W. S. SHEPHERD. 2 Sheets—Sheet 1.

Machine for Cutting Out and Removing Seams.

No. 203,203. Patented April 30, 1878.

Fig. 1.

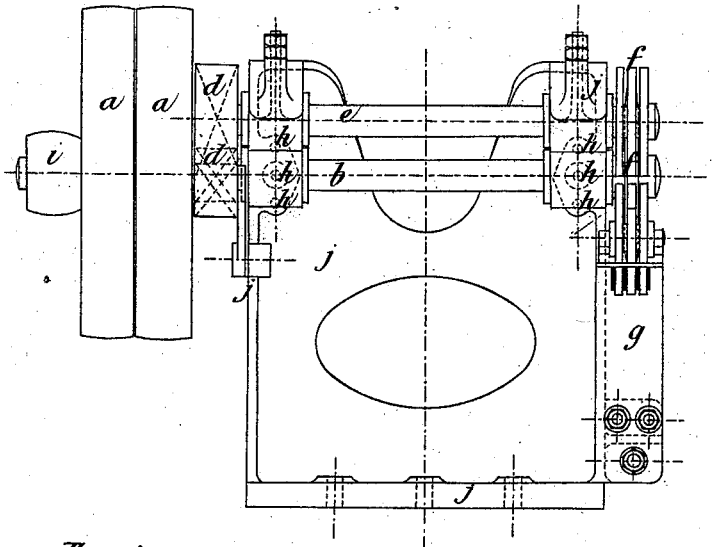
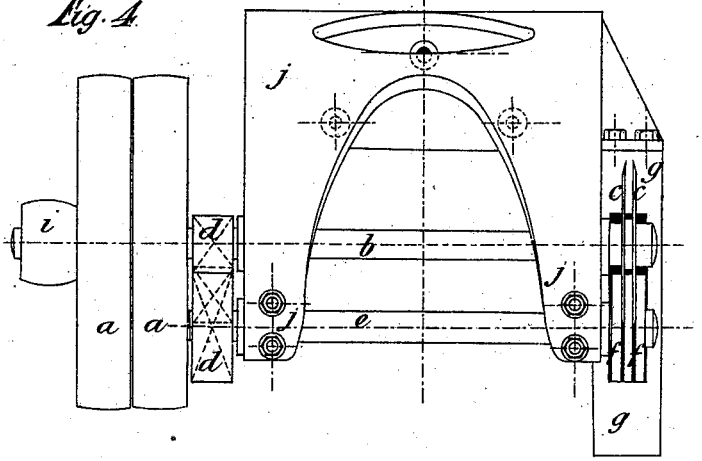


Fig. 4.



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2 Sheets—Sheet 2.

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Machine for Cutting Out and Removing Seams.

No. 203,203. **Patented April 30, 1878.**

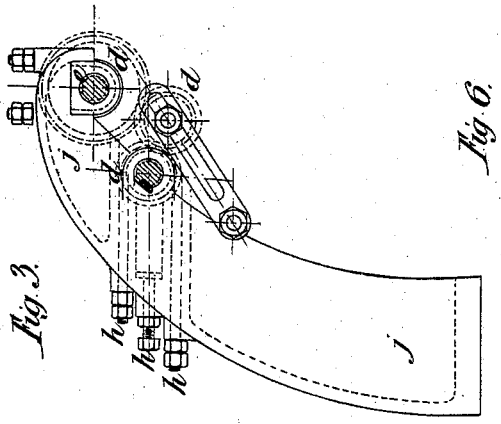

Fig. 3.

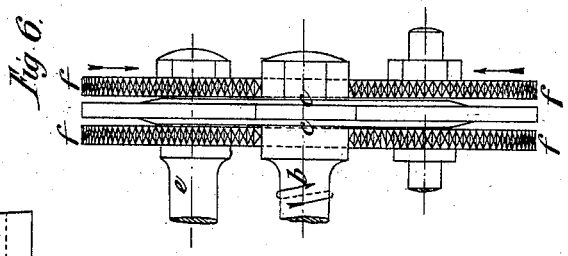

Fig. 6.

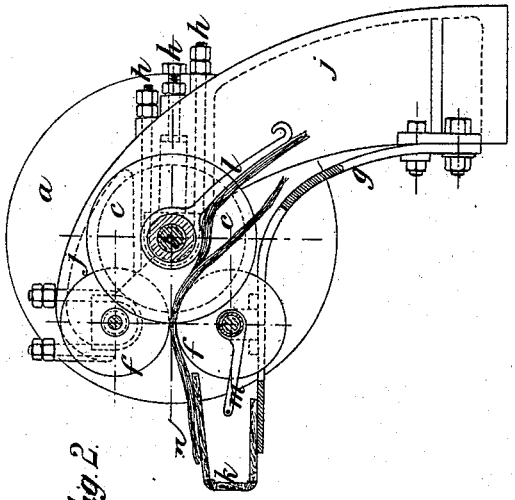

Fig. 2.

