(No Model.) 2 Sheets—Sheet 1.

C. N. BLOOD.

STUMP EXTRACTOR.

No. 533,431. Patented Feb. 5, 1895.

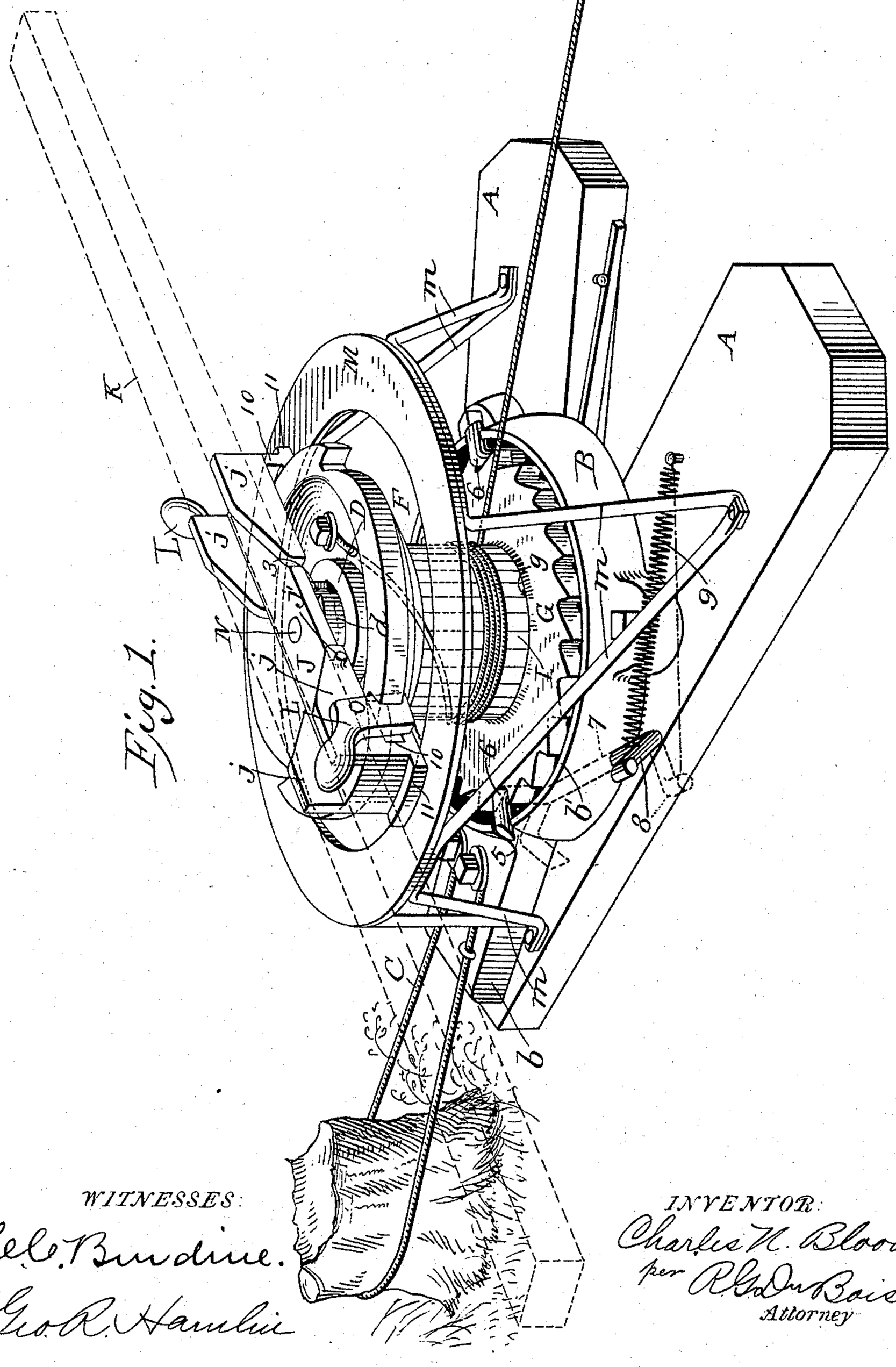

Fig. 1.

WITNESSES:

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2 Sheets—Sheet 2.

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Fig. 2.

