

J. THORNER.

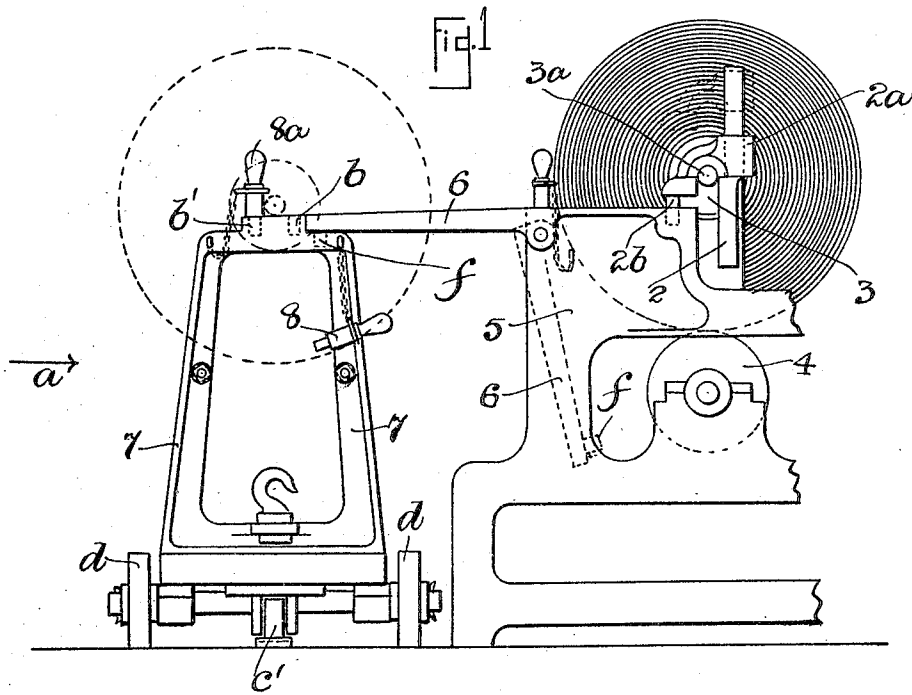
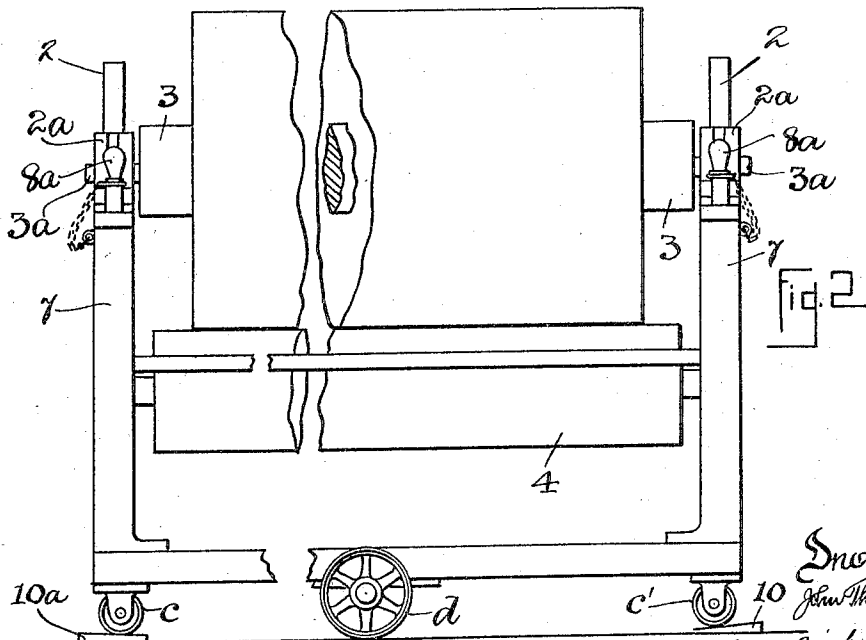
APPARATUS FOR USE IN CONNECTION WITH MACHINES FOR BLEACHING, DYEING, FINISHING,
AND OTHERWISE TREATING FABRICS.

APPLICATION FILED JAN. 20, 1919.

