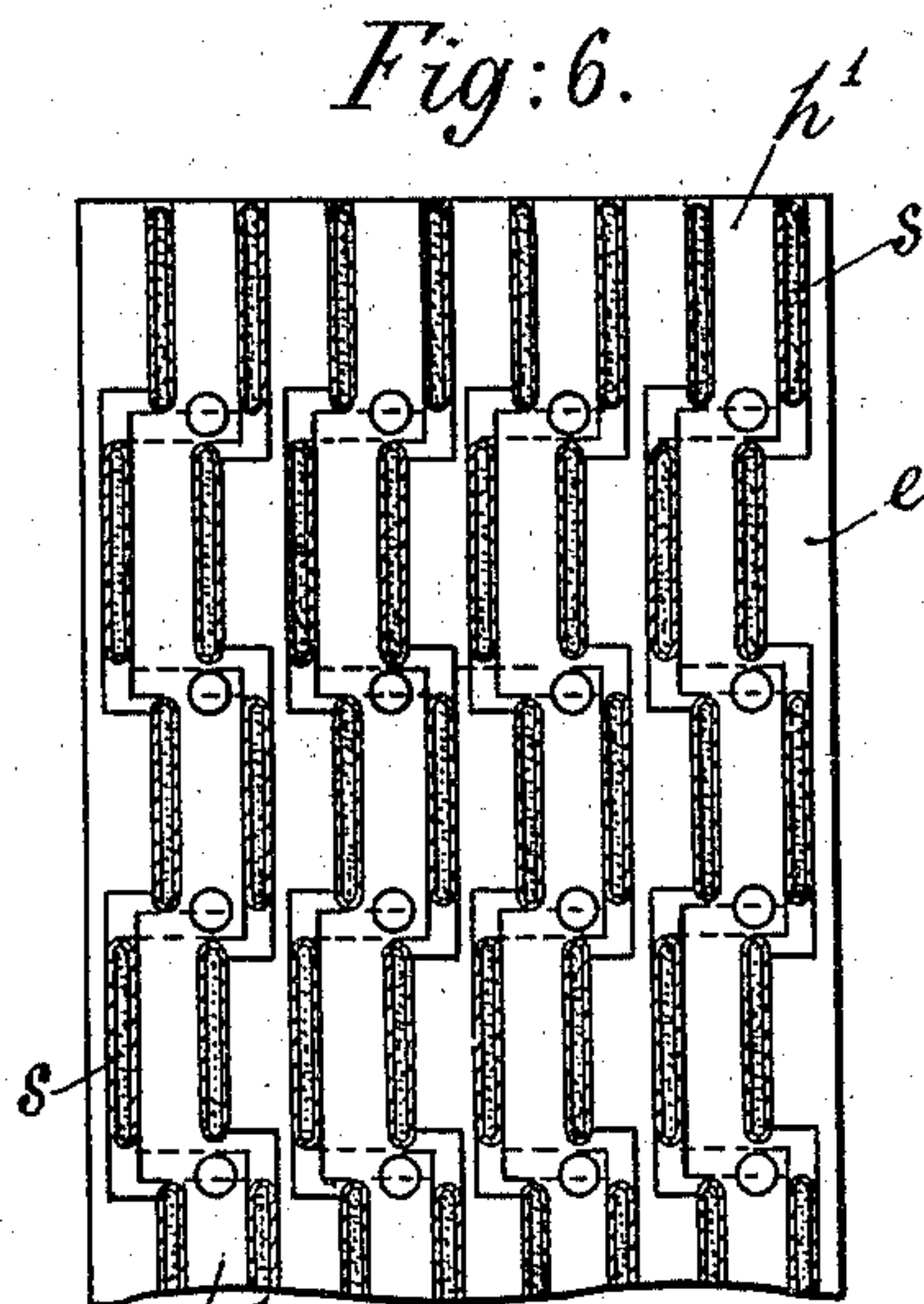
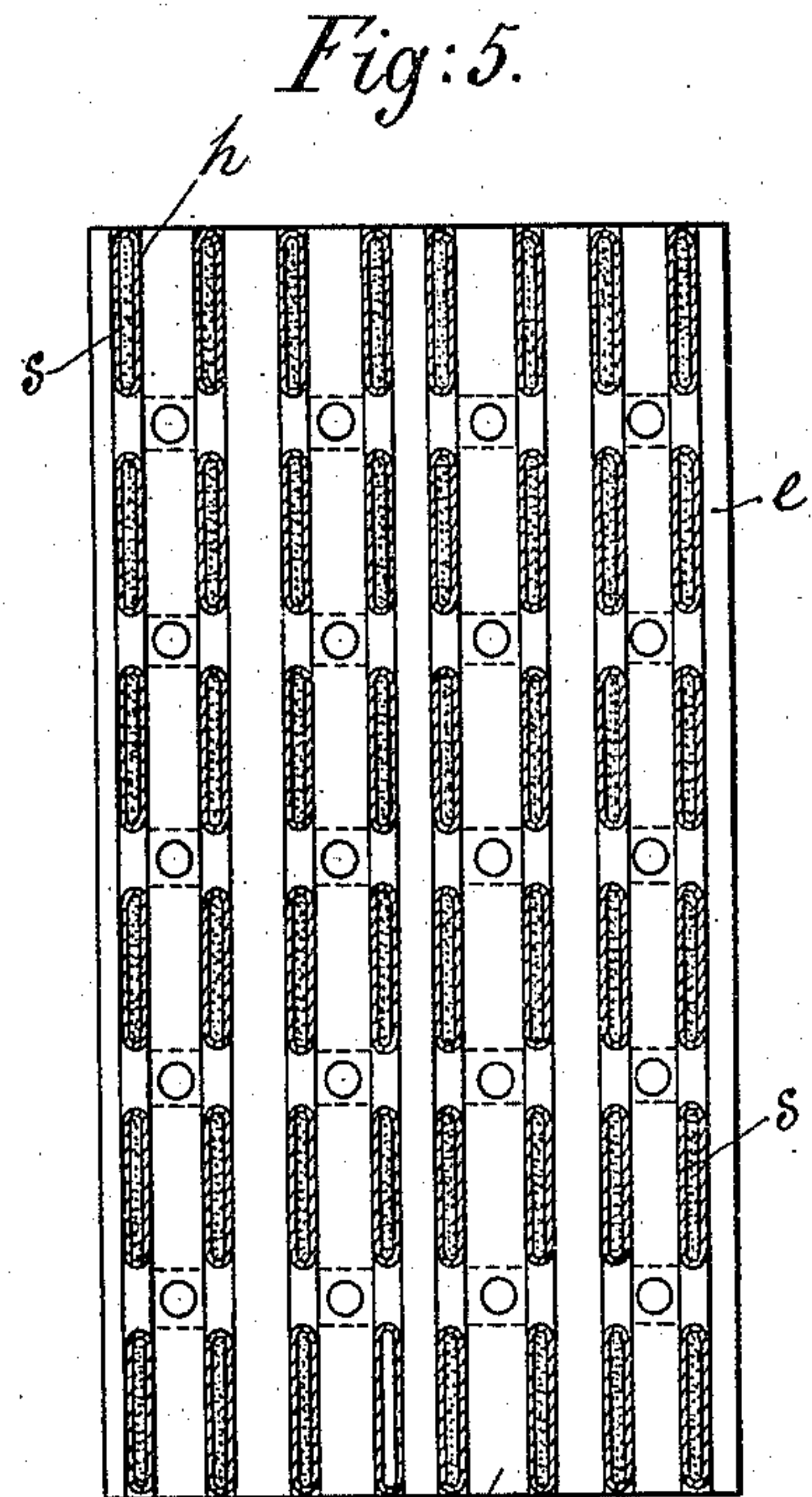