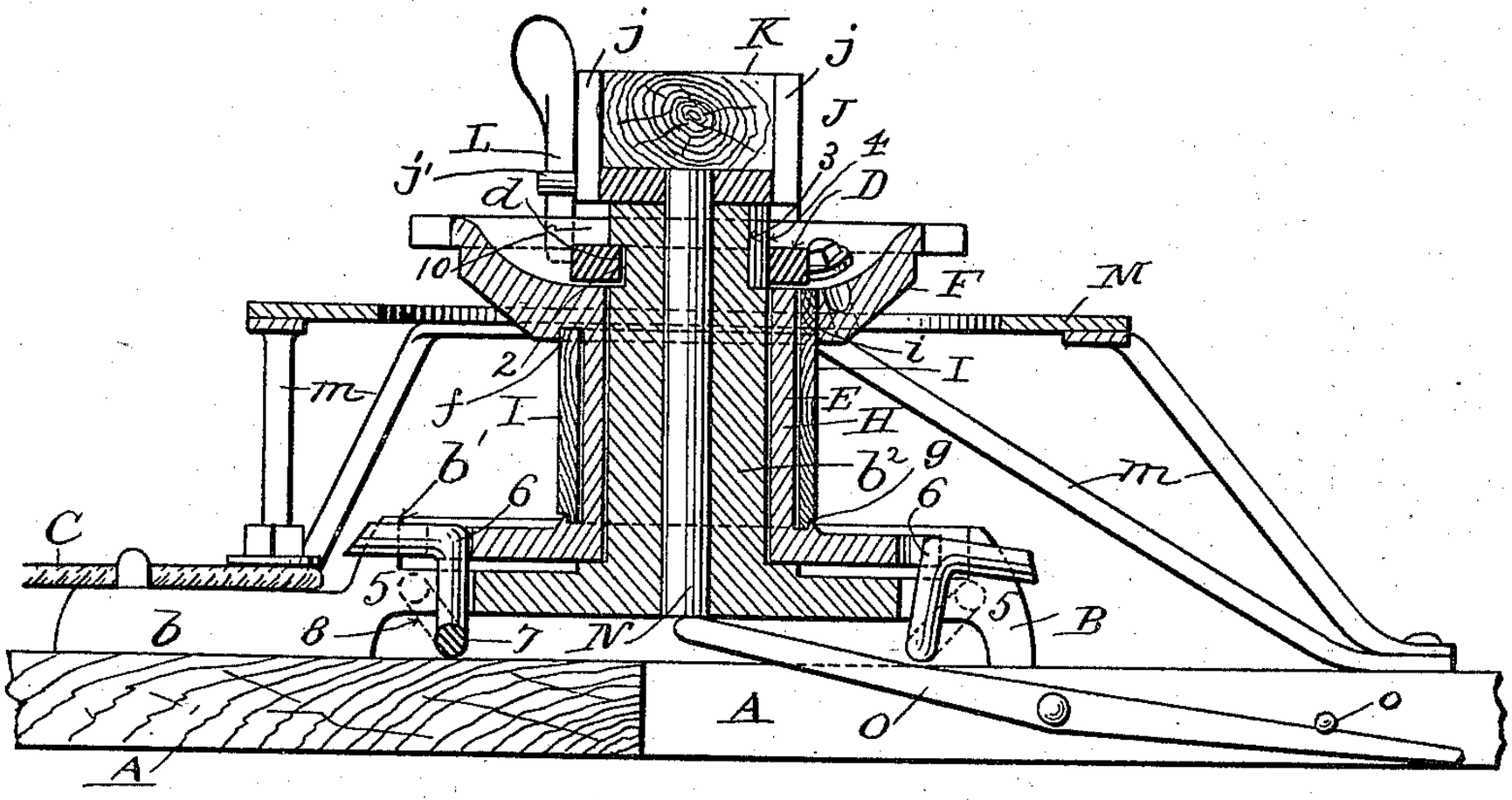
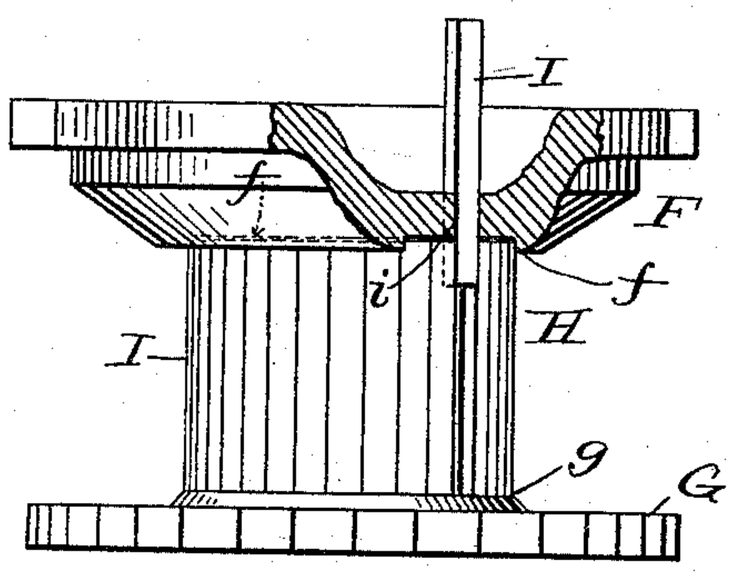


