Jan. 5, 1926. 1,568,430

C. UHL

APPARATUS FOR SPUDDING, DRILLING, AND CLEANING OUT WATER AND OIL WELLS

Filed Nov. 6, 1922 3 Sheets-Sheet 1

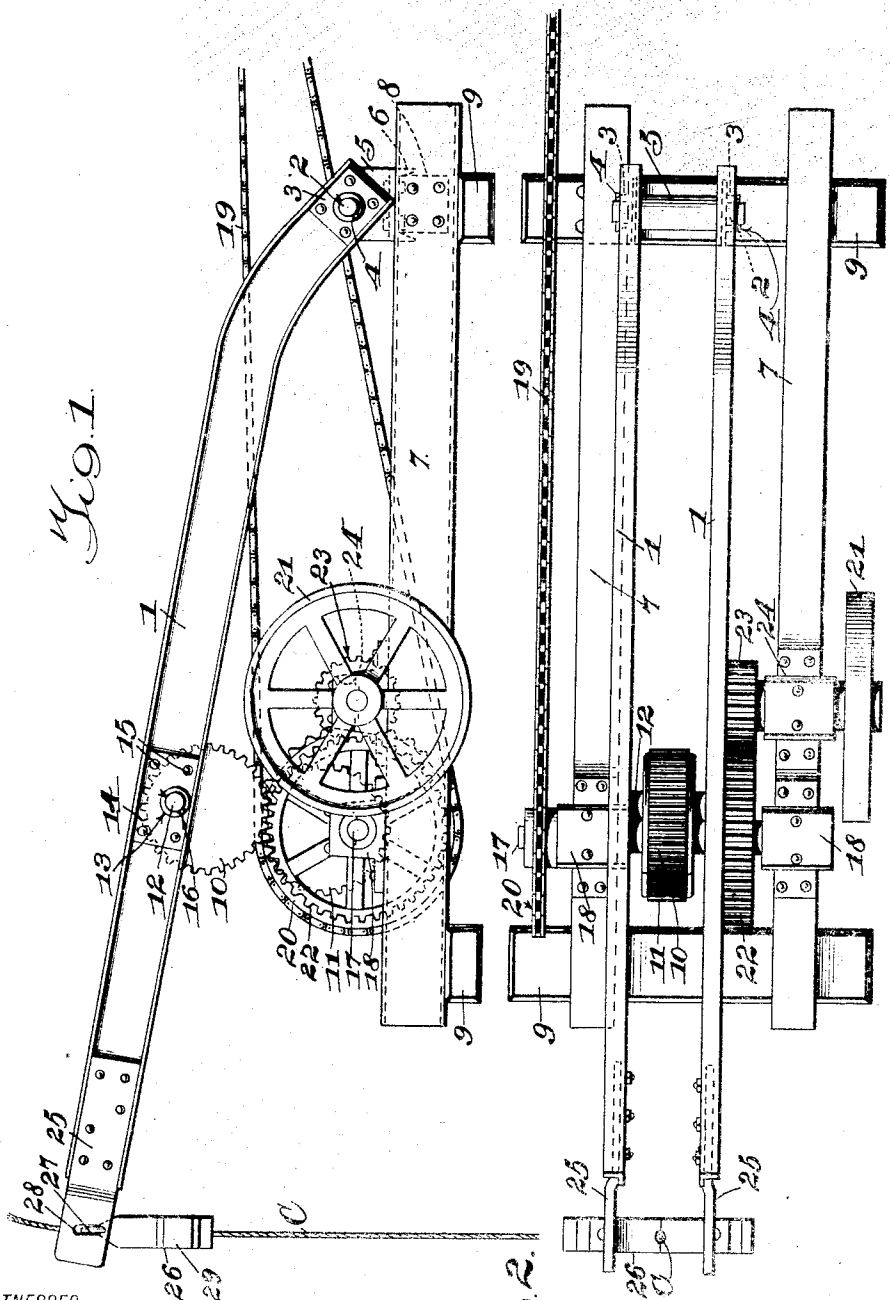


Fig. 1.



Fig. 2.

