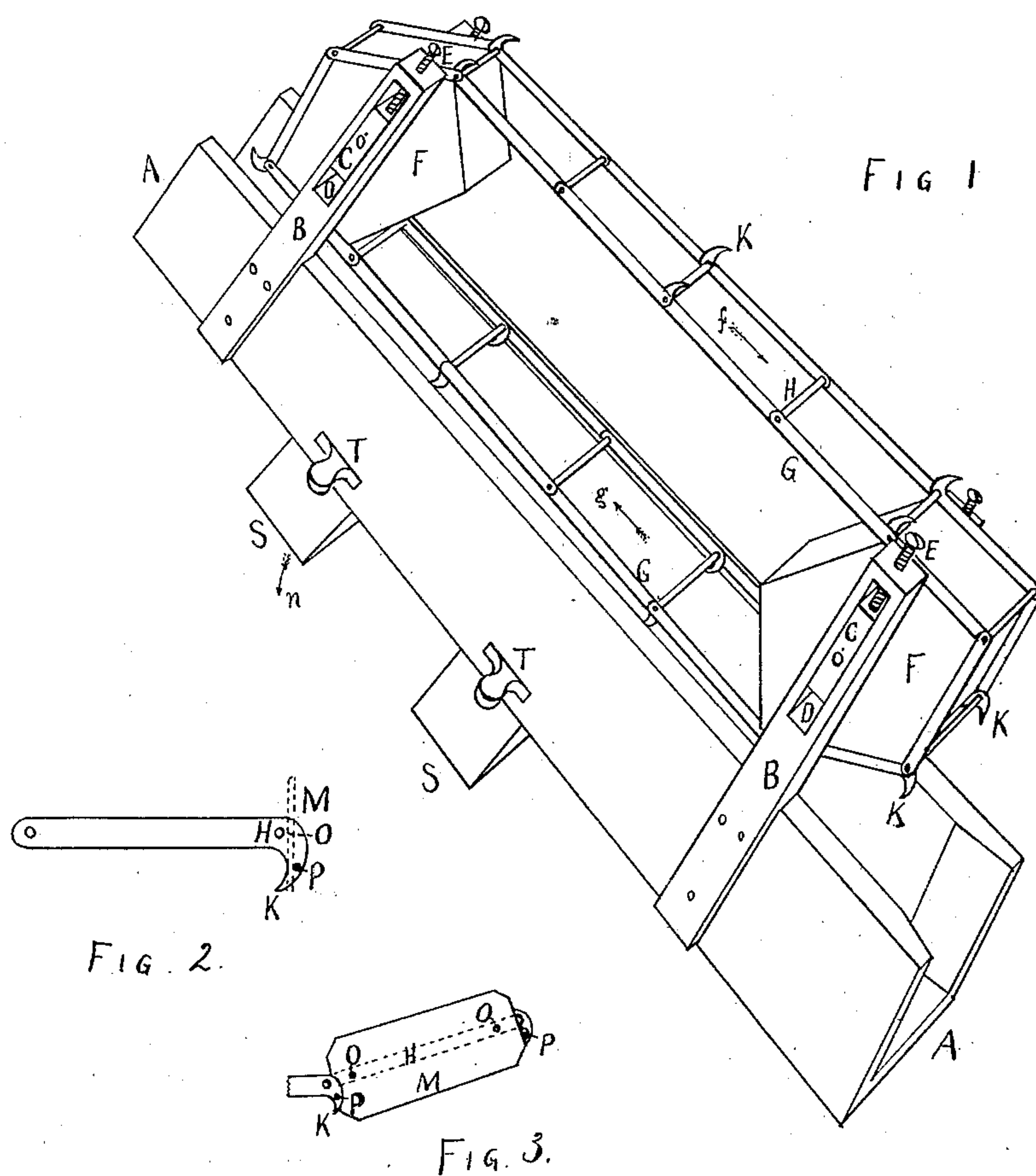


(No Model.)

