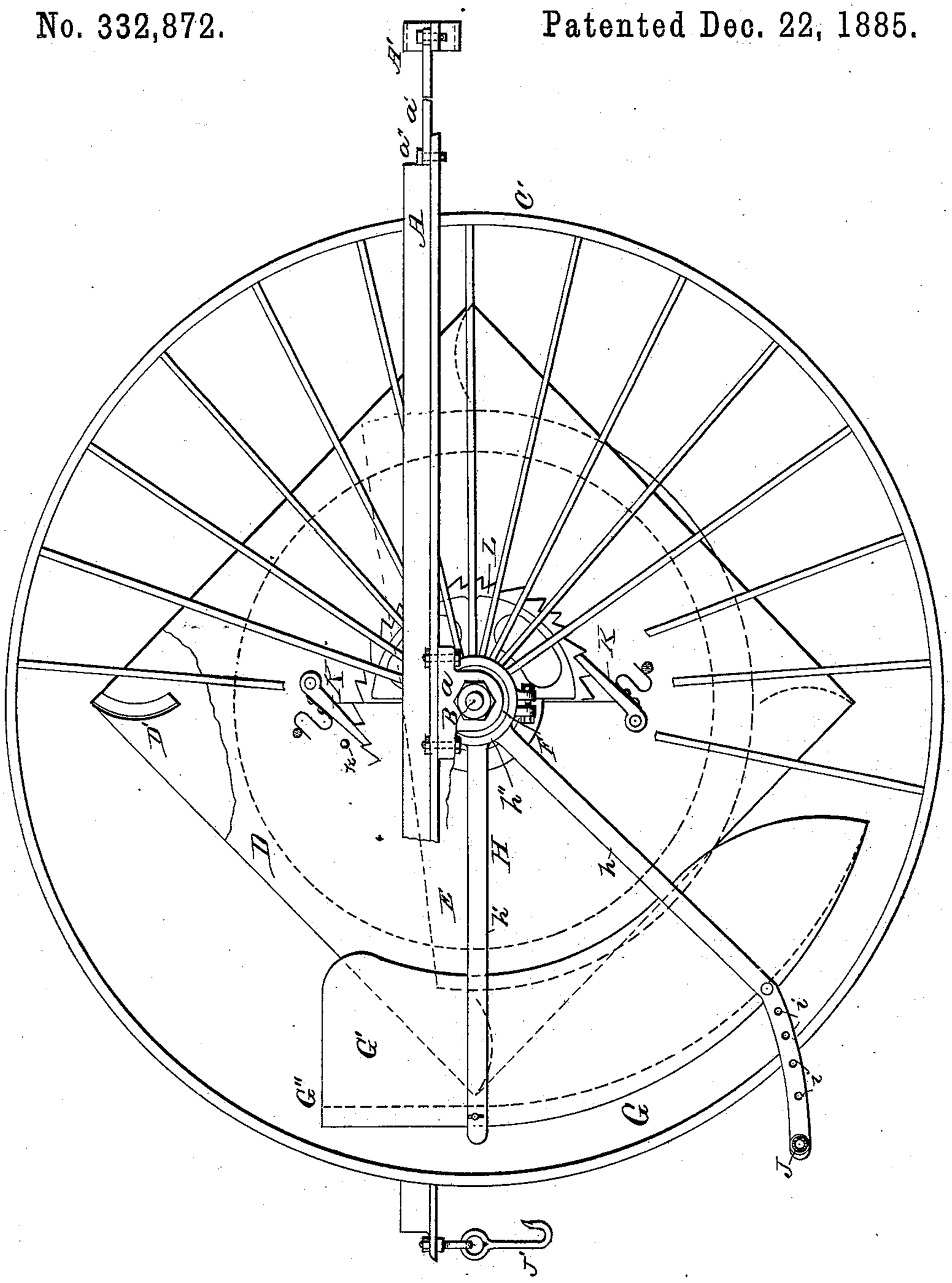
(No Model.) 3 Sheets—Sheet 1.

H. M. BROWN.

DIRT SCRAPER AND CARRIER.

No. 332,872. Patented Dec. 22, 1885.



WITNESSES
F. L. Ourand.
E. W. Johnson.

Henry M. Brown
INVENTOR
By Munn & Co.
Attorney

(No Model.) 3 Sheets—Sheet 2.