WITNESSES

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Filed Nov. 6, 1922 3 Sheets-Sheet 2

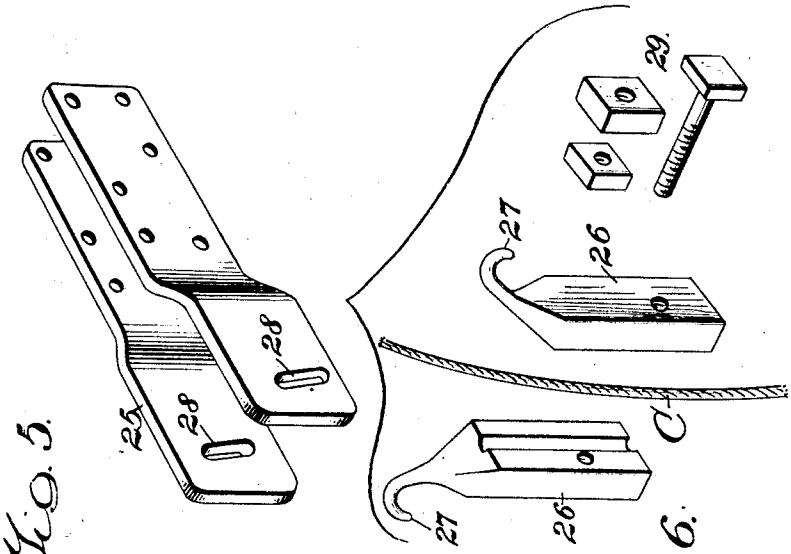



Fig. 5. Fig. 6.

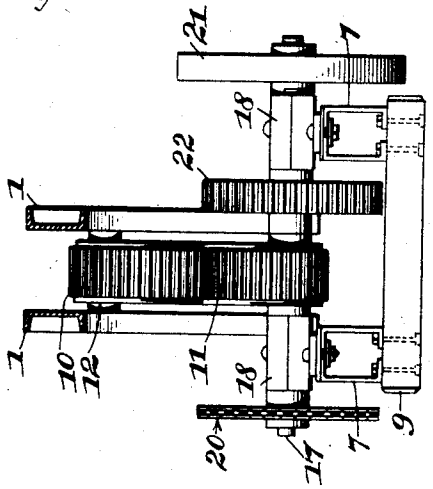



Fig. 3.

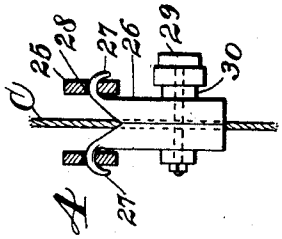



Fig. 4.

WITNESSES

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Fig. 7.

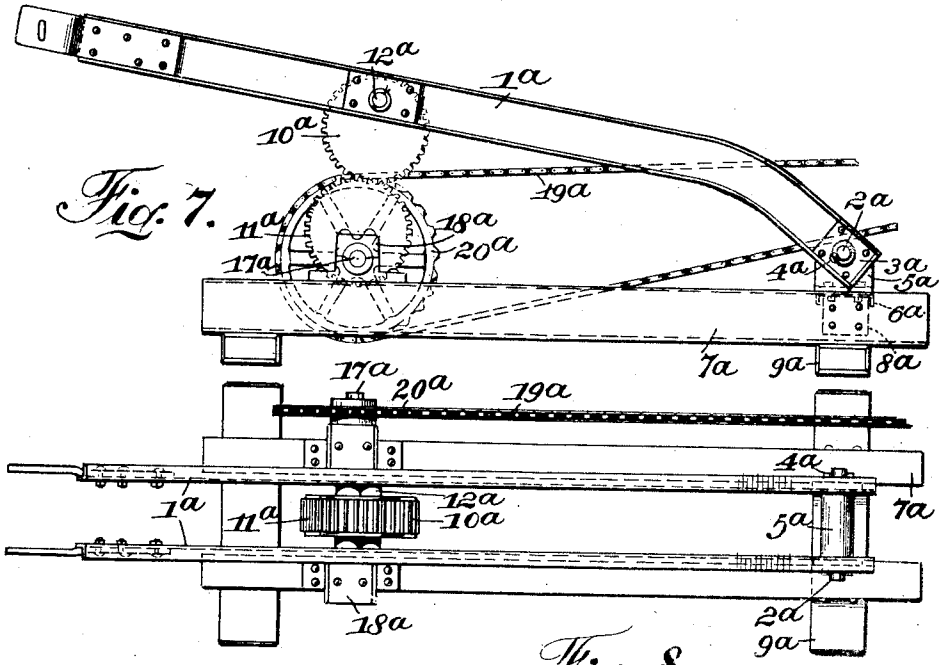



Fig. 8.

