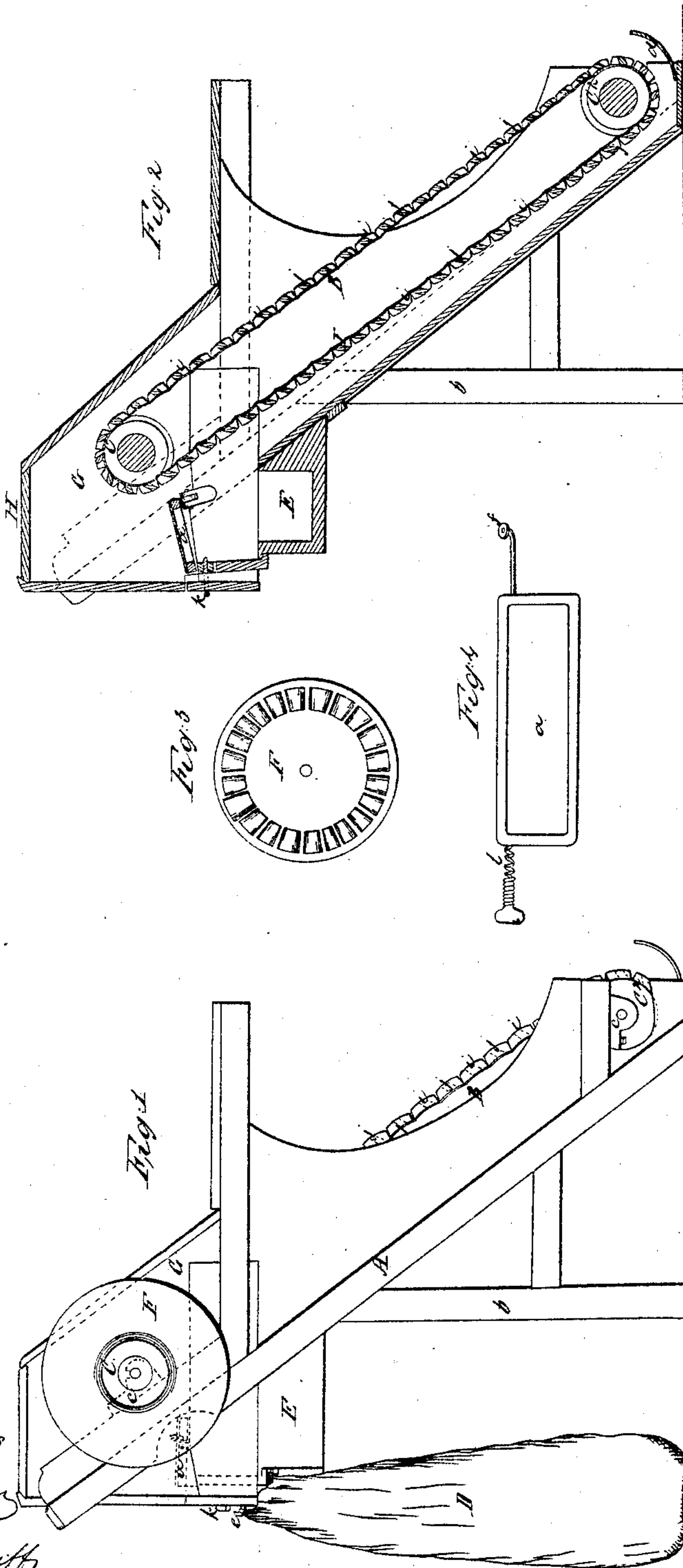


I. A. Stafford,
Grain Conveyer.

No 30,506.

Patented Oct. 23, 1860.



Witnesses
Edw. P. Brown
J. B. Woodruff

Inventor
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UNITED STATES PATENT OFFICE.

IRA A. STAFFORD, OF ESSEX, NEW YORK.

MACHINE FOR ELEVATING, CLEANING, AND BAGGING GRAIN.

Specification of Letters Patent No. 30,506, dated October 23, 1860.

To all whom it may concern:

Be it known that I, IRA A. STAFFORD, of the town of Essex, in the county of Essex and State of New York, have invented new and useful Improvements in the Construction and Attachment to a Fanning-Mill—an Elevator for Extra Cleaning and Sacking Grain; and the following is a clear and exact description of the same, reference being had to the accompanying drawings, making a part of this specification.

