

July 5, 1927.

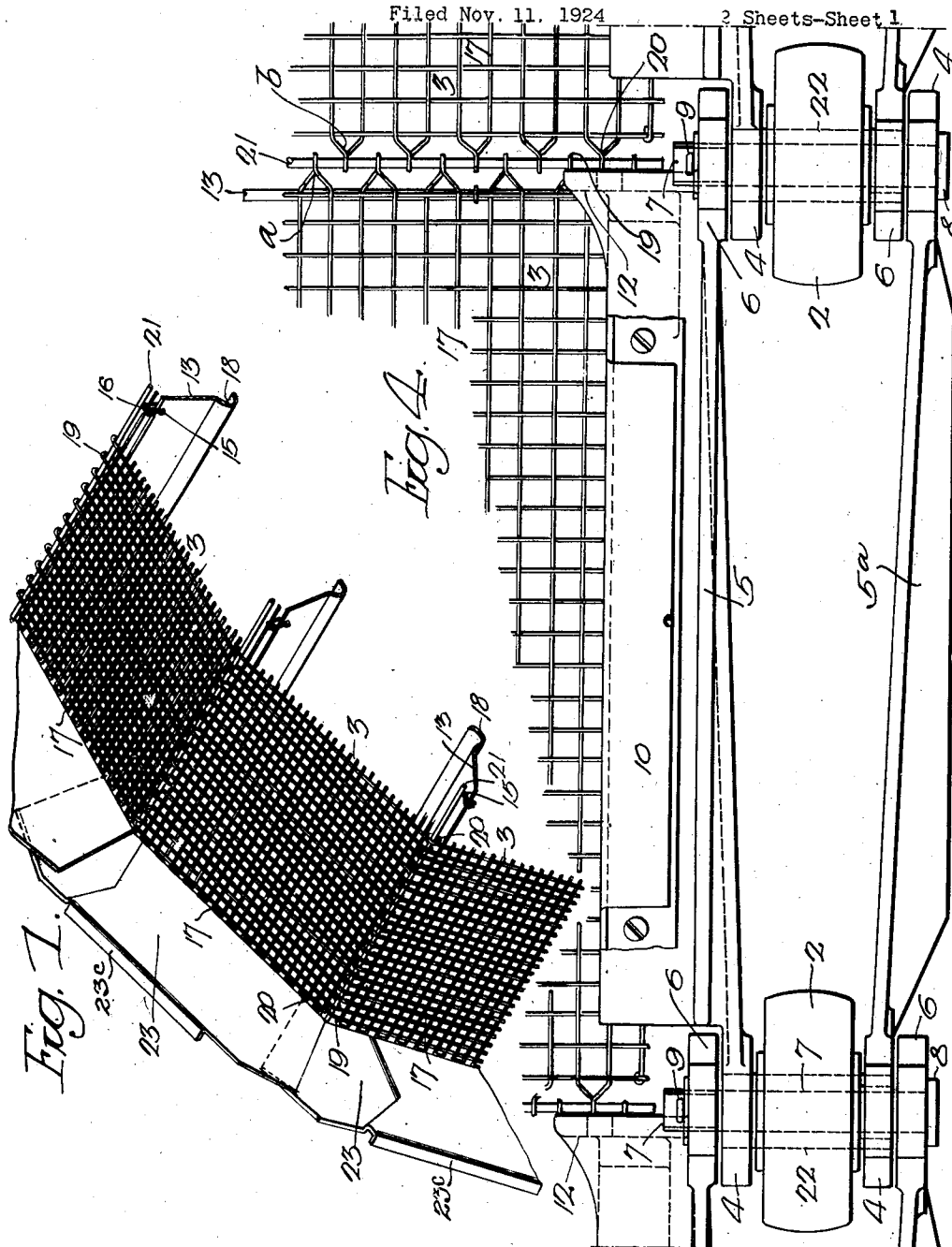
W. M. SCHWARTZ

1,634,963

SCREEN CONVEYER

Filed Nov. 11, 1924

2 Sheets-Sheet 1



Inventor:
Walter M. Schwartz.
by his Attorneys—
Howen & Howen.