H. M. BROWN.

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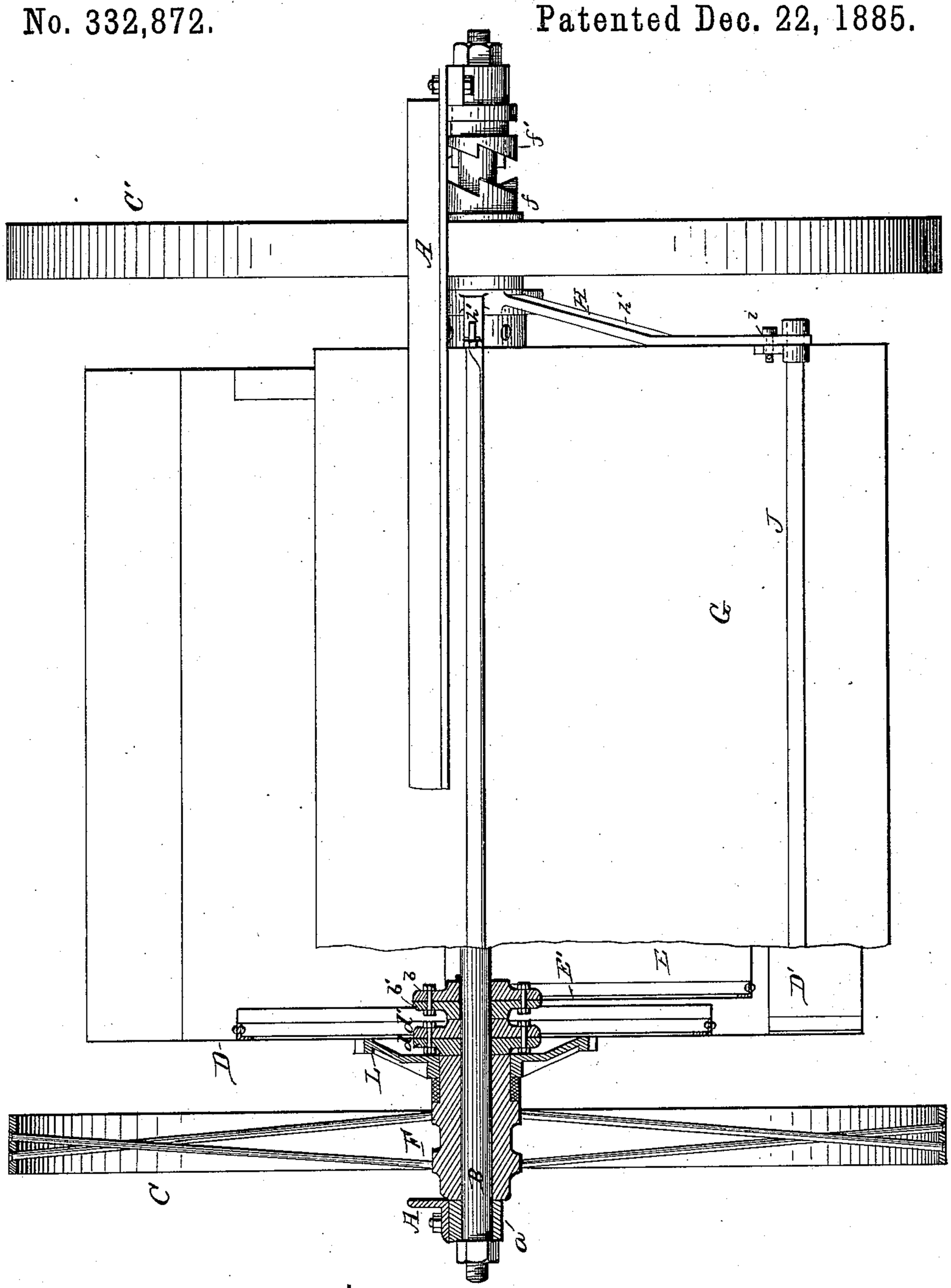

Fig. 2.

WITNESSES
F. L. Ourand.
E. W. Johnson

Henry M. Brown
INVENTOR
Attorney

(No Model.) 3 Sheets—Sheet 3.

