(No Model.)

G. HAISS.

HOISTING BUCKET.

No. 497,021. Patented May 9, 1893.

Fig. 1.

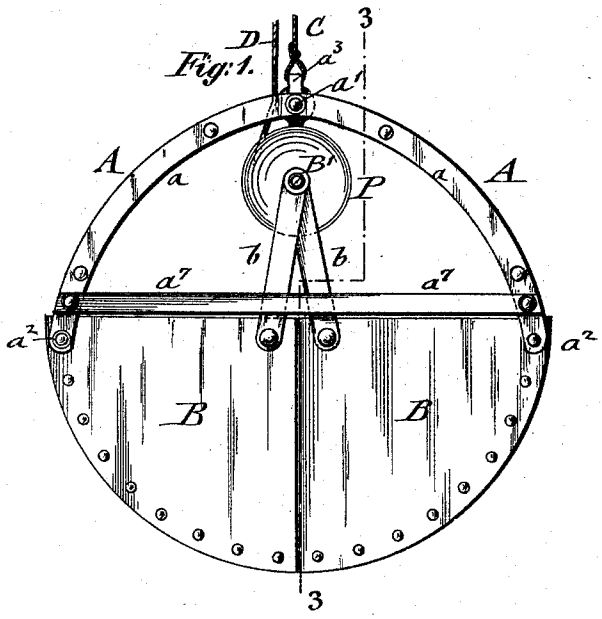


Fig. 3.

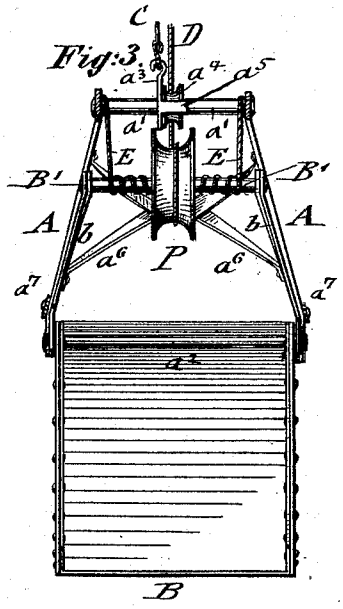


Fig. 2.

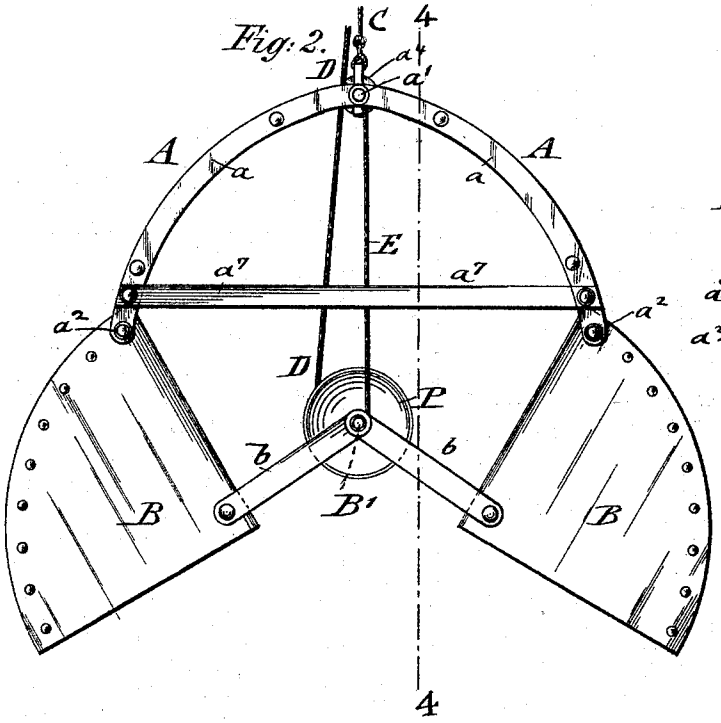
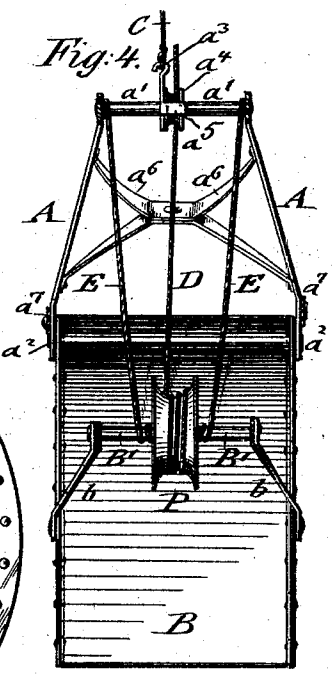


Fig. 4.



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UNITED STATES PATENT OFFICE.

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HOISTING-BUCKET.

