

No. 729,296.

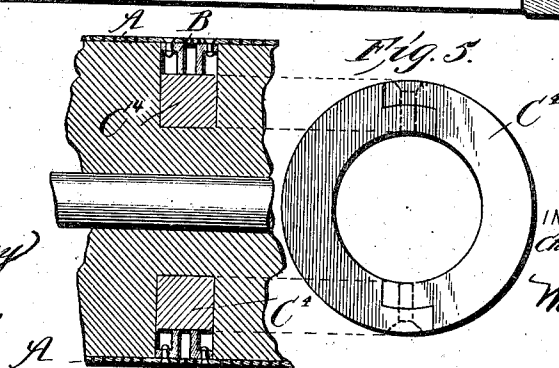
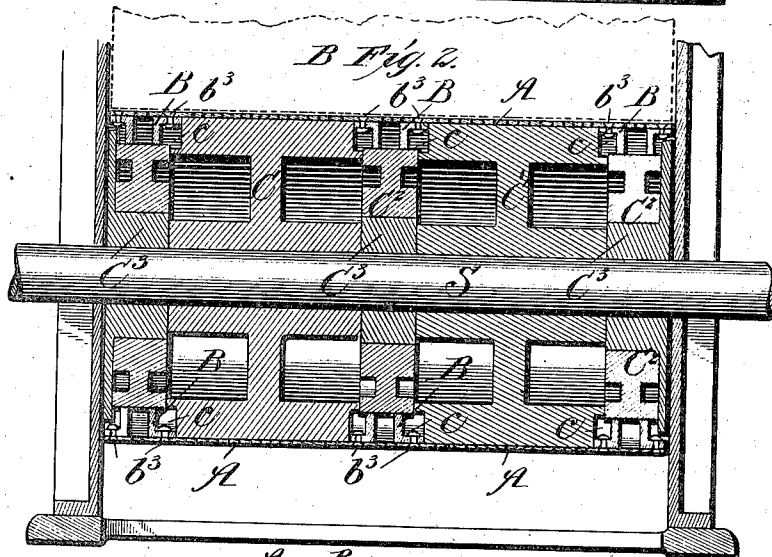
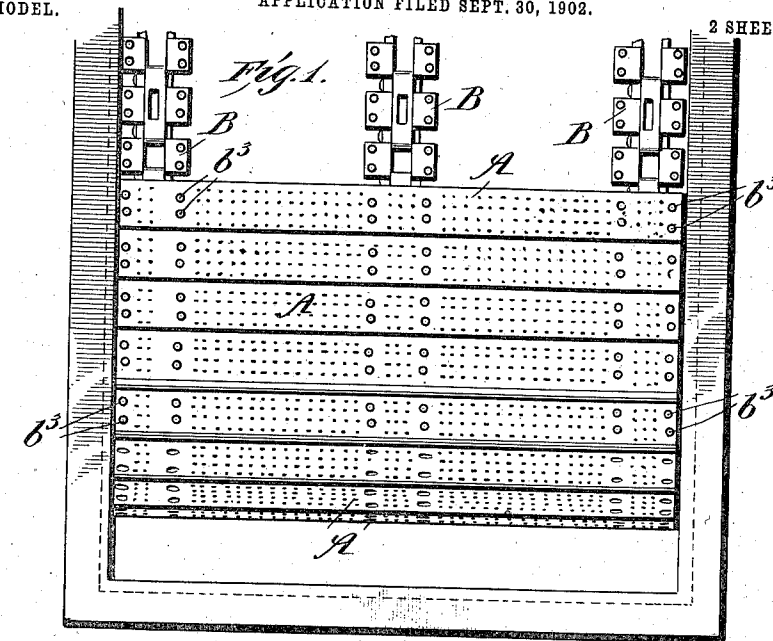
C. EDGERTON.
STRAINER BELT.

PATENTED MAY 26, 1903.

NO MODEL.

APPLICATION FILED SEPT. 30, 1902.

2 SHEETS—SHEET 1.



WITNESSES:

Geo. P. Kingsbury
Edw. W. Byrnes

INVENTOR
Chas. Edgerton
BY
Munn & Co.
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2 SHEETS—SHEET 2.

Fig. 3.

