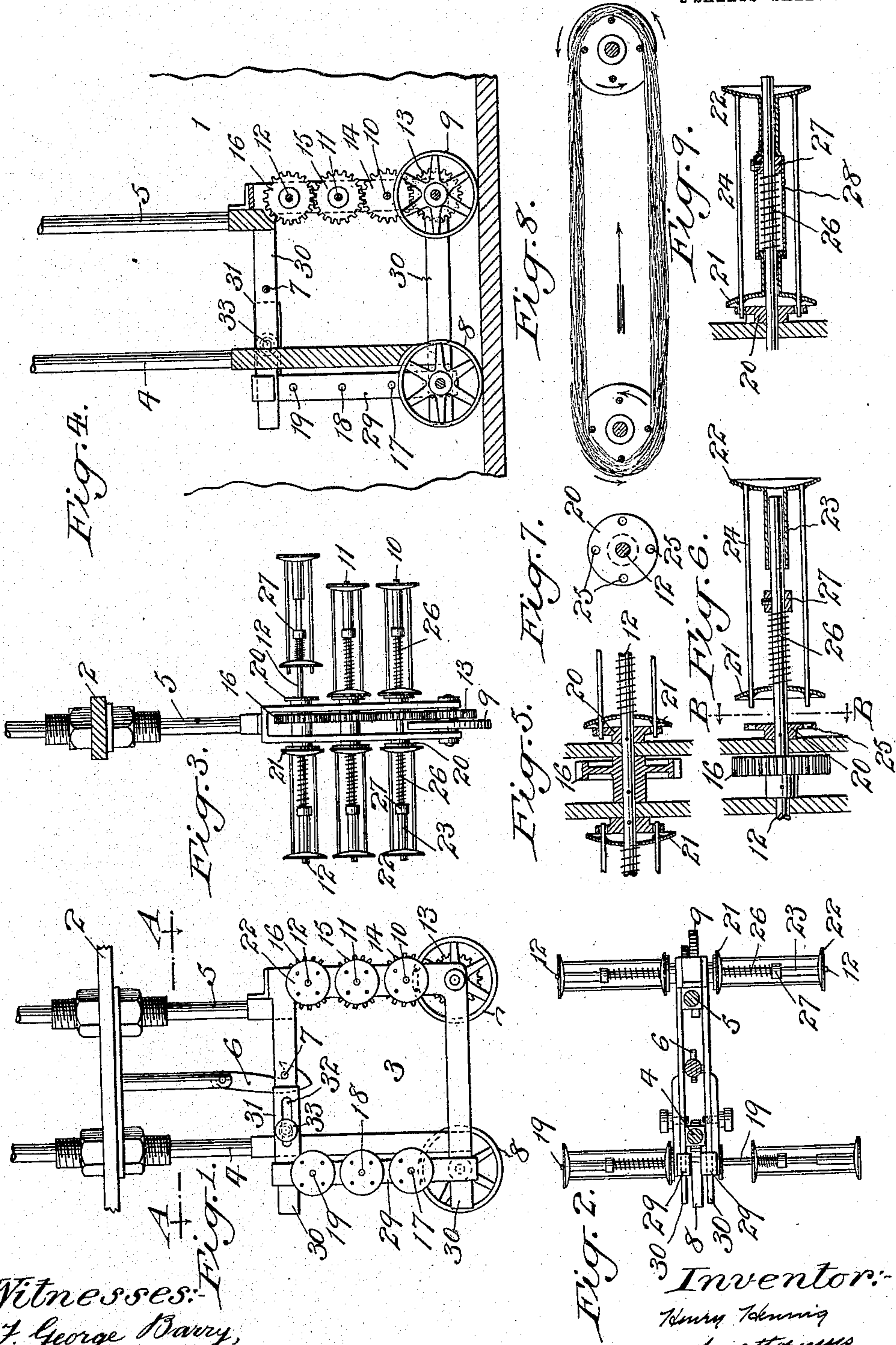


H. HENNIG.  
DYEING, WASHING, AND STRIPPING MACHINE.  
APPLICATION FILED JAN. 29, 1908.

901,004.

Patented Oct. 13, 1908.

2 SHEETS—SHEET 1.



Witnesses:  
J. George Barry,  
Henry Thiele.

