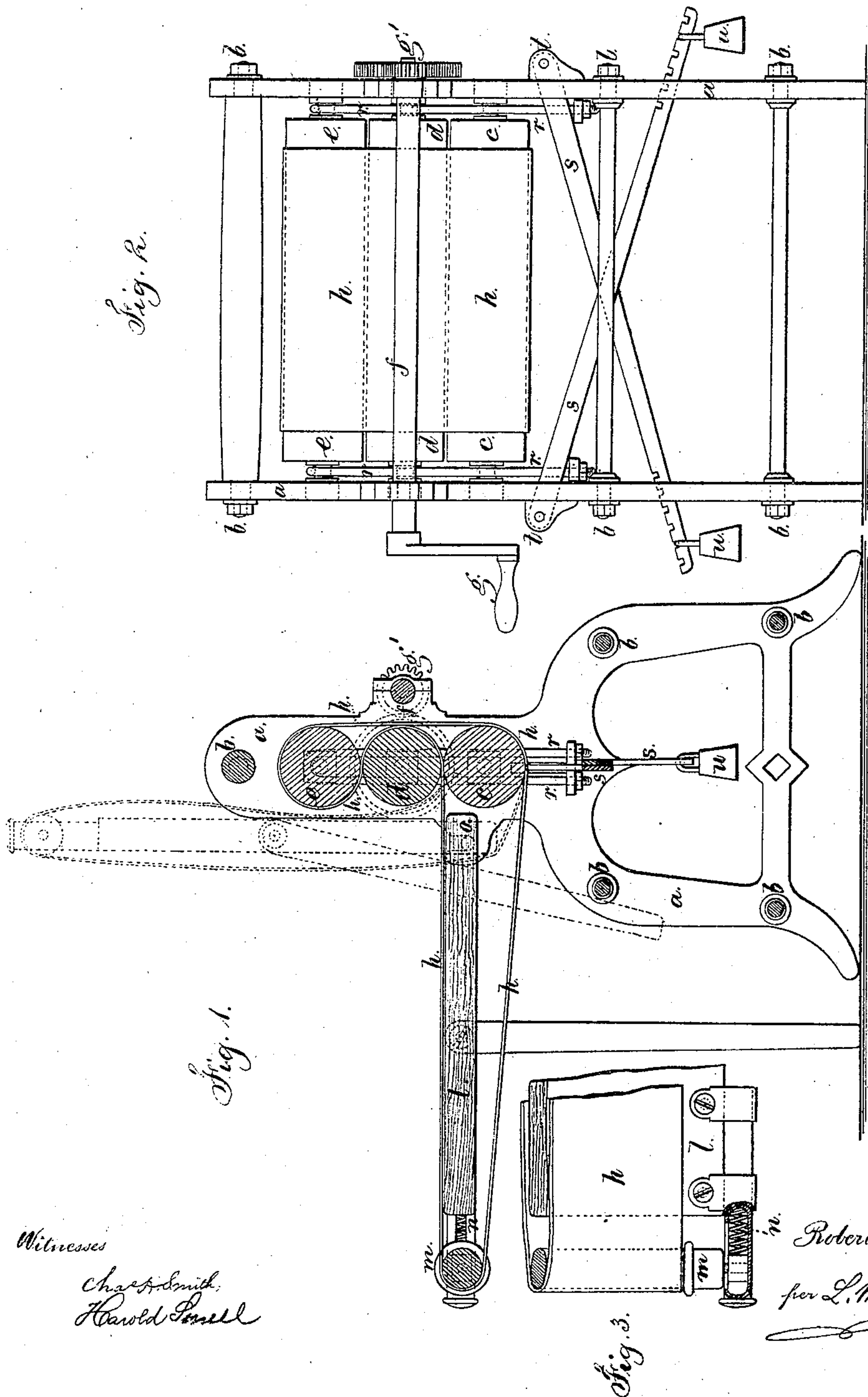


R. A. DUNCAN.
Mangles.

No. 142,997.

Patented September 23, 1873.



Witnesses

Charles Smith,
Harold Lowell

Inventor

Robert A. Duncan

per L. M. Terrell

att'y

UNITED STATES PATENT OFFICE.

ROBERT A. DUNCAN, OF BROOKLYN, E. D., NEW YORK.

IMPROVEMENT IN MANGLES.

Specification forming part of Letters Patent No. **142,997**, dated September 23, 1873; application filed June 21, 1873.

To all whom it may concern:

Be it known that I, ROBERT A. DUNCAN, of Brooklyn, E. D., in the county of Kings and State of New York, have invented an Improvement in Mangles, of which the following is a specification:

Mangles have been made with three rollers kept toward each other by pressure, and the goods have been rolled into a cloth or apron wound upon the middle roller. In this case the diameter increases as the fabric is wound up, and difficulty arises in delivering the mangled fabrics. In many mangles the goods are drawn in at one side of a pair of rollers and delivered at the other side, requiring two persons to operate the same to advantage. My invention is made with reference to effecting a more perfect mangling operation by pressing the fabric twice before delivering the same from the machine, and, also, for delivering the article upon the same table upon which it was first laid, so that it may be run through a second time with great facility.

In the drawing, Figure 1 is a vertical section transversely of the pressing-rollers. Fig. 2 is an end view of the machine, and Fig. 3 is a partial sectional plan of the bearing for the apron-tightener.

The frames *a a* are of suitable size and shape, bolted together at *b*, and made with vertical guides for the sliding journal-boxes of the rollers *c d e*. The rollers *c d e* are driven by competent power. I have shown the shaft *f*, crank *g*, and gearing *g'* to operate the roller *d* by hand, but it might be driven by power. These three rollers, *c d e*, have been used in mangles when the web or apron has been wound upon the roller *d*. My improvement relates to the endless apron *h* applied to and combined with these rollers *c d e*, as shown. The table *l* has a tightening-roller, *m*, at one end, the journals of which

slide and are acted upon by springs *n* to tighten the belt, as shown in Fig. 3; and one part of the endless belt or apron *h* is below the roller *c*, table *l*, and roller *m*, passing around said roller *m*, and between the rollers *c d*, up around the roller *d*, between that and the roller *e*, over said roller *e*, and down beneath the roller *c*. It will now be seen that any fabric or article laid upon the apron *h* passes beneath the roller *d*, and around the same, and is brought back and delivered at the same side as that at which it entered, and it is subjected to two pressing operations by the rollers *c* and *e*. The table *l* is attached to the frame *a* by hinges or a cross-shaft at *o*, so that it can be turned upright, as indicated in Fig. 1 by dotted lines. In this position the endless belt is relieved from strain. The rollers *c d e* are pressed toward each other by suitable mechanism. I have shown the slings *r* over the journal-boxes of the roller *e*, and these extend down to the cross-levers *s* that have their fulcrums at *t* and weights *u*, so as to exert the required force in keeping the rollers *c d e* toward each other. The weights *u* may rest upon cushions or supports when they fall to the lowest point.

I claim as my invention—

1. The endless apron or belt *h*, passing around the rollers *c d e*, in the manner set forth, in combination with the table *l*, substantially as set forth.

2. The yielding roller *m*, acting to tighten the belt or apron *h*, in combination with the rollers *c d e* and table, substantially as set forth.

Signed by me this 17th day of June, A. D. 1873.

ROBERT A. DUNCAN.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.