

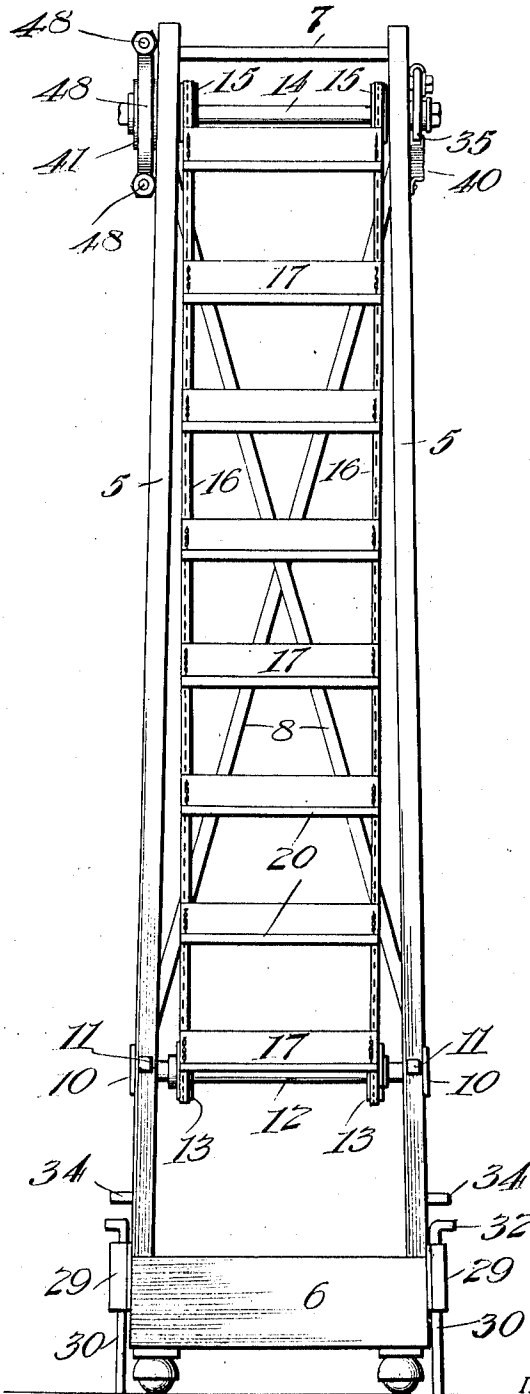
H. G. ROSSIN.
CONVEYER.
APPLICATION FILED MAR. 18, 1910.

988,822.

