

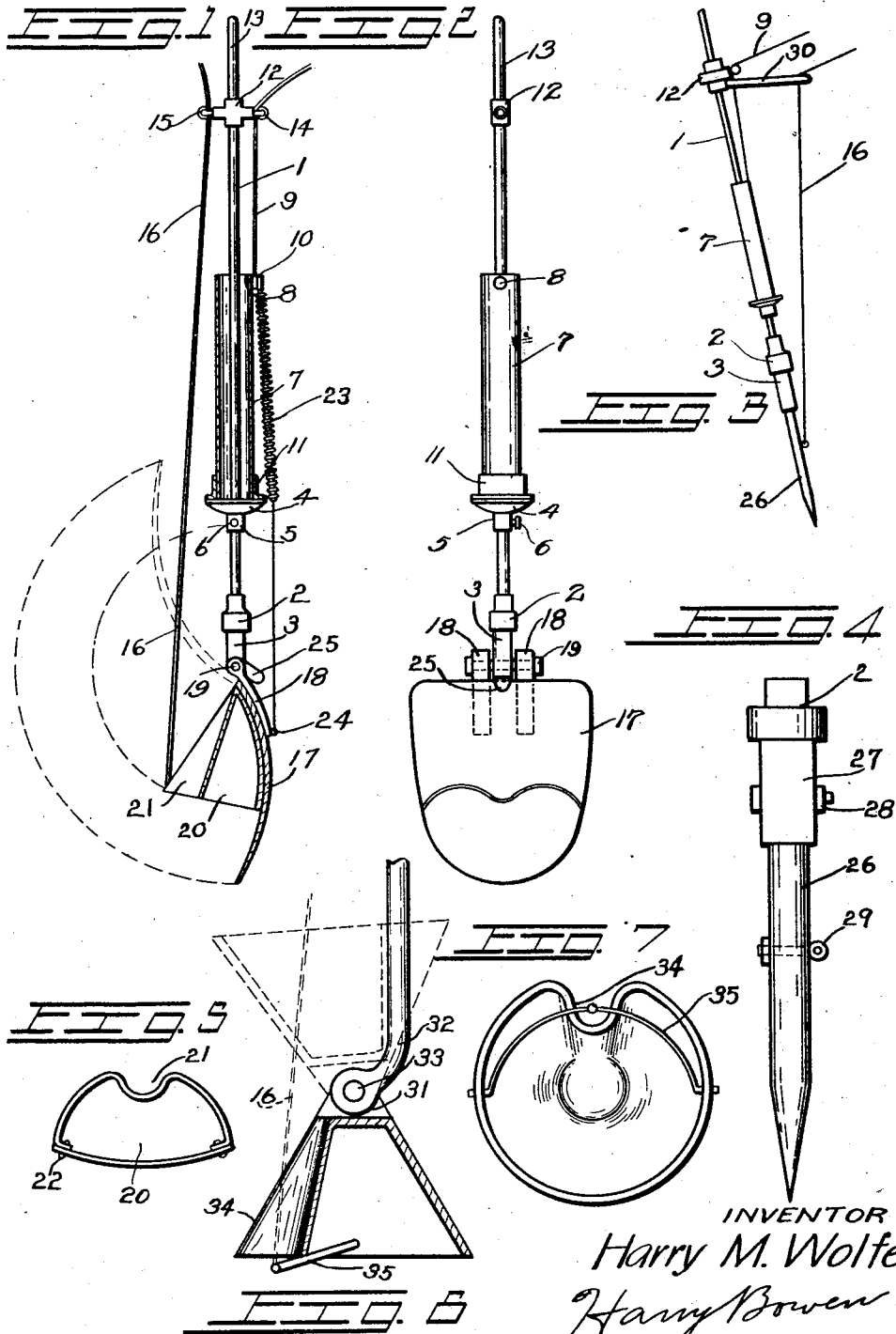
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HAND POWER DIGGER

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HAND-POWER DIGGER.

