H. KENDLE.

SELF FILLING AND CLEANING SCRAPER OR EXCAVATION BUCKET.

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1,166,601. Patented Jan. 4, 1916.

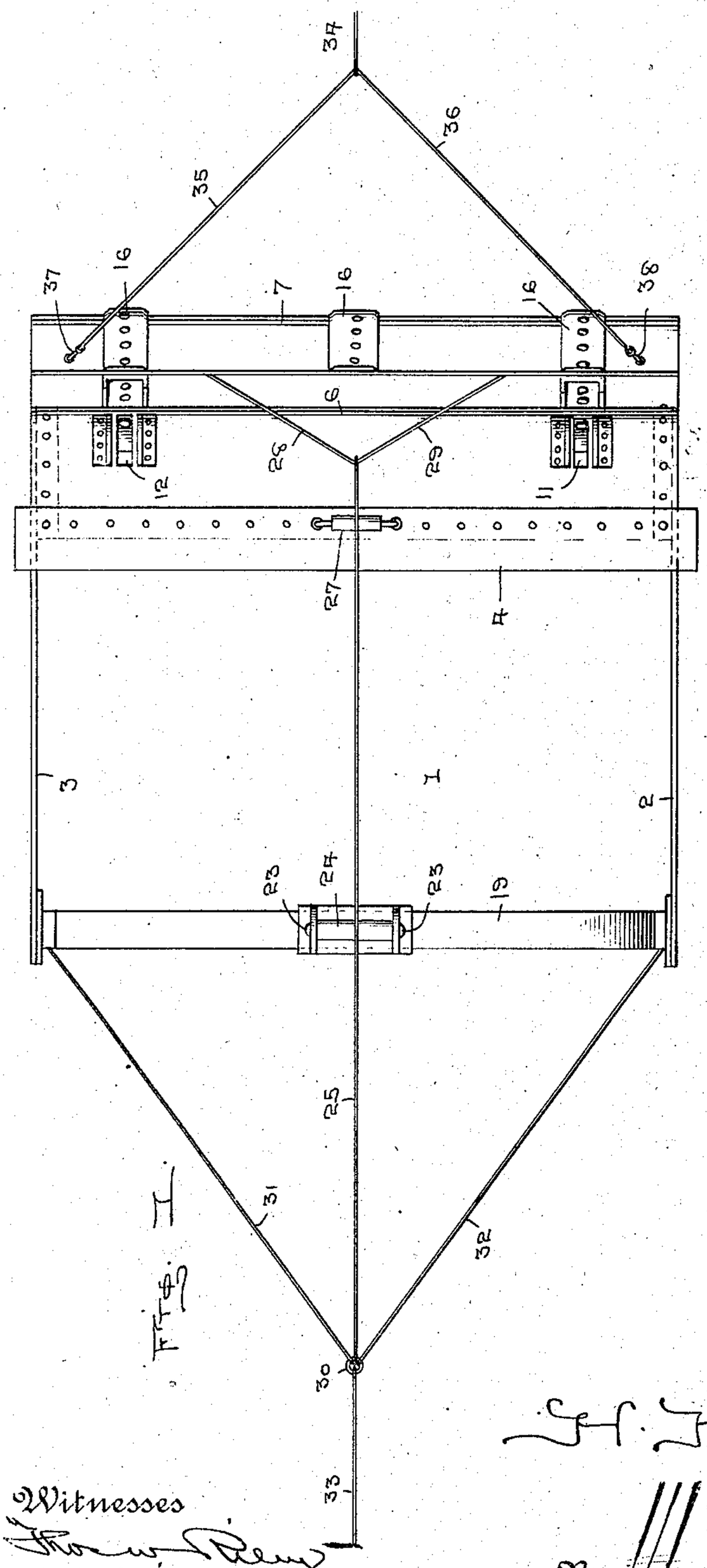

Fig. 1.