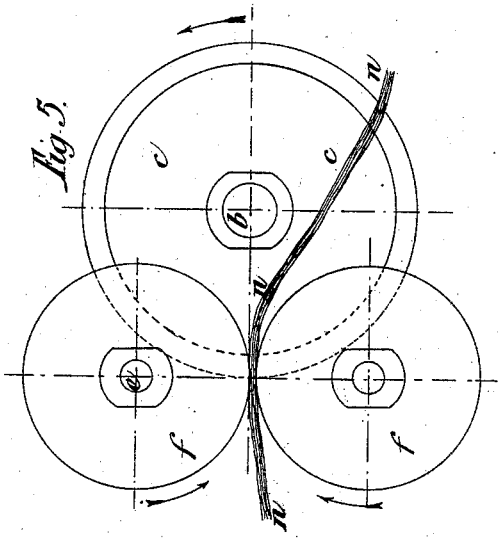

Fig. 5.

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UNITED STATES PATENT OFFICE.

WILLIAM SIMPSON SHEPHERD, OF LEEDS, ENGLAND.

IMPROVEMENT IN MACHINES FOR CUTTING OUT AND REMOVING SEAMS.

Specification forming part of Letters Patent No. **203,203**, dated April 30, 1878; application filed March 18, 1878.

To all whom it may concern:

Be it known that I, WILLIAM SIMPSON SHEPHERD, of Leeds, in the county of York, in that part of the United Kingdom called England, have invented new and useful improvements in machinery for cutting out and removing seams, linings, and other similar things from woolen and other rags, which improvements are fully set forth in the following specification, reference being had to the accompanying drawings.

The first part of this invention consists in the use of a circular cutter or cutters running on a shaft between a groove or grooves in two rollers, which feed the rags. These rollers are driven on separate shafts or spindles, arranged in such positions that the circular cutter or knife works within the grooves of the feed-rollers, with the cutting-edge at or about the point of contact of their rims between which the rags are passed.

When two cutters are used they are fixed parallel with each other on the same shaft, at such a distance apart as the width of seam to be cut out which passes between the cutters.

The second part of this invention is an ejector to throw out the cut-off seams; and consists in a loose ring on the shaft between the circular cutters, having a stem extending beyond the cutting-edges, which throws out the seams.

The rims of the feed-rollers are fluted, either their entire length or partially, and fit or gear into each other to gripe the rag more firmly.

The same form of ejector may be used to clear the grooves of the feed-rollers of any fragments, as described for the double cutters.

Springs or weights are used to keep the feed-rollers in close contact, and at the same time allow them to yield when the thickness of the material passing through requires it. A small table is attached in front of the feed-rollers to guide the materials on.

The supporting-frame and driving parts may be of any convenient construction.

The machine may be driven by foot, or any convenient power.

Referring to the accompanying drawings, Figure 1 represents the front elevation of the machine, in which *a a* are the driving-pulleys, mounted on the cutter-shaft *b*; *b*, cutter-shaft; *c c*, the cutters, of which two are shown mounted, as before described; *d d*, gearing for driving feed-rollers from cutter-shaft *b*; *e*, feed-roller shaft; *f f f f*, feed-rollers, which are roughened, as described; *g*, spring on which the bottom feed-rollers are mounted; *h h h*, adjusting-screws for setting up cutters to their proper position after sharpening; *i*, small driving-pulley on cutter-shaft for sharpening cutters; *j j j*, frame of machine-bearings, &c.

Fig. 2 represents the side elevation of the machine, *a* being the driving-pulley; *b*, the cutter-shaft; *c c*, the cutters; *e*, feed-roller shaft; *f f*, the feed-rollers; *g*, the spring on which the under roller is mounted; *h h h*, adjusting-screws for cutter; *j*, frame of machine; *k*, table on spring *g* for feeding the materials from; *l*, the ejector clearing cutter of the cut seams or waste material; *m*, ejector for clearing grooves of feed-rollers from waste seams. *n n n* show material passing through the machine.

Fig. 3 represents end elevation of machine with driving-pulleys removed, which shows gearing and adjusting screws, and are referred to by letters, as in Figs. 1 and 2.

Fig. 4 represents the plan of machine, in which the letters refer also to the parts, as in Figs. 1, 2, and 3.

Figs. 5 and 6 represent the side and back elevations of feed-rollers and cutters to a large scale, and the letters refer as before in Figs. 1, 2, 3, and 4.

Having now fully described and illustrated the manner in which my invention is or may be carried into effect, what I claim as novel, and desire to be secured to me, is—

1. In a rag-cutting machine, the combination of two circumferentially grooved or slotted co-operative feed-rollers, arranged in the same vertical plane, and a rotary knife or knives playing within the grooves or slots thereof and across the line of feed, substantially as and for the purpose set forth.

2. The combination, with a grooved or slitted rotary tool or member of a rag-cutting machine, of one or more arms, pivoted within and arranged to vibrate through the grooves or slits thereof, substantially as and for the purpose set forth.

WILLIAM SIMPSON SHEPHERD.

Witnesses:

GEO. BARKER,

C. GILLIARD.