

(No Model.)

3 Sheets—Sheet 1.

D. C. & T. W. SAEMAN.  
CONVEYING MACHINERY.

No. 523,083.

Patented July 17, 1894.

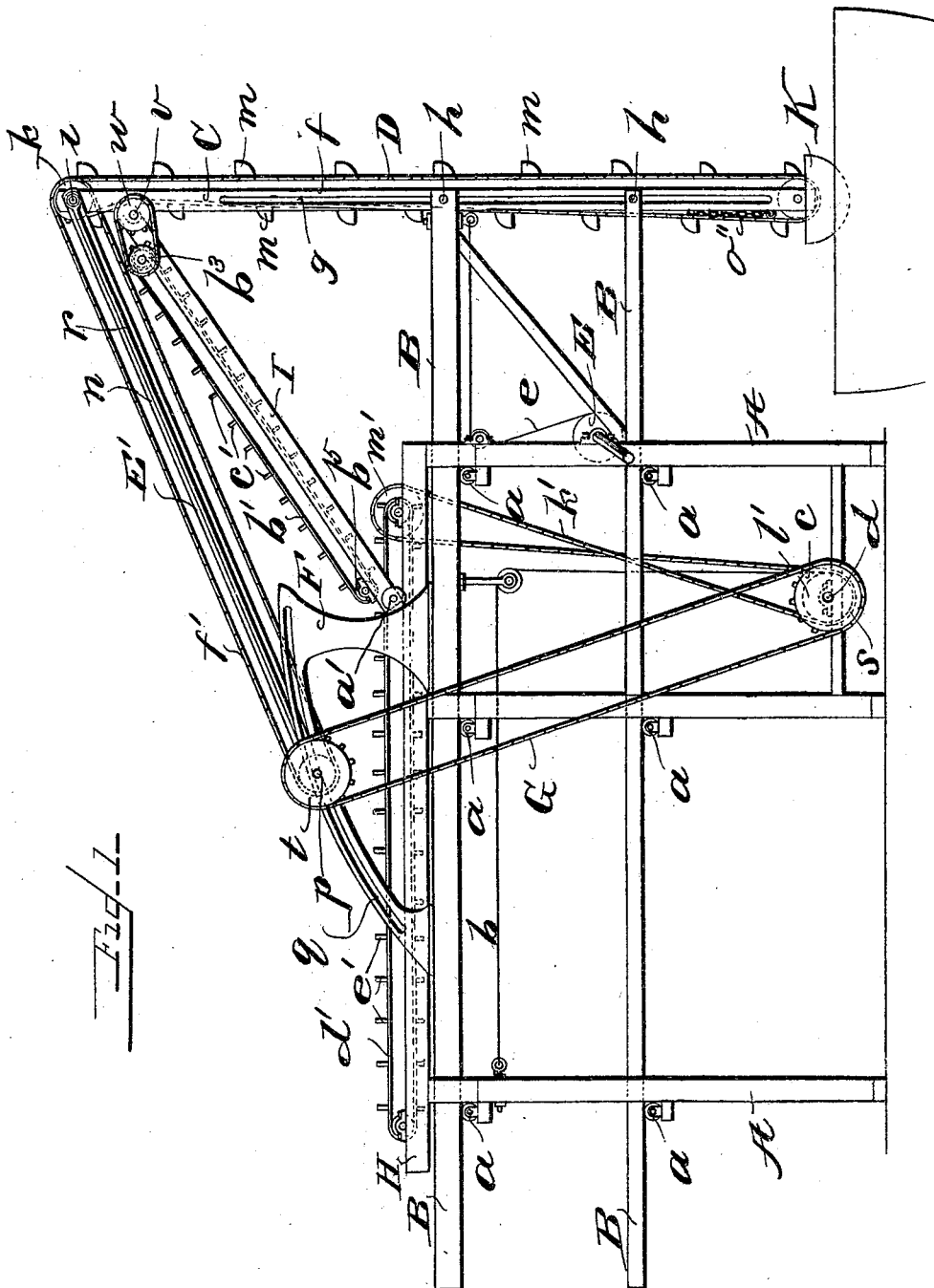


Fig. 1.