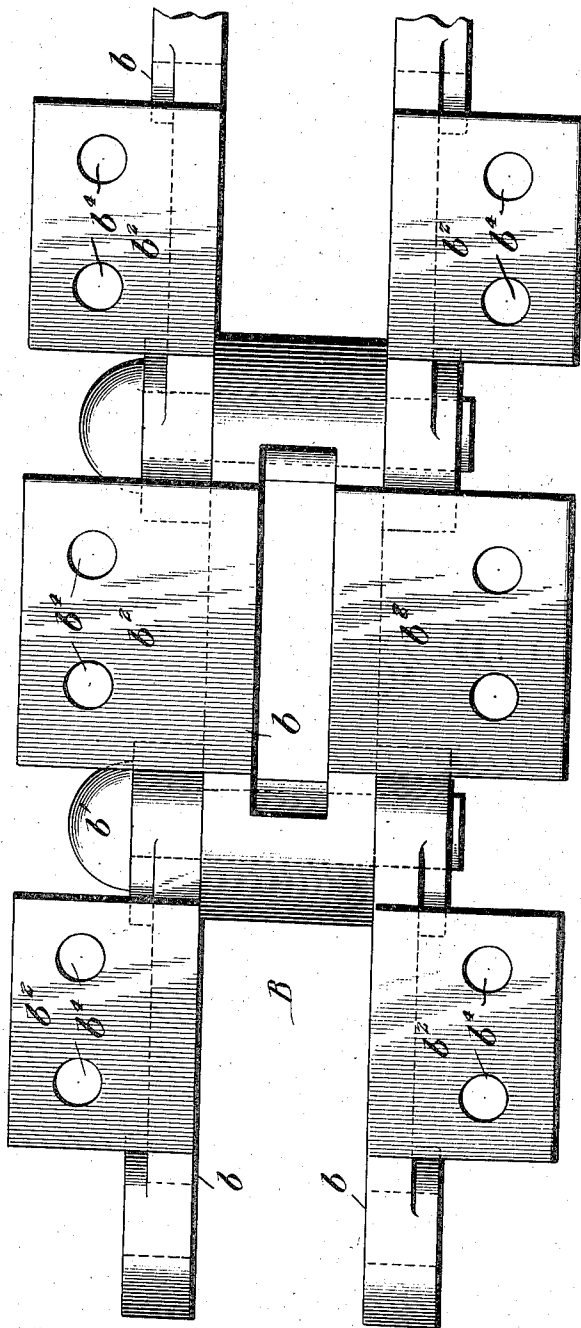
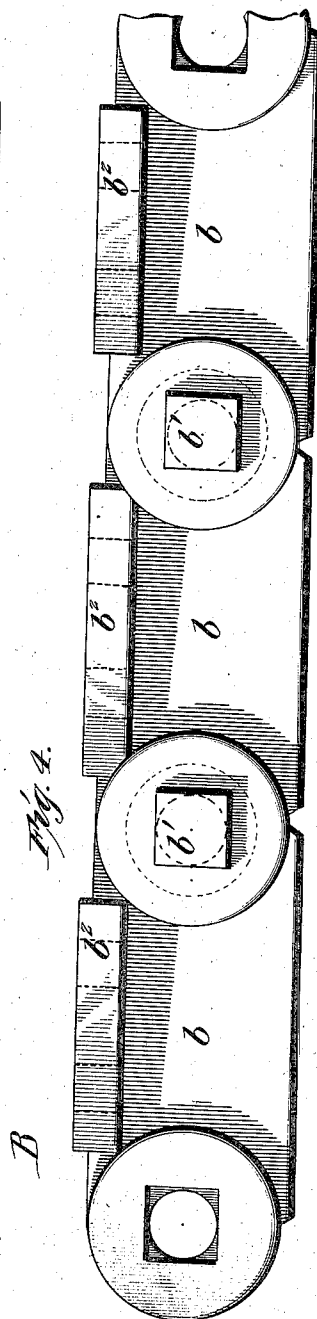


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES EDGERTON, OF PHILADELPHIA, PENNSYLVANIA.

STRAINER-BELT.

SPECIFICATION forming part of Letters Patent No. 729,296, dated May 26, 1903.

