A. A. BRACKETT.

Apparatus for Removing Card-Teeth.

No. 196,133. **Patented Oct. 16, 1877.**

Fig. 1.

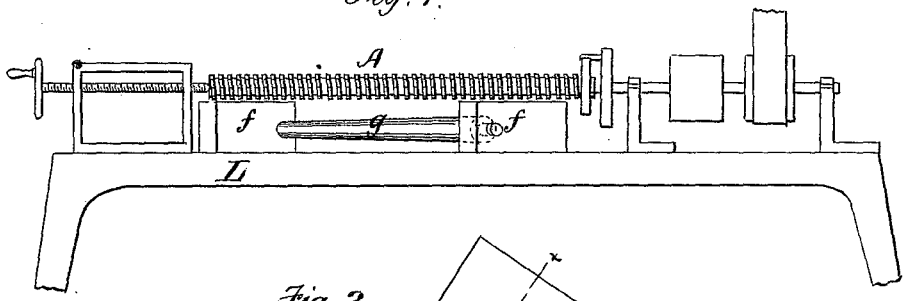


Fig. 2.

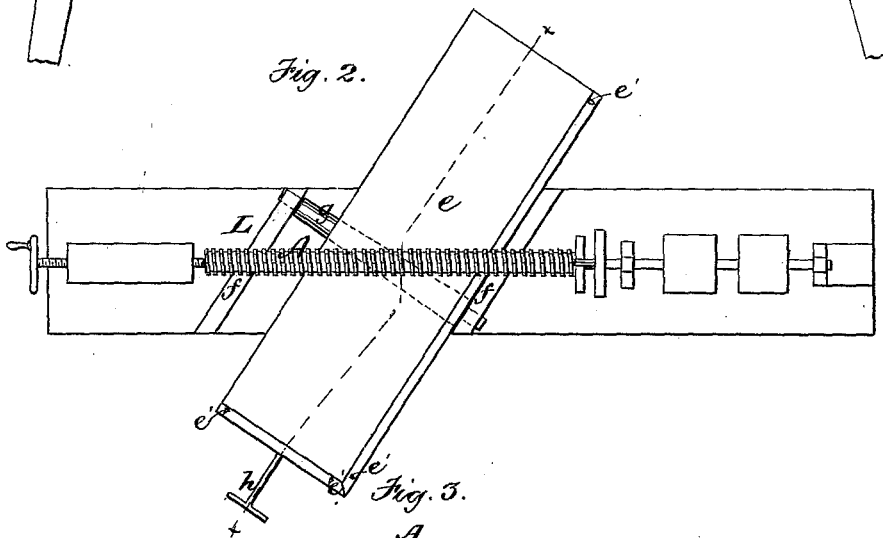


Fig. 3.

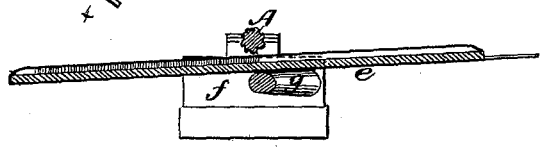


Fig. 4.

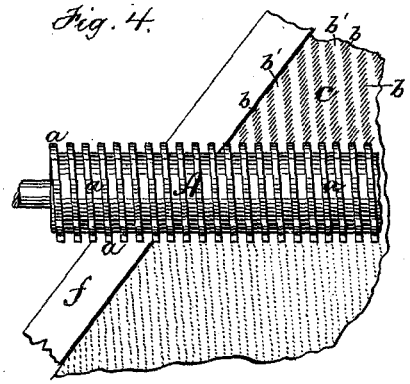
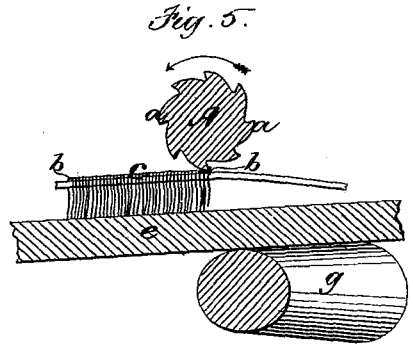


Fig. 5.



Witnesses.
A. E. Brinton.
J. M. Skinner

Inventor
A. A. Brackett.
by Wright Brown
Attys.

UNITED STATES PATENT OFFICE.

ALBERT A. BRACKETT, OF MILTON, MASSACHUSETTS.

IMPROVEMENT IN APPARATUS FOR REMOVING CARD-TEETH.

Specification forming part of Letters Patent No. **196,133**, dated October 16, 1877; application filed September 26, 1877.

To all whom it may concern:

Be it known that I, ALBERT A. BRACKETT, of Milton, in the county of Norfolk and State of Massachusetts, have invented certain Improvements in Apparatus for Removing the Teeth of Card-Clothing from the backing thereof, of which the following is a specification:

In the accompanying drawing, forming a part of this specification, Figure 1 represents a side view of an apparatus embodying my invention. Fig. 2 represents a top view of the same. Fig. 3 represents a section on line *x x*, Fig. 2. Figs. 4 and 5 represent portions of Figs. 2 and 3, enlarged, and show the operation of the rotary comb on the card-clothing.