Patented Apr. 4, 1911.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

J. A. Macdonald
R. H. Jones

INVENTOR
Herman G. Rossin

By *Geo. S. Vashon*
Attorney

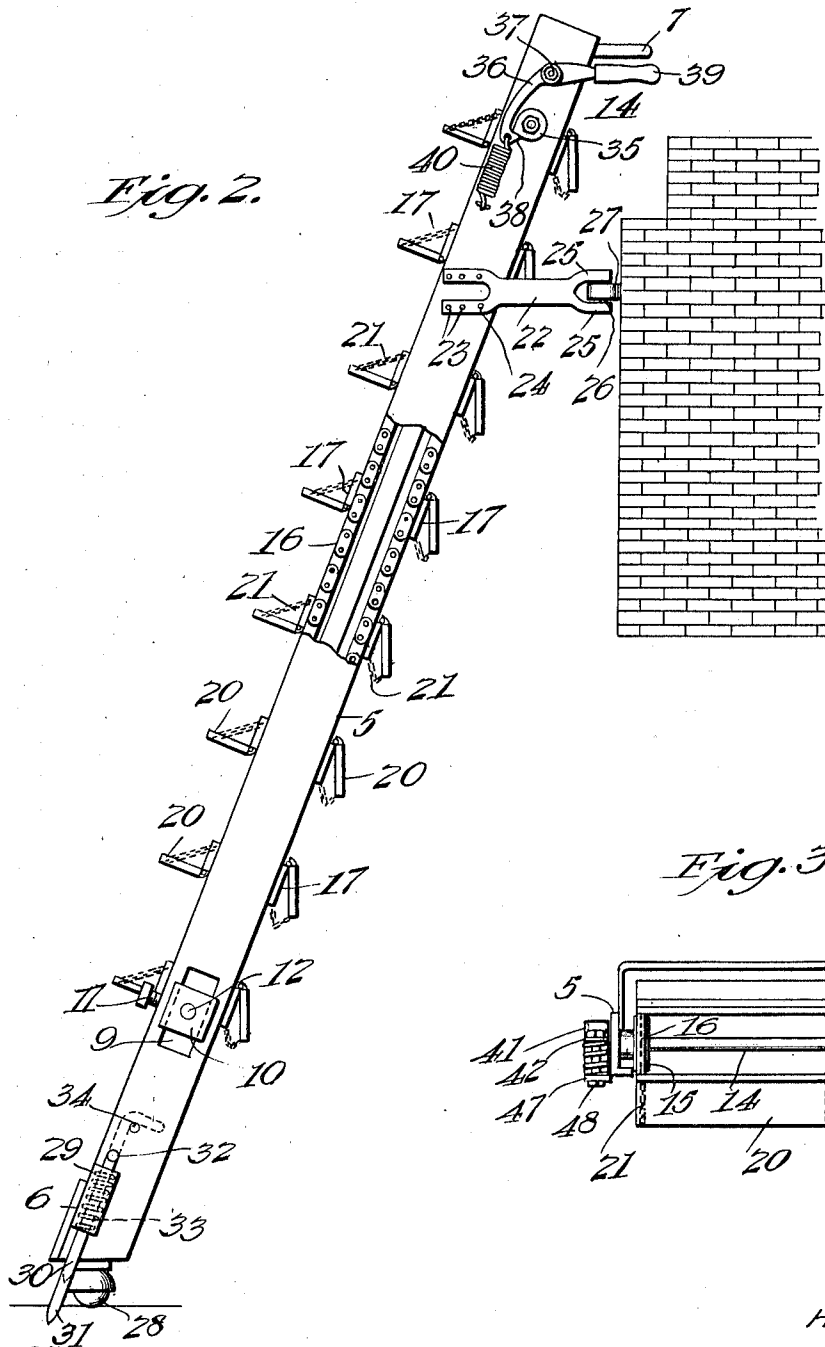
H. G. ROSSIN.
CONVEYER.

APPLICATION FILED MAR. 18, 1910.

988,822.

Patented Apr. 4, 1911.