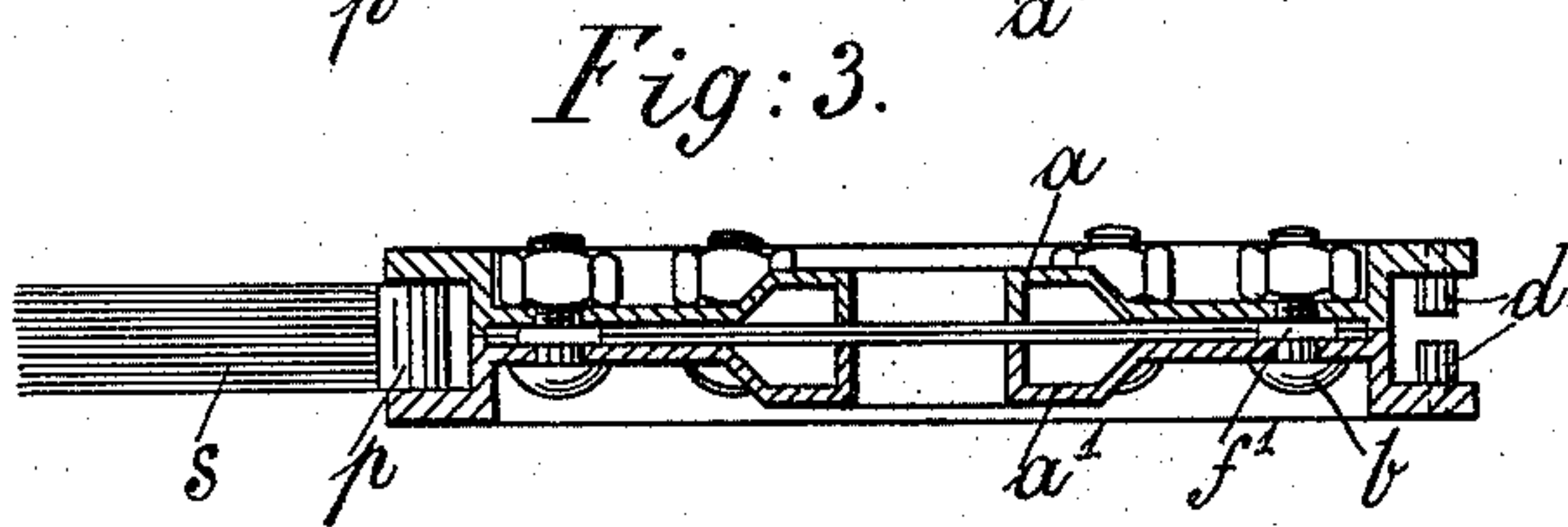