H. M. BROWN.

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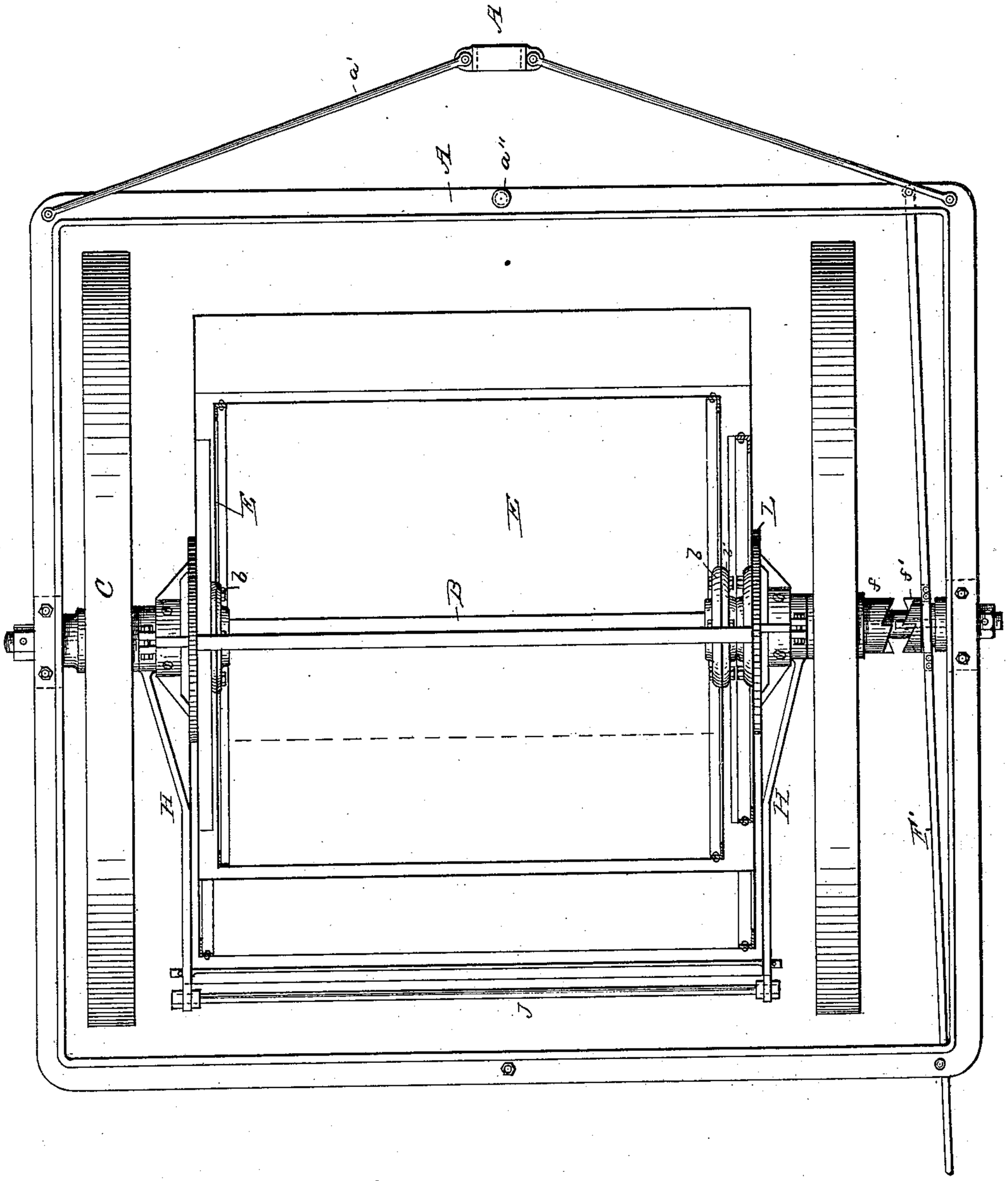

FIG. 3.

WITNESSES
F. L. Ourand.
E. W. Johnson

Henry M. Brown
INVENTOR
By Johnson
Attorney

UNITED STATES PATENT OFFICE.

HENRY M. BROWN, OF SEATTLE, WASHINGTON TERRITORY.

DIRT SCRAPER AND CARRIER.

SPECIFICATION forming part of Letters Patent No. 332,872, dated December 22, 1885.

Application filed April 26, 1884. Serial No. 129,398. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. BROWN, a citizen of the United States of America, residing at Seattle, in the county of King and Territory of Washington, have invented certain new and useful Improvements in Dirt Scrapers and Carriers; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in dirt-scrapers, its object being to provide a scraper which will remove the earth, carry the same and place it into a receptacle, where it can be dumped, as desired; and to this end my invention consists in the construction and combination of parts, as will be hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, which illustrate my invention, Figure 1 is a side view showing one of the supporting-wheels and end of a rolling carrier broken away, to better illustrate my invention. Fig. 2 is an end view, looking toward the rear of the machine, a portion of said view being partially in section. Fig. 3 is plan view.

