(12) **United States Patent**
Richards

(10) **Patent No.: X3362**
(45) **Date of Patent: Aug. 10, 1821**

(54) **LOOM,SAIL CLOTH**

(76) Inventor: **James Richards**

James Richards

Letters Patent

The Schedule referred to in these Letters Patent and making part of the same, containing a description in the words of the said James Richards himself of his improvement in manufacturing sail cloth.

The use of Starch in the manufacture of sail cloth has always been highly prejudicial, and to be without it has heretofore been thought impossible: it causes the cloth sooner to mildew, and exclude it from air has been an object with our manufacturers more particularly in our country as the Commissioners of the Navy have wished the cloth for the service of the United States to be without Starch. The different qualities of sail cloth are by us designated by the following Numbers / 2. 3. 4. 5 6 7. 8. The four first numbers are double threads. The latter numbers are single numbered 3 4: have by others been manufactured without Starching, but although it has been repeatedly tried, yet none succeeded in making the single thread-ed cloth without the use of Starch. I have accomplished the desirable object by continual experiment, attention, and expence. It will be necessary to proceed regularly through the different operations in the manufacture of flax. in order to afford an adequate and comprehensive explanation as in every one more or less is there something to remark. The first operation is hackling and must be particularly attended to. the . . flax must be more hackled than is commonly done and the Hasple must be opened as nearly as possible. the quantity of tow thereby will be greater, and consequently the loss in the operation is greater to the manufacturer.

In the operation of spinning it is necessary that the fibres of the flax should be laid on the frame previously being steam, without this the cloth cannot be made without Starch. attention must be paid to have it steam harder, or kneaded for a longer time than has been . . . heretofore practiced as by kneading harder the fibres of the thread are not so easily raised in passing the reads

in the operation of bleaching and thus Starch be rendered unne-
cessary. By thus shunning harsh the operation of bleaching is
rendered more difficult, more expensive, and more laborious,
the thread must be left longer in the bleaching vat, handled with more
care and frequent harder to discharge the dye from it
In making I use the same reeds as formerly although at the first
I had others made for the purpose. I now however make reeds of
the same description as are used by others, and I have now for
three or four months been manufacturing fine cloth of numbers
5 6 7. 8. without the use of Starch, and as it has not been done
before I solicit the benefit of a patent.
These experiments have been made in the Phoenix Mill at Paterson
N. Jersey (of which I am foreman) formerly owned by P. J. Vasquez
Esqr. in the Spinning. no expence and whose instructions are such as
to lead me to hope for further improvements in the manufacture
of this article

Witnesses
Henry Thomas
Richd. C. Gadd

James Richards

(552 Words)

DRAFTSMAN'S DIVISION.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

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Very respectfully,

Chief Clerk.

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