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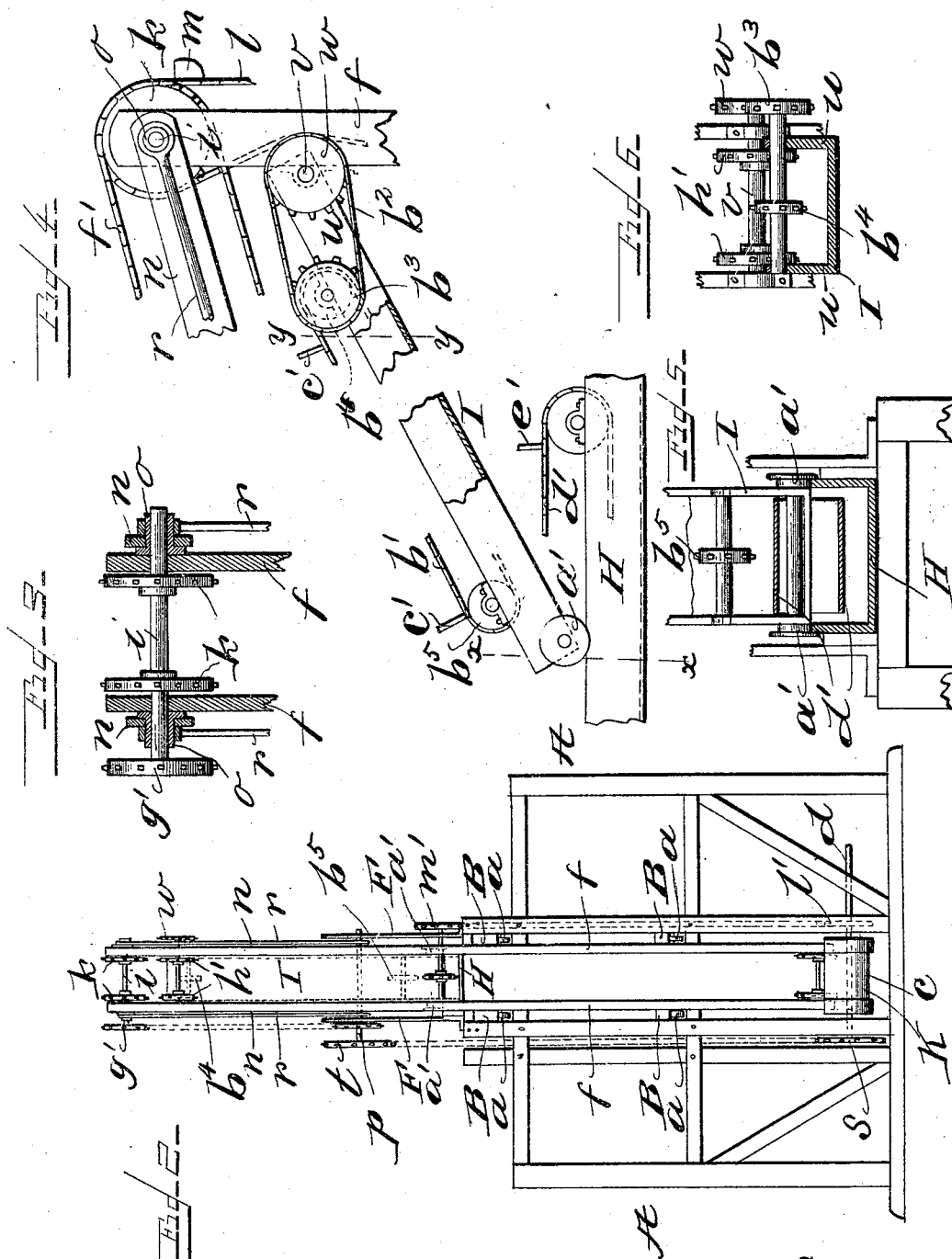
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3 Sheets—Sheet 2.

D. C. & T. W. SAEMAN.  
CONVEYING MACHINERY.

No. 523,083.

Patented July 17, 1894.