A represents a rectangular frame, which is preferably made of angle or T iron, and is provided near its longitudinally-central portion with boxes *a*, through which passes a transverse shaft, B, upon which the operating parts of the machine are mounted. The front portion of the frame A is provided with brace-rods *a'* and a yoke, A', through which passes the draft-tongue, which is secured to the central front portion of the frame A by a bolt or pin, *a''*. Within the boxes *a* of the angle-frame, and upon the shaft B, are located the supporting-wheels C C'. These supporting-wheels rotate freely upon the axle B. Attached rigidly to the axle B, within the hubs F of the wheels, are clamping-plates *b b'* and *d d'*. The clamping-plates adjacent to the hub embrace rectangular plates D, to the corners of which are attached curved plates D'. The inner clamping-plates, *b b'*, embrace the side plate E' of the carrier E, which depends therefrom. The outer edge of the hub of the wheel C' is provided with a portion of a clutch, *f*, with which engages the portion *f'*, which slides upon a feather formed on the axle B, while a lever, F', which is pivoted to the forward part of the frame A, engages with a recessed portion of the clutch and extends beyond the rear portion of the frame, on a side or lateral movement of which lever the parts of the clutch are brought into engagement with each other, so as to cause the shaft B to rotate with the wheel C' and carry with the same the dirt-carrier E. The dirt-carrier E is semicircular in form, and is braced at its ends by curved angle-irons, to the edges of which are secured the segmental side pieces E', which are embraced by the clamps *b b'*. The bottom pieces are preferably made of sheet metal. The clamping-plates *b b'*, from which the carrier E depends, are keyed fast to the shaft or axle B. A scoop or scraper, G, is provided with side wings, G', and a curved rear portion, G'', is pivotally attached to the hubs F by means of straps or connecting portion H, which consists of two members, *h h'*, which are rigidly attached to a clamping-collar, *h''*, having a set-screw which passes through lugs formed in the aforesaid collar. The member *h'* of the connecting portion H is pivotally secured to the outer sides of the rear portion, G'', of the scoop, and the lower end of the member *h* is curved, as shown in Fig 1, and provided with perforations *i i*, and means for securing this member to the lower portion of the scoop or scraper, so that the same can be adjusted at different angles. The extreme ends of the members *h* are connected to each other by a transverse rod, J, upon which the operator may stand when additional weight is required to force the scoop or scraper into the ground. From the rear portion of the frame A depends a hook, J', which is adapted to engage with the cross-bar J, so as to hold the scraper in an elevated position when not in use or performing its allotted functions.

The rotary dirt-carrier has pivoted to its side plates D spring-pawls K, which may be connected to each other by a suitable toggle-joint or other mechanical means for holding the same out of engagement with the ratchet-

plates L, which are rigidly attached to the hubs of the wheels C C'.

In the accompanying drawings I have shown a means for holding the pawls K out of engagement with the ratchet-plate L, which means consist of a pin which is inserted in a perforation, *k*, in the side plates. By raising the pawls and inserting the pin under the same they will be held out of engagement.

The operation of my invention is as follows: When the apparatus is drawn over the ground and the scraper G made to enter the same, the earth will be removed, and will force itself up the inclined rear portion of the scraper. At the same time the rotation of the wheels having the ratchet-plates L, attached to the hubs thereof, will also rotate and engage with the pawls K and cause the rotary carrier, which is provided with segmental scoops D', to engage with the earth in the upper part of the scraper and carry the same upward into the carrier suspended from the shaft B. When a sufficient quantity of earth has been deposited in the carrier, the same may be turned over and dumped by throwing the parts of the clutch *f f'* in engagement with each other. Before the carrier is dumped the scraper G should be elevated, which is accomplished by the operator grasping the cross-bar J and raising the same.

In transporting the apparatus from place to place the scraper is held in a raised position by engagement of the transverse rod J with a hook, J', the pawls K are held out of engagement, as hereinbefore described, and the parts of the clutch *f f'* separated. When the parts are thus organized, the wheels will be free to revolve.

I claim—

1. The combination, in an excavating apparatus, of a supporting-frame, a shaft journaled therein, carrying-wheels mounted loosely thereon, a dirt-carrying receptacle rigidly secured on said shaft, a clutch-disk, *f*, rigidly secured to said shaft, a second clutch-disk adapted to slide longitudinally thereon, but revolving therewith, and a lever for effecting the engagement and disengagement of said disks, a turning-plate secured loosely on each side of the receptacle and provided transversely with carrier-blades, devices for driving said carriers from the shaft, and a scraper, substantially as set forth.

2. The combination, in an excavating apparatus, of a receptacle mounted rigidly on the main axle of the machine, clutch-disk *f*, rigidly secured to said shaft, a second clutch-disk adapted to slide longitudinally thereon by revolving therewith, and a lever for effecting the engagement and disengagement of said disks, plates located loosely on said shaft and connected by carriers, and devices for throwing said plates into and out of gear with the carrying-wheels, substantially as set forth.

3. The combination, in an excavating apparatus constructed and operating substantially as described, of a scraper, rods *h'*, properly supported and pivotally connected to the axle, and rods *h*, properly supported and each provided with a series of perforations, and pivots supporting the scraper and engaging the said perforations, as described, substantially as set forth.

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

HENRY M. BROWN.

Witnesses:

JAMES HOPKIRK,

D. C. TOWNSEND.