3 SHEETS-SHEET 2.



Witnesses

J. L. Mochman
R. N. Jones.

Inventor
Herman G. Rossin

By *Geo. S. Vashon*
Attorney

H. G. ROSSIN.

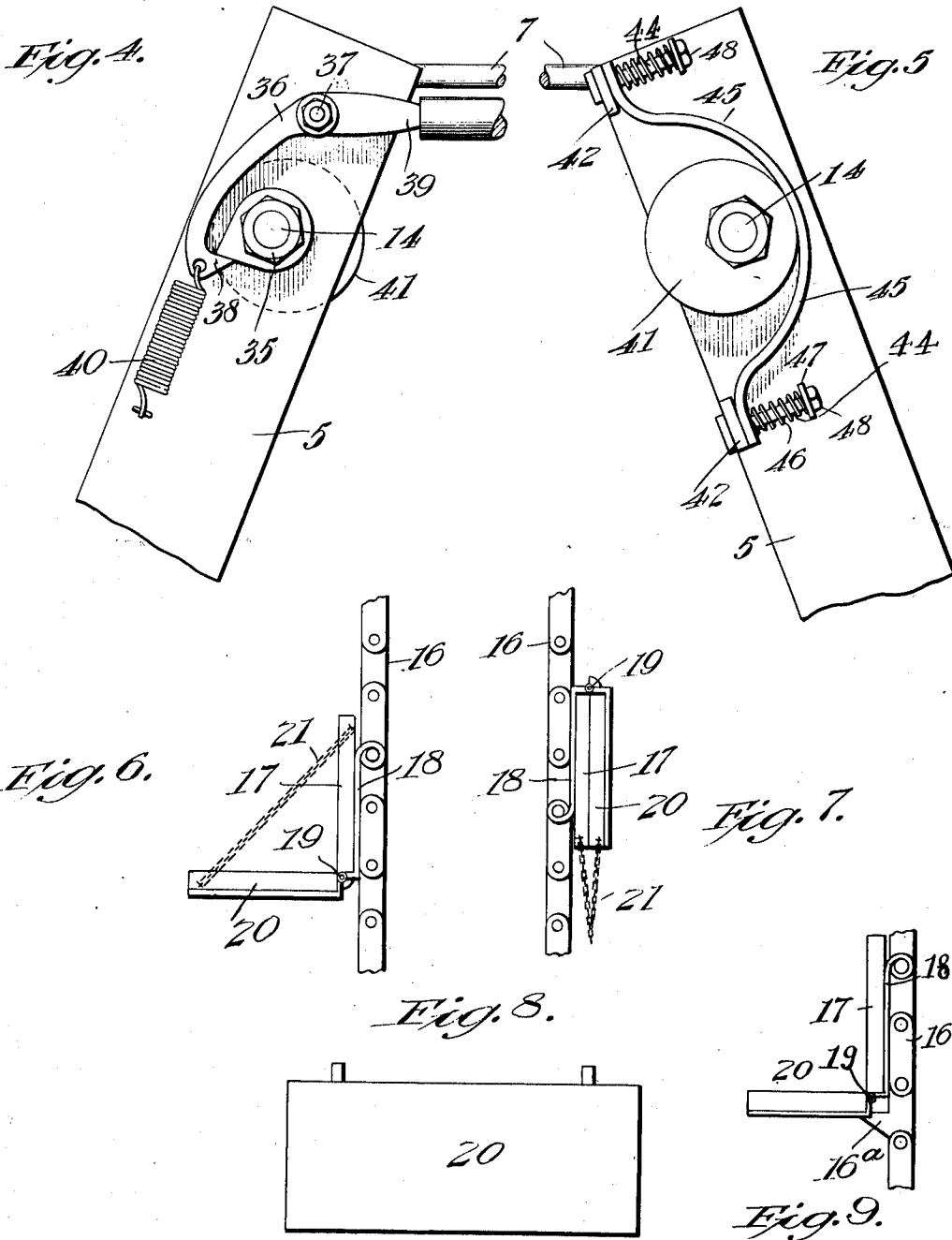
CONVEYER.

APPLICATION FILED MAR. 18, 1910.

988,822.

Patented Apr. 4, 1911.

3 SHEETS-SHEET 3.



WITNESSES

J. L. Macdonald

R. H. Jones

INVENTOR

Herman G. Rossin

By

Geo. S. Vashon

Attorney

UNITED STATES PATENT OFFICE.

HERMAN G. ROSSIN, OF ROSETON, NEW YORK.

CONVEYER.

988,822.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed March 18, 1910. Serial No. 550,156.

To all whom it may concern:

Be it known that I, HERMAN G. ROSSIN, a citizen of the United States, residing at Roseton, in the county of Orange and State of New York, have invented new and useful Improvements in Conveyers, of which the following is a specification.

This invention relates to conveyers, and particularly to that type known as "gravity" conveyers.

Although the apparatus is primarily intended for use in lowering bricks in a kiln, it is, of course, not limited thereto, as it may be used with equal success in analogous arts.

In the present practice, bricks are lowered from the top of the pile in the kiln to the ground by a relay of men. This has been proven to be very expensive because of the number of men employed, and also because of the necessary slow passing of the bricks to one another.

The principal object of this invention is to provide an apparatus designed to be placed against the pile of bricks and which will permit of the said bricks being lowered to the ground with much greater despatch and with about one-half of the former cost.