1,396,980.

Patented Nov. 15, 1921.

2 SHEETS—SHEET 1.



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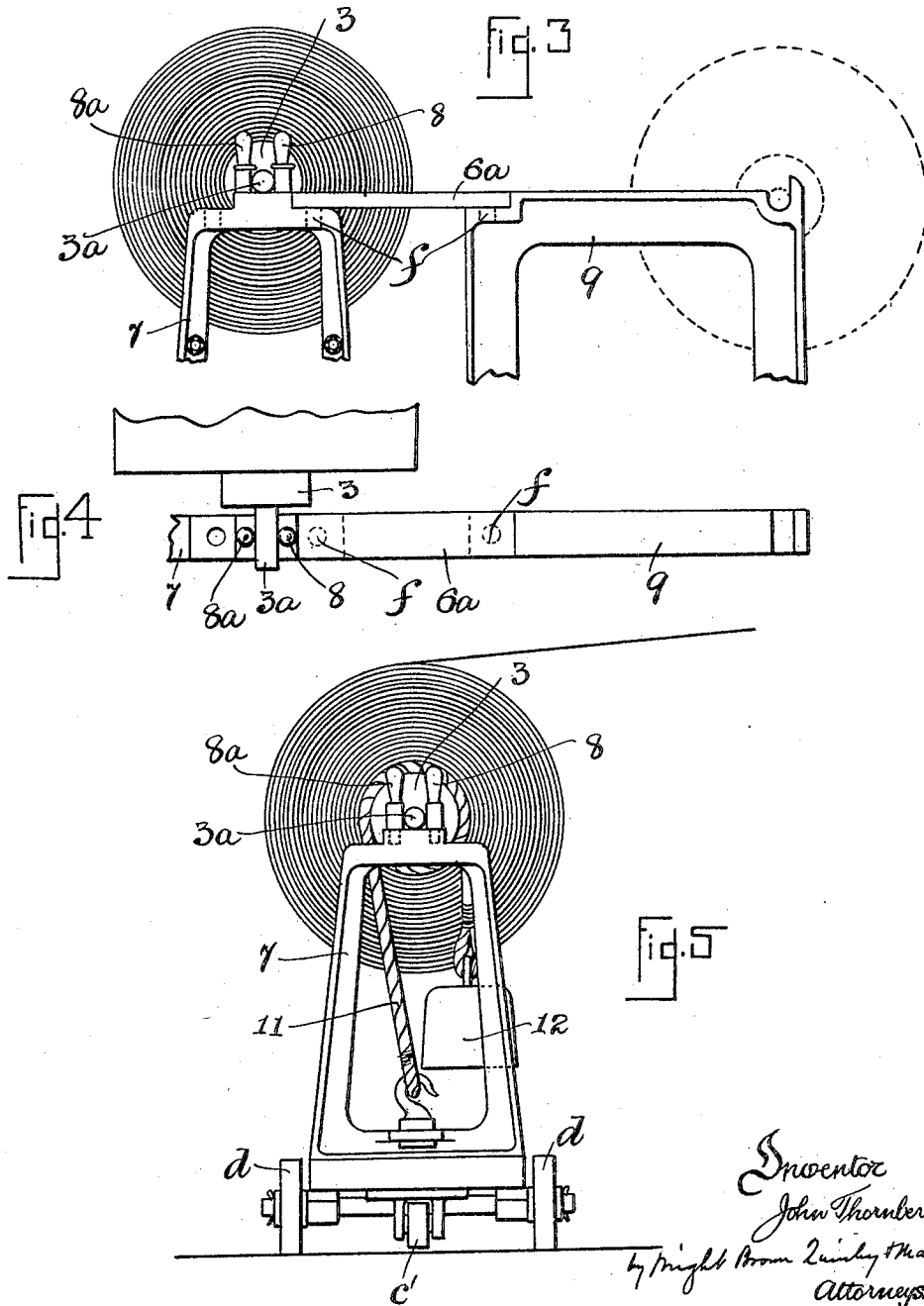
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UNITED STATES PATENT OFFICE.

