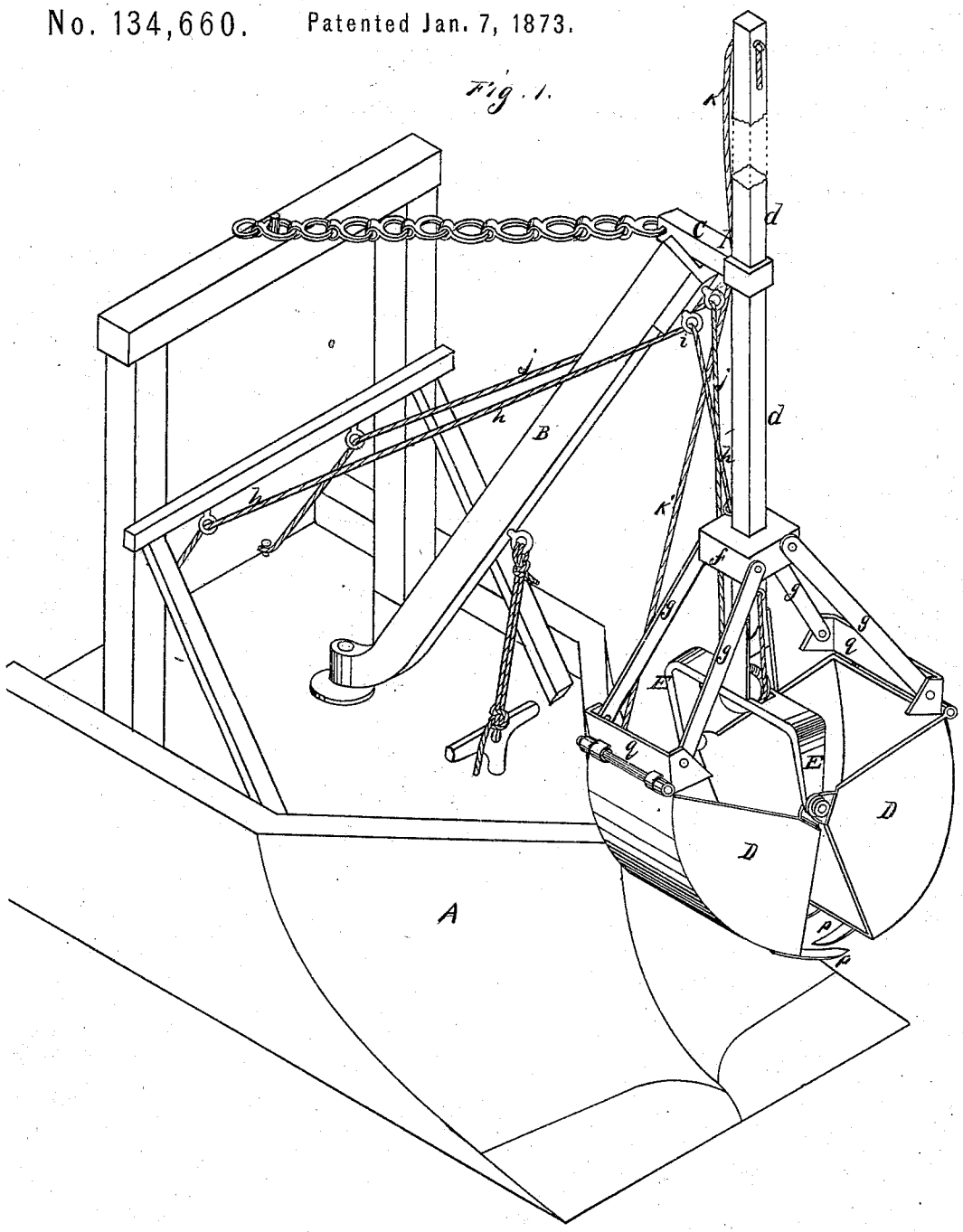
A. J. GOVE.

Track-Cleaners.

No. 134,660. Patented Jan. 7, 1873.

Fig. 1.



Witnesses

A. L. Boone

C. M. Richardson

Inventor

Andrew J. Gove

per Dewey & Co.

Attys

UNITED STATES PATENT OFFICE.

ANDREW J. GOVE, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN TRACK-CLEARERS.

Specification forming part of Letters Patent No. **134,660**, dated January 7, 1873.

