

O. I. FOSTER.

Rolls for Grinding Surfaces.

No. 133,843.

Fig. 1.

Patented Dec. 10, 1872.

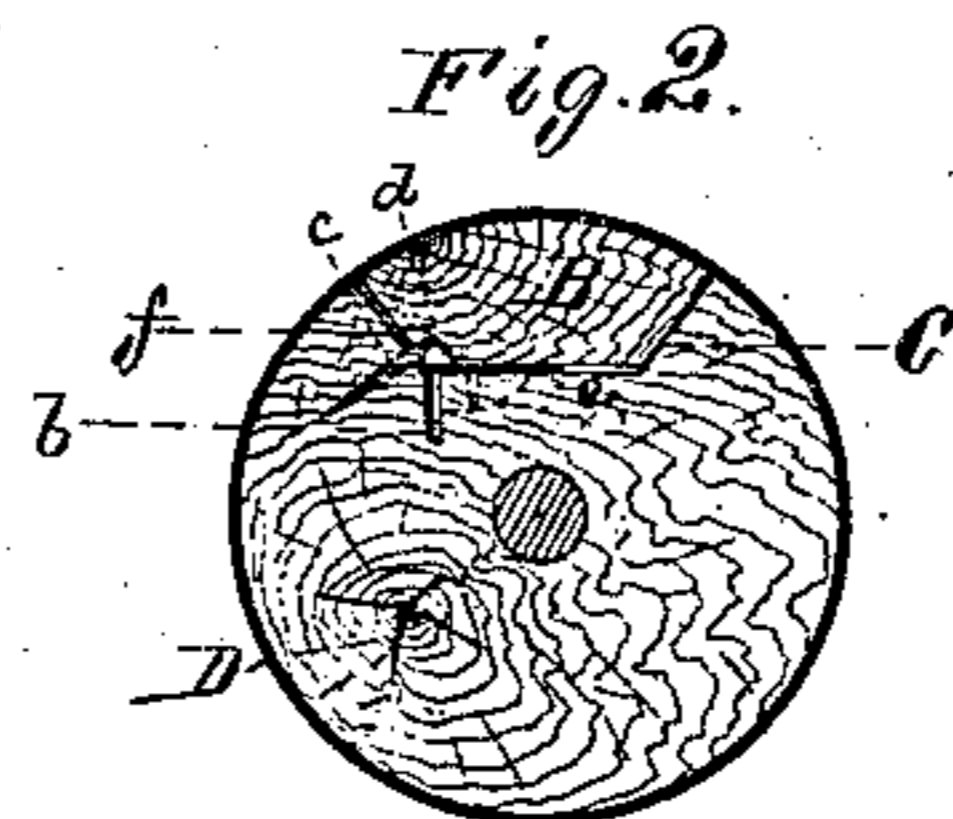
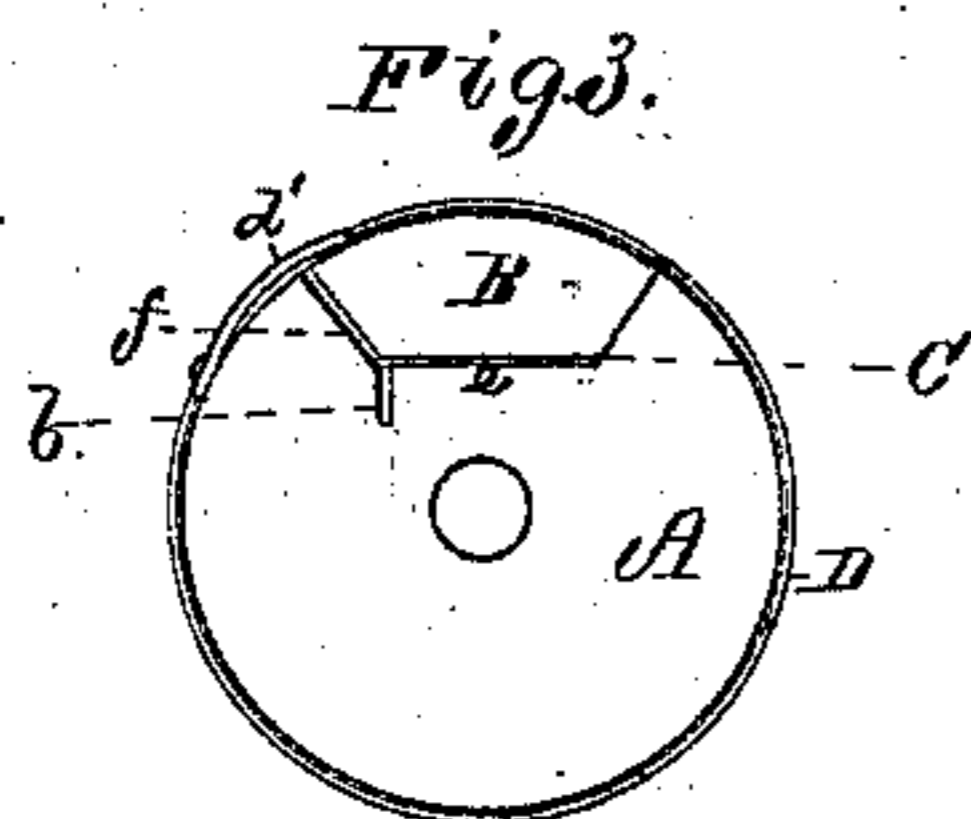
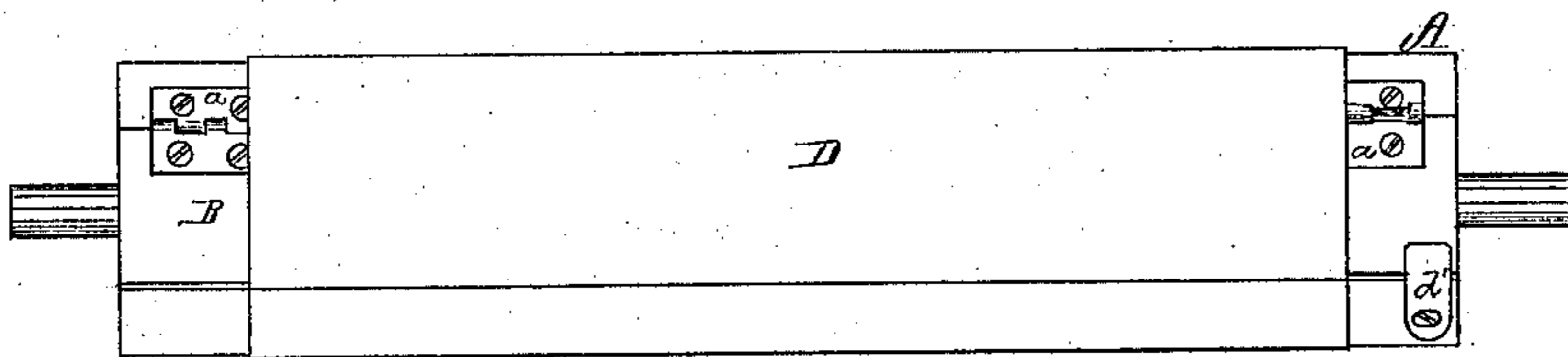