Inventor:  
Henry Hennig  
by attorneys  
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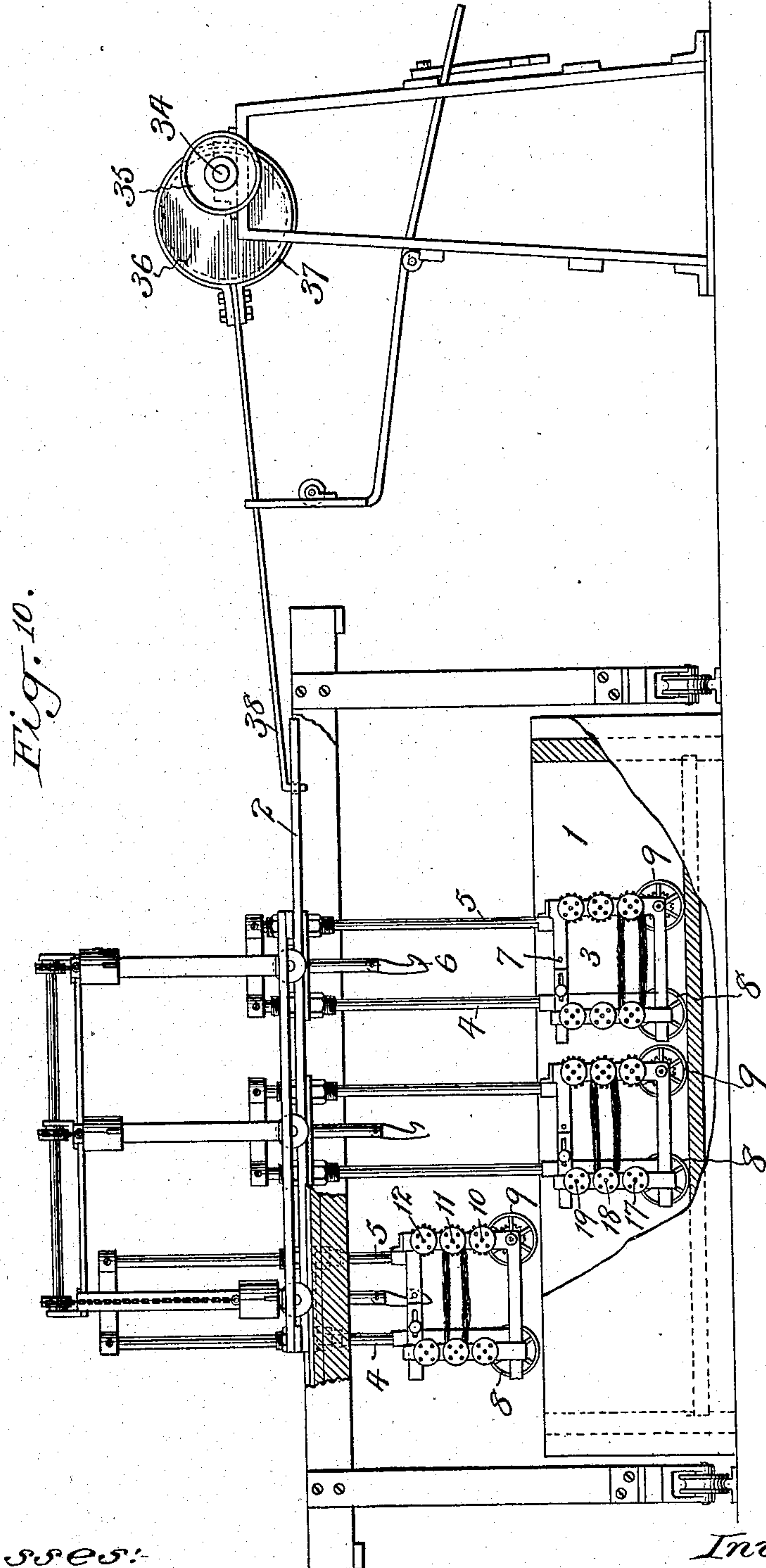


Fig. 10.

Witnesses:  
F. George Barry.  
Henry Chieme.

Inventor:  
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# UNITED STATES PATENT OFFICE.

HENRY HENNIG, OF PATERSON, NEW JERSEY.

DYEING, WASHING, AND STRIPPING MACHINE.

No. 901,004.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Application filed January 29, 1908. Serial No. 413,176.

*To all whom it may concern:*

Be it known that I, HENRY HENNIG, a citizen of the United States, and resident of Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Improvement in Dyeing, Washing, and Stripping Machines, of which the following is a specification.

The object of my present invention is to provide certain improvements in the skein carrying sections of a dyeing, washing and stripping machine whereby the skeins may be caused to travel back and forth on their carrying sections while the carrying sections are being caused to travel back and forth within the tank so that the skeins may be submitted to a thorough scrubbing action by the liquid within the tank when the machine is in operation.