Similar letters of reference refer to like parts in all the figures.

This invention has for its object to provide means for readily removing the wire teeth of card-clothing from the leather sheets or strips into which the teeth are inserted, after the teeth have become useless by long wear, so as to render the leather available for other purposes.

To this end my invention consists, first, in a rotary comb composed of a cylinder having teeth which, on a line parallel with the axis of the comb, are arranged to correspond or register with the rows of wire staples forming the teeth of the card-clothing, whereby all the teeth in the same longitudinal series are enabled to engage with all the rows of wire staples on the back of the card-clothing, when the clothing is presented to the comb diagonally to the axis of the latter.

My invention consists, secondly, in the combination, with the rotary comb, of devices for supporting and guiding the card-clothing while it is being presented to the action of the comb, all of which I will now proceed to describe.

In the drawings, A represents my improved comb, which is composed of a cylinder having teeth *a*. These teeth are preferably arranged in a series winding spirally around the cylinder, and in a number of longitudinal series, the teeth composing the latter being arranged to correspond or register with the rows of wire staples which form the teeth of ordinary card-clothing when said rows extend about at right angles with the axis of the comb, as shown in Fig. 4. *b b* represent the backs of the wire staples which compose the teeth of the card-clothing *c*, these staples being arranged in rows extending diagonally across the strips of leather into which they are inserted, and the rows are separated by spaces *b'*, which are equal in width to the length of said backs in a line parallel with the latter, as shown in Fig. 4. The teeth *a* of the comb are so arranged that all the teeth of each longitudinal series will come in contact with all the rows of wire staples of the card-clothing during each revolution of the comb, when the clothing is held in substantially the position shown in Fig. 4—that is to say, with the sheet of clothing extending diagonally to the axis of the comb, and the rows of staples about at right angles to the same. When the clothing is in this position, with the surface of its back parallel with the axis of the comb and pressed against the teeth thereof, the rotation of the comb will cause each longitudinal series of teeth *a* to engage with each row of the backs *b* of the staples or teeth, in such manner as to pull the staples or teeth with great rapidity from the leather strip, the comb being revolved at a high rate of speed. The rotation of the comb feeds the clothing along as fast as the teeth are pulled out, and I have found that by passing a strip of clothing once under the comb the wire teeth are all removed, and that the surface of the leather is uninjured by the comb, the teeth of the latter only touching the staples.

The comb A is journaled in a suitable framework, and adapted to be rotated in any desired manner. I prefer to apply the roll to the centers of an ordinary lathe, L, as shown in Figs. 1 and 2, the bed of the lathe being preferably provided with certain attachments, to be described.

For guiding and supporting the clothing while it is being acted on by the comb, I prefer to employ a board or rigid slide, *e*, which is adapted to be moved along under the comb, and is provided with pins *e'*, or other devices, for securing the card-clothing to its upper surface. *f f* represent guides, which are connected to the bed of the lathe or frame L, de-

tachably or otherwise, and are diagonal to the axis of the comb A, as shown in Fig. 2. *g* represents a friction-roller, which is journaled in the guides *f* at right angles thereto, and is therefore diagonal to the comb A. The roller *g* supports the slide *e* between the guides *f*, and the latter keep the slide in about the position shown in Fig. 2, as it is moved along under the comb.

I prefer to make the slide *e* somewhat narrower than the space between the guides, so that the operator can turn the slide laterally to some extent. The slide is, preferably, provided with a handle, *h*, for the convenience of the operator.

In using the apparatus thus constructed the operator secures a strip or sheet of card-clothing, with its back uppermost, on the slide *e*, then places the slide on the roller *g*, between the guides, and grasps the handle *h*. When the teeth of the comb A take hold of the backs of the wire staples of the clothing they rapidly draw the teeth or staples from the leather, throwing them outwardly, and drawing the slide along as fast as the surface of the leather is cleared of its teeth, the operator having only to guide the slide along and tilt it on the roller *g* enough to keep the surface of the clothing in the proper proximity to the teeth of the comb.

I prefer to make the roll *g* tapering in form, so that it will incline the slide transversely, and thus hold it in such position that its upper surface will be parallel with the axis of the comb along the line where the comb acts on the clothing.

The slide *e* may be arranged to be guided by suitable mechanism, instead of by the hands of the operator, without departing from the spirit of my invention.

I claim as my invention—

1. The rotary comb A, for removing the teeth of card-clothing, herein shown and described, provided with teeth *a*, which, on a line parallel with the axis of the comb, are arranged to correspond or register with the rows of wire staples forming the teeth of the card-clothing, substantially as described.

2. In combination with the rotary comb A, constructed as described, the slide *e*, for supporting the card-clothing, the guides *f f*, and the friction-roller *g*, said guides and roller being diagonal to the axis of the comb, and located on a stationary bed under the same, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT A. BRACKETT.

Witnesses:

C. F. BROWN,

A. E. DENISON.