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To all whom it may concern:

Be it known that I, HARRY M. WOLFE, a citizen of the United States, residing at Lake Burien, county of King, and State of Washington, have invented a new and useful Hand-Power Digger; and I do hereby declare that the following is a full, clear, and exact specification, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention is a tool having a sliding hammer on its handle that may be operated by hand, a means for guiding the point or edge of the tool, and a means whereby material dug by the tool may be readily raised to the top of a hole in which the tool may be working.

The object of the invention is to provide a tool for digging deep holes of a small diameter through hard ground.

Another object of the invention is to provide a tool having a hinged blade with a sliding hammer that may be operated by hand from the ground above the hole.

And a further object of the invention is to provide a tool having a means for hammering it into the ground with a means for raising the material that it digs out of the hole.

With these ends in view the invention embodies a tool having a sliding member on its handle, means for raising the sliding member, a seat for the sliding member, and means for raising the tool or digging member.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings, wherein:—

Figure 1 is a side view showing the sliding member in section.

Figure 2 is a front elevation showing the sliding member in full.

Figure 3 is a view showing a pointed tool as it may be guided to a certain point in the hole.

Figure 4 is a detail showing the method of attaching a pointed tool to the handle bar.

Figure 5 is a detail showing the design of the bucket that may be attached to the shovel.

Figure 6 is a detail showing a conical shaped digger that may be attached to the handle.

Figure 7 is a plan view of the conical shaped digger.

In the drawings I have shown my device as it would be constructed wherein numeral 1 indicates the handle bar, which may be made of a small straight bar or tube and may be made of any suitable length and may be made in one piece or in sections which may be joined together. At its lower end is a member 2 which may be a reducing fitting as shown and in the lower end of this a larger pipe or bar 3 may be placed. This bar may be made in different shapes so that different tools may be attached to the member 2 by it, and it may be screwed into the member 2 so that it may readily be interchanged with another similar bar having a different tool on it.

Above the member 2 is a disk or washer 4 that may have a hub 5 on it so that it may be held to the bar 1 by the set screw 6. This member will form a seat for a sliding member 7 which may be a straight piece of pipe of a somewhat larger diameter than the rod 1 and may have a hole 8 in its upper end by which a cord 9 may be attached to it through a bolt 10. The cord 9 may be a piece of rope or wire cable; or a chain may be used if desired. A flange 11 may be placed on the lower end of the member 7 as shown in Figure 1 which will broaden the lower end and provide a greater wearing area. At the upper end of the rod 1 may be a cross 12 which may have a handle 13 in its upper side and pulleys 14 and 15 in its side members. The cord 9 may pass over one of these pulleys and another cord 16 may pass over the other pulley and downward to the edge of one of the tools as shown in Figures 1 and 6. The shovel shown in Figure 1 may have a blade 17 which may be of any desired shape and this may have bars 18 attached to it by which it may be held by a pin 19 to the bar 3, and may also have a pocket or bucket 20 extending a little more than midway downward on its front side. The pocket 20 may be of any suitable size or shape and may have an indentation 21 in its forward edge as shown in Figure 5 which will fit around the bar 1 when the shovel is in the upper position or in the position of lifting material out of the hole as shown in dotted lines in Figure 1. The plate forming the pocket 20 may be attached to the blade 17 by rivet-

ing it to the blade by rivets 22 as shown in Figure 5 or by attaching it to it in any desired manner or by making it integral therewith. A spring 23 may be attached to the rear of the blade 17 at the point 24 and also to the bolt 10 which will perform two functions. First it will hold the shovel slightly backward as it is lowered into the hole, and then it will quicken the downward movement of the sleeve 7; a lug 25 may be placed on the back of the bar 3 which will engage the blade and limit its backward movement.