A further object is to provide certain improvements in the construction, form and arrangements of the several parts of a skein carrying section whereby one of each pair of skein carrying reels may be positively rotated and in which the positively driven reel may be locked to and released from its rotating mechanism at pleasure and in which both of the reels of a pair may be moved laterally a sufficient distance to permit the insertion and removal of the skein.

A practical embodiment of my invention is represented in the accompanying drawings in which

Figure 1 represents a detail side view of one of my improved skein carrying sections of the yarn frame, Fig. 2 is a transverse section taken in the plane of the line A—A of Fig. 1, looking in the direction of the arrows, Fig. 3 is a detail end view of the skein carrying section, Fig. 4 is a vertical central section taken from front to rear through the same, a portion of the tank being indicated in connection therewith, Fig. 5 is an enlarged detail section showing the reels locked to their rotating mechanism, Fig. 6 is a similar view showing one of the reels released from its rotating mechanism, Fig. 7 is a section taken in the plane of the line B—B of Fig. 6, looking in the direction of the arrows, Fig. 8 is a detail sectional view illustrating the two skein reels with a skein thereon, arrows being applied thereto to illustrate the fact that as the skein is being moved bodily in a horizontal direction, it is also being caused to travel on its reels, Fig. 9 is a longitudinal

central section through a modified form of skein reel, and Fig. 10 represents so much of a dyeing, washing and stripping machine in side elevation as will give a clear understanding of the location of the parts and the means for reciprocating the skein carrying sections within the tank.

The tank within which the skein is to be immersed in the liquid is denoted by 1. The longitudinal bar of the yarn frame is denoted by 2. Each of the yarn frame sections comprises a framework 3 from which uprise two parallel rods 4, 5, which are fitted to slide vertically through the bar 2 of the yarn frame. This section may be held in its raised position by a hook 6 depending from the bar 2, which hook is arranged to engage a pin 7 on the skein carrying section. This skein carrying section is provided with one or more traction wheels, in the present instance two, denoted respectively by 8 and 9, which traction wheels are arranged to travel along the bottom of the tank 1 as the skein carrying section is reciprocated within the tank when the skein carrying section is in its lowered position.

The skein carrying section is provided with means for carrying a plurality of skeins horizontally upon both sides thereof as follows. A plurality of rotary shafts, in the present instance three, denoted by 10, 11, 12, extend transversely through the framework 3 of the section in a vertical line over the traction wheel 9. These shafts are positively rotated from the traction wheel 9 through a train of gears 13, 14, 15, 16. Stationary shafts 17, 18, 19, project from adjustable bars 29 upon opposite sides of the framework 3 of the skein carrying section in a line above the traction wheel 8, said shafts corresponding respectively to the shafts 10, 11, 12. Each of the rotary shafts 10, 11, 12, is provided exterior to the framework 3, upon both sides of the skein carrying section, with disks 20 which are fixed to rotate with the shaft.

Each rotary shaft is provided with a skein reel, which reel is arranged to be locked to and released from its disk 20 as follows. The inner and outer heads of the reel are denoted by 21, 22, the outer head 22 being provided with a tubular central extension 23 for receiving the outer end of the rotary shaft. The pins 24 of the reel are fixed to the inner and outer heads and project a



short distance inwardly beyond the inner head of the reel. The disk 20 of the rotary shaft is provided with holes 25 arranged to receive the inner ends of the pins for locking the reel to the shaft when the reel is at the limit of its inward movement. A spring 26 surrounds the shaft and is interposed between the inner head 21 and a collar 27 fixed to the shaft for yieldingly holding the reel at the limit of its inward movement. To release the reel from its shaft, it is moved outwardly against the tension of the spring 26 a sufficient distance to release the inner ends of the reel pins 24 from the holes 25 in the disk 20. The other reel of each pair is not locked to and released from its shaft but is free to rotate thereon, the driving of one of the reels of each pair being sufficient to cause the skein to travel around its pair of reels.

In Fig. 9 a modified form is shown in which the spring 26 is housed within a casing 28 carried by the collar 27.

The stationary shafts 17, 18, 19, upon both sides of the skein carrying sections may be independently adjusted bodily toward and away from their corresponding shafts 10, 11, 12, as follows. The vertical side bars 29 of the framework 3 have sliding engagements with the upper and lower horizontal bars 30 of the said framework. These side bars 29 are each provided with a rearwardly extended arm 31 having an elongated slot 32 through which a set screw 33 extends into engagement with the upper horizontal bar 30. This adjustment will permit the carrying of skeins of different lengths on the said section.