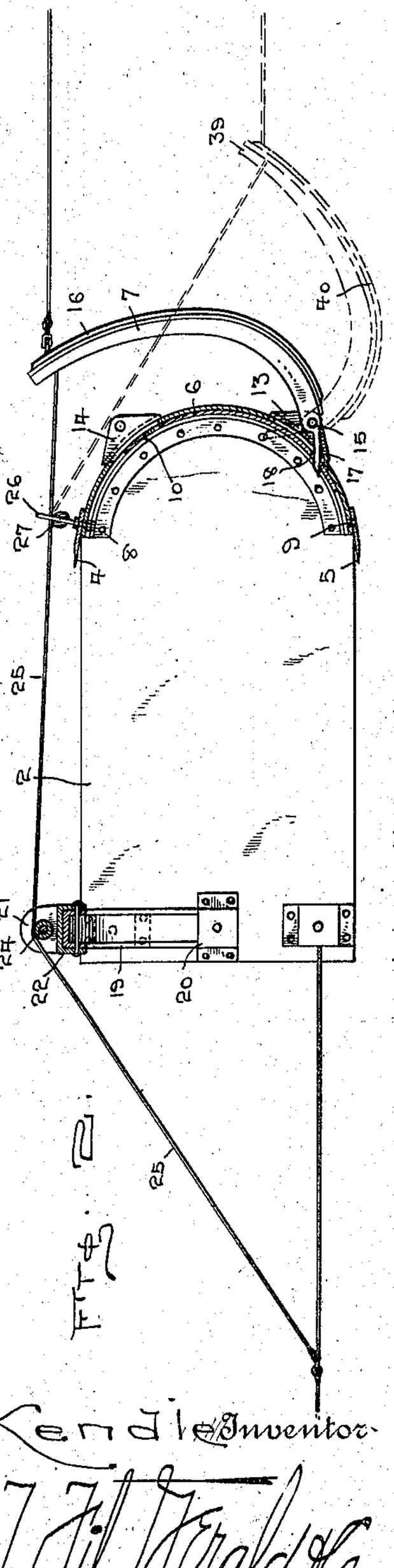

Fig. 2.

Witnesses

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SELF FILLING AND CLEANING SCRAPER OR EXCAVATION-BUCKET.

1,166,601. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed August 13, 1914. Serial No. 856,559.

To all whom it may concern:

Be it known that I, HERMANN KENDLE, a citizen of the United States, residing at Eatonville, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Self Filling and Cleaning Scrapers or Excavation-Buckets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to shovels and in particular to drag shovels.

A principal object of this invention is to give a device that is self cleaning.

Another object of this invention is to give a device that is invertible.

Still another object of this invention is to give a device that will raise one end of the shovel off the ground upon retractive movement.

Other objects and advantages of this invention will be hereinafter set forth in the specification and pointed out in the claims.

Similar characters of reference refer to similar parts throughout the specification and the drawings, in which,

Figure 1, is a top plan view thereof, Fig. 2, is a vertical longitudinal sectional view thereof.

In the drawings, 1 is the body portion of the shovel proper comprising side portions 2 and 3, reversible shoveled edge portions 4 and 5, rear portions 6 and fender portion 7.

The shovel portions 4 and 5 are suitably fastened to the rear portion 6 as by means of rivets or bolts 8 and 9 and are adapted to set out beyond the edges of the side walls 2 and 3 of the body portion 1. Slidably mounted upon the inner face of the rear portion 6 is a cleaning device 10, said cleaning device conforming to the contour of the rear portion 6 and suitably mounted for sliding movement thereon the portion 6 having slots 11 and 12 adjacent its upper edge for a purpose to be hereinafter set forth. At suitable points upon the rear portion 6 are registering hinge members 13 and 14, said hinge members being arranged in pairs and having apertures therethrough which apertures register with openings in the fender 7 to receive pivot bolts 15. The fender 7 has reinforcing and bracing members 16 connected thereto which receive the full friction of the shoveling device upon the retractive sliding movement of this device over the ground. A pair of levers 17 project from the fender 7 and are adapted to pass through slots in the lower portion of the member 6, said slots being similar to the slots 11 and 12 in the upper portion of the member 6 and through openings 18 in the member 10 whereby upon the pivotal operation of the fender 7, the member 10 will be reciprocated back and forth through the medium of the levers 17. A removable bracket member 19 is socketed in the front portion of the body 1, as at 20 in such manner that the same can be removed and reverted into the opposite position to that shown in Fig. 2. The bracketed member 21 is adapted to seat over said member 19 and is fastened thereto by extending a bolt transversely through the depending ears 22 and the interposed portion of the member 19. A spindle 23 is mounted through the arms of said bracketed member 21 and rotatably positioned thereupon is the sleeve device 24, this sleeve device being adapted to rotate with the longitudinal movement of the cable 25. A second bracketed member 26 is positioned at the edge of the rear portion 6 and near the shovel edge 4 as shown in Fig. 2 of the drawing which likewise supports a sleeve 27 to support the rear portion of the cable 25.

