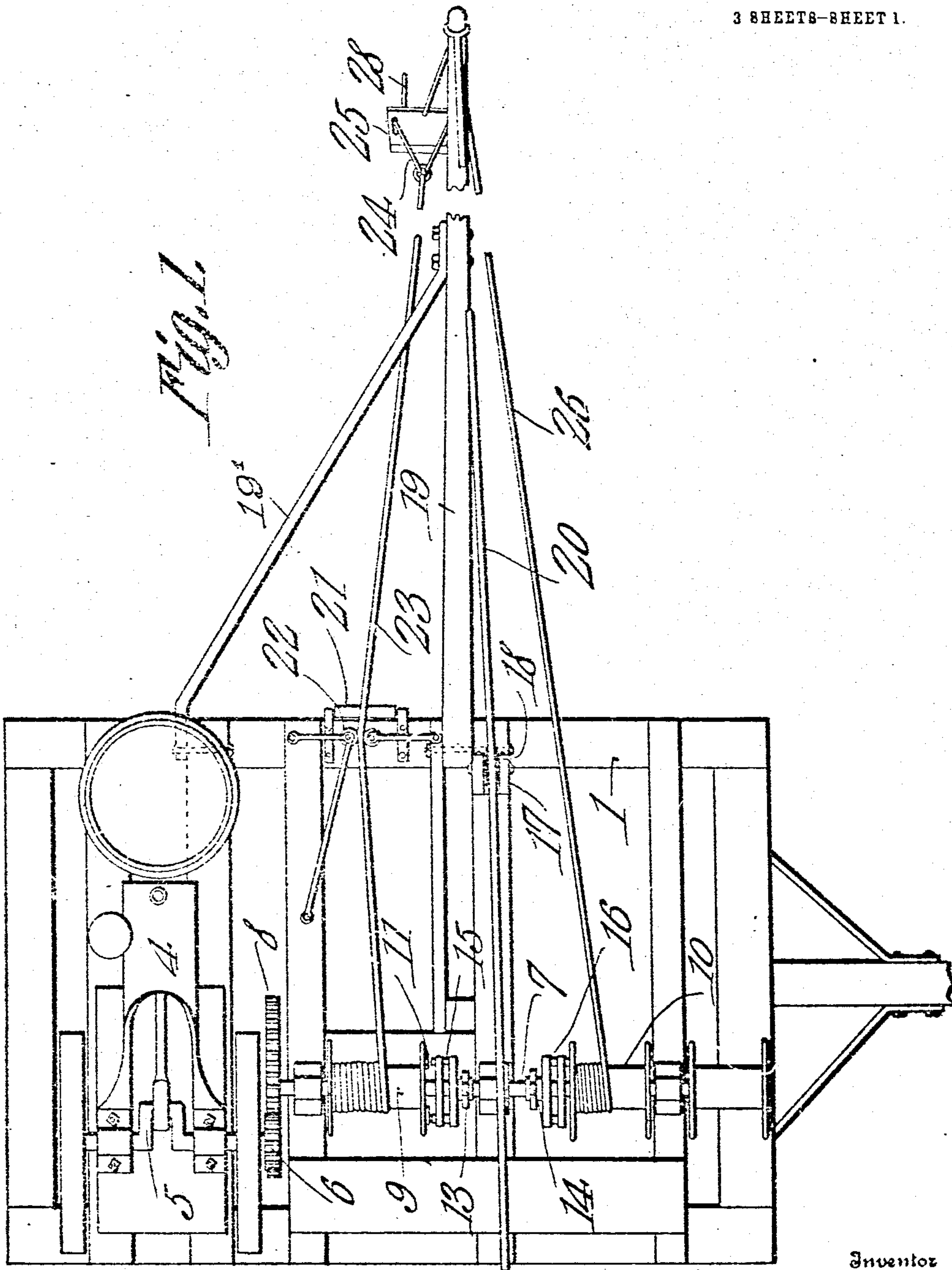


W. G. HOWE.
TRENCH FILLING APPARATUS.
APPLICATION FILED AUG. 4, 1909.

978,886.