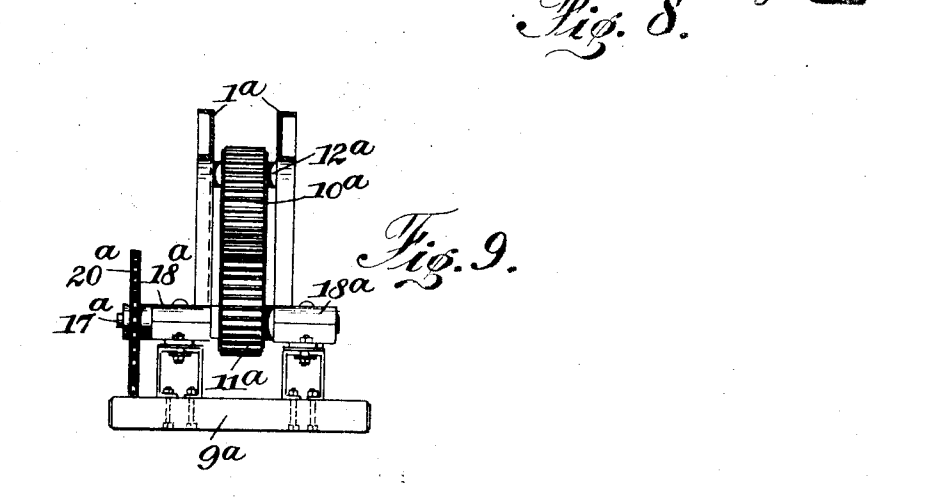



Fig. 9.




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# UNITED STATES PATENT OFFICE.

CLYDE UHL, OF BARTLESVILLE, OKLAHOMA.

## APPARATUS FOR SPUDDING, DRILLING, AND CLEANING OUT WATER AND OIL WELLS.

Application filed November 6, 1922. Serial No. 599,298.

*To all whom it may concern:*

Be it known that I, CLYDE UHL, a citizen of the United States, and a resident of Bartlesville, in the county of Washington and State of Oklahoma, have invented certain new and useful Improvements in Apparatus for Spudding, Drilling, and Cleaning Out Water and Oil Wells, of which the following is a specification.

My invention relates to improvements in apparatus for spudding and drilling wells, and it consists of the constructions, combinations and mode of operation herein described and claimed.

One of the foremost objects of the invention is to provide a simplified and therefore improved means for reciprocating the beam which carries the implement by which spudding, drilling, and cleaning, or other well operations are performed.

A further object of the invention is to provide a readily portable spudding and drilling apparatus capable of being carried, for example, by an automobile truck, wagon, or other similar vehicle.

Other objects and advantages will appear in the following specification, reference being had to the accompanying drawings, in which:—

Fig. 1 is a side elevation illustrating the general arrangement of the invention,

Fig. 2 is a plan view thereof,

Fig. 3 is a front elevation of the spudding and drilling apparatus, the beam being shown in section,

Fig. 4 is a detail view of the cable clamp,

Fig. 5 is a detail perspective view of the bracket which carries the clamp,

Fig. 6 is a detail perspective view showing the parts of the cable clamp disassembled,

Fig. 7 is a side elevation illustrating the general arrangement of a slight modification of the invention wherein the fly wheel is omitted,

Fig. 8 is a plan view thereof, and

Fig. 9 is a front elevation of the spudding and drilling apparatus, the beam being shown in section.

The construction in Figs. 1 to 6 comprises the beam 1 which is pivoted at one end on a pin 2 in turn having bearing in a flanged hub 3, and is secured at both ends by means of cotter pins 4. The pin 2 also passes through a bearing 5 on which it and the beam 1 have their same central support.

The bearing 5 is suitably secured to a cross channel iron 6, which in turn is secured to the main frame 7 by means of clip angles 8. The main frame is suitably fastened to cross timbers 9 which may either be fastened to or form part of the chassis of an automobile. The ability to do this is a feature which recommends the invention, because the nature of the work for which it is intended to be used often demands facility in transporting the apparatus and hence the foregoing provision is made for its ready portability.

