

UNITED STATES PATENT OFFICE.

WILLIAM HANCOCK, OF KING'S SQUARE, GOSWELL ROAD, ENGLAND.

IMPROVEMENT IN BOOK-BINDING.

Specification forming part of Letters Patent No. 444, dated October 23, 1837.

To all whom it may concern:

Be it known that I, WILLIAM HANCOCK, a subject of the Queen of Great Britain, and now residing at No. 20 King's Square, Goswell Road, in the county of Middlesex, in the said Kingdom, have invented and discovered a new and useful invention of certain Improvements in Book-Binding; and I do hereby declare that the following is a full and exact description thereof.

I, WILLIAM HANCOCK, of No. 20 King's Square, Goswell Road, in the county of Middlesex, gentleman, do hereby declare that the nature of my improvements in book-binding consists in attaching or binding the leaves of books together by applying caoutchouc, or solutions of caoutchouc, or caoutchouc partly in the sheet state and partly in a state of solution, in such manner to the backs of the said leaves that sawing and sewing the same is rendered unnecessary, and books so bound are made to open perfectly flat, or more nearly so than books bound by any other method heretofore in use, and also in applying caoutchouc in the said states and in such manner to the backs of the sheets of books after they have been sewed or stitched in the usual way as greatly to improve the same in point of solidity and elasticity, and the manner in which the same is performed I shall now proceed to describe.

Having folded the sheets of which the book is to consist according to the determined size thereof, whether folio, quarto, octavo, or any other form, and assorted, made up, beat, and pressed the same as is ordinarily done preparatory to sewing by the improved method, I place them in a cutting-press between two cutting-boards, with just so much of the backs of the sheets projecting from the upper edges of the boards that on cutting away the same, which I next proceed to do with the plowing-knife, the leaves of each sheet are separated and detached at the back from one another. The surface left by this plowing process being commonly smooth, I make it a little rough either by rubbing it with sand-paper or by rasping it with a book-binder's grater or rake. Sometimes I also avoid altogether such smoothness of surface by employing, instead of the ordinary plowing-knife, a tooth-plane with a very fine serrated edge. Immediately after cutting, before shifting the mass of leaves from the

cutting-press, I apply to the back surface so cut and prepared a coating of a solution of caoutchouc obtained by dissolving sheet-caoutchouc in pure spirits of turpentine in the proportions of a pound of the former to a gallon of the latter, or thereabout. When the said coating is dry I add a second coating of the same solution, and when that also has dried I lay on a strip or band of caoutchouc-cloth, which cloth I make by spreading a solution of caoutchouc, obtained in the manner hereinbefore mentioned, upon linen, woolen, cotton, silk, or any other flexible material adapted to the purpose of book-binding. To cause this strip or band to adhere firmly to the back I apply it in a warm sticky state, and then rub or press it on with the hand or a roller. The mass of leaves of which the book consists will now be found so firmly cemented together that they may be removed from the cutting-press and the boarding and finishing proceeded with in the ordinary way. Instead of plowing away the whole of the backs of the sheets, as aforesaid, two, three, or any greater number of broad grooves may be cut therein at equal distances and just deep enough to go through all the folds that may be one within the other, and having coated the whole, the plain as well as grooved parts, twice over with a solution of caoutchouc, as before directed, I insert in the said grooves cross-bands of the caoutchouc cloth made as aforesaid, the ends of which cross-bands I attach to the boards or covers of the books in the usual manner. Instead of employing a back band consisting of cloth or some other flexible material coated with a solution of caoutchouc, I sometimes find it convenient to make use of the sheet-caoutchouc in its undissolved state, superadding thereto a coating of the solution. I find also that in the case of books in folio sheets, and of books in quarto when made up in half-sheets, and of books in octavo when made up in quarter-sheets, and generally of all leaves when in a simply duplicate state with a back of one fold, such sheets and leaves may be very securely cemented and bound together without any coating or plowing at the back by applying caoutchouc in any of the states or modes aforesaid to the backs of such sheets or leaves after the same have been assorted, made up, beat, and pressed, as aforesaid, for the purpose of binding. W! en

book is composed of leaves originally single I plow and rasp them in the manner before described. Such leaves are of large dimensions, such as plates or maps. I attach to the back edge of each by means of a solution of caoutchouc, obtained as aforesaid, a strip of cotton or other suitable material of such size that it overlaps the leaf to the extent of about a quarter of an inch on each side, and then make up and bind together the sheets so individually prepared in the manner hereinbefore directed for binding books of other descriptions. I find, also, that when books are sewed or stitched in the usual way the solidity and elasticity of the backs thereof are greatly improved by applying thereto caoutchouc or solutions of caoutchouc in the manner heretofore directed with respect to books consisting of quarter or other sheets with backs of only one fold.

And having now described the nature of my said invented improvements in book-binding and the manner in which the same are to be performed, I declare that I do not claim as new or of my invention the employment of caoutchouc in book-binding, but that I claim as new and of my invention—

The employment of caoutchouc in book-binding in the manner and modes hereinbefore set forth, so that the sheets or leaves of books are in some cases bound together without sawing and sewing, and books so bound open perfectly flat or more nearly so than books bound by any other method heretofore in use, and in other cases where books are sewed or stitched in the usual way the backs thereof are greatly improved in point of solidity and elasticity; and I claim as comprehended under my patent any and every other mode or manner of employing caoutchouc to produce the new and useful effects aforesaid which shall involve no material departure from the manner hereinbefore specified.

In witness whereof I have hereunto set my hand and seal the 31st day of August, 1837.

WILLIAM HANCOCK. [L. S.]

Witnesses:

JOHN HENRY POLLOCK,
ALEXANDER STARK,
Both of No. 3 Abchurch Lane, London.