July 5, 1927.

W. M. SCHWARTZ

1,634,963

SCREEN CONVEYER

Filed Nov. 11, 1924

2 Sheets-Sheet 2

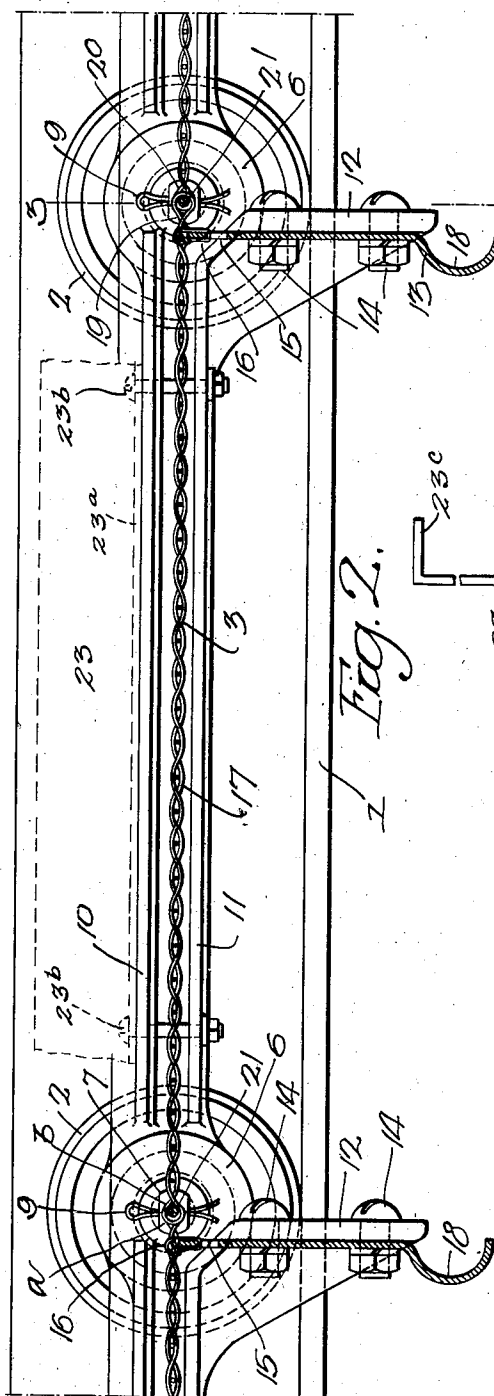


Fig. 2.

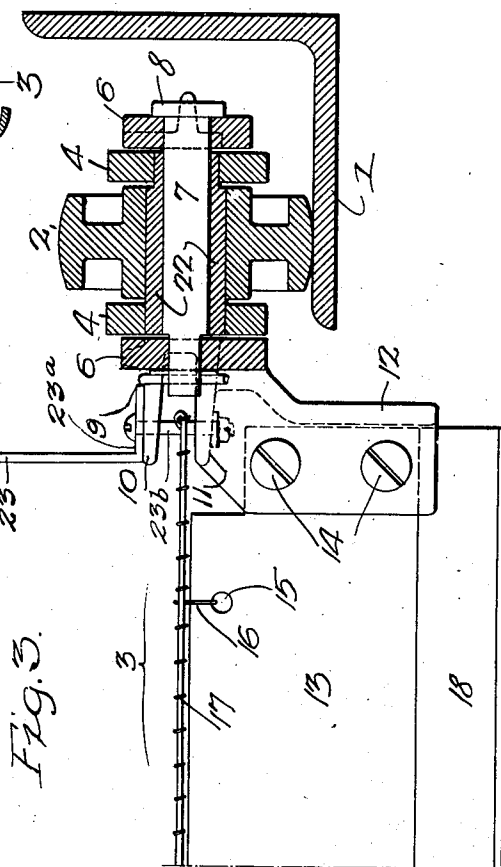


Fig. 3.