JOHN THORNBUR, OF BRADFORD, ENGLAND, ASSIGNOR TO BRADFORD DYERS ASSOCIATION LIMITED, OF BRADFORD, ENGLAND.

APPARATUS FOR USE IN CONNECTION WITH MACHINES FOR BLEACHING, DYEING, FINISHING, AND OTHERWISE TREATING FABRICS.

1,396,980.

Specification of Letters Patent.

Patented Nov. 15, 1921.

Application filed January 20, 1919. Serial No. 272,148.

To all whom it may concern:

Be it known that I, JOHN THORNBUR, a subject of the King of Great Britain, and resident of Bradford, in the county of York, England, have invented a certain new and useful Improvement in Apparatus for Use in Connection with Machines for Bleaching, Dyeing, Finishing and Otherwise Treating Fabrics, (for which I have filed an application in England, Jan. 15, 1918, No. 846,) of which the following description, having reference to the accompanying sheets of drawings, is a specification.

In bleaching, dyeing, finishing and otherwise treating fabrics, said fabrics on passing through the various machines and processes have to be wound upon rollers often under such conditions (as to the amount of liquid, moisture and other substances being carried by said fabrics) as to render the weight of the whole comparatively heavy. The rollers with the coils of fabrics thus wound around them have then to be lifted from the bearings in the machine and usually placed upon a wagon or other vehicle to transport or carry them to the next or succeeding machine from which again the roller and its load have to be lifted into bearings in order to enable said succeeding machine to unwind or withdraw said coil of fabric from said roller. This handling of the fabric entails the employment of sufficient workmen or attendants to carry out said lifting and adjusting of the rollers in their several positions. To obviate this waste of energy and time and to enable said rollers and their loads of fabrics to be easily and readily handled by the employment of means whereby same may be readily removed from one machine and carried to the next machine where they have to be further treated and that without being required to be raised from one position to another in order to permit the unwinding and rewinding operations to be carried out, is the object of my present invention.

In accordance with my said invention I make use of devices and apparatus as hereinafter described and as illustrated by the accompanying sheets of drawings, to which by figures and letters reference is made in the following description:—

Figure 1 is an end elevation of a vehicle

and other apparatus constructed in accordance with my invention. This vehicle is illustrated as being placed adjoining a machine which is of that type wherein the fabric on passing through such machine is wound upon a beam or roller which has to be detached and removed from it to permit said fabric to be carried through the succeeding stage in its process of treatment.

Fig. 2 is an elevation of the parts shown by Fig. 1 as seen in the direction indicated by the arrow *a*.

Fig. 3 is a similar view to Fig. 1 but shows only a portion of the upper end of our apparatus, the same being arranged in proximity to other framework which may be fixed adjoining a machine or apparatus so that the load carried by my vehicle may be transferred to said framework and there left for withdrawal after the vehicle has been removed.

Fig. 4 is a plan of parts shown by Fig. 3.

Fig. 5 is an end elevation of my improved vehicle showing same arranged with appliances mounted thereon for enabling the coil of fabric to be withdrawn or unwound from its beam while still resting upon my vehicle and under conditions which enable said fabric to be delivered at the desired state of tension to the succeeding machine.

In accordance with my invention I arrange the bearings 2 in the several machines (and on each side or end thereof) upon which the roller 3 is mounted to revolve in order to have the fabrics coiled upon it, so that on the completion of the coiling operations or when the desired length of fabric has been passed through the machine and wound upon said roller 3, the upper part 2^a of the bearings 2 (or any other similarly removable part of the bearings which may be of well known construction) is arranged to be removable or loose so that it may be raised from the position shown in full lines of Fig. 1 to the position shown in broken lines of the same figure, thus the retaining pin 2^b of said movable part 2^a is raised clear of the axle 3^a of the beam 3 and this liberates said beam 3 so that it may roll over the periphery of the beaming roller 4 in order that its said axle 3^a may rest upon the upper surface of the framework 5 to travel over same and over the hinged guiding bar 6 to

