

C. J. McMYLER.
CLAM SHELL BUCKET.
APPLICATION FILED DEC. 24, 1909.

1,007,129.

Patented Oct. 31, 1911.

4 SHEETS—SHEET 1.

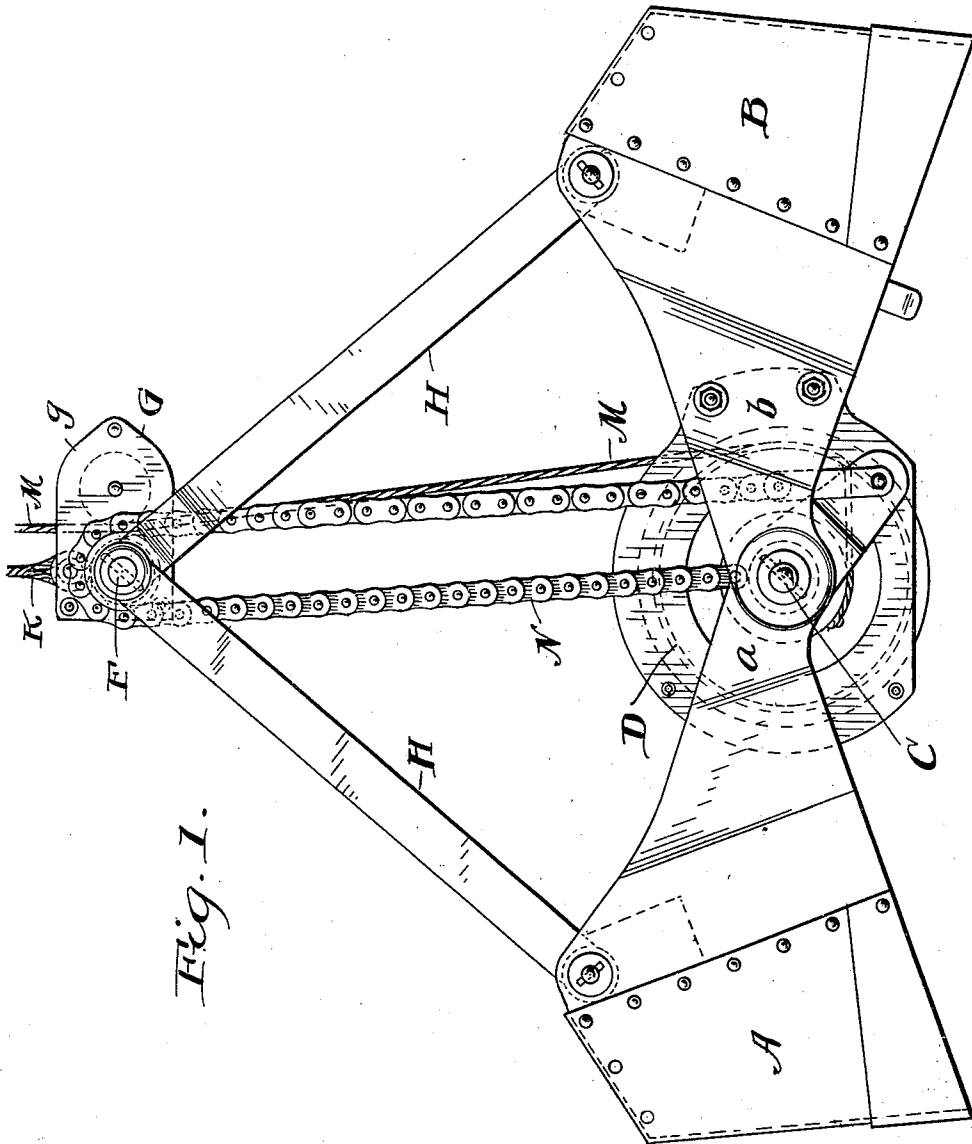


Fig. 1.

Witnesses,
E. B. Gilchud
H. B. Sullivan.