Inventor:
Walter M. Schwartz,
by his Attorneys
Howson & Howson

Patented July 5, 1927.

1,634,963

UNITED STATES PATENT OFFICE.

WALTER M. SCHWARTZ, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO PROCTOR & SCHWARTZ, INCORPORATED, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SCREEN CONVEYER.

Application filed November 11, 1924. Serial No. 749,221.

My invention relates to certain improvements in screen conveyers, which are used to convey material through drying chambers, in which heated air is circulated.

One object of the invention is to design the screen conveyer so that the sections of the screen can be coupled in such a manner that the joint is of substantially the same mesh as the body of the screen.

A further object of the invention is to allow the screen sections to accommodate themselves to each other in passing around the drums, or guides.

A still further object of the invention is to design the coupling so that any section can be readily detached and replaced.

In the accompanying drawings:

Fig. 1 is a perspective view of a portion of a screen made in accordance with my invention;

Fig. 2 is a longitudinal sectional view of the screen;

Fig. 3 is a transverse sectional view on the line 3—3, Fig. 2; and

Fig. 4 is a plan view of a portion of the conveyer shown in Fig. 2.

Referring to the drawings, 1 is an angular rail. The rails are located on each side of the drying chamber and are spaced apart to allow the rollers 2, which carry the screen conveyer 3, to travel freely through the drying chamber. The rollers 2 are mounted on bushings 22, which are located in the ends 4 of the links 5, 5^a. The links 5, 5^a are tapered, in the present instance, and the ends 6 of the links are spaced a greater distance apart than the ends 4, and extend over the ends 4 of the adjoining links. Pins 7 extend through the bushings 22 and are secured to the ends 6 of the links, as shown clearly in Figs. 3 and 4. Each pin has a head 8 at one end and is perforated at the opposite end for the passage of a cotter pin 9 so that it can be readily detached, when necessary. The links 5 have lateral extensions 10 and 11. Depending from one end of the lateral extension 11 is a bracket 12 to which is secured the girt 13 by bolts 14. Each girt has a series of perforations 15 through which the attaching wire 16 passes that secures the screen section 17 to the girt. The lower portion 18 of each girt is shaped in such a manner as to stiffen it.

The screen sections 17 are equal in length

to the distance between the girts, but are offset, as shown in Fig. 2, so that one end *a* of a screen section extends beyond a girt at one end, while the end *b* stops short of a girt at the opposite end, as illustrated in Fig. 2.

At each end of the screen is a series of eyes 19 and 20. The eyes 19 of one screen alternate with the eyes 20 of an adjoining screen. A connecting pin 21 is passed through the eyes. The pins are smaller than the eyes so that the links will have a limited longitudinal movement in respect to each other when passing around sprocket wheels, or curved rails. The girts retain the screen sections in a fixed position in respect to the links, which carry the screen sections. The loose pivot connection allows the screen sections to accommodate themselves to any irregularities in the movement of the conveyer.

By providing the eye and pin connection shown, the mesh is substantially the same as in the body of each screen section, so that fine material will not pass through the screens at the pins.

Attached to each link of the conveyer chain are side flanges 23, which overlap, as shown in Fig. 1. In order that the inner surface of the side flanges may be on the same plane, the overlapping portions are offset, as illustrated in the drawings.

In the present instance each of the flanges 23 has a base 23^a which is secured to the extension 10 of the links by bolts 23^b, but other means of fastening the flanges to the chain may be resorted to without departing from the essential features of the invention. Each flange has preferably an outwardly extending lip 23^c, which reinforces the flange.