The point or pick shown in Figure 4 may be made of a bar 26 which may have its lower end pointed as shown or made in any desired shape and its upper end held in a piece of pipe or sleeve 27 by a bolt 28. This sleeve may screw into the member 2 in place of the bar 3 as shown in Figure 1 so that the bar or point may readily be interchanged with the shovel in Figure 1. A screw eye or bolt 29 may be placed about midway of the length of the point so that a cord similar to the cord 16 shown in Figure 1 may be attached to it as shown in Figure 3. In Figure 3 I have shown an extension from the cross 12 which may be a strap 30 as shown, or it is understood that this may be made of a piece of chain, rope, or a bar of any desired type or length, and it will be seen that by passing the cord 16 through it it will be possible to guide the point 26 toward the side of the hole or to any object in the hole.

The conical shaped digger shown in Figure 6 may have ears 31 at its vertex between which a bar 32 which may be similar to the bar 3 with its lower end curved as shown may be pivotally held on a pin 33 and in one side of the conical shaped member there may be an indentation 34 to fit around the bar when the member is in the upper or dotted position. In the open end of the conical shaped member is a bail 35 to which a cord similar to the cord 16 may be attached so that the member may be guided from one side of the hole to the other or raised in a manner similar to that in which the shovel is raised as hereinbefore described.

It will be understood that changes may be made in the construction without departing from the spirit of the invention. One of which changes may be in the shape or size of either of the digging implements, another may be in the method of attaching either of them to the handle, and still another may be in the design of the handle or of the sliding member thereon.

The construction will be readily understood from the foregoing description. To use the device the arrangement shown in Figure 1 may be lowered into a hole and it will be seen that by pulling upward on the cord 16 or by letting it downward the point

of the blade 17 may be moved backward or forward so that the cutting edge of the blade may readily be placed in any desired position. When this is in place the sleeve 7 may be constantly raised and let fall which will hammer the blade into the dirt and as it is hammered downward the cutting edge will move outward either from the curve of the blade or from the tension being increased on the cord 16, and as enough of the dirt has been loosened to fill the pocket 20 the bucket may be raised by pulling up on the cord 16 until it is the position shown in dotted lines and then it may be raised out of the hole by the rod 1 and the cord 16. This action would be the same for the conical shaped member shown in Figure 6 except that the edge of the blade shown in Figure 1 would have a greater digging power than the side of the cone so that the shovel should be used for hard ground and the cone or a member of a similar shape used for soft ground or for holes in which the point 26 has been working. The point 26 may be used to loosen the hard dirt or gravel or to break large rocks or other obstacles and by adjusting the cords 9 and 16 it will be seen that the point 26 may be directed to any desired point.

Having thus fully described the invention what I claim as new and desire to secure by Letters Patent is:—

1. An implement having a handle; a disk rigidly attached to the handle adjacent its lower end; a sliding sleeve on the handle; means for raising and lowering the sleeve by hand from the upper end of the handle; a tool attached to the lower end of the handle; and a means for guiding or raising the tool from the upper end of the handle.

2. An implement having a cutting tool attached to a handle; a flat disk forming a seat attached to the lower end of the handle; a sliding member on the handle above the seat; a spring for pulling the sliding member downward and for holding the tool backward; a cross member at the upper end of the handle; pulleys on the cross member; and cords passing over the pulley and connected to the sliding member and to the cutting tool.

3. A tool having a digging blade at its lower end; means for readily removing and replacing the blade; a handle having a stop adjacent its lower end; a sliding member on the handle; means for raising the sliding member; a spring attached to the blade and to the sliding member; other means for raising the digging blade; and a means on the blade for elevating material as the device is raised.

4. An implement for excavating small holes having a handle; a sliding hammer on the handle; means for raising the hammer from a remote point; a means for pulling

the hammer downward, and a means at the lower end of the handle for digging and raising material which may be adjusted from a remote point.

- 5 5. A tool having a handle; a reducing fitting at the lower end of the handle; means for attaching a cutting tool to the fitting; a seat on the handle above the fitting; a

sliding member above the seat pulleys adjacent the upper end of the handle; a 10 means for supporting the pulleys; and cords that may be passed over the pulleys and attached to the sliding member and to the cutting tool.

HARRY M. WOLFE.