

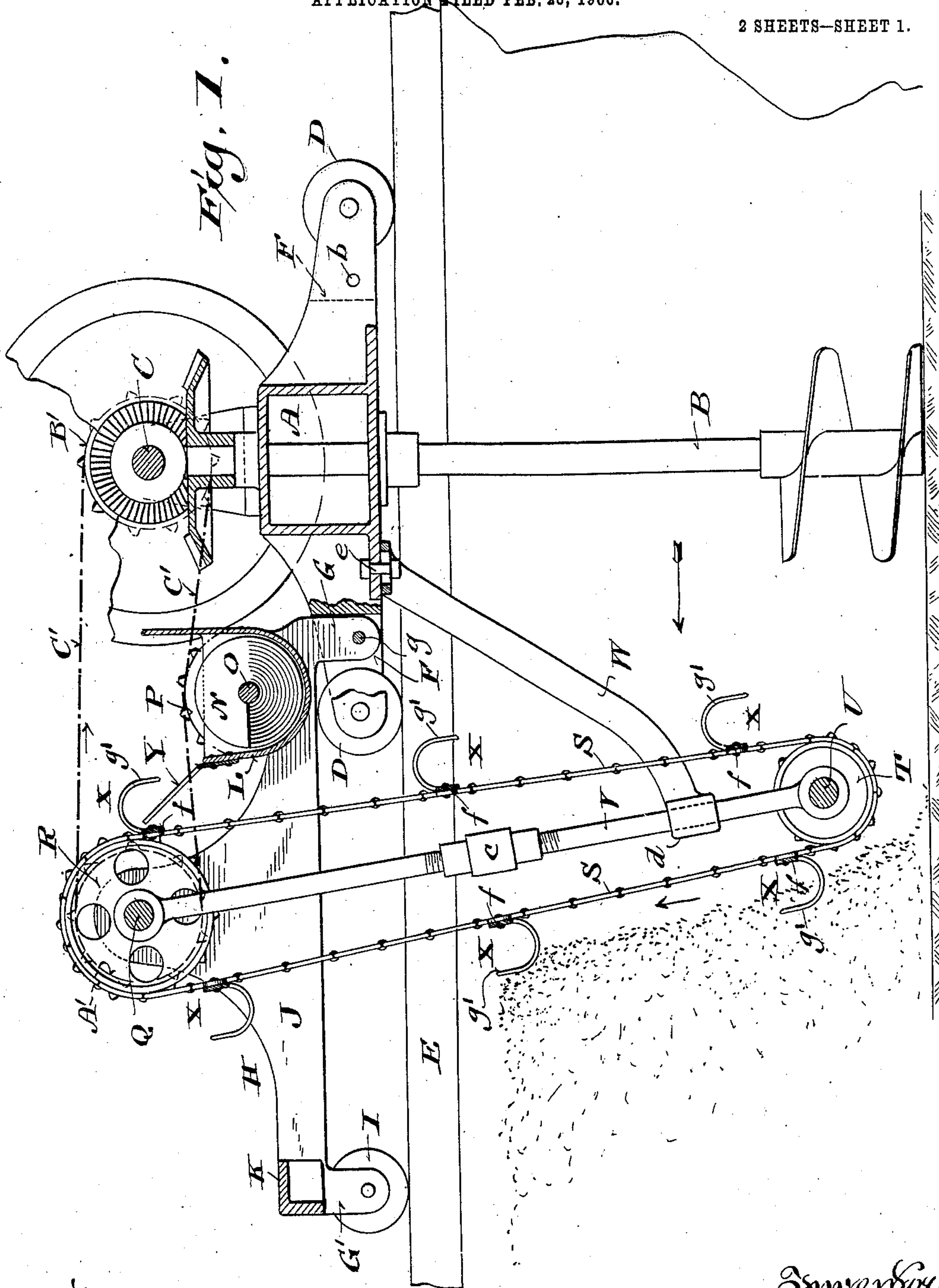
No. 829,484.

PATENTED AUG. 28, 1906.

T. NAUS.
GRAIN ELEVATOR.

APPLICATION FILED FEB. 26, 1906.

2 SHEETS—SHEET 1.



Witnesses:
Fred Palm.
Guss Felber.

