

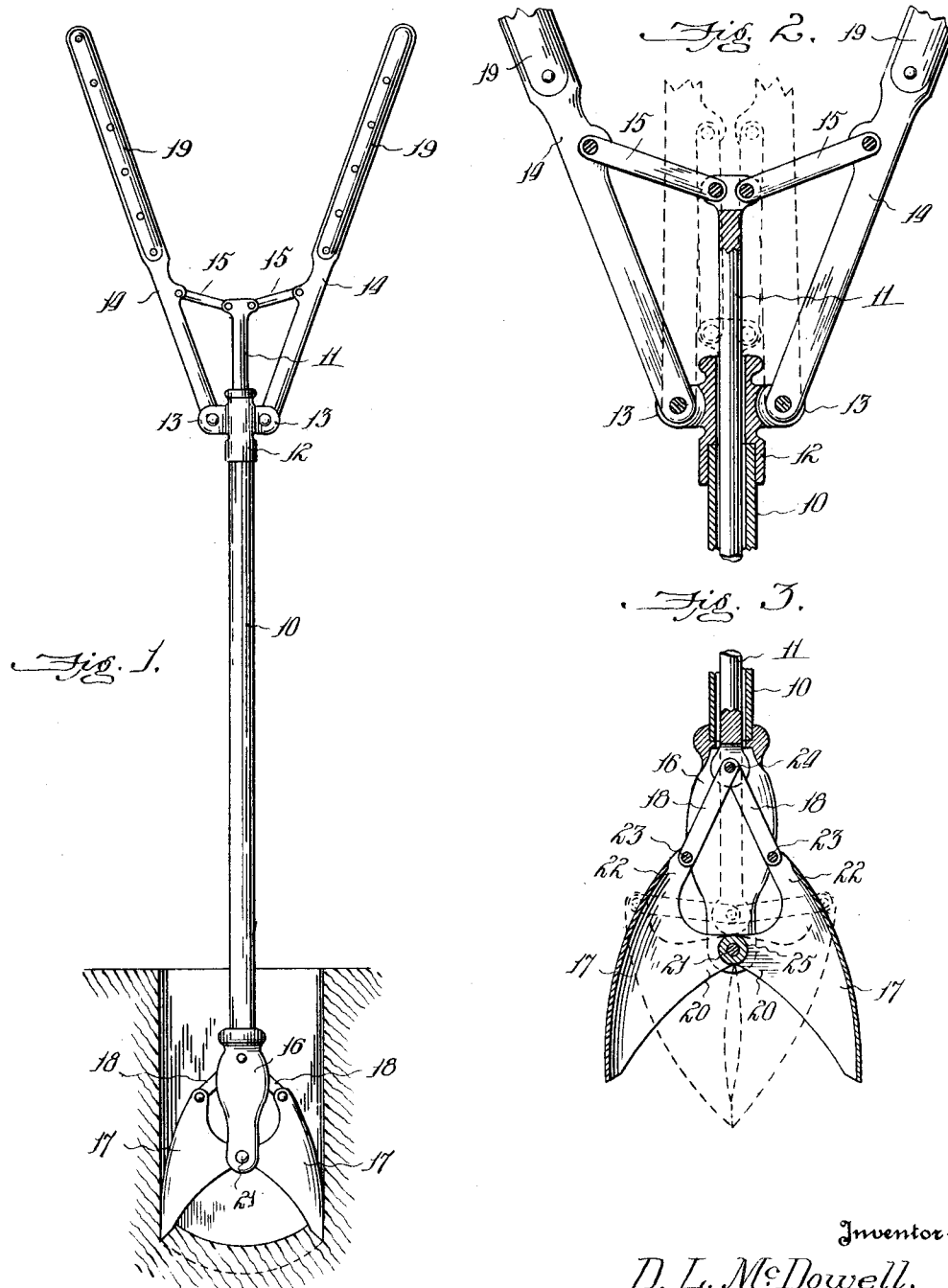
Nov. 22, 1932.

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1,888,929

POSTHOLE DIGGER

Filed Dec. 16, 1931



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UNITED STATES PATENT OFFICE

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POSTHOLE DIGGER

Application filed December 16, 1931. Serial No. 581,469.

My invention is an improvement in diggers and has particular reference to that special type known as post hole diggers in which the shovels carried at the lower end of the staff are manually operated by a slidable rod to which movement is imparted by a pair of levers pivoted to the upper end of the staff.

The principal object of my invention is to provide a post hole digger of this general type in which the construction and arrangement of the parts constituting the implement will permit the power applied to the levers to be effectively transmitted to the shovels for digging into the earth, and in which the operation of closing the shovels automatically locks the parts to prevent the shovels from opening accidentally in removing the dirt from the hole.

A further object of my invention is to provide a post hole digger which is simple and durable in construction, and in which the disposition of the toggle links for operating the sliding rod and shovels connected thereto provides for an easy and convenient manipulation of the device.

Other objects and advantages of my invention will be apparent from the following description and what I claim as new and desire to protect by Letters Patent is more specifically set forth in the appended claims.

In the accompanying drawing:

Figure 1 is an elevation illustrating the application of my invention.

Fig. 2 is an enlarged detail sectional view showing the connection between the hand levers and sliding rod, and

Fig. 3 is a similar view showing the connection between the sliding rod and shovels.