The means which I have shown for reciprocating the skein carrying sections within the tank 1, comprises a rotary horizontal shaft 34 having a pulley 35 driven from any suitable source of power, not shown herein. An eccentric 36 is fixed to rotate on the said shaft, which eccentric is provided with a strap 37 carrying a longitudinally extended hook bar 38 the end of which is fitted to removably engage the longitudinal bar 2 of the yarn frame.

While I have shown each skein carrying section as being constructed for carrying three skeins horizontally upon each side thereof, it is to be understood that the sections may be so constructed as to carry any number of skeins desired.

In operation, the pair of skein reels upon which it is intended to place a skein are moved outwardly a sufficient distance to permit the skein to be placed thereon without interfering with the skeins on adjacent pairs of reels. The reels are then permitted to be moved inwardly by their springs, thus causing one of the reels of the pair to be locked to its rotary shaft.

It will thus be seen that as the skein car-

rying section is moved in one direction along the tank, the skeins will be not only moved bodily in a horizontal position along within the tank but will also be caused to travel around their supporting reels in one direction and when the skein carrying section is moved in the other direction, the skeins will be caused to travel on their supporting reels in the opposite direction. This compound movement of the skeins will insure a thorough treatment and scrubbing action on the part of the liquid within the tank, thus insuring a better product than has heretofore been produced.

While the skein carrying section herein shown and described is particularly well adapted for use in the treatment of silk, it is to be understood that I do not confine myself to such use as the said section may be used in connection with woolen, cotton and other material.

It is also evident that various changes might be resorted to in the construction, form and arrangement of the several parts without departing from the spirit and scope of my invention; hence I do not wish to limit myself strictly to the structure herein set forth, but

What I claim is:

1. In a machine of the character described, a tank, a skein carrier arranged to hold the skein in a horizontal position in the liquid within the tank, means for reciprocating the carrier and means for causing the skein to travel in a horizontal direction on its carrier while the skein is moving bodily along within the tank.

2. In a machine of the character described, a tank, a skein carrier arranged to hold the skein in a horizontal position in the liquid within the tank, means for reciprocating the skein carrier and means carried by the skein carrier for causing the skein to travel in a horizontal direction on its carrier while the skein is moving bodily along within the tank.

3. In a machine of the character described, a tank, a skein carrier having a traction wheel arranged to travel along in engagement with the tank, means for reciprocating the skein carrier and means driven from the traction wheel for causing the skein to travel on its carrier while moving bodily along the tank.

4. In a machine of the character described, a tank, a skein carrier arranged to hold the skein in a horizontal position and having a traction wheel arranged to travel in engagement with the tank, means for reciprocating the skein carrier and means driven from the traction wheel for causing the skein to travel on its carrier while moving bodily along the tank.

5. In a machine of the character described, a tank, a skein carrier having a traction wheel arranged to travel along in engage-



ment with the tank, means for reciprocating the skein carrier, a pair of skein holding reels on the carrier, one of which is driven from the traction wheel, for causing the skein to travel on its reels while moving bodily along the tank.

6. In a machine of the character described, a tank, a skein carrier having a traction wheel arranged to travel along in engagement with the tank, means for reciprocating the skein carrier, a pair of skein holding reels on the carrier arranged to hold the skein in a horizontal position, one of said reels being driven from the traction wheel for causing the skein to travel on its reels while moving bodily along the tank.

7. A skein carrying section having a traction wheel, a skein reel shaft rotated from the traction wheel and a skein reel arranged to be locked to and released from its shaft.

8. A skein carrying section having a traction wheel, a pair of skein reel shafts one of which is driven from the traction wheel, and skein reels on the said shafts, one of the said reels being arranged to be locked to and re-

leased from the shaft which is driven from the traction wheel.

9. A skein carrying section having a traction wheel, a plurality of pairs of skein reel shafts carried by the section, a shaft of each pair being driven from the traction wheel, and reels on said shafts, the reels on the rotary shafts being arranged to be locked to and released from said shafts.

10. A skein reel section having a traction wheel, a plurality of horizontally arranged pairs of skein reel shafts carried thereby, one shaft of each pair being driven from the traction wheel, and reels mounted on the said shafts, the reels on the rotary shafts being arranged to be locked to and released from their shafts.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this twenty fifth day of January 1908.

HENRY HENNIG.

Witnesses:

F. GEORGE BARRY,  
C. S. SUNDGREN.