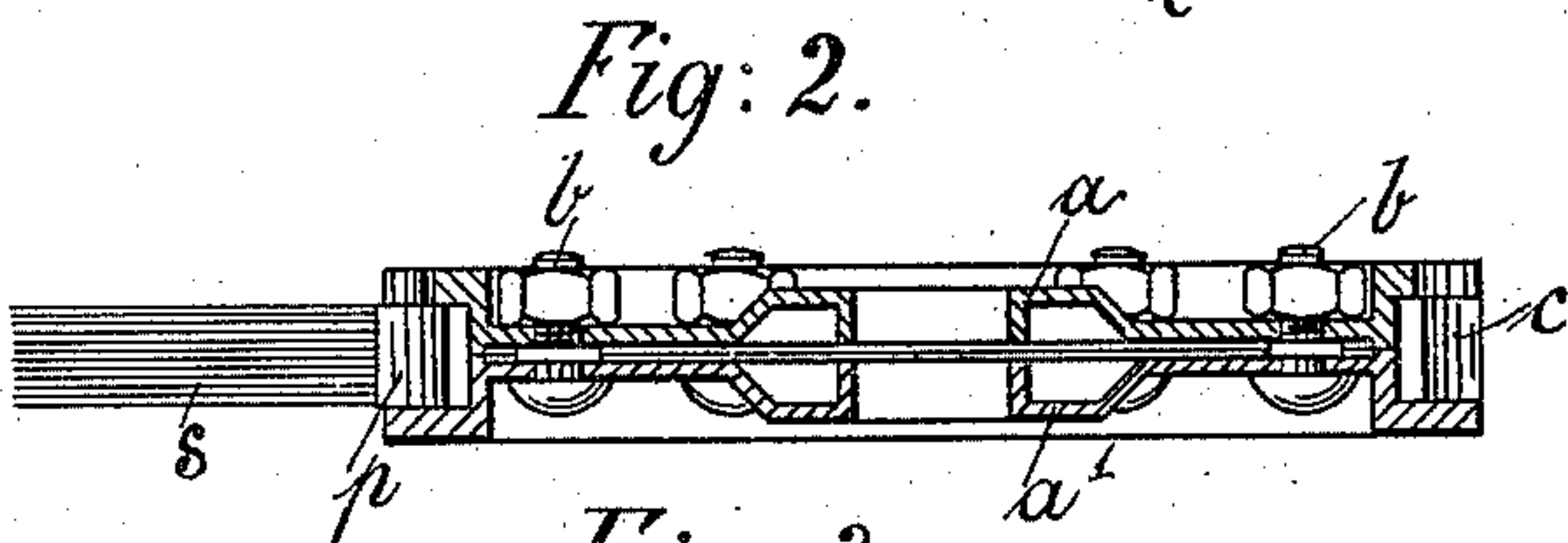
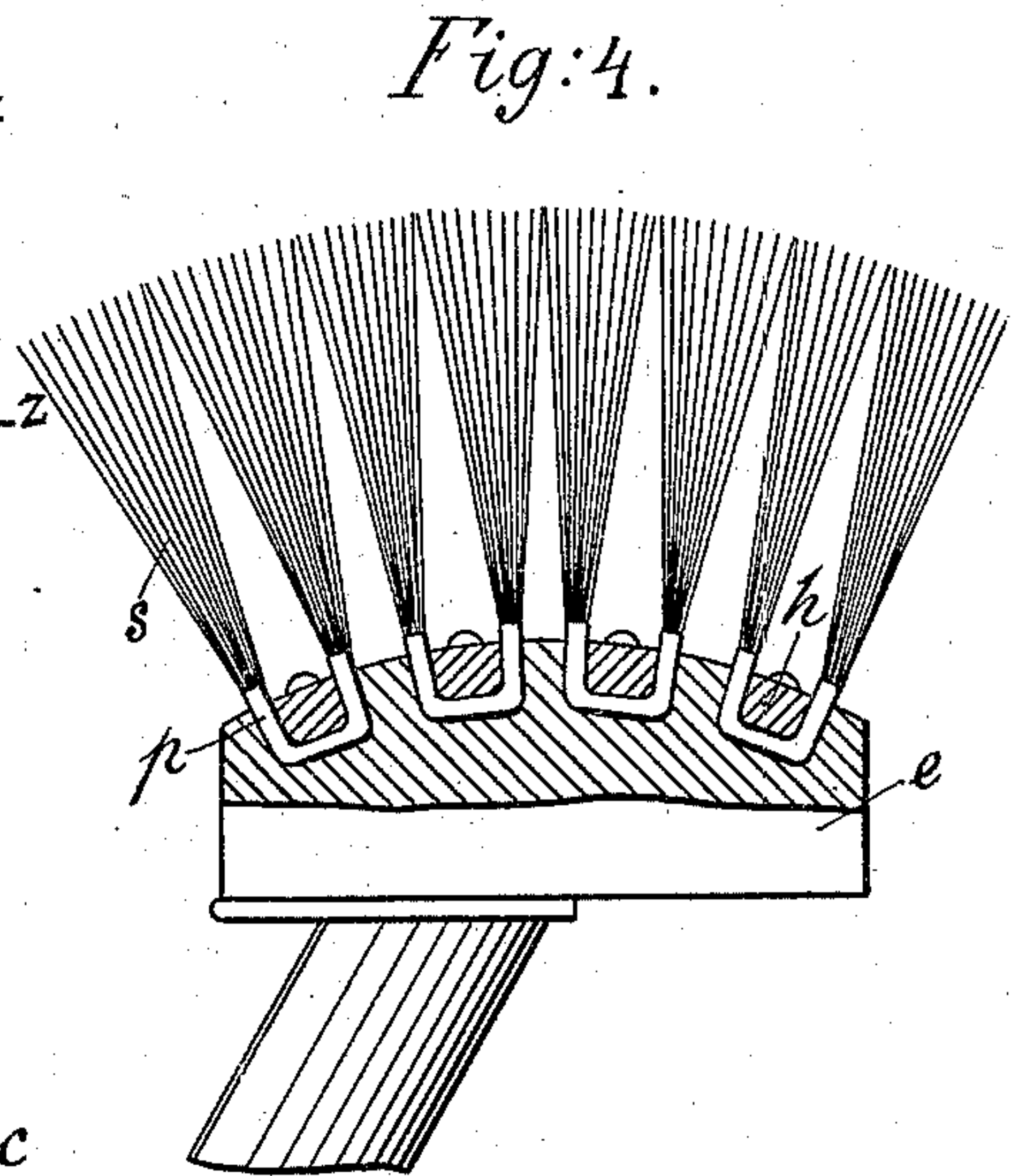