In carrying out my invention I provide a staff 10 tubular throughout its length to receive an operating rod 11 which is slidable therein, the upper end of said tubular staff being provided with a casting or crosshead 12 having apertured ears 13, 13 for the pivotal connection thereto of a pair of levers 14, 14 extending upwardly therefrom and connected to the upper end of the rod by toggle links 15, 15, while the lower end of the tubular staff has welded or otherwise rigidly secured thereto a bracket 16 with depending side members

between the lower ends of which the shovels 17, 17 are pivoted and operated by toggle links 18, 18 connected to the lower end of the operating rod. As will be noted the crosshead 12 is bored for the passage of the upper end of the sliding rod therethrough, and similarly the upper end of the bracket is bored so that the lower end of the rod may operate between the spaced apart members of said bracket. For the connection of the toggle links 15 to the upper end of the rod 11 the latter is bifurcated, as shown in Fig. 2, and in order to provide a better grip for the handle portion of the levers they are provided with the usual wooden strips 19 riveted thereto.

The shovels are in the form of clam shell diggers each having an inwardly projecting intermediate portion 20 by which it is pivoted to the lower end of the bracket on the pintle 21, and an upper extension 22 to which link 18 is connected by pintle 23, the links for the two shovels being jointly connected to the lower end of the rod by a pintle 24, and this connection is such that the thrust of the operating rod from open to closed position of the shovels is limited by a sleeve 25 on the pintle 21, as illustrated by dotted lines in Fig. 3 of the drawing, and results in locking the shovels in closed position inasmuch as the inner ends of the toggle links 18, 18 are depressed below the horizontal plane of the pivots 23 connecting said links to the shovels.

It will be obvious that by locking the shovels closed it will permit the loaded implement to be removed from the hole without exerting pressure on the levers and consequently avoid the possibility of spilling the dirt during the handling of the implement in depositing the load in a pile at one side of the hole.

In order to relieve the pintle 21 of any undue strain in the closing movement of the shovels the arrangement of the operating parts is such that the crosshead at the upper end of the rod will abut against the casting or crosshead 12 of the tubular staff when the lower end of the rod engages the sleeve on the pintle, and to limit the opening movement of the shovels the upward movement of the

rod is limited by engaging the upper end or head of the bracket carrying the shovels.

In the operation of the device the shovels are opened by separating the levers and after
5 forcing the cutting edges of the shovels into the ground, as illustrated in Fig. 1, the levers are pressed towards each other causing the toggle links 15 to slide the rod 11 downwardly in the staff to operate the toggle links 18
10 for closing the shovels which operate to scoop the dirt between them, and as the inner ends of said links 18 are depressed below the plane of their pivotal connection with the upper ends of the shovels the latter are locked in
15 closed position requiring manipulation of the levers for opening them to deposit the load.

It will be apparent that the implement can be easily operated, and by providing the particular arrangement of toggle links herein
20 shown and described for operating the sliding rod and shovels respectively the power applied to the levers is effectively transmitted to the shovels to minimize the exertion required in the operation of the device.

I claim:

1. A post hole digger comprising a tubular staff, shovels pivoted to the lower end of the staff for opening and closing movement of the lower ends thereof, a rod slidable in
30 the staff, and toggle links connecting the lower end of the rod to the upper ends of the shovels, the connection of the links between the rod and shovels providing for depressing the inner ends of the links slightly below the
35 plane of the pivotal connections of said links with the shovels for locking the shovels in closed position; together with means for sliding the rod consisting of levers pivoted to the upper end of the staff, and toggle links connecting
40 said levers to said rod.

2. A post hole digger comprising a tubular staff having a bifurcated bracket secured to the lower end thereof, shovels pivoted between the lower ends of said bifurcated
45 bracket for opening and closing movement of said shovels, a rod extending through the tubular staff into the bracket between the members thereof, and toggle links connecting the lower end of the rod to the upper ends
50 of the shovels; together with means for sliding the rod consisting of levers pivoted to the upper end of the staff, and toggle links connecting the levers to the upper end of the sliding rod.

3. A post hole digger comprising a tubular staff having a bifurcated bracket secured to the lower end thereof, shovels pivoted between the lower ends of said bifurcated bracket for opening and closing movement of said
60 shovels, a rod extending through the tubular staff into the bracket between the members thereof, and toggle links connecting the lower end of the rod to the upper ends of the shovels; together with means for sliding the
65 rod consisting of a crosshead secured to the

upper end of the tubular staff and having apertured ears at opposite sides thereof, levers pivoted to said ears, and toggle links connecting the levers to the upper end of the rod.

4. A post hole digger comprising a tubular
70 staff having a bifurcated bracket secured to the lower end thereof, shovels pivoted between the lower ends of said bifurcated bracket for opening and closing movement of said shovels, a rod extending through the
75 tubular staff into the bracket between the members thereof, and toggle links connecting the lower end of the rod to the upper ends of the shovels; together with means for sliding the rod consisting of a crosshead secured
80 to the upper end of the tubular shaft and having apertured ears at opposite sides thereof, levers pivoted to said ears, an enlargement at the upper end of the rod adapted to abut
85 against the crosshead for limiting the downward movement of said rod, and toggle links connected to the upper end of the rod and to said levers.

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