It will be noticed that the pivots of the screen sections are on a line with the pivots of the chain and that the openings in the screen sections for the pins are of a greater diameter than the pins to allow a limited longitudinal movement of each screen section. The screens are preferably connected to the girts some distance from the pivot line of the chain, as shown clearly in Fig. 2.

I claim:

1. The combination in a screen conveyer, of a series of screen sections pivotally connected; and a transverse girt located near each pivot for supporting the screen independently of the pivots.

2. The combination in a screen conveyer,

of side carrying chains; girts extending from one chain to the other; screen sections carried by said girts; and pivot pins connecting the screen sections, said pins being free of the supporting chains.

3. The combination in a screen conveyer, of side carrying chains; girts extending from one chain to the other near the pivots of the links of the chain; screen sections carried by said girts; and pivot pins connecting the screen sections, said pins being on a line with the pivots of the chain, but independent of the chain.

4. The combination in a screen conveyer, of side chains; girts connecting the chains; screen sections attached to the girts, said girts being also supported by the side chains; and pivot pins connecting the screen sections on a line with pivots of the links of the chain but independent of the chain.

5. The combination in a screen conveyer, of two side chains consisting of links pivotally connected; a girt extending from one link to the other at one side of the pivot line of the links of the chain; screen sections, one end of each screen section being attached to the girt and extending beyond the girt, and the other end of the section extending short of the girt but to the pivot line of the links; and transverse pivot pins connecting the screen sections on the pivot line of the links.

6. The combination in a screen conveyer, of two conveyer chains spaced apart; girts connecting the chains; and screen sections mounted on the conveyer chains and attached to the girts, said screen sections being pivotally connected together at a point some distance from the girts, the connection being loose to allow independent movement of the screen sections.

7. The combination in a screen conveyer, of two chains, each consisting of a series of links pivotally connected; rails over which the chains travel; girts extending from one chain to the other, and at one side of the line through the pivots of the links; and screen sections mounted on the links of the chains and attached to the girts, the screen sections being pivotally connected on a line with the pivots of the chains, the connection being loose to allow the sections to have a limited longitudinal movement.

8. The combination in a screen conveyer, of two chains spaced apart, each chain consisting of a series of long links; girts connecting the links of the chains on one side of the conveyer with the links of the chains on

the opposite side thereof, said girts being back of the line through the pivots of the chains; screen sections mounted on the links and of a length substantially equal to the length of the links, each screen section having a series of eyes at the ends, the eyes of one section alternating with those of an adjoining section; and a pin extending through the eyes of two adjoining sections, the pin being less in diameter than the eyes to allow the sections to have a limited, independent longitudinal movement.

9. The combination in a screen conveyer, of two chains spaced apart, each chain consisting of a series of long links pivotally connected; rollers at the pivots of said links; rails on which the rollers travel, the inner section of each link being channeled; screen sections substantially the same length as the links, the edges of the screen sections extending into the channels of the links; girts extending from each link of the chain on one side to each link of the chain on the opposite side, the screen sections being fixed to the girts, said girts being back of the line through the pivots of the links, the screens having eyes at each end, the eyes of one screen alternating with those of an adjoining screen; and pins extending through the eyes and connecting the several screens.

10. The combination in a screen conveyer, of two chains spaced apart, each chain consisting of a series of inner and outer links, the inner links being channeled and having depending brackets; girts extending from one chain to the other and secured to the brackets of the links; screen sections of substantially the same length as the links of the chains and attached to the girts, the girts being located back of the line through the pivots of the links; and pivot pins connecting the screen sections on a line with the pivots of the chains, the pivot pins being less in diameter than the openings through which they extend to allow each screen section to have a limited, independent longitudinal movement.

11. The combination in a screen conveyer, of side carrying chains composed of links pivotally connected; screen sections supported by the chains, the sections being pivotally connected at or near the pivots of the links of the chain; and side flanges secured to the links of the chain and extending at an angle in respect to the surface of the screen sections, the edge of one flange overlapping that of the adjoining flange.

WALTER M. SCHWARTZ.