Another object of the invention is to provide an apparatus of the class described which is extremely simple in construction, is gravity acting and, therefore, requires no actuating mechanism, is positive in action, and is cheap to manufacture.

With these and other objects in view, the invention comprises the novel combination of parts hereinafter more fully described and pointed out in the claims hereto appended; it being understood that various changes in the size and proportion may be made without departing from or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a front elevation of the apparatus. Fig. 2 is a side elevation of the same showing a portion thereof in section. Fig. 3 is a plan view. Fig. 4 is a detail view of the stop mechanism. Fig. 5 is a detail view of the brake mechanism. Fig. 6 is a detail view showing a shelf in its downward passage, and Fig. 7 is a detail view showing the shelf in its forward passage. Fig. 8 is a plan view of the shelf.

Fig. 9 is a view similar to Fig. 6, showing another means for supporting the shelves in operative position.

Like reference numerals designate corresponding parts in all the figures of the drawings.

Referring to the drawings, the invention comprises a rectangular frame consisting of spaced longitudinal side members 5, 5, which are preferably formed of angle iron and which are connected at their bottom by a foot-board 6 and at their top by a guard rail 7. The frame is thoroughly braced by cross members 8, 8, or by any other well known means.

Longitudinal openings 9, 9 are respectively formed in the side members 5, 5 directly above the foot-board 6, and bearing blocks 10, 10 are respectively mounted therein to slide longitudinally thereof. Set screws 11, 11, or other suitable means, are employed for retaining the said blocks in any adjusted position. A transverse shaft 12 has its ends respectively journaled in the said blocks, and a plurality of sprocket wheels 13, 13 are keyed to the shaft in any well known manner.

An upper transverse shaft 14 is journaled in the side members 5, 5 of the frame below the guard rail 7 and has its opposite ends projecting therefrom. A plurality of sprocket wheels 15, 15 are arranged in alignment with the lower sprocket wheels 13, 13 and are keyed on to the said upper shaft in any well known manner. Sprocket chains 16, 16 are respectively arranged to run over the said aligned upper and lower sprocket wheels. A plurality of transverse shelves are secured to the said chains and are preferably formed of sheet metal. Each shelf comprises a back 17, which lies against the chains, and which is secured thereto by a hook 18, or other suitable fastening means. Connected to the back by one or more hinges 19 is a base-board 20, and the back and the base-board are furthermore connected by chains 21, 21 arranged at each side thereof. By means of these chains, the base-board will be prevented from moving beyond a certain angle relative to the back, preferably a ninety degree angle, when traveling down-

wardly over the said frame. Instead of the chains, a tooth 16^a on one of the chain links 16 (as shown in Fig. 9) may be used to support the shelves 20 in their working position. This construction is preferred where the bricks, or other articles being lowered, are to be removed off the ends, rather than the front of the shelves. These shelves are spaced a distance apart equal to the circumference of the sprocket wheels for a purpose hereinafter described.

Projecting rearwardly from the upper end of each member 5, 5 is an arm 22, which is preferably formed of angle iron. The inner end is preferably provided with a plurality of openings 23, any one of or all of which being adapted to receive a bolt 24, or other fastening means, said fastening means being adapted to permit of the arm being adjusted as desired. The outer end of the arm is bifurcated to form spaced superimposed horizontal arms 25, 25 adapted to form bearing for a vertical shaft 26 of a roller 27.

Rollers 28, 28 are secured to the lower end of the frame in any well known manner, and may be of any desirable construction. These rollers are arranged in alinement with the foot-board 6 and are employed for rolling the frame along the kiln. Secured to each member 5 of the frame, and near the lower end thereof, are longitudinal casings 29, 29, and extending longitudinally through each casing is a hook member 30, having a pointed lower end 31 and a bent upper end 32. Arranged within the casing and secured to the hook by any well known means is a coiled spring 33, said spring serving to normally retain the hook in a lowered position. When, however, it is desired to raise the hooks the upper ends 32, 32 are engaged with pins 34 secured to the side members 5, 5 above the said casing. It will be noted that the lower ends 31 of the hook member normally project below the rollers 28.