finally arrive upon my vehicle 7 as shown in broken lines by Fig. 1. This arrangement of the detachable bearings 2^a in conjunction with the guiding bar or slipway 6 enables the loaded beam to be transferred with little exertion on the part of the attendant since he may readily roll same along the upper surface of the parts described so that the beam and its load are entirely removed from the machine within which the coiling operations had been carried out. On the vehicle 7 having received its load of coiled fabrics as described, the hinged guiding bars 6 are removed, the detachable holding pin 8 is placed within the opening *b* shown in broken lines Fig. 1 and so the beam and its load are retained upon the vehicle 7 as is shown by Fig. 5. The vehicle 7 may be then moved upon its well known arrangement of supporting wheels *c*, *c*¹ and *d* so that it may be carried and placed in front of the next or succeeding machine for the subsequent treatment of the fabric. Or it may be placed in front of framework 9 as shown by Fig. 3 to which it is coupled by detachable guiding bars or slipways 6^a so that again on the removal of the detachable pin 8 the attendant may roll the beam 3 and its load of fabric over said bars 6^a in order that same, by continuing to travel over the upper surface of the framework 9, may finally arrive in the position shown in broken lines by Fig. 3, on which the detachable bars 6^a may be removed and the vehicle 7 may be then taken away and used for carrying out other parts of its functions. This framework 9 may be situated in proximity to or adjoining any machine or apparatus to the actions or treatment of which the fabric has to be subjected, since from the position of the beam or roller on said framework as shown by the drawings, the withdrawal or unwinding of the fabric by the actions of the adjoining machine or apparatus may be readily effected.

When the vehicle 7 is placed adjoining or opposite any machine from which the fabrics have to be unwound from the beam or roller 3 to enter said machine, I may leave the whole vehicle in position whether it is held or secured in position by engagement with holding devices of any appropriate construction, such as the hinged bars 6 shown in Fig. 1 or by the bars 6^a, or by other means or even by being scotched by the wedges 10, 10^a shown by Fig. 2, since the dragging or unwinding of the fabric from the beam 3 by the machine (through which it has to be treated) may be carried out by the actions of said machine and during this process the retarding of the beam 3 may be effected by the weighted friction rope 11 and its weight 12 as illustrated by Fig. 5, in

order that the fabric may be delivered under proper tension.

The guiding bars 6 as shown by Fig. 1 are pivoted upon the framework 5 of the machine within which the coil of fabrics has been wound and by thus being pivoted and by having vertical projections *f* formed thereon to take into openings or recesses in the upper surface of the framework of the vehicle 7 and on each end of said vehicle said guiding bars 6 on each side of the machine secure the position of the vehicle 7 relatively with the machine in connection with which it has to be used. By the openings in the framework 7 for receiving the projections *f* of these guiding and retaining bars being made on bars on each side of the two pairs of detachable holding pins 8, 8^a the vehicle may be used for the withdrawal of the fabric either on one side or the other as the position of the machine to which the fabric has to be supplied or from which said fabric has to be detached, may require.

As is shown by Figs. 3 and 4 the guiding bars 6^a are entirely detachable both from the vehicle and from the framework adjoining, but even in this case the projections *f* from said bars 6^a taking into openings in the framework described, will secure the relative positions of the two as hereinbefore explained.

From the foregoing description it will be observed that the vehicle 7 and the other parts used in connection therewith may be made use of in connection with any kind of apparatus whether same is for bleaching, dyeing, finishing or otherwise treating fabrics provided such fabrics have to be wound upon rollers when transferred from one position or set of apparatus to another to enable their subsequent treatment to be carried out.

In cases where it is thought advisable that the adjustment in position of the vehicle 7 should be more accurately effected relatively to the machine in connection with which it is to be used then I may have the wheels *c*, *c*¹ and *d* arranged to run upon rails or guiding surfaces which will secure said accuracy.

Such being the nature and object of my said invention, what I claim is:—

A vehicle, bearings carried thereby to receive a rotary shaft, coupling devices for securing said vehicle to a machine, detachable means carried by said machine to allow release of a roll of fabric therein, means for allowing said fabric to roll from the machine to the vehicle, consisting of detachable arms and detachable pins for retaining the roll in position on the vehicle.

JOHN THORNBUR.