It is to be observed that the beam 1 is really composed of a pair of similar channel irons. The beam 1 is raised and lowered by the rotation of two eccentric gears 10 and 11, the former of which is rotatably mounted on a pin 12, supported between the channels of the beam 1. This pin has end supports in bearing hubs 13, the flanges 14 of which are secured in the channels of the beam by means 15. The pin is held in place by a cotter 16.

The second eccentric gear 11 is mounted on the driven shaft 17 which is supported in bearings 18 on the main frame 7. The shaft 17 is driven by a chain 19 which at one end is applied to a sprocket 20 on the shaft 17 and at the other end is applied to any suitably driven part of the automobile truck. The eccentric gears furnish the medial support of the beam 1. The disposal of the gears at a point between the pivot 2 and the opposite end upon which the weight is imposed producing a lever of the third order.

In order to obtain a constant speed of the mechanism both when lowering and raising the beam 1, use is made of a fly wheel 21 which is driven by the gear and pinion connections 22 and 23 from the main driven shaft 17. The shaft of the fly wheel is journalled in a bearing 24 on the main frame.

Brackets 25 are mounted on the beam 1 to project from the upper ends of the channel irons of the beam, and support a clamp 26 in which the spudding and drilling cable C is secured. The clamp is made in two parts as shown in Fig. 4, each with a hook 27 to fit in the openings 28 which are provided

in the free ends of the brackets for the purpose.

Each of the two sections (Fig. 6) of the clamp 26 has a groove suitably formed to receive the cable C, the two sections of the clamp being secured by the means 29. In applying the clamp, the ends 27 are first inserted in the openings 28 whereupon the cable is fitted in position and the fastening device 29 is applied. The fastening means generally designated 29, is composed of a nut and bolt, the former being adapted to be tightened down on a block 30.

The form in Figs. 7 to 9 is identical with the preceding form with the exception of the omission of the fly wheel 21 and the means by which it is driven from the last gear 22. Although the respective parts of the two modifications may be readily identified by their similarity, they may be briefly described as comprising a beam $1^a$, pivoted at one end on a pin $2^a$ which extends through hubs $3^a$ and is held in place by means of cotter pins $4^a$. The pin $2^a$ passes through a bearing $5^a$, thus furnishing the support for the beam.

This bearing $5^a$ is secured to a cross channel iron $6^a$ of the main frame $7^a$, by means of clip angles $8^a$, the main frame being suitably secured to the cross timbers $9^a$ which, as before, are intended to be fastened to any portion of a vehicle, for example, the chassis of an automobile. The beam $1^a$ is raised and lowered by the rotation of two eccentric gears $10^a$ and $11^a$, the former of which is rotatably mounted on a pin $12^a$, supported between the panels of the beam 1, the latter of which is mounted on the driven shaft $17^a$ which in turn is supported in bearings $18^a$ on the main frame.

The shaft $17^a$ is driven by a chain $19^a$ which at one end is applied to a sprocket $20^a$ on the shaft and at the other end is applied to any suitably driven part of the aforesaid vehicle. It is obvious that the rotation of the drive shaft $17^a$ will in turn rotate the eccentric gears $11^a$, $10^a$, so that the beam $1^a$ is reciprocated as before.

While the construction and arrangement of the improved spudding and drilling apparatus as herein described and claimed is that of a generally preferred form, obviously modifications and changes may be made without departing from the spirit of the invention or the scope of the claims.

I claim:—

1. Spudding and drilling apparatus comprising a separable main frame, adapted to be mounted upon a vehicle to form part thereof, a beam carrying a spudding tool at one end, means by which the beam is pivotally mounted at the other end to said frame, a gear, a pin upon which the gear is eccentrically mounted substantially centrally of the beam, driving apparatus mounted on the frame including a shaft, a second gear eccentrically mounted upon said shaft meshing with the first gear and providing the medial support of the beam, means by which said apparatus is driven, and means including meshing gears and a fly wheel for equalizing the up and down motion of the beam in the operation of said driving apparatus and said eccentrically mounted gears.

2. Apparatus of the character described comprising the combination of a frame adapted for mounting upon or separation from a suitable vehicle, and drilling mechanism self contained upon the frame including a beam, means by which the beam is pivoted upon the frame at one end, a pair of eccentric gears furnishing the sole medial support of the beam, means by which one of the gears is journaled upon the beam, means by which the other gear is journaled upon the frame, and means for driving said other gear.

CLYDE UHL.