Patented Dec. 20, 1910

3 SHEETS-SHEET 1.



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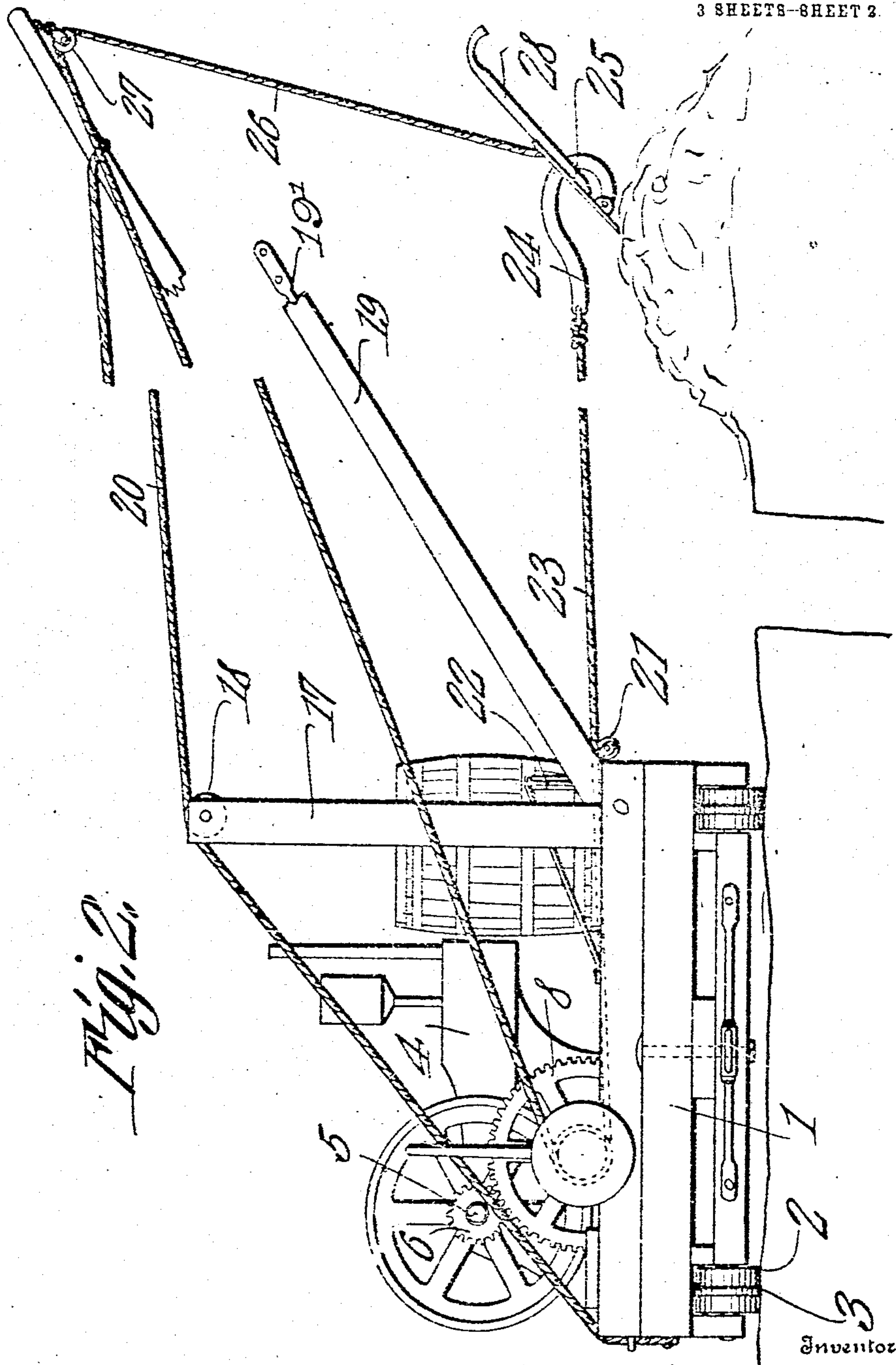


Fig. 2.