To all whom it may concern:

Be it known that I, ANDREW J. GOVE, of San Francisco city and county, State of California, have invented a Combined Snow-Plow and Excavator; and do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention without further invention or experiment.

My invention consists in combining in one machine an ordinary snow-plow and a digging and lifting machine, such as is frequently used as a dredger, and which is known as the clam-shell dredger.

In order to more fully illustrate and explain my invention, reference is had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a perspective view of my machine.

A represents a snow-plow of any of the usual patterns—such as are mounted upon wheels and driven along upon a track in front of a locomotive. Where the snow is only of ordinary depth—say two or three feet upon the track—a snow-plow of the ordinary construction—that is, having two oppositely-inclining mold-boards, such as are represented herewith—will readily clear the track so as to allow the locomotive and train to proceed; but where the snow has accumulated to a depth of several feet, as it usually does in cuts, or has become packed, this class of plows become useless on account of their inability to clear themselves. In order to provide for removing the snow in this case, I secure a crane or derrick, B, upon the snow-plow A, by means of a swivel attachment, so that it shall extend at an angle out in front of the plow A, in the manner of constructing the swiveling crane of the clam-shell dredger. To the upper extremity of this crane a strong metal eye, C, is secured horizontally, and a mast, *d*, passes down vertically through the eye, to the lower end of which the sectional scoops or buckets D D, called the clam-shells, are attached. A yoke, E, is secured to the lower end of the mast *d*, and the upper meeting-corners of the two sectional buckets are attached to the extremities of the yoke, as shown, so that when they hang by this attachment the weight of the buckets will keep them closed. A block, *f*, is arranged to slide up and down along the mast, and this block is connected with the outer corners of each of the buckets D D by the four links *g g g g*. A cord or chain, *h*, is attached to the block *f*, and passes up to the end of the crane and over a pulley, *i*; thence it passes to the deck of the plow A.

Now, when the chain *h* is drawn upon the block *f* is raised, and the links *g*, drawing upon the outer corners of the buckets, open them into position for grasping a load.

A cord or chain, *j*, is attached to the under side of the block, and passes down over a pulley on the lower end of the mast; thence up over a pulley, K, and down to the deck of the plow A. This chain serves to draw the block *f* downward, and allows the buckets to close by gravity, as above described, by releasing the pull upon the outer corners. A third cord or chain, K′, is attached to the upper end of this mast, and passes down over a pulley at *l*, and to the deck of the plow. This cord serves to hold the mast down when the buckets are being closed in taking up a load. By this means I am enabled to operate the two sectional buckets with a single mast; and at the same time the arrangement is simple, strong, and easily operated. The lower meeting-edges of the bucket D are armed with strong curved teeth *p*, which alternate on the opposite edges so as to interlock when the buckets are closed. These teeth should be made of steel, and should have their points and side edges sharpened so as to form picks for digging in ice or packed snow.

Instead of attaching the links *g g* directly to the outer corners of the buckets D D, I have represented an extension or side piece, *q*, which is hinged to the upper outside edges, and to which the links *g g* are attached. These extensions serve to prevent the snow from falling from the sides of the buckets, and present a strong and effective attachment for the links.

This digging and lifting machine can be operated from the deck of the snow-plow by means of steam taken from the locomotive-boiler in the manner of working the ordinary steam-dredger of the clam-shell class.

Now, it will be seen that when the ordinary mold-boards of the plow A cease to be effective, by reason of the depth or solidity of the

snow, the buckets D D can be employed to lift and carry it around to the side of the track and dump it out of the way. It is calculated that a pair of buckets of this class, which are capable of grasping and removing eight cubic yards of snow in a single load, can readily be operated by the steam-power from an ordinary locomotive. At this rate an embankment of packed snow can be removed with great rapidity, and the train allowed to proceed.

In ice or packed snow the teeth *p* will serve as picks to break up and loosen the load, and for this work the cord or chain K is used to hold the mast firm when the buckets are being closed upon the ice.

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

The sectional buckets D D attached to the mast *d*, and arranged to be opened and closed by cords or chains *h*, *j*, and K, in combination with the angular swiveling crane B, when said crane is attached to and the buckets operated from the deck of a snow-plow, A, substantially as and for the purpose above described.

In witness whereof I hereunto set my hand and seal.

ANDREW J. GOVE. [L. S.]

Witnesses:
JOHN L. BOONE,
C. M. RICHARDSON.