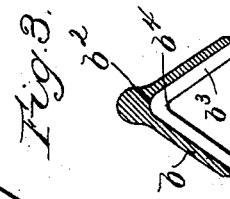
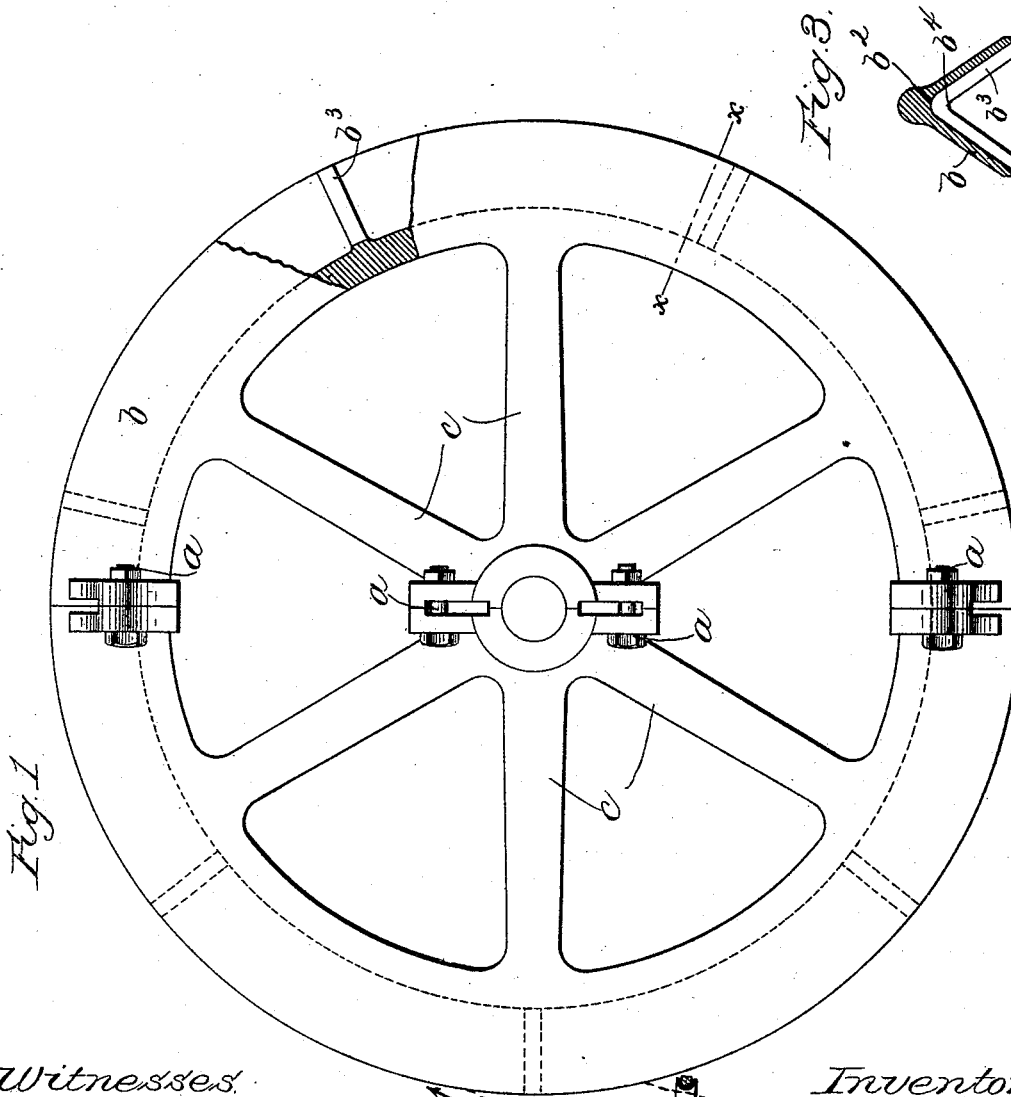
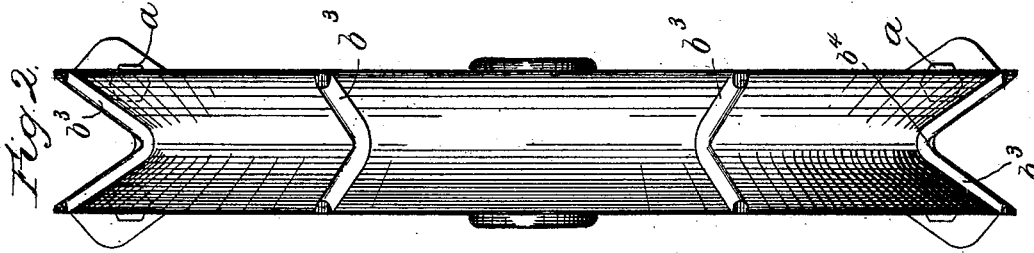


(No Model.)

J. EDMUNDS.
PULLEY FOR FEEDING CLOTH.

No. 494,131.