Application filed September 30, 1902. Serial No. 125,439. (No model.)

To all whom it may concern:

Be it known that I, CHARLES EDGERTON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Strainer-Belts, of which the following is a specification.

In the apparatus patented by me February 15, 1898, No. 599,229, and May 10, 1898, No. 603,945, for treating garbage and continuously pressing the liquids from the solids I employed a series of rolls and an endless conveyor or belt passing between the rolls, which belt was specially constructed of textile material or steel slats, through which the liquids were allowed to strain, as through a filter.

My present invention consists in an improved construction of such endless conveyor-belt constructed to act as a continuous strainer to separate the liquids from the solids and to resist the compressive strain of the rollers thereupon, in combination with a special construction of roller adapted to receive the chain-links which form a part of the strainer-belt, as will be hereinafter more fully described with reference to the drawings, in which—

Figure 1 is a plan view of a portion of my improved strainer-belt. Fig. 2 is a section taken crosswise the belt and longitudinally through the axis of the rollers. Figs. 3 and 4 are enlarged detail views of one of the connecting-chains which couple the slats of the belt, Fig. 3 being a plan and Fig. 4 a side view of said chain; and Fig. 5 is a detail of a modification.

In my present invention I use a steel slat A, three inches wide by three feet long and one-quarter of an inch thick, fixed to chains B, so that the slats will fit closely at the edges without interfering with each other, and these slats are drilled full of small closely-juxtaposed holes to form a practically continuous traveling strainer-surface. This in connection with the rollers gives an effective straining-surface which separates the liquids from the fibrous solids and also is able to stand the severe work of pressing garbage with all its accompanying refractory substances, which under the stress of the pressure-rollers imposes a great strain on the belt.

The chains B are three in number, and they consist (see Figs. 3 and 4) of links b, con-

nected together by hinge-pins b', the links being formed with flanges or faces b², to which the slats A are fastened by means of rivets b³ passing through holes b⁴ in the flanges of the links. This endless belt passes through between the pressing-rolls, the upper one of which is shown in Fig. 2 in dotted lines only. The lower roll is made in sections C C' with three transverse grooves or recesses c to receive the chains of the belt and allow the slats to pass between the rollers with a flat bearing on the rolls both at the upper and lower surfaces, so as to resist the compression strain. These chains must take a bearing on the bottoms or else the slats will bend at this point from the pressure above. Now the surface speed of the roll at the bottom of these grooves or recesses c is less rapid than that at the outer peripheral surface of the roller, and as the slats and chains are rigidly connected as against any longitudinal take-up there must be some differentiation between the bearing of the slats on the rolls and the bearing of the chains, so as to allow some slippage between them. This is provided for by making the rolls in sections C and C' and supplying a swiveling or rotary adjustable collar C² between them, which movable collar C² takes the bearing of the chains, while the slats take a bearing on the outer periphery of the rolls. These collars have an independent swiveling movement on sleeves C³, carried by the roller-shaft S, to suit the travel of the inner edge of the chain, and thus form a compensating arrangement that avoids sliding friction and wear and reduces the amount of power required to drive the belt. Instead of forming the rolls in section, as in Fig. 2, the roller may be in one piece grooved transversely, as seen in Fig. 5, and a swiveling sectional collar C⁴ may be arranged in the grooves, so as to take the bearing of the chains and have an independent rotary compensating movement.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A traveling strainer-belt for filtering or straining under pressure, consisting of transverse slats and chains connecting the slats and projecting on one side of the belt, combined with rollers having swiveling collars lo-

cated in the plane of the chains to take up differential movement substantially as described.

2. A traveling strainer-belt for filtering or
5 straining under pressure, consisting of transverse slats, and chains connecting the slats and projecting on one side of the belt, combined with rollers made in sections with grooves or recesses between the sections and
10 freely-swiveling collars at the bottoms of the grooves substantially as and for the purpose described.

3. A traveling strainer-belt for filtering or straining under pressure, consisting of transverse slats, and chains connecting the slats 15 and projecting on one side of the belt combined with rollers having grooves to receive the chains and a rotary compensating bearing at the bottoms of the grooves substantially as and for the purpose described.

CHARLES EDGERTON.

Witnesses:

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CLIFTON C. DUNKEL.