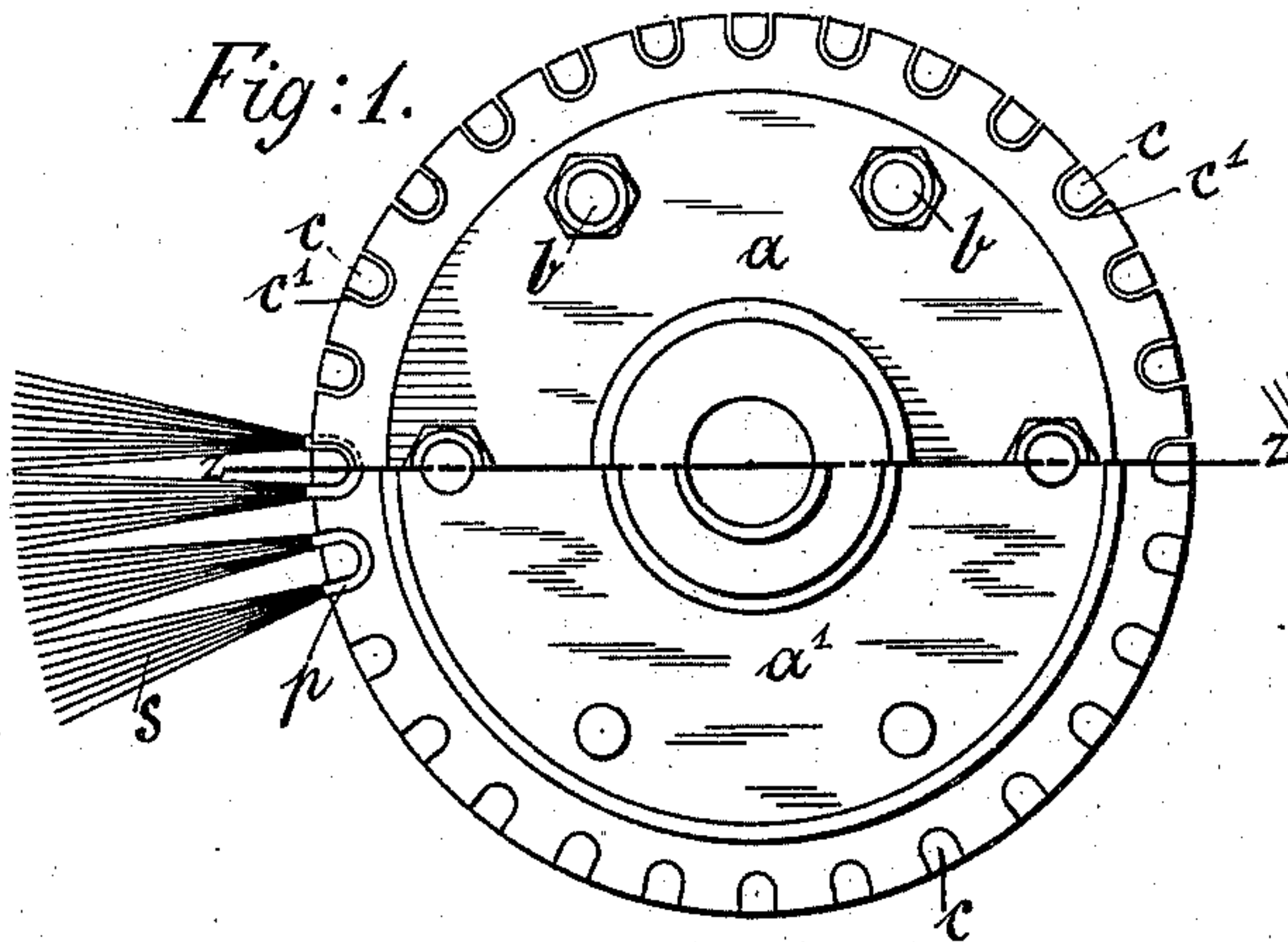