Inventor,
Charles J. McMyler
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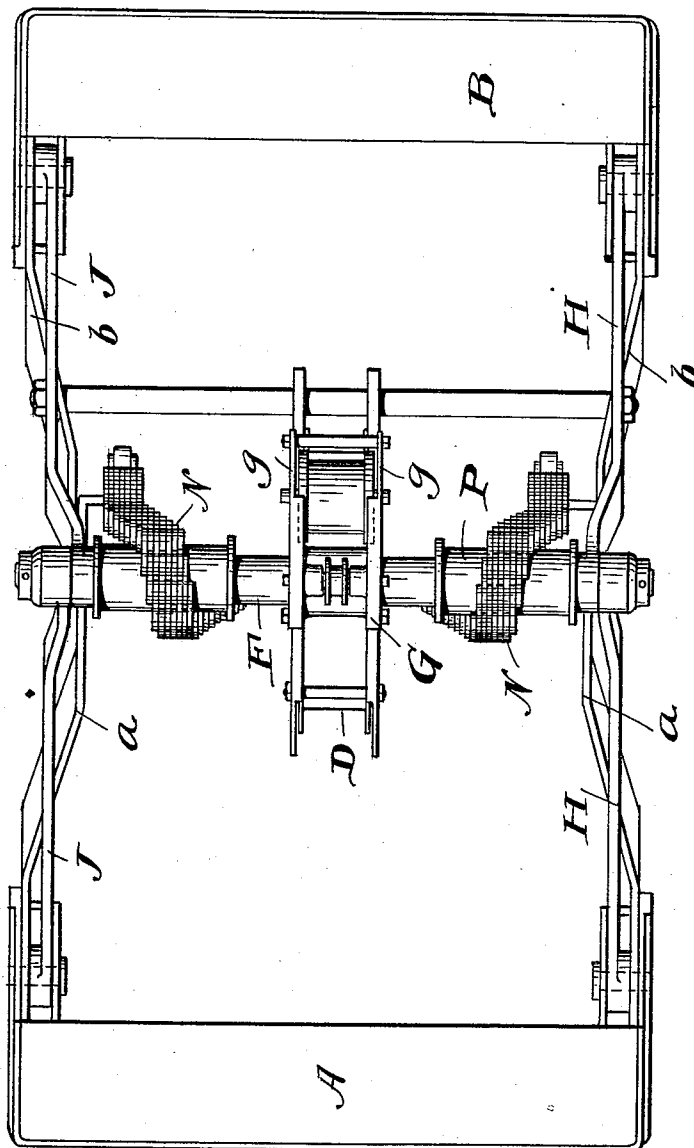
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4 SHEETS—SHEET 2.

Fig. 2.



Witnesses:

E. B. Gilchris.

H. B. Sullivan.

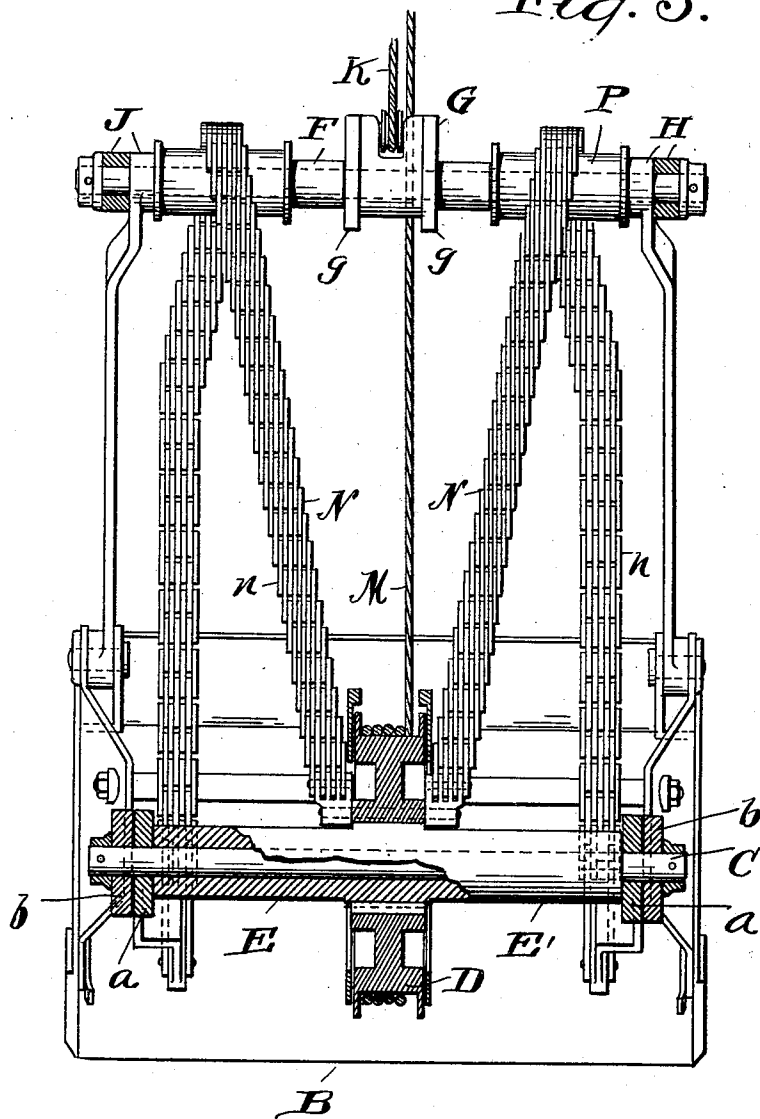
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4 SHEETS—SHEET 3.

Fig. 3.



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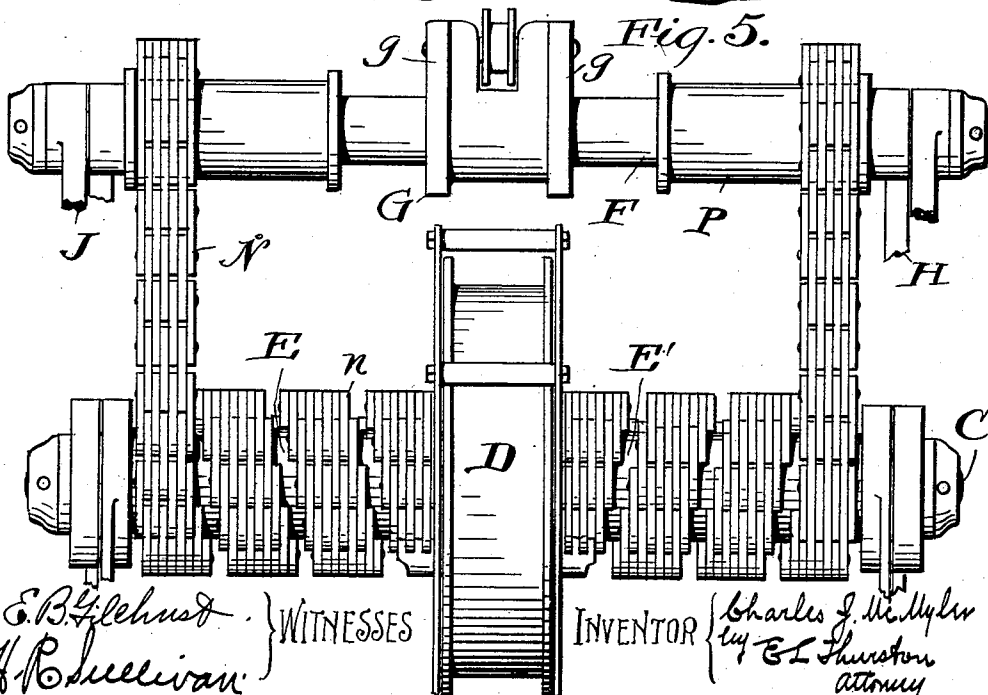
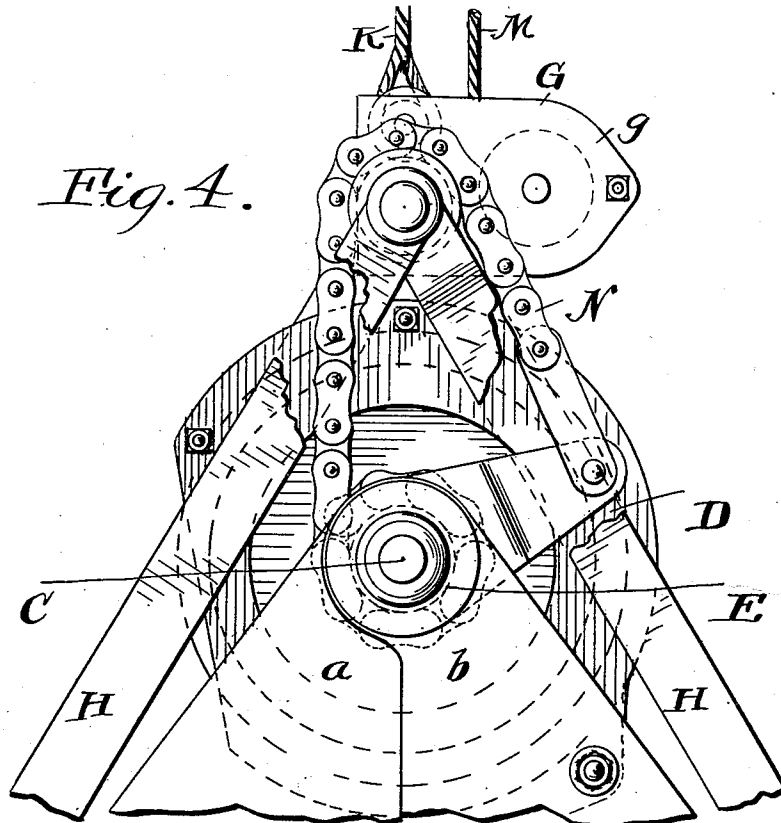
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4 SHEETS—SHEET 4.