Keyed to one end of the upper shaft 14 and preferably outside of the frame is a single tooth ratchet 35. A dog 36 is pivoted by a bolt 37 to the side member 5 above the said ratchet wheel, and provided at one end with a hook 38 adapted to coast with the said ratchet wheel. This dog terminates beyond the said pivot in a handle or lever 39. A coiled spring 40 has one end connected to the hook 38 of the dog and the other end to the side member 5 below the ratchet wheel. Thus it will be seen that the spring tends to keep the hook 38 in engagement with the ratchet wheel, and the handle 39 is employed for disengaging the said hook therefrom whenever desired, as will be hereinafter described. Keyed to the other end of the said upper shaft 14 is an eccentric brake wheel 41. Secured to the under side of the adjacent member 5 are outstanding

members 42, 42, said members being respectively arranged above and below the said eccentric 41. Near the outer end of each of said members 42, 42 is an opening adapted to receive bolts 44, 44. An arcuate brake band 45, preferably formed of metal, has its upper ends perforated to receive said bolts 44, 44, said brake band normally engaging the eccentric 41. Arranged around each of the bolts 44, above the extreme end of the brake band 45, are coiled tension springs 46, 46. A washer 47 and nut 48 are secured to each bolt for regulating the tension of the said spring. It will thus be observed that the brake band 45 is resiliently held in frictional engagement with the eccentric 41.

From the foregoing it will be seen that the operation of the apparatus will be as follows: The conveyer is positioned against a pile of bricks in a kiln in an inclined position, the rollers 27, 27 bearing against the pile of bricks, and the lower rollers 28, 28 bearing against the floor. It will be seen that by raising the hooks 30, 30, the apparatus may be shifted as desired. A man is positioned on the pile of bricks and places a number of bricks upon the top shelf. After the shelf has been loaded, he bears upon the handle 39 of the dog and thereby releases the ratchet 35. The weight of the bricks on the said shelf will cause the endless conveyer to revolve. As soon as motion is imparted, the operator immediately releases the handle and the ratchet wheel will become engaged by the hook 38 of the dog and will thereby stop the downward descent of the shelf of bricks. It will be noted in this connection that because of the fact that the single tooth ratchet wheel is employed, the shelf will be stopped after a complete revolution of the said shaft 14. The sprocket wheels having a circumference equal to the distance between the shelves will thus cause the shelf to be lowered just that distance. The operator then loads the shelf which has just come into position, after which he repeats the releasing operation. After a number of these operations have been performed, it will be seen that the first load of bricks will reach the bottom of the conveyer. Another operator unloads the bottom shelf, while the operator above is loading another shelf. It will be seen that by this arrangement a step-by-step movement is imparted to the conveyer, and that during the time of resting of the conveyer, one operator is loading the upper shelf and the other operator is unloading the bottom shelf. The eccentric brake mechanism is employed to prevent any undue dropping of the conveyer during its step-by-step movement. The said eccentric 41 is arranged in such relation that upon release of the dog from the ratchet, it will immediately proceed to be acted upon by the brake band 45, and the friction will be

gradually increased during the descent of the conveyer during each step-by-step movement.

What I claim is:

5 1. An apparatus of the class described comprising a rectangular frame, consisting of spaced longitudinal side members, upper and lower shafts respectively journaled in the said members, sprocket wheels respectively mounted on both of said shafts, an
10 endless conveyer supported by said sprocket wheels, a ratchet wheel keyed to one end of one of the shafts, a spring actuated dog pivoted on one of the side members of the
15 frame in close proximity to and normally engaging the said ratchet wheel, and means for braking the conveyer during each movement thereof.

2. An apparatus of the class described
20 comprising side members, upper and lower shafts respectively journaled in the said members, sprocket wheels respectively keyed to the said shafts, a conveyer supported by the said sprocket wheels, means coacting
25 with one of the shafts for imparting a step-by-step movement to the conveyer, and an eccentric brake mechanism coacting with one of the shafts for braking the conveyer during each movement thereof.