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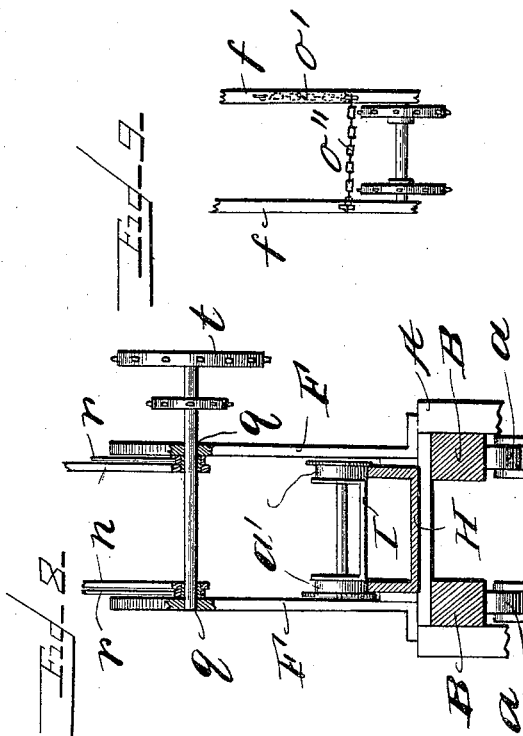
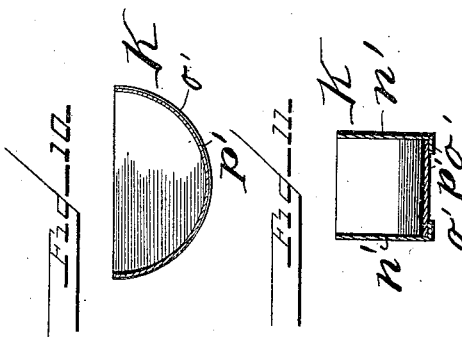
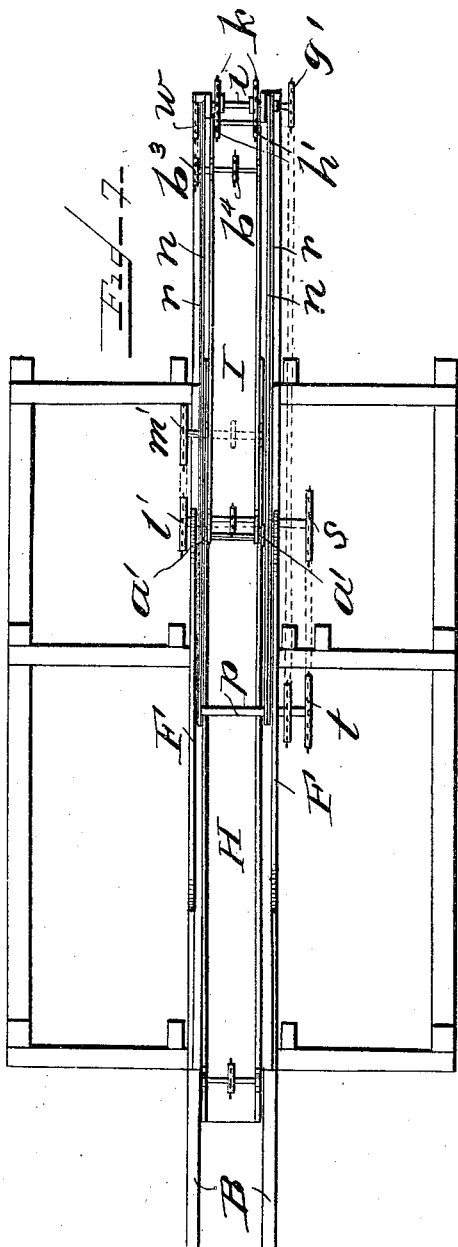
(No Model.)

D. C. & T. W. SAEMAN.  
CONVEYING MACHINERY.

3 Sheets—Sheet 3.

No. 523,083.

Patented July 17, 1894.



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# UNITED STATES PATENT OFFICE.

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SYLVANIA, ASSIGNORS OF ONE-THIRD TO ABRAHAM C. SEAMAN, OF  
SAME PLACE.

## CONVEYING MACHINERY.

SPECIFICATION forming part of Letters Patent No. 523,083, dated July 17, 1894.

Application filed November 20, 1893. Serial No. 491,502. (No model.)

*To all whom it may concern:*

Be it known that we, DANIEL C. SAEMAN and  
THOMAS W. SAEMAN, citizens of the United  
States, residing at Philadelphia, in the county  
of Philadelphia and State of Pennsylvania,  
have invented certain new and useful Im-  
provements in Conveying Machinery; and we  
do hereby declare the following to be a full,  
clear, and exact description of the invention,  
such as will enable others skilled in the art to  
which it appertains to make and use the same.

Our present invention relates to conveying  
machinery and has especial reference to that  
class of conveying machinery used for unload-  
ing vessels such as schooners and canal and  
other boats laden with coal, sand and other  
like material capable of being taken up in  
elevator buckets and conveyed to some de-  
sirable place of deposit or storage.

