the section *c*, as illustrated.

In practice the spring *g* tends to expand and in consequence serves under normal conditions to hold the hoe and the sections of the hanger in the relative positions shown in Fig. 1 and the hoe to its work. When, however, the hoe encounters a stone or other obstruction, it will be seen that the hoe will rock and the hanger telescope against the action of the spring *g*, as shown in Fig. 2, with the result that the hoe will ride over the stone without being injured by the same. After the hoe passes the stone or other obstruction the spring *g* will expand, and thereby return the parts of the hanger to the relative positions shown in Fig. 1.

The hoe is shown as provided on its forward side adjacent to its upper end with apertured lugs *m*. These lugs are designed for the connection of an expansible device, such as usually interposed between a drill-hoe and means for adjusting and adjustably fixing the hoe. The expansible device and means stated form no part of my invention, and I have therefore deemed it unnecessary to illustrate the same.

It will be appreciated from the foregoing that my improved hanger, while inexpensive in construction, is strong and durable, also that the hanger may be depended on to give when the hoe or other seeding device strikes a stone or other obstruction, and to afterward return the parts of the hanger to the relative positions shown in Fig. 1.

I prefer to provide the lower tubular section *c* at its lower end with a deflector *c'*, Fig. 1, this in order to guide the seed forward close to the point of the hoe with a view of securing a good seed-bed.

The term "seeding device" as herein used is designed to comprehend shoe-drills and disk-drills as well as hoes, all of the said devices being ordinarily provided with boots.

I have entered into a detailed description of the construction and relative arrangement of the parts embraced in the present and preferred embodiment of my invention in order to impart a full, clear, and exact understanding of the same. I do not desire, however, to be understood as confining myself to such specific construction and arrangement of parts, as such changes or modifications may be made in practice as fairly fall within the scope of my invention as claimed.

Having described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. The combination of a seeding device, the boot of which is open at its back from an intermediate point in its height to its upper end, and a hanger comprising tubes adapted to telescope, and a spring for holding said tubes yieldingly in place; the lowermost tube of said hanger being pivotally connected to the boot of the seeding device at the back thereof.

2. The combination of a hoe, open at its back from an intermediate point of its length to its upper end, and having a discharge-opening adjacent to its lower end, and a hanger comprising tubes adapted to telescope, and a spring for holding said tubes yieldingly in place; the lowermost tube of said hanger being pivotally connected to the hoe at the back thereof, and being provided with a deflector c' at its lower end.

3. The combination of a hoe, open at its back from an intermediate point of its length to its upper end, and a hanger therefor, comprising a lower tubular section, pivotally connected to the hoe at the back thereof, an upper tubular section having a cup at its upper end, adapted to be connected to the body of a drill, an intermediate tubular section receiving the upper section and received in turn in the lower section, and a spring surrounding the intermediate section, and interposed between an abutment thereon, and an abutment on the lower section.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES STEEP.

Witnesses:
HARRISON WILKE,
THOS. KEARNS.