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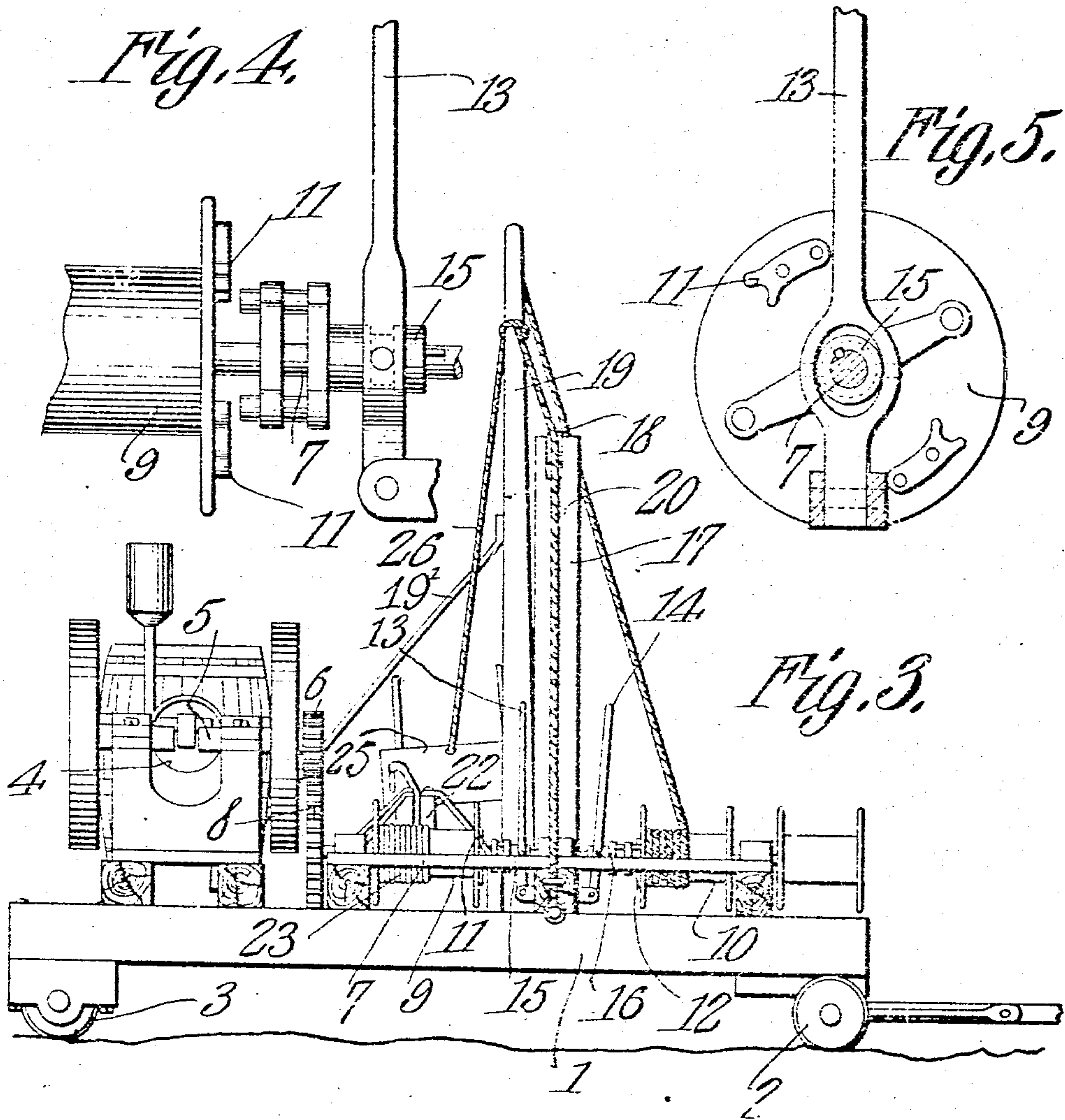
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UNITED STATES PATENT OFFICE.