UNITED STATES PATENT OFFICE.

CHARLES J. McMYLER, OF CLEVELAND, OHIO, ASSIGNOR TO THE McMYLER MANUFACTURING COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

CLAM-SHELL BUCKET.

1,007,129.

Specification of Letters Patent.

Patented Oct. 31, 1911.

Application filed December 24, 1909. Serial No. 534,789.

To all whom it may concern:

Be it known that I, CHARLES J. McMYLER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Clam-Shell Buckets, of which the following is a full, clear, and exact description.

This invention is an improvement in the class of clam shell buckets which include two connected drums of different diameters and in which the so-called closing rope of the bucket is wound up on the larger drum so that when this drum is turned by pulling upward on said closing rope the two drums will be turned in unison, and another rope or chain or cable will be wound upon the smaller drum and will as it is so wound up operate the jaw closing mechanism.

The object of this invention is to provide a practical clam shell bucket of this class in which, when the closing rope is so drawn upward, the leverage of the parts through which the bucket jaws are closed by the turning of the drum on which the holding rope is wound will remain substantially constant during the entire closing movement of said jaws. This has heretofore been possible when ropes or cables have been employed in connection with the smaller drum; but ropes or cables are objectionable, and chain and chain belts are most frequently used notwithstanding the fact that, as they are used, they pile upon themselves as their drum is turned, and so change the leverage of the jaw closing mechanism.

The invention is exemplified by the particular construction shown in the drawings; its principle of operation is hereinafter described; and the invention is defined by the appended claims.

In the drawings, Figure 1 is a side elevation of a clam shell bucket embodying the invention, and showing the bucket jaws open. Fig. 2 is a plan view of the bucket. Fig. 3 is a side view, partly sectioned, when the bucket jaws are closed. Fig. 4 is an end view of the jaw-closing mechanism and the upper ends of the jaws when the jaws are closed; and Fig. 5 is a side view of the mechanism shown in Fig. 4.

