No. 618,143. Patented Jan. 24, 1899.

A. THOMPSON.

DREDGING MACHINE.

(Application filed Apr. 13, 1898.)

(No Model.)

Fig. 1.

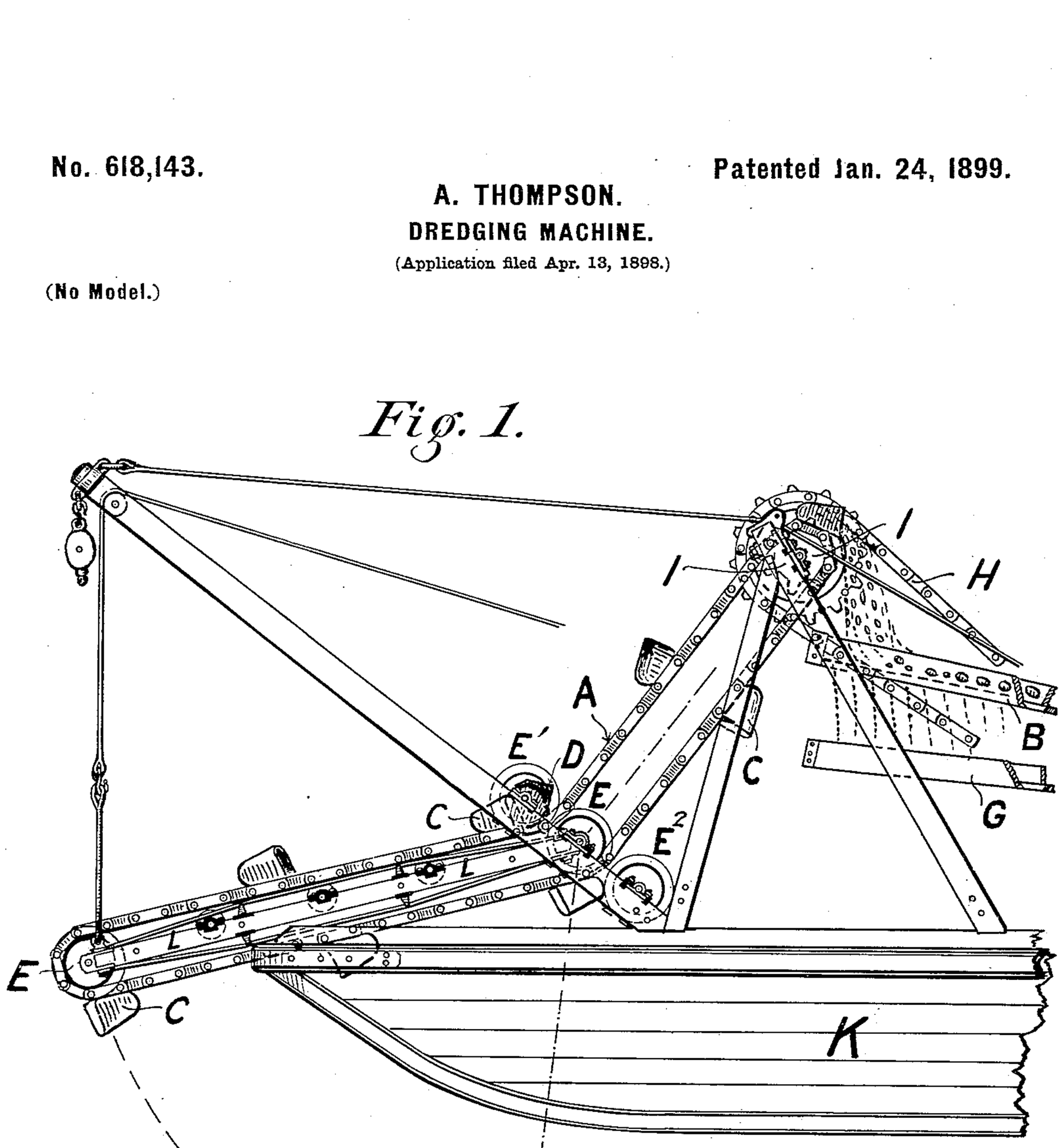


Fig. 2.