The invention will be fully disclosed in the  
following specification and claims

In the accompanying drawings which form  
part of this specification Figure 1 represents  
a side elevation; Fig. 2 a front end elevation  
with the elevator chain and buckets removed;  
Fig. 3 an enlarged end view partly in section  
of the upper end of the elevator frame; Fig.  
4 an enlarged side view of the upper end of  
the elevator frame, the inclined and horizon-  
tal conveyers; Fig. 5 a section on line, *xx* on  
Fig. 4; Fig. 6 a section on line *yy*, on Fig. 4  
showing the several sprocket wheels in eleva-  
tion; Fig. 7 a top plan view of the entire  
mechanism with the elevator-chain and buck-  
ets removed; Fig. 8 an enlarged sectional de-  
tail showing the horizontal conveyer, the up-  
per rails of the movable frame and their sup-  
ports and the sprocket wheels at the inner  
end of the boom; Fig. 9 an inner end view of  
the lower end of the elevator frame; Fig. 10 a  
vertical longitudinal section of the boom at the  
lower end of the conveyer frame, and Fig. 11  
a transverse section of the same.

Reference being had to the drawings and  
the letters thereon A indicates the main sta-  
tionary frame, B a longitudinally movable  
frame supported upon suitable rollers *a* and  
is designed to be moved out and in with ref-  
erence to the main frame to place the ele-  
vator-frame C and the elevator D in proper

position for unloading vessels of different  
widths.

The frame B may be moved out by a cable  
or rope *b* connected to an eye-bolt in the rear  
end of the frame at one end and a drum *c* on  
the main shaft *d* which may be connected  
with an engine or any suitable source of  
power, and be moved in by a cable or rope *e*  
engaging the front end of the frame at one  
end and a windlass E at the other end, or it  
may be moved by any suitable means which  
will be readily suggested by the skilled me-  
chanic.

The sides *f* of the elevator-frame are slotted  
at *g* and engage transverse pins *h* in the frame  
B by which the two are secured together, and  
at the upper end of the elevator-frame it is  
connected to the boom E' by the shaft *i* which  
supports the sprocket-wheels *k* upon which  
the elevator-chain *l* is supported, and said  
elevator is provided with buckets *m* of the  
usual form.

The elevator-frame and the elevator-chain  
descend automatically by gravity as the ma-  
terial is removed from the vessel to keep the  
lower end of the frame and the buckets of the  
elevator in contact with the material to be  
removed.

The sides *nn* of the boom E' at their front  
ends engage the shaft *i* with a thimble or  
sleeve *o* interposed to avoid wear, see Fig. 3,  
and at their rear ends they engage the shaft  
*p* which passes through the sector shaped  
slots *q q* in the brackets F supported on the  
upper timber of the stationary frame A, and  
on the outside of each of the sides *nn* are  
metal rods *r r* which also engage the shafts *i*  
and *p* and stiffen the boom.

The brackets F may be bolted to the sides  
of the upper timber of the frame or they may  
be provided with a right angled flange and  
be bolted to the upper edge of said timber.

As the elevator-frame C and the front end  
of the boom E' rise and fall, the rear end of  
the boom swings vertically upon the shaft *p*,  
and as the frame B is moved out or in with  
relation to the fixed frame A, the rear end of  
the boom travels back and forward in the  
slots *q q* in the brackets F and thereby keep  
the driving belt G taut between the pulley *s*

on the main shaft and the pulley *t* on the shaft *p*.

H indicates a horizontal and fixed or stationary conveyer which rests upon the frame A, and I an inclined and movable conveyer the sides *u u* of which at their front and upper end are pivotally connected to the shaft *v* which supports the pulley *w*, and the rear end of said conveyer is supported upon the stationary conveyer H by wheels *a' a'*, (see Figs. 4 and 5) which travel back and forward on the upper edge of the sides of the stationary conveyer as the elevator-frame and the front end of the boom rise and fall.

The conveyer I is provided with an endless belt or apron *b'* on which are arms or blades *c'* to draw the material down toward and into the stationary conveyer H, which is provided with a like constructed belt or apron *d'* having arms or blades *e'* which draw the material to the rear end of the conveyer from which it may fall upon the ground or it may be conducted to any desired place of deposit.

The belt *f'* transmits motion to the elevator-chain *l* by engaging the pulley *g'* on the shaft *i*; and the chain *l* engaging the sprocket wheel *h'* on the shaft *v* transmits motion to the belt or apron *b'* through belt *b<sup>2</sup>* and pulleys *b<sup>3</sup>*, *b<sup>4</sup>* and *b<sup>5</sup>*; and the belt *k'* which engages the pulley *l'* on the main shaft also engages the pulley *m'* and transmits motion to the belt or apron *d'* in the stationary conveyer H.