The two bucket jaws A and B are pivoted together by means of a rod C which goes through the overlapping parts of the arms

a and b which extend upward from the sides of the buckets near their front ends,—the arms carried by each bucket jaw being extended over the front edge of the other jaw, whereby the arms overlap, as stated. This rod C, which serves as the pivot for the jaws, also serves to support a rope drum D of comparatively large diameter and two chain belt drums E, E' of relatively small diameter, said three drums being so connected that they must rotate in unison. In the particular construction shown the two drums E, E' are parts of a cylindrical sleeve, which rotatably embraces rod C; and the drum D embraces the sleeve that is keyed to it.

The bucket head G is formed of connected parallel plates g, g, between which extends a horizontal rod F. This rod extends a considerable distance on both sides of the head proper, and on its outer ends the links H and J are hung, which links at their lower ends are pivotally connected with the sides of the bucket jaws near the rear ends thereof. The holding rope K is dead-ended to the head. The closing rope M passes down between guide sheaves g' mounted in the head, G, and is wound about the drum D. Two chain belts N, N are connected respectively with the two drums E, from which points of connection said chain belts pass upward and have an engagement with the head so that when said chain belts are wound up on drums E the head and the pivoting rod C will be drawn toward each other, which movement causes the jaws to close through the action of the links H, J. In the specific construction shown the necessary connection of the chain belts with the head grows out of the fact that each passes over a flanged drum P which is rotatably mounted upon the same rod F to which the upper ends of the links H and J are pivoted, and these chain belts, after going over these drums, are connected at their ends with extensions past the pivot of the arms a.

The chain belts shown, or, at least, the parts thereof which are to be wound upon the drums E have their links echeloned progressively away from the point at which said belts are connected with said drums. In the specific construction shown each link is formed of a plurality of plates n of which the plates of each link alternate with the plates of the links to which it is pivoted.

The echelon effect is produced by leaving a plate off of one side of each link, and adding it to the opposite side of said link, said additions being made on the same sides of succeeding links. The thickness of these plates is such that when the belts are wound on the drums E, E' they will not overlap but will wrap themselves around said drums spirally as shown. With this construction it is quite evident that there will be no change in the leverage of the parts which operate to close the bucket jaws.

The drawing shows a simple, and as I believe the best, embodiment of the invention; but the invention, as defined by the broadest of the appended claims is adapted for use with many and perhaps all of the different specific varieties of clam shell buckets in the above mentioned class.

20 Having described my invention, I claim:

1. In a clam shell bucket structure, the combination of two bucket jaws, the sides of which have upwardly extending overlapping arms, a rod extending through the overlapping arms on both sides of the bucket jaws whereby they are pivotally connected, a large drum and two smaller drums of equal diameter which are connected together and are rotatably mounted upon said rod, a head, a rod passing transversely through said head and located above the first named rod, links pivotally suspended from said rod and pivotally connected at their lower ends with the bucket jaws, drums rotatably mounted on the upper rod on opposite sides of the head, a holding rope connected with the head, a closing rope wound upon the larger of the aforementioned drums which are mounted upon the lower rod and extending through said head, chains connected respectively with the two smaller

drums which are mounted upon the lower rod and adapted to be wound thereon as the larger drum is turned by drawing up on the closing rope and thereby unwinding it from said larger drum, said chains passing loosely over the drums mounted on the upper rod, and connected to two of the arms of the bucket jaws.

2. In a clam shell bucket structure the combination of two bucket jaws, the sides of which have near their front ends upwardly extended and overlapping arms, a rod extending through the overlapping arms on both sides of the buckets, whereby they are pivotally connected, a large drum and two smaller drums of equal diameter which are connected together and rotatably mounted upon said rod, a head, a rod extending transversely through said head and on both sides thereof, links pivotally suspended from the outer ends of said rod and pivotally connected at their lower ends with the bucket jaws near the rear ends of said jaws, drums mounted on said last mentioned rod between the links and the head, a holding rope connected with said head, a closing rope wound upon the larger drum and carried up through said head, two link belts respectively connected with the two smaller drums on the first mentioned rod and being passed about the drums on the second mentioned rod, one of the jaws having arms which extend past the pivot of said jaws and the chain belts being respectively connected with said arms.

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

CHARLES J. McMYLER.

Witnesses:

H. R. SULLIVAN,
E. L. THURSTON.