M. BARNIKEL.
ELEVATOR AND CONVEYER.

No. 310,115.

Patented Dec. 30, 1884.



Witnesses

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MEIKEL BARNIKEL, OF BURLINGTON, IOWA.

ELEVATOR AND CONVEYER.

SPECIFICATION forming part of Letters Patent No. 310,115, dated December 30, 1884.

Application filed August 29, 1884. (No model.)

To all whom it may concern:

Be it known that I, MEIKEL BARNIKEL, a citizen of the United States, residing at Burlington, in the county of Des Moines and State of Iowa, have invented a new and useful Improvement in Elevators and Conveyers, of which the following is a specification.

My invention relates to improvements in elevators and conveyers in which a double chain passes over pulleys and has attached thereto suitable hooks or blades for dragging up an inclined or along a horizontal elevator or conveyer box or trough ice, coal, or grain; and the objects of my invention are, first, to provide an elevator for raising ice out of the water and dropping it into wagons or bins at several points along the trough; second, to afford a ready means of converting said ice-elevator into an elevator for raising coal or grain from boats, &c., when not required for ice, thus making the machine useful at all seasons of the year. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the ice-elevator. Fig. 2 is an enlarged section of the chain, showing ice-hook. Fig. 3 shows the blade to be attached for elevating coal or grain.

Similar letters refer to similar parts throughout the several views.

In Fig. 1, A A is the trough of the elevator; B B, arms attached to the trough, carrying movable boxes C C, that may be raised or lowered in the slots D D by means of the set-screws E E. In said boxes C C turn the journals of the five-sided drums or pulleys F F, over which travels the chain, elevator, or conveyer G G, the links of which, being made of flat bars of metal, are joined and hinged by rods H. Every alternate link has a joint in the shape of a hook, K K.

When power is applied to the pulleys, and the chain is made to travel around them in the direction of the darts *f g*, with the lower end of the trough inserted in the water, the hooks K K, as they pass around the lower pulley, will strike into the ice-cakes that are floated into the lower end of the trough and drag them up the trough in the direction of the dart *g*. If it is desired to drop the ice at intermediate points before reaching the top, chutes S S may be made in the bottom of the trough A A, and by drawing out the slides T T the ice-blocks may be dropped

through the chutes as may be required in loading wagons. If the cakes of ice are thin, the pulleys may be lowered by the set-screws E E forcing the boxes C C down in the slots D D, bringing the chain nearer the bottom of the trough. For thick ice the pulleys, chain, &c., are raised by means of the said set-screws.

When it is desired to use the elevator for coal or grain, blades M, having truncated corners, are to be bolted to the rods H by bolts at O O, and be kept at right angles to the chain by bolts at P P through the points K K. In the use of the blade over solid pulleys the angles of the pulleys must necessarily be cut out to receive the blade as the chain passes over the pulleys.

The same device laid horizontally could be used for a conveyer.

I am aware that prior to my invention elevators and conveyers were made having blades attached to a chain passing over pulleys. I therefore do not claim such a combination, broadly; but

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

1. In an elevator, the combination of the trough A, having chutes S and slides T, with the slotted arms B, having movable boxes and journals set in slots D, and operated by set-screws E, holding pulleys F, and an endless belt consisting of long flat links with rounded points K, held and swiveled together by rods H at some distance back of the points, substantially as and for the purpose above set forth.

2. An elevator-belt consisting of long flat links with points K, held and swiveled together by rods H at some distance back of the points, the latter provided with perforations, and the blade M, all connected together and operating substantially as described.

3. The combination, with an endless belt consisting of long flat links having points K, held and swiveled together by rods H at some distance back of said points, which latter are provided with perforations, of blades M, adjustable pulleys F, trough A, chutes, and slides T, substantially as described.

MEIKEL BARNIKEL.

Witnesses:

WM. GLAZEY,
W. A. WHITNEY.