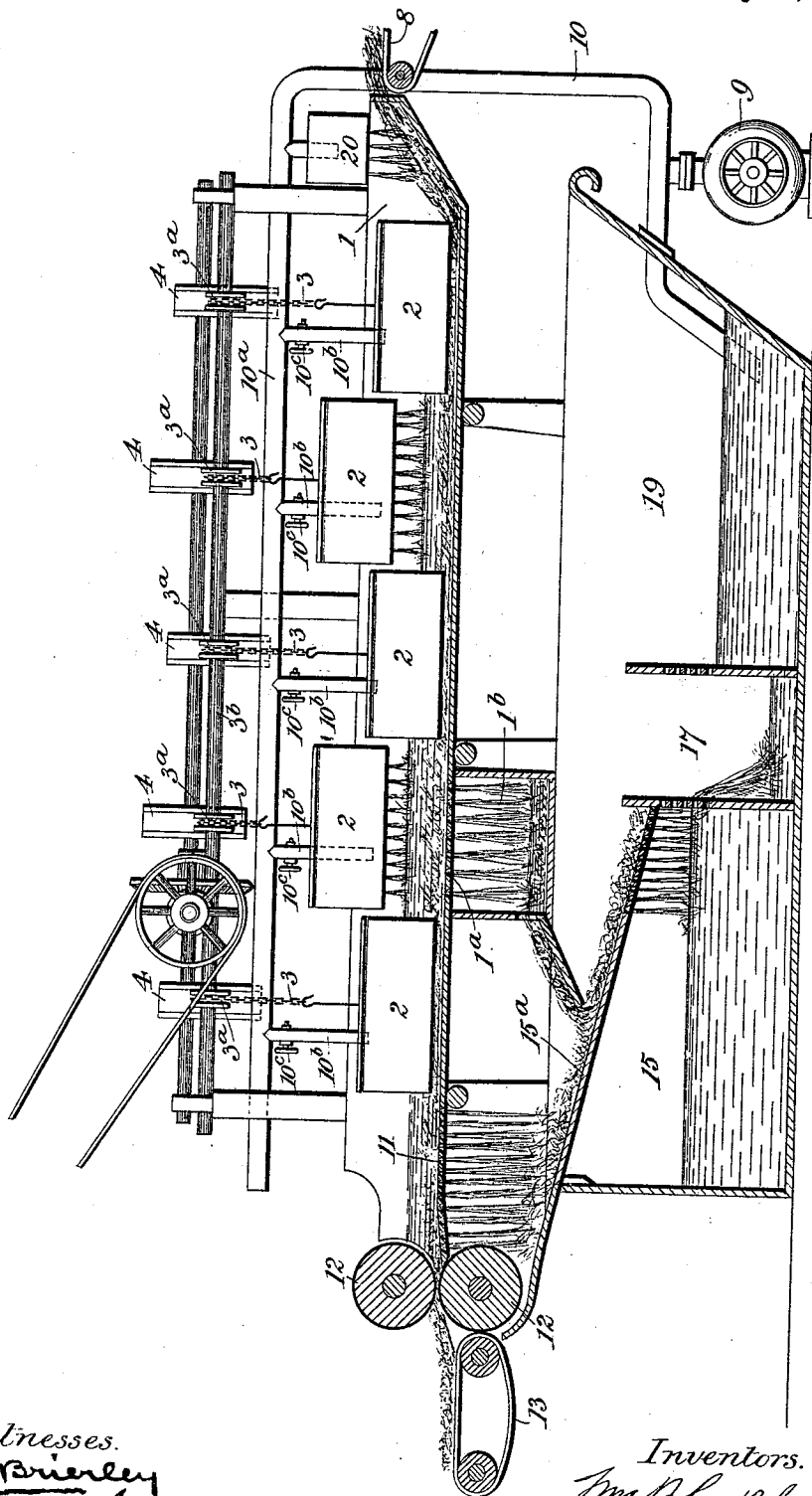


(No Model.)

W. & A. W. BLACKBURN.
WOOL WASHING MACHINE.

No. 519,625.