The cable 25 has two extensions 28 and 29 which are attached to the inner face of the fender 7 in such manner that when the cable 25 is pulled forward the fender is closed in against the rear portion 6 of the shovel, the cable 25 riding over the sleeves 24 and 27 for this purpose. The front portion of the cable 25 is connected to a ring member 30. Also connected to this ring member at their forward ends are cables 31 and 32, the rear ends of said cables 31 and 32 being suitably fastened to the sides 2 and 3 of the shovel adjacent the lower front edges thereof. The hauling cable 33 is likewise fastened to the ring 30 and said hauling cable pulls the device forward through the medium of the above described cables.

The shovel is retracted or moved rearwardly by means of a cable 34 which is connected to cables 35 and 36, said latter cables being fastened as at 37 and 38 to the outer surface of the fender 7, and adapted to retract said shovel when a rearward pull is given the cable 34.

In operation the shovel is pulled forward by means of the cable 33 and intermediate cables as described, said act causing the

shovel edge 5 to dig into the ground to thereby fill the central space of the shovel 1 with dirt and carrying the same forward with the said movement of the shovel. After the shovel has reached the point of discharge, the shovel is retracted through the medium of the cable 34 and cables 35 and 36 as previously described, said act retracting the shovel and at the same time drawing rearwardly the fender 7 as shown in dotted lines in Fig. 2 as at 39. This act causes the member 10 to reciprocate through the medium of the lever 17 and thereby cleans the inner face of the shovel. When the fender 7 is swung rearwardly the rear portion of the shovel is lifted from the ground owing to the contour of the fender 7 which plays along the ground as at 40. When desirable the shovel can be inverted, the fender 7 being disengaged from the hinges 13 and engaged with the hinges 14 in a reverse direction and the bracket members 21 and 26 and the bracket device 19 are likewise reversed to the opposite edge of the shovel, these acts naturally throwing the cables to play on opposite sides of the shovel. This act causes the shovel edge 4 to work into the soil instead of the shovel edge 5 as shown in the drawings.

When the fender 7 is reversed from the position shown, the levers 17 project through the slots 11 and 12 and through openings in the member 10 so that said member 10 will be reciprocated when the fender is raised or lowered.

Having now described my invention what I claim as new and desire to secure by Letters Patent is—

1. An excavating device comprising vertical side members, a curved rear portion at one end of the side members and secured thereto, said rear portion having slots therethrough, a curved cleaning member slidably mounted on the inner curved face of the rear portion, a reversible fender hingedly secured to the outer face of the rear portion, levers carried by said fender adapted to project through said slots and move said cleaning member upwardly and downwardly when the fender is swung on its pivot point, and means to operate said fender.

2. An excavating device comprising a pair of side walls, a curved rear end portion having slots arranged in pairs therethrough, each pair being adjacent one edge of the rear portion, a cutting member at each edge of the rear portion, a curved cleaning member slidably mounted over the inner face of the curved rear wall, a fender adapted to be pivoted to the outer face of the curved rear wall and at either edge thereof, levers carried by the pivoted edge of said fender adapted to extend through said slots and reciprocate the cleaning device over the inner face of the rear curved member, a reversible bracket connecting the forward ends of the side members, operating cables, and rollers supporting certain of said cables.

3. An excavating device comprising a pair of side walls, a curved wall at one end thereof and connected to the side walls, said curved wall having slots therethrough arranged in pairs, a fender pivoted to said curved wall, a curved cleaning member movably mounted over the inner face of the curved wall, levers carried by the fender extending through said slots adapted to move the cleaning device over the face of the curved wall when the fender is raised or lowered, a curved bracket at the forward end of said side walls, sockets carried by the side walls to receive the ends of the curved brackets, a cable extending over the curved bracket and curved rear walls, and rotating members over which said cable travels when moved lengthwise.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HERMANN KENDLE.

Witnesses:
NORMAN J. BRUEN,
EMILY M. BRUEN.