WILLIAM G. HOWE, OF BUTLER, INDIANA.

TRENCH-FILLING APPARATUS.

978,886.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed August 4, 1909. Serial No. 511,114.

To all whom it may concern:

Be it known that I, WILLIAM G. HOWE, a citizen of the United States, residing at Butler, in the county of Dekalb and State of Indiana, have invented a new and useful Trench-Filling Apparatus, of which the following is a specification.

This invention has relation to trench-filling apparatus, and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The object of the invention is to provide a simple and an effective portable apparatus of the character indicated which may be economically operated for the purpose of refilling earth in an open trench.

With the above object in view the apparatus comprises a wheel-mounted frame upon which is located an engine and a journaled shaft operatively connected with the shaft of the engine. A series of drums is mounted upon the said shaft, and means is provided for causing the said drums to rotate with the shaft at will, said means being susceptible of manipulation whereby the said drums may remain at rest while the shaft rotates. A boom is pivotally attached to the frame, and a mast is erected upon the frame. A tackle is connected at one end with the free end of the boom and passes over the mast, and means is provided for adjustably securing the other end of the tackle to the platform. A cable is arranged to wind upon one of the drums mounted upon the shaft journaled upon the platform and passes through a block carried at the free end of the boom. A cable is arranged to wind upon the other drum upon said shaft and passes through guides journaled upon the platform. Both of the said cables are connected with a scraper, and the parts are so arranged that as one cable is wound upon its drum, the other cable may unwind from its drum, or the parts of the apparatus may be so manipulated that the drums will wind the cable thereon simultaneously, whereby the slack in the said cables may be adjusted to a nicety.

In the accompanying drawings: Figure 1 is a top plan view of the apparatus. Fig. 2 is an end elevation of the same. Fig. 3 is a side elevation of the same. Fig. 4 is a detail enlarged view of a portion of one of the winding drums. Fig. 5 is a detail enlarged view of the end of one of the winding drums.

The apparatus comprises a platform 1 which is mounted upon supporting wheels 2. The said wheels are provided at their edges with annular flanges 3. An engine 4 is mounted upon the platform 1 and is provided with a usual crank shaft 5 to which is attached a gear-wheel 6. A shaft 7 is journaled upon the platform 1, and to one end of the said shaft is fixed a relatively large gear-wheel 8, which meshes with the gear-wheel 6 upon the crank shaft of the engine. Winding drums 9 and 10 are loosely mounted upon the shaft 7, and are provided upon their adjacent ends with stops 11 and 12 respectively. Levers 13 and 14 are fulcrumed upon the platform 1 and are located between the winding drums 9 and 10. The lever 13 is operatively connected with a clutch member 15 which is slidably mounted upon the shaft 7, and the lever 14 is operatively connected with a clutch member 16, which is also slidably mounted upon the shaft 7. The clutch member 15 is adapted to engage the stop 11 provided upon the drum 9, while the clutch member 16 is adapted to engage the stop 12, provided upon the end of the drum 10. The levers 13 and 14 are located in close proximity to each other and may be operated independently or simultaneously by an operator standing upon the platform and having one of the said levers in each hand. A mast 17 is erected upon the platform 1 and is provided upon its upper end with a journaled sheave 18.