SPECIFICATION forming part of Letters Patent No. 497,021, dated May 9, 1893.

Application filed November 18, 1892. Serial No. 452,399. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HAISS, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Hoisting-Buckets, of which the following is a specification.

This invention refers to certain improvements in hoisting buckets of that class in which the pivoted bucket-sections or jaws are opened or closed by raising or lowering a suitable hoisting mechanism; and the invention consists of a hoisting-bucket comprising an arched supporting frame, bucket-sections or jaws which are pivoted to the lower ends of said frame, and pivot-links which connect the inner corners of said jaws with a transverse pulley-carrying shaft. The transverse shaft is connected by chains or ropes with a top-shaft of the supporting frame and provided with a pulley, around which a chain or rope is passed which is guided over an antifriction roller of the top-shaft and connected to a hoisting drum, so that the raising of the pulley produces the closing of the jaws on the load, while the lowering of the pulley permits the opening of the jaws and the discharge of the load, as will be fully described hereinafter and finally pointed out in the claim.

In the accompanying drawings, Figure 1 is a side elevation of my improved hoisting bucket, showing the same in closed position, ready for lifting the load. Fig. 2 is a side elevation of the bucket, showing the same in open position after the load is discharged, and Figs. 3 and 4 are vertical transverse sections of the bucket respectively on lines 3 3, Fig. 1, and 4 4, Fig. 2.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the supporting frame of my improved hoisting bucket. The frame A is composed of two arched steel-bars *a*, which are made to converge toward each other and which are connected by a transverse shaft a', at the upper ends of the bars and two shafts a^2 which are located at the ends of the arched and converging bars *a*. The lower transverse shafts a^2 serve as the pivots on which the jaws B B swing when they are opened or closed. The upper shaft a' carries a hook a^3 to which the hoisting chain or rope C is attached and an antifriction roller a^4 over which the jaw-operating chain or rope D is guided, it being retained on the pulley by a suitable guard or keeper a^5, as shown in Figs. 3 and 4. The arched bars *a* are also connected below the upper shaft a' by transverse braces a^6 and at the lower ends by longitudinal side-straps a^7. The inner corners of the jaws B B are connected by pivot links *b b* with a transverse pivot-shaft B′, to which a pulley P is attached. The end of the jaw-operating chain or rope D is attached to the pulley P. The pivot-shaft B′ is further supported by means of suspension chains or ropes E, the upper ends of which are attached to the upper shaft a', while their lower ends are attached to the pivot-shaft B′ and wound around the same when the pulley P and with it the jaws B B are raised by the chain or rope D. The chains or ropes C and D are conducted over suitable pulleys P, and attached to hoisting drums to which the motion is transmitted in the well known manner. The bucket is particularly intended for use in unloading vessels filled with coal and transferring the same to a coal-bin or car. When the bucket arrives in the hold of the vessel, the jaws are in opened position and ready to take up the coal. The pulley P is next raised by the jaw actuating chain or rope D, the raising of the pulley produces the closing up of the bucket-sections and the automatic charging or loading of the same with the coal. The raising of the pulley P is produced by the unwinding of the jaw-operating chain or rope D while the suspension chain or ropes E are simultaneously wound up on the pivot-shaft E′ at both sides of the pulley P, as shown clearly in Fig. 3. The bucket with its load is lifted by the joint winding up of the chain or rope C and the jaw-operating chain or rope D, and conducted to the point of discharge, where it is opened by permitting the pulley P to descend so that the jaws are spread apart by the weight of coal so as to discharge the same in the chute of the coal-bin or into the car. During the lowering of the pulley P, the chain or rope D is wound around the pulley while the suspension-cords E are unwound from the pivot-shaft B′ of the jaws. The bucket is then returned in open position into the hold of the

vessel, charged again automatically and conducted back to the place of discharge, the bucket being alternately closed and opened as required for the purpose of loading and discharging the coal.

My improved coal-hoisting bucket is made of strong and reliable construction owing to the pivoting of the jaw sections to the arched and well-braced supporting-frame A, which by its arched and converging bars can readily pass in and out of the hold, while the opening and closing of the bucket and the automatic charging of the same with coal are accomplished, by the raising and lowering mechanism described, in a quick and effective manner.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, of an arched supporting frame, bucket-sections or jaws pivoted to the lower part of said frame, a pivot-shaft, pivot-links connecting the inner ends of the jaws with said shaft, a pulley on said shaft, an actuating chain or rope attached to said pulley, a guide-roller on the top-shaft of the supporting frame, and suspension-chains or ropes which are attached to the top-shaft and wound around the pivot-shaft when the jaws are closed and unwound from the same when the jaws are opened, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

GEORGE HAISS.

Witnesses:

CHARLES SCHROEDER,

HARRY WILLARD GRIFFITHS.