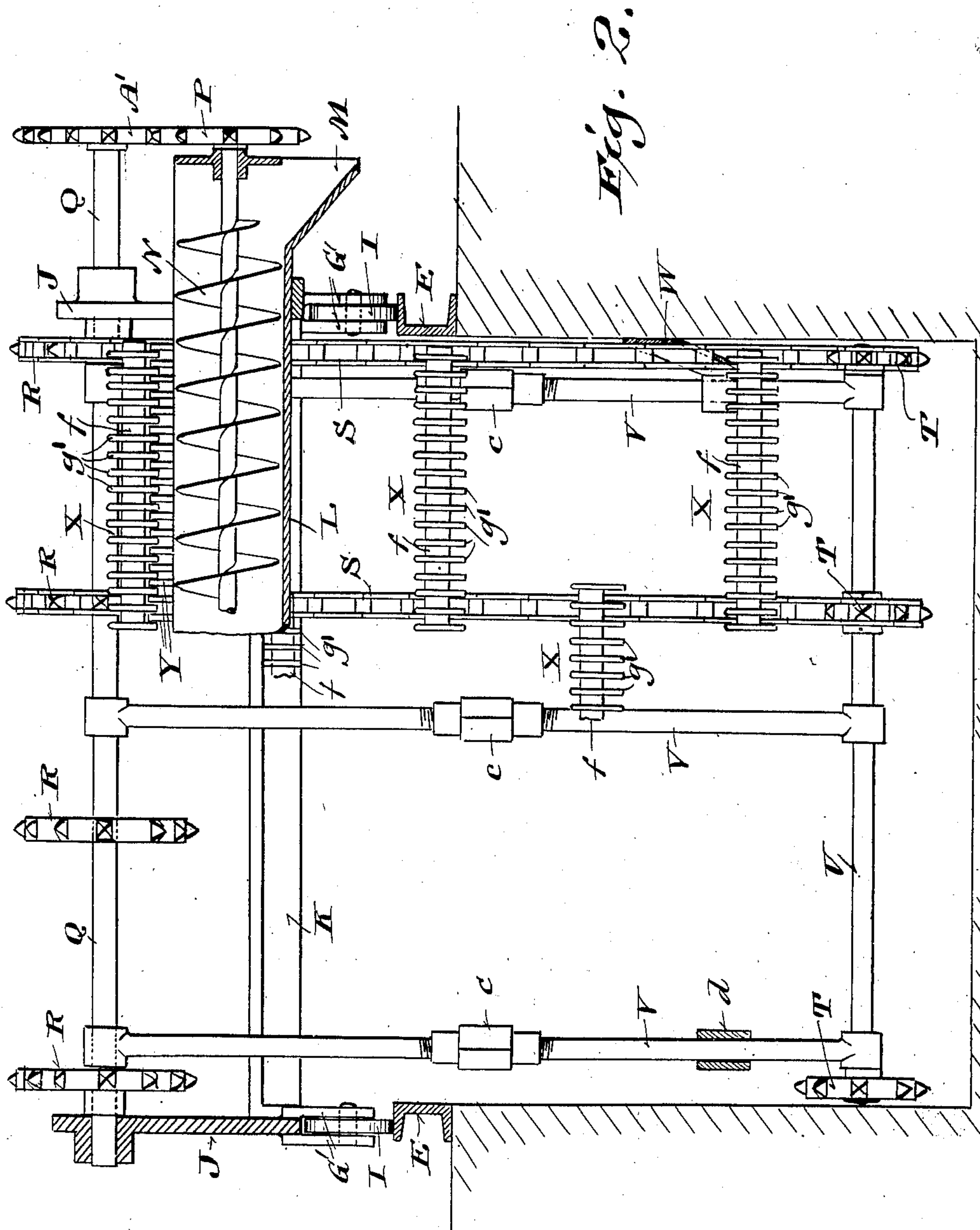
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UNITED STATES PATENT OFFICE.

THEODORE NAUS, OF MANITOWOC, WISCONSIN, ASSIGNOR TO RUDOLPH GOETZLER AND THEODORE LOEF, SR., OF MANITOWOC, WISCONSIN.

GRAIN-ELEVATOR.

No. 829,484.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed February 26, 1906. Serial No. 302,852.

To all whom it may concern:

Be it known that I, THEODORE NAUS, a citizen of the United States, and a resident of Manitowoc, in the county of Manitowoc and State of Wisconsin, have invented certain new and useful Improvements in Grain-Elevators; and I do hereby declare that the following is a full, clear, and exact description thereof.

The object of my invention is to provide a simple and effective labor-saving apparatus for attachment to malt-stirring machines, whereby the malt after being grown may be elevated from stationary malting-floors or pneumatic malting-compartments and delivered to any suitable conveyer, thereby dispensing with the time and labor required to scrape said malt, the invention consisting in certain peculiarities of construction and combination of parts, as fully set forth hereinafter with reference to the accompanying drawings and subsequently claimed.

In the drawings, Figure 1 represents a transverse central sectional elevation of a malt-stirring machine and elevator apparatus made in accordance with my invention attached thereto; and Fig. 2, a cross-section of the same through the conveyer-box, which is partly broken away to better illustrate the details of the elevator-frame beyond, the said view being taken looking in the direction of travel of the machine.