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES N. BLOOD, OF ANAMOSA, IOWA.

STUMP-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 533,431, dated February 5, 1895.

Application filed August 4, 1894. Serial No. 519,460. (No model.)

To all whom it may concern:

Be it known that I, CHARLES N. BLOOD, a citizen of the United States, residing at Anamosa, in the county of Jones and State of Iowa, have invented certain new and useful Improvements in Stump-Extractors; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to stump extracting devices or machines which comprise in organization, a drum, a supporting base for the drum, and a seat for the sweep by means of which the drum is actuated to wind up the rope hitched to the stump to be extracted or part to be moved.

In the best machines the drum is cast metal and experience shows that the unyielding character of the drum results disastrously and shortens the life of the draft rope. One of the features of the present invention is to increase the life of the said draft rope by equipping the drum with a yielding surface of either wood, soft metal or other suitable material constituting a packing or cushion for the first coils or turns of the rope to embed into.

The sweep seat being independent of the drum and operatively engaging therewith by a ratchet and pawl connection when the drum is rotated to wind up the draft rope, frequently tilts and binds upon the edges of the drum. To obviate these and other difficulties and steady the seat in its movements at all times is another feature of the invention and is accomplished by the provision of a track or guide for the ends of the sweep seat to travel upon.

The improvement will be more fully set forth hereinafter and claimed and is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the improved stump extractor. Fig. 2, is a central vertical section showing the operation of the king bolt and its actuating lever by dotted lines, and Fig. 3, is a detail view showing the manner of packing or cushioning the drum.

The platform is composed of base timbers A which are disposed relatively at an angle, being connected at one end. The platform may have any desired shape but that shown is preferred. The metal base B having lugs which are perforated to receive fastenings by means of which it is secured to the platform, and having a neck *b* which conforms to the apex of the platform and is bolted thereto. The anchoring rope or loop, C is attached to this end *b*. The base having an annular flange *b'* of sufficient depth to snugly house the lower flange of the drum. A tubular standard b^2 rises centrally from the base and has an annular groove 2 near the upper end from which extends notches 3.

A collar D is adapted to be fitted on the end of the standard to hold the drum E in proper place thereon. This collar has inner lugs *d* which pass through the notches 3 when moving or placing the collar in place upon the standard. When the collar is in place the lugs *d* occur in the annular groove 2 out of register with the notches 3 and cannot become accidentally displaced. A key 4 inserted in any one of the notches will hold the collar in place, and its lugs *d* out of register with the said notches.

Radial slots 5 are provided at diametrically opposite points in the flanged end of the base for the pawls or detents 6 to work in and engage with the lower ratchet head or flange of the drum. These pawls are provided on the ends of rods 7 by bending an end portion of the latter. These rods 7 are journaled in seats provided in the lower face of the base and communicating with the slots 5, and having their outer ends bent in substantially the same direction as the pawls 6 to provide cranks 8. Springs 9 are attached at one end to the cranks 8 and at the opposite end to the base timbers and serve to hold the pawls in operative position or out of the way according as the crank arms stand up from or occupy a position parallel with the platform.

The drum E is cast metal, and comprises the upper head or flange F, the lower head or flange G and the middle part H upon which the rope is wound. This drum is mounted upon a standard b^2 so as to turn freely thereon, being held in place by a collar D, in the

manner set forth. The lower head having ratchet teeth in its edge to be engaged by the pawls 6 and an annular seat or groove *g* to receive the lower ends of the slats or strips I of packing material. The upper head F having a corresponding annular seat or groove *f* to receive the upper ends of the said slats or strips I. These grooves or seats *f* and *g* are adjacent to the middle part H of the drum so that the strips or slats I will be braced by the part H against which they rest and bear when subjected to stress by the strain on the draft rope or cable.