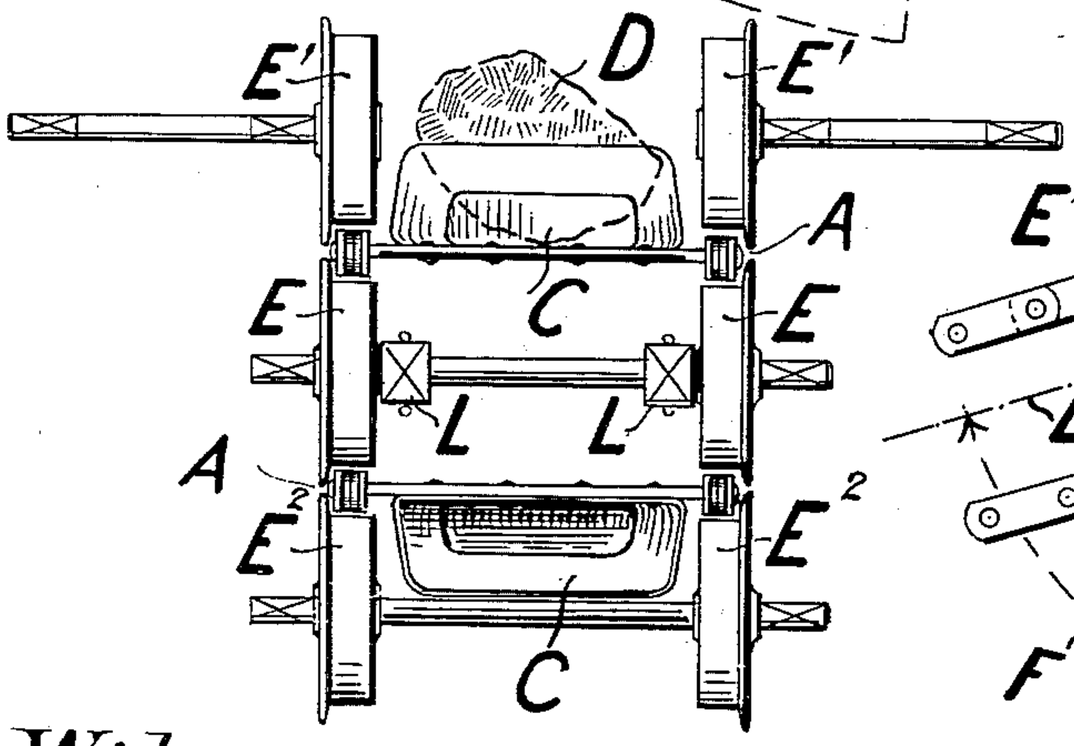
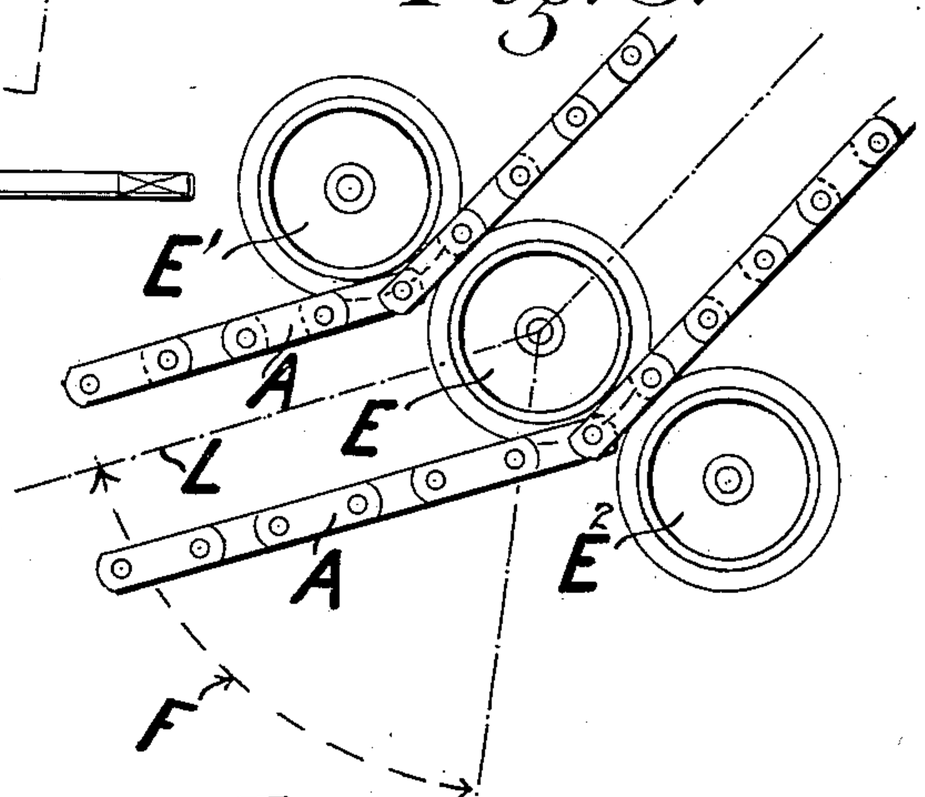