The lower end of the elevator-frame C is provided with a boot K into which the material to be unloaded is shoveled when the bottom of the vessel has been reached and from which the buckets *m* are then filled. The boot comprises two sides *n' n'* having inwardly bent flanges *o' o'* and a separate bottom *p'* which can be readily inserted between the sides *n' n'* when the boot is required, and as readily removed when its use is no longer necessary. The sides *n'* may be detachably secured to the sides *f* of the elevator-frame by any suitable means.

When the bottom of the vessel has been reached and all the material removed from one compartment or within easy reach of the elevator, the frame C and the elevator-chain *l* are raised out of the hatch of the vessel by means of any suitable hoisting mechanism such as the main shaft *d* or by the windlass E to which a cable or rope (not shown) may be attached and secured to the lower end of the frame, for which purpose we have provided a chain *o''* for the cable or rope to engage. This hoisting rope being of well known construction has been omitted from the drawings to avoid confusion.

The material raised by the chain *l* and buckets *m* is discharged into the inclined conveyer I, from which it falls into the horizontal conveyer H and is conveyed to the end of the structure.

Having thus fully described our invention, what we claim is—

1. In a conveying machine, a stationary

supporting frame, a longitudinally movable and self adjusting-frame pivotally and slidably attached at its inner end to said supporting-frame, and an elevator-frame pivotally attached at its upper end to the outer end of said self adjusting-frame; in combination with drive mechanism supported by said self adjusting-frame and suitable elevating mechanism.

2. In a conveying machine, a stationary supporting-frame, a vertically and longitudinally movable self adjusting-frame, pivotally and slidably attached at its inner end to said supporting-frame, and a vertically movable elevator-frame pivotally attached at its upper end to the outer end of said self adjusting-frame; in combination with drive mechanism supported on the self adjusting-frame, and an endless elevator.

3. In a conveying machine, a stationary supporting-frame, a vertically and longitudinally movable self adjusting-frame pivotally connected at its inner end to said supporting-frame, an elevator-frame pivotally connected to the outer end of said self adjusting-frame and provided with elevating mechanism, and a longitudinally movable and inclined conveyer under the self adjusting-frame and connected to the elevator-frame; in combination with drive mechanism supported by said self adjusting frame and a horizontal conveyer supported by the main frame.

4. In a conveying machine, a stationary supporting-frame, a movable frame between the vertical timbers of and extensible beyond said supporting-frame, and a vertically adjustable elevator-frame secured to said movable-frame; in combination with a self adjusting-frame connected to said movable-frame, drive mechanism supported by the self adjusting-frame, and suitable elevating mechanism.

5. In a conveying machine, a stationary supporting-frame, a movable frame within and extensible beyond said stationary frame, a vertically and longitudinally movable and self adjusting-frame pivotally connected to the supporting-frame, and a vertically adjustable elevator-frame secured to said movable frame, in combination with drive mechanism supported by the self adjusting-frame and suitable vertical and horizontal conveying mechanism.

6. In a conveying machine, a stationary supporting-frame, a vertically movable elevator-frame, a self adjusting-frame pivotally connected at one end to said elevator-frame and brackets having slots concentric to the power-wheel in which the opposite end of said self adjusting-frame is supported; in combination with driving mechanism supported by the self adjusting-frame and suitable conveying mechanism.

7. In a conveying machine, a stationary supporting-frame, a vertically movable elevator-frame, a vertically movable self adjusting-frame, pivotally connected to said ele-

vator-frame at one end, brackets having curved slots concentric to the power-wheel, and means for connecting the self adjusting-frame to said brackets, in combination with  
5 drive mechanism supported by the self adjusting-frame and conveying mechanism.

8. In a conveying machine, a stationary supporting-frame, a longitudinally movable frame within and extensible beyond said sta-  
10 tionary-frame, a self adjusting-frame, an elevator-frame pivotally connected to the self adjusting-frame, drive mechanism on the self adjusting-frame, and a vertical elevating mechanism connected to said movable frame;  
15 in combination with an inclined and horizontal conveyer.

9. In a conveying machine, a stationary

supporting frame and a frame within and extensible beyond the stationary frame, a self adjusting-frame supporting the drive mech- 20  
anism, a vertical elevating mechanism connected to said extensible frame and to the self adjusting-frame, and a stationary horizontal conveyer frame; in combination with  
25 a vertically and longitudinally movable conveyer frame above the main supporting-frame, and suitable conveyers.

In testimony whereof we affix our signatures in presence of two witnesses.

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Witnesses:

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