A boom 19 is pivotally connected at its lower end to one side of the platform 1 and is located in a plane between the adjacent ends of winding drums 9 and 10. A tackle 20 is attached at one end to the free end portion of the boom 19 and passes over the sheave 18 and at its other end is adapted to be secured to the platform 1 in a manner as indicated in Fig. 2 of the drawing. It is obvious that by paying out or drawing in the tackle 20, the boom 19 may be pitched at a desired angle with relation to the plane of the platform 1. Guide rollers 21 and 22 are mounted upon the platform 1. A cable 23 is arranged to wind upon the drum 9 and passes through the space between the guide-rollers 21 and 22. The other end of the said cable 23 is attached to the bail 24 of a scraper 25. A cable 26 is arranged to wind upon the drum 10 and passes over or through a block 27, located at the outer free end of

the boom 19 and at its other end is attached to the scraper 25. The scraper 25 is provided with handles 28, whereby the said scraper may be guided by an operator. A
 5 brace 19' best shown in Fig. 1 of the drawings is connected at its outer end to the outer portion of the boom 19 and is pivotally connected at its inner end to the platform 1 at a point beyond the guide rollers 21 and 22
 10 so that the said rollers are located between the said brace and the boom 19. The boom 19 and the said brace 19' are free to swing in vertical direction only and are restrained against swinging in any other direction with
 15 relation to the platform 1.

In operation the platform 1 is arranged upon the surface of the ground at that side of a trench opposite the side thereof upon which the earth is piled and which is to be
 20 refilled into the trench. The platform 1 being so positioned, the boom 19 extends transversely across the trench and the pile of dirt to be refilled. It is obvious that when the engine 4 is in operation, rotary movement
 25 will be transmitted from the engine shaft 5 through intermeshing wheels 6 and 8 to the shaft 7, and when it is desired that the scraper 25 shall be drawn toward the trench and the platform 1, the operator swings the
 30 lever 13 so as to bring the clutch member 15 in engagement with the stop 11 upon the winding drum 9. Thus the said drum 9 is caused to rotate with the shaft 7, and the cable 23 is wound thereon, and the scraper
 35 25 is drawn toward the trench and the platform 1. As the said scraper encounters the earth at the opposite side of the trench the earth is drawn toward the trench and falls therein when the scraper arrives at the side
 40 of the trench. At the same time the operator may swing the lever 14, whereby the clutch member 16 is disengaged from the stop 12 upon the winding drum 10, and the said drum is thereby set at liberty to unwind
 45 upon the shaft 7, and the cable 26 may unwind from the said drum 10, as the cable 23 is wound upon the drum 9. To draw the scraper 25 back away from the trench, the lever 14 is swung, so that the clutch member
 50 16 engages the stop 12 upon the winding drum 10, and, at the same time, the lever 13

is swung, so that the clutch member 15 is moved away from the stops 11 upon the winding drum 9. Thus the said cables 26 and 23 move in reverse direction from that
 55 first described, and an operator may grasp the handles 28, of the scraper 25 and guide the same to a desired point upon the pile of earth at which it is the intention to make the next incision to draw the earth toward the
 60 trench. Inasmuch as the supporting wheels 2 of the platform 1 are provided with peripheral flanges 3, the said flanges will cut into the soil and prevent a tendency of the platform from slipping sidewise under the
 65 strain when pulling the loaded scraper toward the trench. By reason of the fact that the platform is mounted upon wheels it may be readily moved from place to place or along the trench, as the same is filled.

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

An apparatus as described comprising a wheel mounted platform, an engine located
 75 upon the platform, a shaft operatively connected with the engine, winding drums mounted upon the shaft, lever actuated clutch mechanisms mounted upon the shaft for engagement with the winding drums and
 80 being located between the adjacent ends of the drums, a boom pivotally attached to the platform and restrained to swing in a vertical plane only between the adjacent ends of the drums, a cable arranged to wind upon
 85 each drum, one of said cables being guided along the boom and a guide for the other cable located upon the platform, a manually directible scraper with which both of said cables connect, a brace attached to the boom
 90 and pivotally connected with the platform, said cable guide being located upon the platform at a point between the end of the said brace and the end of the said boom.

In testimony that I claim the foregoing as
 95 my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM G. HOWE.

Witnesses:

FRANK L. LONG,
 T. ELMER SIMON.