Fig. 4.

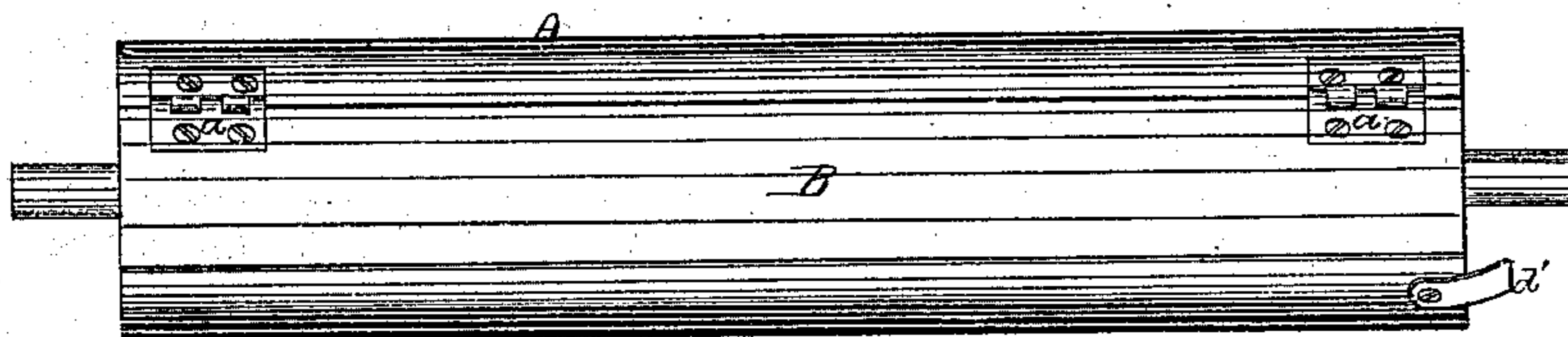
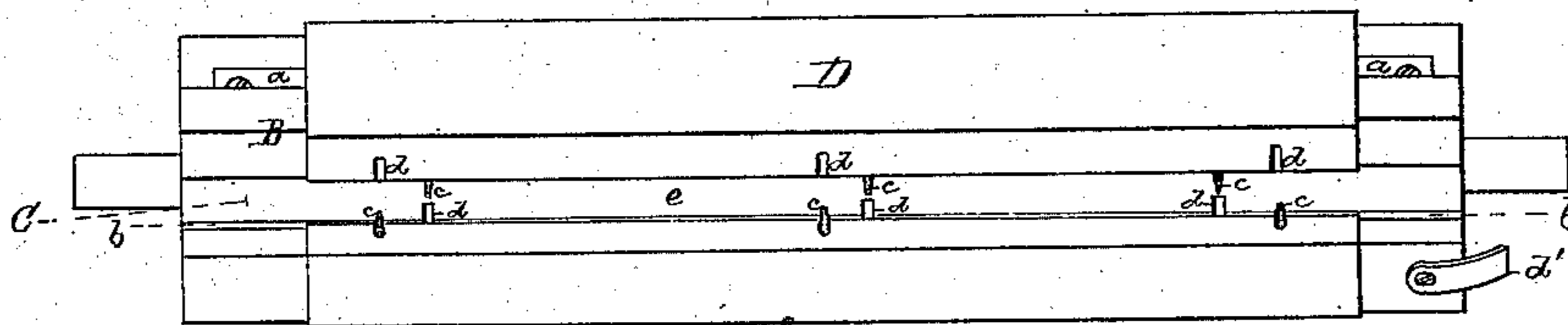