Patented May 8, 1894.



Witnesses.
Walter Brierley
Brierley Howard

Inventors.
Wm Blackburn
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UNITED STATES PATENT OFFICE.

WILLIAM BLACKBURN AND ARTHUR W. BLACKBURN, OF CLECKHEATON,
ENGLAND.

WOOL-WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 519,625, dated May 8, 1894.

Application filed July 31, 1893. Serial No. 481,965. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM BLACKBURN and ARTHUR WILLIAM BLACKBURN, both subjects of Her Majesty the Queen of Great Britain, residing at Cleckheaton, in the county of York, England, have invented a certain new and useful Improvement in Wool-Washing Machines, of which the following is a specification.

Our invention relates to an improvement in wool washing machines of the class in which the wool is carried forward and washed by the action of a number of rising and falling troughs or "posses" having perforated bottoms which dip into the liquid in the tank in their falling motion and in their rising motion allow such liquid to pour back upon the fleece in finely divided streams such streams not only cleansing the fleece but forcing the same forward from the entering to the delivery end of the tank. Such an apparatus is fully described in the United States patent to W. Eastwood and A. Ambler, No. 460,852, dated October 6, 1891.

The accompanying drawing represents a side elevation partly in section of the machine covered by the patent above mentioned having our improvements applied thereto.

The apparatus in question will be readily understood by reference to the foregoing patent and it will not be necessary to again explain the action of said apparatus further than to say that the fleece is fed into the tank 1 by the endless apron 8 and passes out between the delivery rollers 12, 12 onto the apron 13 the movement of the fleece through the "sud" or water in the tank being obtained by the rising and falling motion of the troughs or posses 2 which are lifted by means of the eccentrics 4 connected to the troughs by means of the chains 3 which in turn pass over the pulleys 3^a on a counter shaft 3^b. The troughs are provided with perforated bottoms through which they fill as they descend into the tank and which permit streams of liquor to fall upon the fleece as they rise. A perforated plate 11 is provided at the de-

livery end of the tank through which the suds pass onto the perforated plate 15^a into the tanks 15, 17 and 19 in which the solid matter is precipitated and from which in the apparatus in question the suds were raised by means of the pump 9 and pipe 10 to the perforated supply tank 20 from whence it fell into the tank 1.

According to our present invention we cause the pipe 10 to deliver in addition into a main 10^a arranged above the troughs 2 such main being supplied with branch pipes 10^b provided with regulating taps 10^c, the branch pipes dipping into the troughs 2 and supplying same with the suds direct the object being to provide the troughs with a better supply of the suds than they can pick up by simply being lowered into the tank and raised therefrom. Preferably beneath the second trough 2 from the delivery end of the tank, we also place a grate 1^a of the same width as the tank but slightly less in length than the length of the trough over it. The grate consists of a perforated plate the perforations being countersunk from below so that no space is left in such perforations for sediment to lodge in. When water or "sud" is fed into each trough and escapes by the perforated bottom into the tank and onto the wool the latter is kept in an open and fleecy condition so that dirt and sand can be readily removed by the action of the "sud" and troughs. The additional grate 1^a is useful for the purpose of clearing out most of the dirt and sediment before the wool arrives at the grate 11 through which the remainder will escape. Beneath the perforated grate 1^a is a box 1^b which catches the sud and sediment and allows it to pass through an opening in same to the perforated plate 15^a.

What we claim is—

In a wool-washing machine, the combination with a tank, a series of rising and falling troughs, and a grate 11 situated at the delivery end of the tank, of a supplemental grate 1^a located beneath one of the troughs, and a box 1^b beneath same having a dis-

charge opening, the supplemental grate being adapted to remove a large part of the dirt and sediment from the wool by the scouring action of the water, and the squeezing action
5 of the trough before the wool reaches the grate 11, substantially as described.

In testimony whereof we have hereunto set

our hands in the presence of two subscribing witnesses.

WM. BLACKBURN.
A. W. BLACKBURN.

Witnesses:

WALTER BRIERLEY,
J. BRIERLEY HOWARD.