Referring by letter to the drawings, A indicates the carriage of a traveling malt-stirring machine of the usual type, having series of stirring-spindles B mounted thereon, driven by bevel-gears from a shaft C, the carriage being supported by wheels D, arranged to travel upon tracks E on the side walls of the malt-floor or pneumatic malting-compartment. The carriage of the malt-stirring machine may be driven back and forth on its track by any well-known means, that most commonly employed for this purpose being an endless cable system, which forms no part of my invention, and is therefore not shown in the drawings. The wheels D are trunnioned in bifurcations F of arms extending from the carriage, the said bifurcations being of sufficient length to permit the reception of feet G of an elevator-frame H, as shown in Fig. 1 of the drawings. The feet G (only one of which is shown) of the frame are held in position by pins g, which pass through holes b in the arms, said frame being sup-

ported upon the track E at its forward end by a wheel I, pivoted to feet G', which feet are similar to those just described. The elevator-frame H comprises side brackets J, connected by an angle-iron stud K and a trough L, the ends of which overhang the side walls of the malt-floor and are provided with discharge-openings M, one end of said trough being broken in the drawings and not shown. A conveyer N is fitted to the afore-said trough L, the shaft O of the conveyer being mounted in bearings in the trough-heads and has secured thereto a sprocket P, by means of which said conveyer is driven.

Mounted in bearings on the side brackets J of the frame is a drive-shaft Q, which carries a series of sprocket-wheels R for a corresponding number of chain belts S. These belts extend downward and pass over a series of idle sprocket-wheels T adjacent to the malt-floor, the said wheels being loosely mounted upon a shaft U, which is supported in bearings at the ends of hanger-rods V. The other ends of said hanger-rods are loosely mounted on the drive-shaft Q, and in order to adjust the tension of the chain belts each rod is centrally divided and threaded into a turnbuckle c, whereby the rods may be lengthened or shortened to accommodate said chains. The rods are held in their vertical position by braces W, having bosses d at their lower ends through which the rods pass, the upper ends of the braces being adjustably secured to flanges of the stirring-carriage by means of slotted feet and bolts e for engagement therewith.

Connecting the series of chain belts at suitable regular intervals apart are series of interrupted carriers X, which carriers, as shown, are formed with solid cross-strips f, having curved comb-like teeth g' extending therefrom. These fingers in their upward travel serve to catch into the malted grain upon the malt-floor and deliver it to the conveyer-trough above, and by reason of the interrupted or staggered relation of the carriers to each other they exert a more even strain upon the machine as they pass through the grain. In order to insure a perfect delivery of the grain to the conveyer-trough, the edge of the latter adjacent to the carriers X is provided with a toothed apron Y, which projects into the path of travel of the teeth g' of said carriers, the teeth of the apron being stag-

gered, so as to pass between those of the afore-
said carriers as they travel downward and
strip them of all grain. Motion is imparted
to the carrier-chains S by a sprocket-wheel A',
5 which sprocket-wheel is connected to a similar sprocket-wheel B' on the shaft C of the stirring-machine by a chain belt C'. This belt also engages and drives the sprocket-wheel P of the conveyer.

10 As shown in Fig. 1 of the drawings, the elevator attachment is placed in front of the stirring-machine, by which it is pushed through the grain; but in some instances it is desirable to connect the attachment to the
15 rear of said machine and drag the same through the grain as it elevates, in which case the supporting-wheel at the front of the elevator is removed and similarly secured to the foot G, while foot G' is inserted between the
20 bifurcations of the rear arm of said machine. When the parts are arranged as above described, it will be seen that the stirring-spindle revolving in front of the carrier has a tendency to loosen the grain before the same
25 preparatory to its elevation by said carriers.

While I have shown and described a method of driving the elevator and conveyer by means of a chain belt C' it is obvious that the drive may be varied indefinitely and the
30 conveyer so geared as to deliver the grain at either end of the trough, it being understood that the details herein shown and described form no part of my invention, except so far as they combine to produce the desired result.
35

The operation of the apparatus is as follows: When motion is imparted to the stir-

ring-machine, it moves slowly forward together with the elevator, and at the same time its spindles are revolved through the shaft C, which shaft also through its chain connection with the elevator causes the same to revolve, the carriers entering the grain and delivering it to the conveyer, from which it is discharged to the side of the malt-floor into
45 suitable conveyers. (Not shown.)

I claim—

1. An attachment for traveling malt-stirring machine, comprising a vertically-disposed frame, a grain-elevator mounted thereon, a horizontally-disposed conveyer for receiving the discharged grain from the elevator, and means in connection with the stirring-machine for driving the elevator and conveyer.
55

2. A traveling grain-elevator attachment for stirring-machines comprising a frame, upper and lower shafts therein, sprockets on said shafts, vertically-disposed chain belts carried by the sprockets, carriers secured to the chain belts, a trough secured to the frame at the delivery side of the chain belts, a conveyer mounted in the trough, and means in connection with the stirring-machine for driving the chain belts and conveyer.
65

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

THEODORE NAUS.

Witnesses:

GEO. W. YOUNG,
FRED PALM.