Fig. 5.



Witnesses:

S. N. Piper.

L. N. Möller.

Orra I. Foster.

by his attorney.

R. H. Eddy

# UNITED STATES PATENT OFFICE.

ORRA I. FOSTER, OF SALEM, NEW HAMPSHIRE.

## IMPROVEMENT IN ROLLS FOR GRINDING-SURFACES.

Specification forming part of Letters Patent No. 133,843, dated December 10, 1872.

*To all whom it may concern:*

Be it known that I, ORRA I. FOSTER, of Salem, of the county of Rockingham, of the State of New Hampshire, have invented a new and useful Improvement in Rolls for Grinding-Surfaces; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a top view, Fig. 2 a transverse section, and Fig. 3 an end elevation, of one of my improved grinding-rolls; and Fig. 4 is a top view of the body part without its abrasive cover.

The roll is what is usually termed a sand-paper or emery-cloth roll or roller, it having a wooden cylindrical body and a covering thereof of emery-cloth or sand-paper.

In carrying out my invention, the body A of the roller is to be grooved or channeled lengthwise from its circumference toward its center, as shown at C, and a strip or filling-piece, B, corresponding in shape to the portion removed, is to be placed within the groove C, and connected at one edge to the body by hinges, as shown at *a a*. Next, an auxiliary groove, *b*, is to be made in the body, and arranged therein in manner as shown, it leading down from the bottom *e* of the main groove C, and at the junction of such bottom with that side *f* of the main groove C which is opposite to that to which the filling-piece B is hinged. I usually provide the bottom surface of the piece B, as well as that edge of the main groove which is next the auxiliary groove, with a series of small spurs or studs to extend short distances from the said bottom and edge, there being recesses formed in the body and filling-piece opposite the spurs to admit of the straining or filling piece being properly closed down into the main groove. On these spurs the said paper or emery-cloth covering D may be hitched, preparatory to closing down the filling piece into the main groove.

Fig. 5 represents a top view of the roll with the filling-piece or strainer raised out of the

groove C, and with the said paper covering D hitched upon the spurs, which are shown at *c*, and the recesses for their reception at *d*.

If, when the filling-piece is turned up out of the groove, the sheet of sand-paper or emery-cloth be laid about the circumference of the body and filling-piece and hitched upon the spurs, we shall find that on turning down the filling-piece into the groove the abrasive covering or sheet will be strained tightly upon the outer curved surface of the roll-body.

As the sheet is liable to become stretched or loose while in use, we, in order to tighten it on the roll-body, as occasion may require, should raise the filling-piece upon its hinges out of the groove, and next draw the sheet down into the groove, after which the filling-piece should be turned back into place in the grooves. The auxiliary groove is to receive the next adjacent end or edge of the sheet and prevent it from extending underneath the filling-piece, so as to prevent the latter from being properly closed into the main groove. A turned bottom, *d'*, arranged in the body, serves, when turned over the filling piece, to hold it down in the groove.

I claim as my invention in the said abrasive roll, as follows:

1. The roll-body A as having the main groove C and the strainer or filling piece B hinged to it, as described.

2. The roll-body as having the main and auxiliary grooves C *b*, and the strainer or filling piece B, with the latter hinged to the body, as explained, all being substantially as set forth.

3. The grooved body and the filling piece constructed and hinged as described, and provided with the spurs *c* and their receiving-recesses *d*, all being essentially as explained and represented.

ORRA I. FOSTER.

Witnesses:

R. H. EDDY,  
S. N. PIPER.