30 3. An apparatus of the class described comprising a rectangular frame consisting of spaced longitudinal side members, upper and lower shafts respectively journaled in the said members, sprocket wheels respectively
35 mounted on both of said shafts, an endless conveyer supported by said sprocket wheels, an eccentric keyed to one end of one of the shafts, lateral projections secured to the contiguous side member, and respectively
40 arranged above and below the said eccentric, a brake band coacting with the eccentric and resiliently connected to the said projections, and means for imparting a step-by-step movement to the conveyer.

45 4. An apparatus of the class described comprising spaced longitudinal side members, a foot-board connecting the lower ends thereof, a guard rail connecting the upper
50 ends thereof, said members respectively having alined longitudinal openings arranged above the foot-board, bearing blocks mounted in the openings to slide longitudinally, means for fastening the blocks against movement, a lower shaft rotatably mounted in the said blocks, spaced sprocket wheels keyed
55 to the shaft, an upper shaft journaled in the side members below the guard rail, means coacting with the last mentioned shaft for imparting a step-by-step movement to the conveyer, and means for braking the conveyer during each movement thereof.

5. In a gravity conveyer, the combination
60 with spaced longitudinal side members, of a lower transverse shaft adjustably mounted in the lower ends of the said members,

an upper shaft journaled in the said members and having its ends respectively projected therebeyond, a single tooth ratchet wheel keyed to one end of the said upper shaft, a dog pivoted to the side member
70 above the ratchet wheel, said dog terminating beyond the pivot in a hand lever, a coiled spring having one end secured to the dog and the other end to the contiguous side member below the said ratchet wheel for
75 keeping the dog in engagement with the said wheel, whereby a step-by-step movement may be imparted to the conveyer upon the disengagement of the dog from the ratchet wheel, and means coacting with the
80 other end of the said upper shaft for braking the conveyer during each movement thereof.

6. In a gravity conveyer, the combination
85 with spaced longitudinal side members, of a lower transverse shaft adjustably mounted in the lower ends of the said members, an upper shaft journaled in the said members and having its ends respectively projected therebeyond, means connecting with one end
90 of the said shaft for imparting a step-by-step movement to the conveyer, means for braking the conveyer during each movement thereof, said latter means comprising an eccentric brake wheel keyed to one end of the
95 upper shaft, lateral projections secured to the contiguous side member and respectively arranged above and below the said eccentric, said projections having openings near their outer ends, an arcuate brake band coacting
100 with the eccentric and provided with oppositely extending perforated ears adapted to rest upon the projections, bolts respectively projecting through the openings of the projections and the perforations of the brake
105 band, a washer and fastening means arranged on the upper end of each bolt, and coiled springs arranged around each bolt between the said ear and washer for tensioning the brake band upon the eccentric.
110

7. An apparatus of the class described consisting of spaced longitudinal side members, upper and lower shafts respectively journaled in the said members, an endless conveyer supported thereby, ground rollers
115 secured to the bottom of the side members, spring actuated bolts secured to each side member in close proximity to and projecting below the said ground rollers, and rearwardly projecting roller carrying arms respectively secured to the said side members near the upper ends thereof.
120

8. An apparatus of the class described consisting of spaced longitudinal side members, upper and lower shafts respectively
125 journaled in the said members, an endless conveyer supported thereby, ground rollers secured to the bottom of the side members, longitudinal casings respectively secured to each side member near the bottom, a hook
130

longitudinally movable in each casing and
provided with a pointed lower end normally
arranged below the rollers and a pointed
upper end arranged above the casing, a
5 coiled spring arranged within the casing
and around the hook to keep the said hook
in its normal position, and rearwardly pro-
jecting roller carrying arms respectively

secured to the said side members near the
upper ends thereof.

In testimony whereof, I affix my signature
in presence of two witnesses.

HERMAN G. ROSSIN.

Witnesses:

GRAHAM WITSCHIEF,
J. HAROLD McCORD.