Figure 1, represents a side elevation of the machine with the sack attached. Fig. 2, shows a section through a side elevation with the elevator, and screen. Fig. 3, is a detached view of the driving wheel showing the corrugated surface to vibrate the screen. Fig. 4, shows the screen detached.

My invention relates to the matter of effectually cleaning and sacking grain, and consists in the construction of an endless belt, frame, and screen, which may be attached, and secured to any fanning mill, in such a manner as to receive the grain as it is separated from the chaff, elevating it, and screening off the heavy impurities, and depositing it in a sack.

To enable others skilled in the art, to make and use my invention, I will proceed to describe it referring to the drawings, and the letters marked thereon.

The frame (A) upon which the screen (a) and the elevator (B,) are made to operate, is of square timber. The main pieces, (to which the journals of the rollers (C₁ C₂) are hung in boxes (c, c,)) may be inclined on an angle of about 50° and supported by vertical timbers (b b) so that it is braced and stands upright, and may be brought in contact, and temporarily secured to a fanning mill, the foot or curve (d,) being placed under the delivery-board, so that all of the grain comes onto the bottom of the elevator (B,) and is carried by it a sufficient height to be discharged onto the screen (a,) where all of the extraneous matter, (which might have too much specific gravity to be blown off with the chaff,) will be separated, and the grain discharged into the sack (D), there being tenter hooks (e e) to receive it. Underneath the screen (a,) is a sliding box (E,) into which gravel and other extraneous substances, which pass through the screen (a,) are deposited.

The grain elevator is made in the following manner, viz; Two rollers of wood (C₁ C₂)

from four to six inches in diameter, with iron axis at each end, to have their bearings in the boxes (c, c), one roller being placed near the top, and the other near the bottom of the frame (A,) which should be of about the same width, as the fanning mill with which it is to be used. Over the rollers, (C₁ C₂) is placed a piece of strong canvas or duck extending around both, having the two ends securely fastened together, making an endless belt (I,) on both edges of which are secured convex blocks of wood (i, i, i, i,) from three to five inches in length, the ends coming near together when it is in a line, to form guards to keep the grain from falling off at the edge. Across the canvas belt (I) and connecting with the blocks (i i i i) at each end are slats or strips of wood (j j j j j,) which being inclined upward, make a continuous series of long buckets into which the grain falls as it is being discharged when cleaning. The elevator is put in motion, by having a band, or belt, attached, and running over a pulley on the crank shaft of the fanning mill and the band-wheel (F,) on the axle of the roller (C₁) on the inside of which, near the periphery is a series of beveled notches, or corrugations (as seen in Fig. 3,) into which a friction roller (f,) secured to a rod, and connected with the screen (a,) for the purpose of shaking it, to clean and liberate the grain into the sack (D). The screen frame rests upon small friction rollers three in number. The one on the outside, where the grain is discharged, is on the end of a lever (k,) so that the edge of the screen may be elevated or depressed, by which, the grain can be retained a longer or shorter time as may be desired before discharging into the sack. The spiral spring (l) attached to the screen (a) assists in vibrating it. The top of the elevator, and the screen are covered by a movable box (G) having a sliding lid (H).

In the transportation of grain by wagons, or railroad cars, it is necessary that it should all be put in sacks, for the safety and convenience of handling, and it requires no small amount of physical labor to sack up grain in the common way. But by my invention, it is very easily done, requiring but little more power to drive the fanning mill with the elevator attached, than without it, and it will be much better done, while in the process of cleaning, than to be taken up after it has fallen in a mass on the floor or

ground, and thereby no inconsiderable
amount of time and hard labor is saved.
It is believed to be, by all who have seen it
in operation for two seasons, a very valuable
5 auxiliary in getting grain prepared for
transportation.

Having thus described my invention, I do
not wish to be understood to claim an end-
less belt with buckets for elevating and dis-
10 charging grain; but

What I do claim is—

The peculiar construction, and attachment
of the elevating, and screening mechanism
as applied to a fanning mill, for the purpose
of sacking grain as herein set forth.

IRA A. STAFFORD.

Witnesses:

EDW. F. BROWN,
J. B. WOODRUFF.