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MANUFACTURE OF BRUSHES.

No. 558,855.

Patented Apr. 21, 1896.



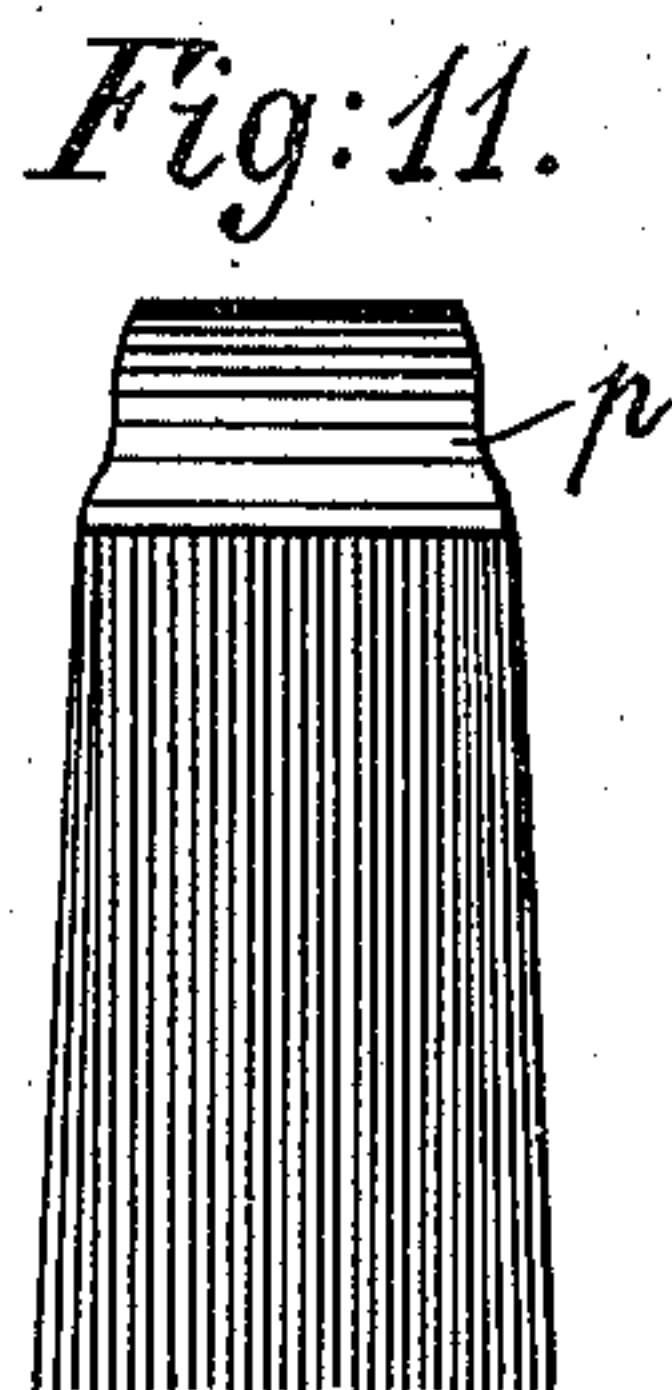
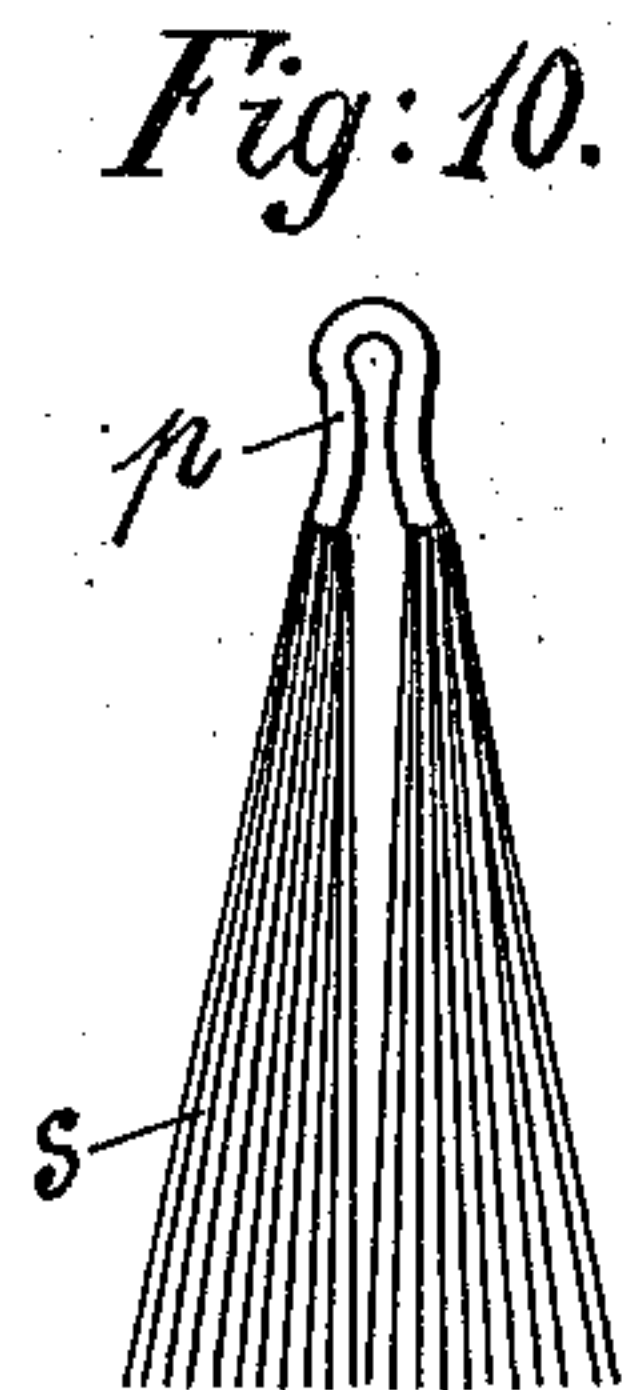
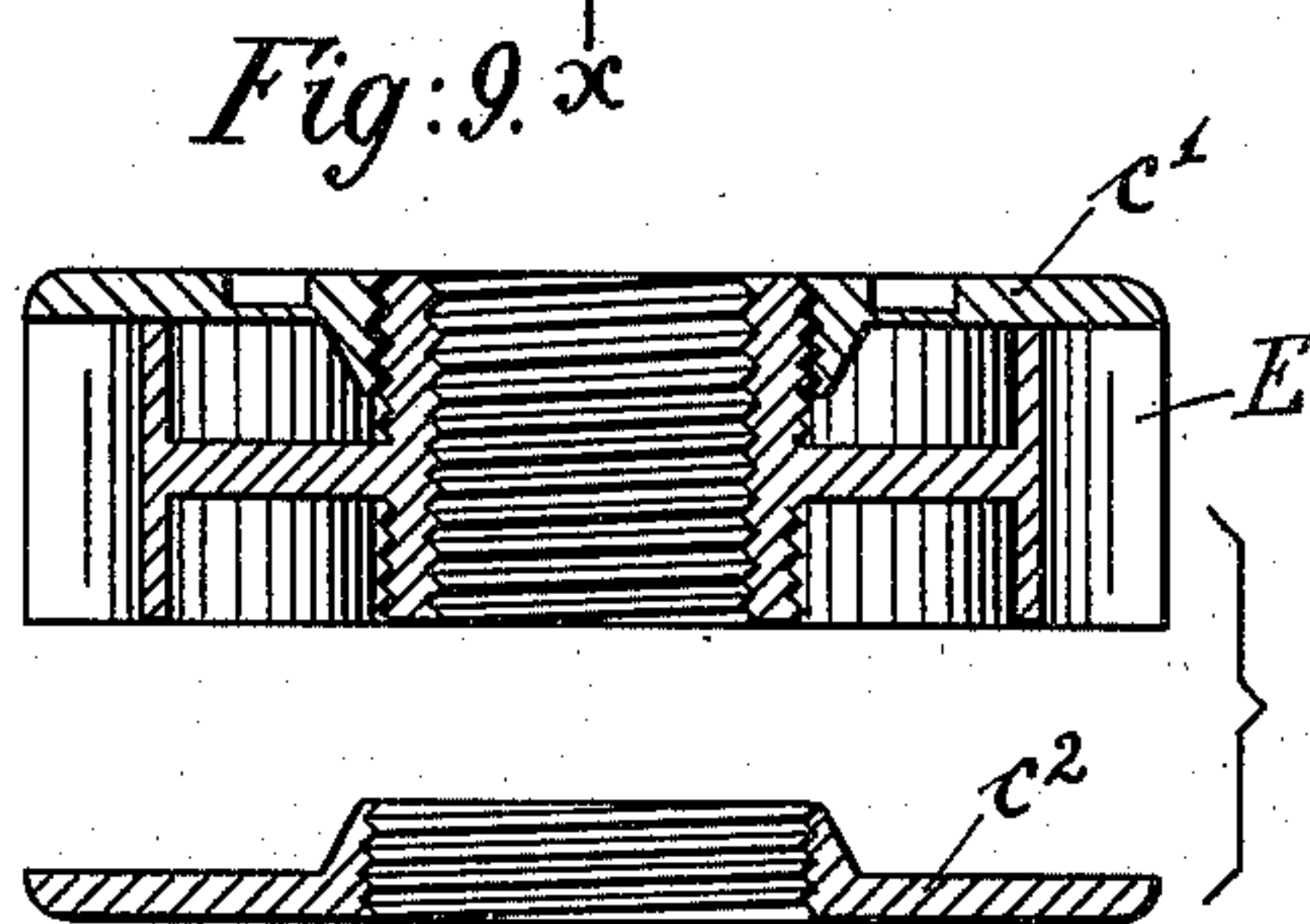
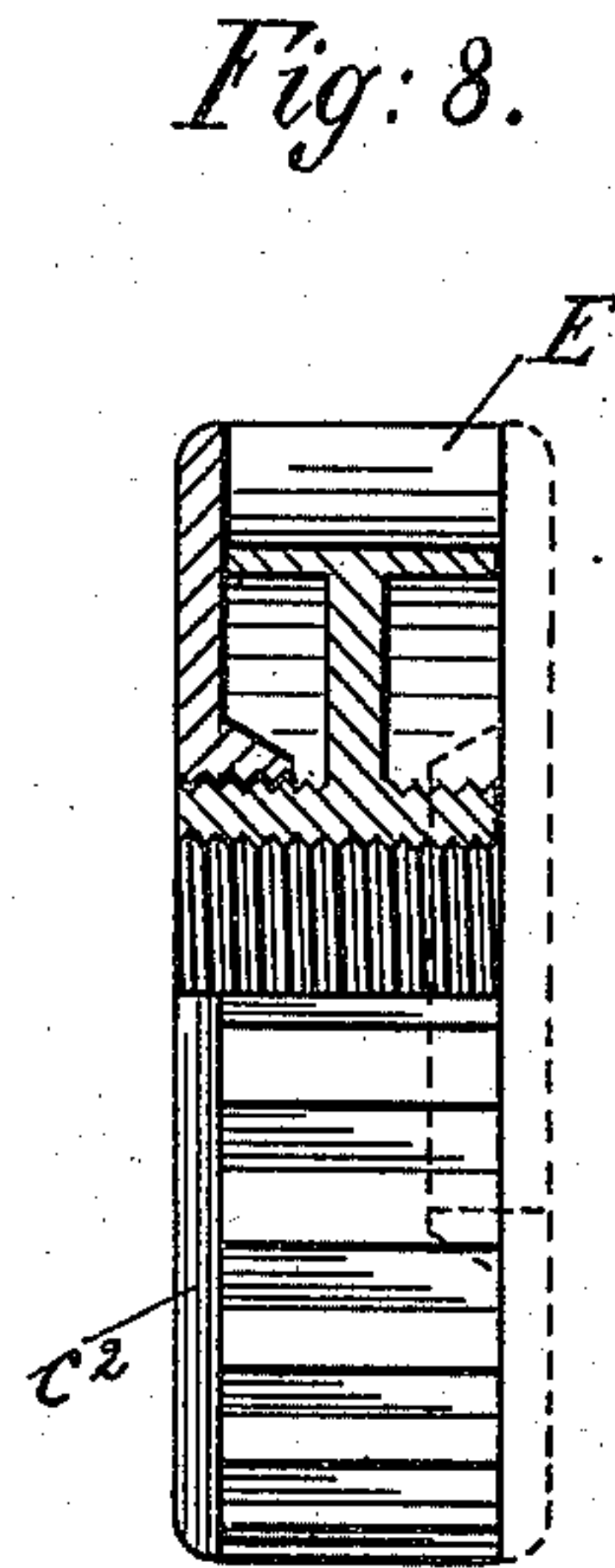