The strips or slats I are of soft metal, wood or other material suitable for the purpose of providing a soft bed for the first turns of the rope so as to prevent serious injury thereto, which results where the said rope is wound directly upon the metal drum without any interposed packing. An opening *i* extends through the upper head F and is in line with the grooves *f* and *g*, and communicates with and extends from the groove *f*. The slats or strips I are passed through the opening *i* one at a time, care being observed to have their ends fitted in the seats *f* and *g*, and are moved laterally until the part H is incased. After the last slat is inserted the opening *i* is plugged or closed to prevent the last, or any slat that may happen to be in register with the said opening *i* from coming out. These slats or strips lie close together and constitute a packing or cushion for the part H of the drum.

The sweep seat J is oblong, and rests midway of its ends upon the standard b^2. The side flanges *j* near each end embrace the sides of the sweep K and retain the latter in place and sustain the stress. The gravity pawls L, one for each end of the seat, are pivoted to a flange *j* and are sustained by a stop *j'* when out of operative position. These pawls engage with the notched end of the upper head F and communicate motion from the sweep seat to the drum. The ends 10 of the sweep seat are constructed to embrace the edge portion of the head F to hold the sweep and drum in co-operative relation at all times and under heavy strain. A shoe 11 is provided at each end to travel upon a circular track M and prevent tipping and binding of the sweep seat ends on the head F. Moreover, the shoes and track steady the movement of the sweep seat and prevent any torsional strain.

The circular track M is supported upon suitable stays *m* bolted thereto and running to the platform. The relative height is such as to receive the shoes 11 which travel thereon and not interfere with the draft rope. Of course it is a desideratum to have it as low as possible consistent with the stability and efficiency of the machine.

The king bolt N works loosely through the standard b^2 and is operated by a lever O, pivoted to one of the base timbers. The king bolt projects through an opening in the sweep seat and holds the latter in proper position. A removable pin *o* holds the lever in a normal position. To detach the seat the pin *o* is removed and the lever O falls at its inner end and permits the king bolt to drop and release the sweep seat which latter can be removed by a lateral sliding movement.

The parts being assembled as shown in Figs. 1 and 2 the machine is ready for use in the well known manner. The loop C is attached to the stump or is otherwise anchored to fix the position of the machine. The rope P is attached to the drum at one end and its other end is secured to the stump to be extracted. The draft being applied to the sweep Q, the rope is wound upon the drum in the manner readily comprehended to effect the desired result.

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

1. A drum or windlass, comprising a metallic middle portion and heads, and a sheathing for the said middle portion secured between the heads and composed of a series of wooden slats, or equivalent elastic material, and backed by the said middle portion, substantially as described.

2. A drum or windlass comprising heads held at a fixed relative distance apart, and having annular seats in their opposing faces, there being an opening leading through a head from the seat therein, and a series of slats or strips inserted through the said opening and having their ends fitted and held in the said annular seats, substantially as described.

3. A cast metal drum having seats in the opposing sides of the heads contiguous to the middle portion, one of the heads having an opening extending therethrough from the seat, and a sheathing formed by a series of slats or strips which are inserted through the said opening and have their ends fitted in the said seats, said seats touching at their edges and backed and sustained by the middle portion of the drum, substantially as described.

4. The combination with the drum vertically disposed, and a horizontal circular track arranged in a plane below the flanged edge of the top head, of a sweep seat having its ends constructed to travel upon the said horizontal circular track, and a sweep fitted to the sweep seat, substantially as described.

5. The combination with the vertically disposed drum having its top head flanged and provided with notches in the edge of the flange, and a circular track, of a sweep seat having its end portions embracing the edge portions of the said notched flange and having its ends provided with shoes to travel upon the said track, a pawl carried by the said sweep seat to engage with the notched flange, and a sweep removably attached to the said sweep seat, substantially as described.

6. In combination, a vertically disposed

drum having a notched flange at its upper end, a horizontal circular track arranged below the notched flange, a sweep seat having its end portions embracing the notched flange and provided with shoes to travel upon the track, a pawl carried by the sweep seat to engage with the notched flange, a sweep attached to the sweep seat, and a vertically movable king bolt to secure the seat in place, the parts being combined so that the sweep seat can be placed in position by a sidewise movement, substantially as described.

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

CHARLES N. BLOOD.

Witnesses:

ALLEN T. SANFORD,

JAMES AVERT REED.