Fig. 3.



Witnesses.

C. B. Talbot.

A. A. Knight.

Inventor.

Andrew Thompson.

UNITED STATES PATENT OFFICE.

ANDREW THOMPSON, OF TACOMA, WASHINGTON.

DREDGING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 618,143, dated January 24, 1899.

Application filed April 13, 1898. Serial No. 677,512. (No model.)

To all whom it may concern:

Be it known that I, ANDREW THOMPSON, a citizen of the United States, residing at Tacoma, in the county of Pierce and State of Washington, have invented new and useful Improvements in Dredging-Machines, of which the following is a specification.

My invention relates to improvements in the chain and the use of certain idlers therewith. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation showing an angle or deviation from the straight or curved course of a chain or sprocket-belt as commonly used in a dredging-machine. Fig. 2 is an end elevation showing the position of the idlers and chain at the point of flexure. Fig. 3 is a side elevation of the same.

In Fig. 1, A represents a chain with flexible joints. B and G represent the flumes. C represents the buckets. D represents boulders; E E^2, the central and lower idlers; E', the upper idler. F represents the arc of the swing-boom L. H represents the chain, driven from the engine. I represents sprockets. K represents the scow. L represents the chain-boom.

Similar letters refer to similar parts throughout the several views.

The object of this invention is the prevention of the chain becoming slack or loose while in motion on the movable or swinging boom L through the arc of a circle F, while the upper portion of the chain between the central idler E and the driving-sprockets I remains in a fixed position in order that the material falling from the buckets may be received in the flumes B and G in a constant manner, whatever the position of the boom L may be as regards the arc, whether vertical or otherwise.

In order to facilitate the passage of large boulders D past the angle or center, an arrangement of the idlers E' (shown in Fig. 2) is necessary. To this end they are separated in the middle over the chain-space, each idler on a separate shaft extending sidewise from the chainway, so that any object having a larger size than the bucket can pass without obstruction. The central and lower idlers E E^2 are similar and affixed rigidly on a single shaft. The chain in boom L, carrying the chain A and buckets C, is trussed by suitable rods to stiffen it and carries a number of rolls to support the loaded chain A, which is driven in the usual manner by the sprockets I and the chain H from the engine mounted on scow K.

A peculiarity of the device described is the manner in which the chain-boom is held in place on the central idler-shaft and the sprocket-chain held down by the separate or independent idlers E'.

The sprocket-chains as commonly used often rise when pulled strongly, thereby disarranging the overfall. The improvement permits a fixed overfall of the dredger material as dredged, as gravel, sand, or mud, while the chain is kept under control in any position where the boom may be placed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with a pivoted boom or carrier and a sprocket-chain thereon of idler-pulleys located at or near the pivot of said boom whereby the proper tension of the chain is kept practically constant in every position of the boom, substantially as described.

2. The combination with a pivoted boom or carrier and a drive-chain thereon of idler-pulleys bearing upon said chain, the upper of said pulleys being located upon separate shafts whereby a clear space is left between said pulleys, all substantially as described.

ANDREW THOMPSON.

Witnesses:
A. A. KNIGHT,
H. B. RITZ.