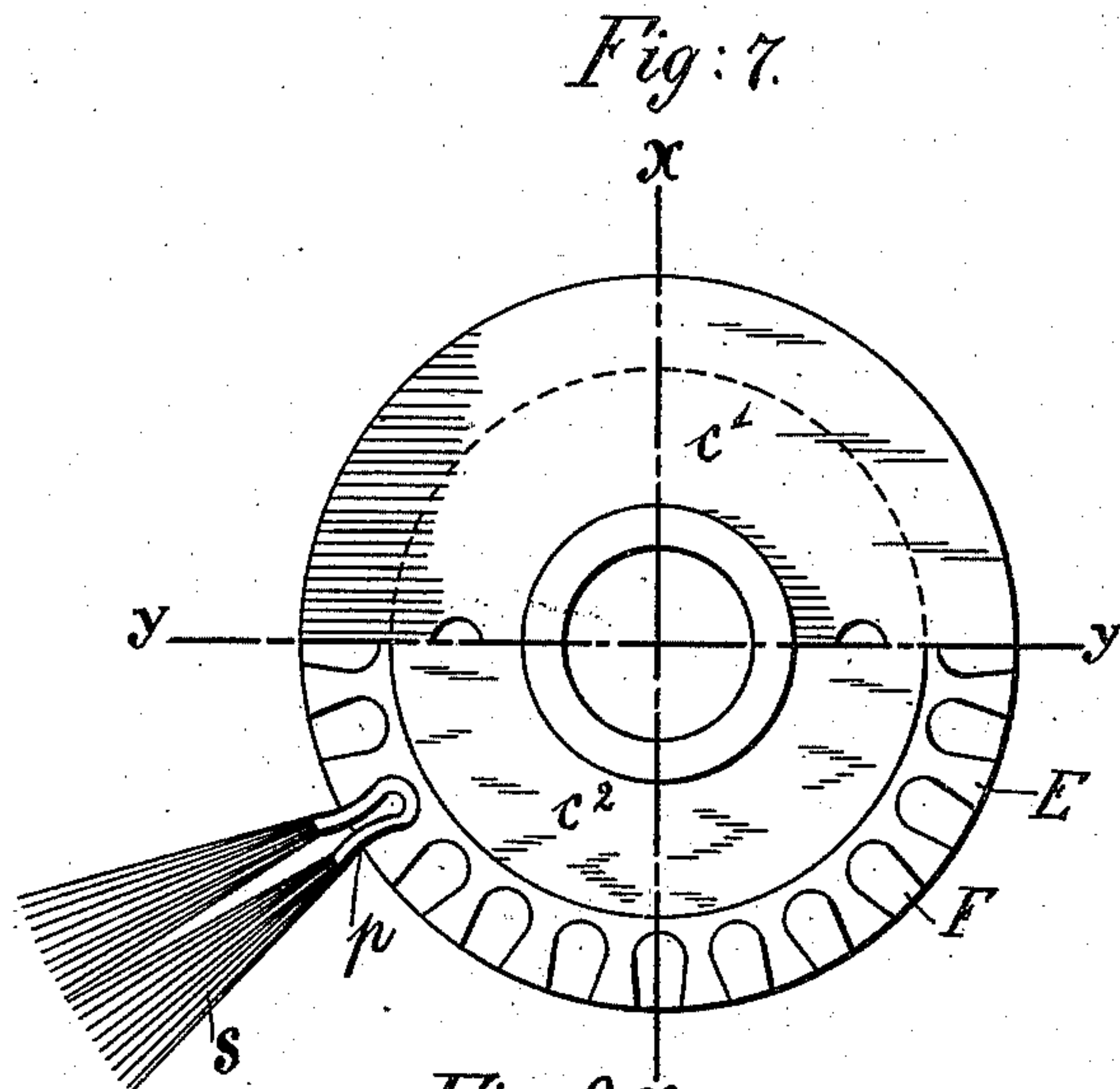
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# UNITED STATES PATENT OFFICE.