Patented Mar. 28, 1893.



Witnesses:
Jas. J. McAloney,
Atty.

Inventor:
John Edmunds
by J. P. Sumner
Att'y.

UNITED STATES PATENT OFFICE.

JOHN EDMUNDS, OF WALTHAM, MASSACHUSETTS, ASSIGNOR TO THE BOSTON MANUFACTURING COMPANY, OF SAME PLACE.

PULLEY FOR FEEDING CLOTH.

SPECIFICATION forming part of Letters Patent No. 494,131, dated March 28, 1893.

Application filed September 16, 1892. Serial No. 446,084. (No model.)

To all whom it may concern:

Be it known that I, JOHN EDMUNDS, of Waltham, county of Middlesex, State of Massachusetts, have invented an Improvement in Pulleys for Feeding Cloth, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to a pulley especially intended for conveying cloth or other similar flexible material from point to point as is required in the processes of dyeing, bleaching, &c. The web or strip of cloth is usually rolled up or twisted longitudinally into a loose rope-like mass of considerable size and in many cases has to be drawn upward from a vat or tank in which it is saturated in liquid and very heavy, so that the draft of the cloth upon the feeding apparatus is very great.

Heretofore the operation of feeding the cloth in the condition just described, has in some cases been performed by reels or drums about which the strip has to be wrapped for one or more turns in order to get sufficient hold to overcome the draft, and attempts have been made to use grooved pulleys in which case an additional pulley or idler has been employed to press the cloth against the periphery of the grooved pulley in order to insure a sufficient hold to overcome the draft.

The object of the present invention is to produce a pulley that will engage with the strip sufficiently to feed the same without substantial slip of the cloth upon the pulley and without requiring extraneous devices of any kind to press the cloth into frictional contact with the surface of the pulley which is simpler and more efficient and occupies less space than the appliances heretofore used and is also less costly to construct.

The invention consists essentially in a pulley or sheave having a channel shaped periphery of substantial V-shape in cross section, but rounded at the apex and provided at various points around its circumference with internal transverse ribs or projections also rounded in cross section and which engage with the strip of cloth or material to be fed and thus cause it to be moved with great certainty at substantially the same speed as the

surface speed of the pulley. The width of the pulley at its extreme periphery or wider part of the channel is usually about four or five inches, and the transverse ribs are so placed that as the rolled up strip or cloth naturally lies on the periphery of the roll, several ribs will be in engagement with the strip at any given moment in the rotation of the pulley by which the strip is fed.

Figure 1 is a side elevation of a pulley for feeding cloth, or analogous operations, embodying this invention; Fig. 2, an elevation thereof, on a plane parallel to the axis of rotation of the pulley; and Fig. 3 a detail showing the periphery or rim of the pulley in cross section on line *x* Fig. 1.

The pulley is shown as made of two castings fastened together by bolts *a* and suitably secured to the driving shaft, not shown.

The rim *b* of the pulley, which may be connected with the hub portion by spokes or arms *c* in the usual manner, is made in the form of a substantially V-shaped channel, rounded near the apex as shown at *b*² Fig. 3, the size or width of the channel varying according to the nature of the material to be operated upon, but being commonly four or five inches wide so as to readily receive the loosely rolled or twisted web of cloth of the widths commonly made.

In order to insure the certain feed of the strip of cloth resting in and lying around a portion of the circumference of the periphery *b* of the pulley, the latter is provided from point to point with transverse inwardly projecting ribs *b*³ extending down the inclined inner walls of the channel shaped periphery, and preferably rounding at the bottom as best shown at *b*⁴ Fig. 3, so as to be concentric with the rounded bottom of the V-shaped channel constituting the rim of the periphery. The said transverse ribs *b*³ are spaced as shown, so that a strip of cloth resting in the periphery without being carried wholly around the pulley would be engaged by a number of said ribs which engage with the strip of cloth successively in the rotation of the pulley, and owing to the comparatively soft condition of the rolled up strip, the ribs will sink into it more or less, and cause it to move without

slipping thereon, and without danger of being torn or otherwise damaged. The pulley will thus insure a substantially positive feed of the cloth even when wrapped only about a quarter way around the same, as is the case for example, when the wheel draws the strip vertically upward from a tank and conveys it in a horizontal direction therefrom to some other point. In most of the feeding operations the change of direction of the cloth will be such as to afford a wrap of the cloth around at least one quarter of the periphery of the pulley, and in many cases more than this amount, so that the pulley operates efficiently without any extraneous device to feed the cloth as required.

The strip of cloth is commonly guided on to the pulley through an eye or ring *d*, as indi-

cated in Fig. 1, which may be supported in any required position with relation to the pulley to cause the cloth to run properly into the groove of the pulley.

I claim—

The herein described pulley for feeding cloth and the like, having its rim made with converging sides meeting in a rounded apex or bottom and supplied with transverse ribs which are rounded in cross-section, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN EDMUNDS.

Witnesses:

JOS. P. LIVERMORE,
M. E. HILL.