JOSEPH STAUDER, OF BERLIN, GERMANY.

## MANUFACTURE OF BRUSHES.

SPECIFICATION forming part of Letters Patent No. 558,855, dated April 21, 1896.

Application filed April 2, 1895. Serial No. 544,219. (No model.) Patented in Austria-Hungary April 24, 1893, No. 2,295 and No. 3,806; in France April 25, 1893, No. 229,595; in England May 19, 1893, No. 10,041; in Italy June 27, 1894, No. 36,675, and in Austria July 11, 1894, No. 44/3,614.

*To all whom it may concern:*

Be it known that I, JOSEPH STAUDER, manufacturer, a subject of the Emperor of Germany, residing at Engeluf 16, Berlin, in the Empire of Germany, have invented new and useful Improvements in the Manufacture of Brushes, (for which I have obtained Letters Patent from the following governments, viz: that of Austria-Hungary, No. 2,295 and No. 3,806, dated April 24, 1893; France, No. 229,595, dated April 25, 1893; Great Britain, No. 10,041, dated May 19, 1893; France, patent of addition to No. 229,595, dated April 27, 1894; Italy, No. 36,675, dated June 27, 1894, and Austria, No. 44/3,614, dated July 11, 1894,) of which the following is a full, clear, and exact description.

This invention relates to improvements in the manufacture of brushes and brooms of various kinds, its principal object being to provide means for grouping the bristles, wires, fibrous material, or the like into bundles or tufts in such manner that same may be readily inserted in or attached to the brush-head.

My invention further relates to means whereby the tufts of bristles may be readily removed and replaced without interfering with the other tufts in the brush.

Referring to the accompanying drawings, Figure 1 is an elevation, partly in section, of a circular or disk brush. Fig. 2 is a horizontal section on line *z z* of Fig. 1. Fig. 3 is a similar section of a disk brush provided with a different arrangement of pins or pegs. Figs. 4 and 5 are sectional and plan views, respectively, of a sweeping brush or broom. Fig. 6 is a modified arrangement of the grooves for receiving the tuft-sockets. Fig. 7 is a modified construction of a disk brush; and Figs. 8 and 9 are sections of same on lines *x x* and *y y*, respectively, of Fig. 7. Figs. 10 and 11 are side and front elevations, respectively, of the tufts for forming the brush or broom in accordance with this invention.

The circular brush shown in Fig. 1 consists of two plates or disks *a a'*, preferably secured by screws *b*, provided with washers *b'* or the like for keeping the disks at the desired distance apart.

On the inner surface and at the outer edge of the disk *a'* are provided a series of pins or

pegs *c*, on which the metal sockets *p*, surrounding the tufts of bristles *s*, and being bent U shape, Figs. 10 and 11, are placed. The disk *a*, provided with holes or recesses corresponding to said pins *c*, is now put on disk *a'*, the two being then firmly screwed together by bolts or screws *b*, and the sockets *p* are thus secured and kept between the disks.

According to the modified construction shown in Fig. 3, both disks are provided with pins or pegs *d*, being opposite each other when the disks *a a'* are screwed together, and thus securing the sockets *p*.

The head *e* of the brush or broom shown in Fig. 4 is provided with longitudinal parallel grooves in which the U-like metal sockets *p* are placed one after the other and then secured by a rail *h*, passed through or between said bent sockets, and nailed or screwed onto the brush-head.

In order to render the brush more effective for sweeping in all directions, but especially parallel to the head of the brush, the grooves may be made to cross the brush-head in zig-zag form, as shown in Fig. 6. By so arranging the grooves the open parallel spaces present with brushes having straight parallel grooves are avoided. In this case the form of the rails *h'* for securing the sockets *p* corresponds to that of the grooves.

The circular brush shown in Fig. 7 is provided with a circular body *E*, in whose periphery are made recesses *F*, narrowing outwardly somewhat.

The bent sockets *p* of the tufts inserted into said recesses *F* from the side are nipped together by the narrower entrance to the recesses, and thus the pins, pegs, and rails shown in connection with the brushes illustrated in Figs. 1 and 4 are dispensed with. The sockets *p*, securing the tufts *s*, are prevented from lateral movement by the disks *C' C''*, screwed onto or otherwise secured to the central body *E* of the brush.

Having now particularly described and ascertained the nature of this invention, I declare that what I claim, and wish to secure by Letters Patent, is—

1. A brush or broom formed of a number of tufts of bristles each contained within a U-shaped metal socket; the said socket be-

ing formed of a bent tube open at both ends,  
and surrounding and grasping the tufts in  
their middle portions, in combination with a  
body portion having chambers therein, within  
5 which the metal sockets are secured, substan-  
tially as described.

2. A brush or broom, consisting of two cir-  
cular plates or disks provided near their pe-  
ripheries with pins or pegs forming recesses  
10 within the outer edge of such plates, in com-

bination with tufts of bristles contained in  
U-shaped metal sockets, surrounding the said  
pins or pegs, substantially as described.

In witness whereof I have hereunto signed  
my name in the presence of two subscribing 15  
witnesses.

JOSEPH STAUDER.

Witnesses:

J. KOLLM,

CHAS. KRÜGER.