

No. 622,835.

Patented Apr. 11, 1899.

A. WURZBURGER.
FEATHER.

(Application filed Aug. 25, 1898.)

(No Model.)

Fig. 1.

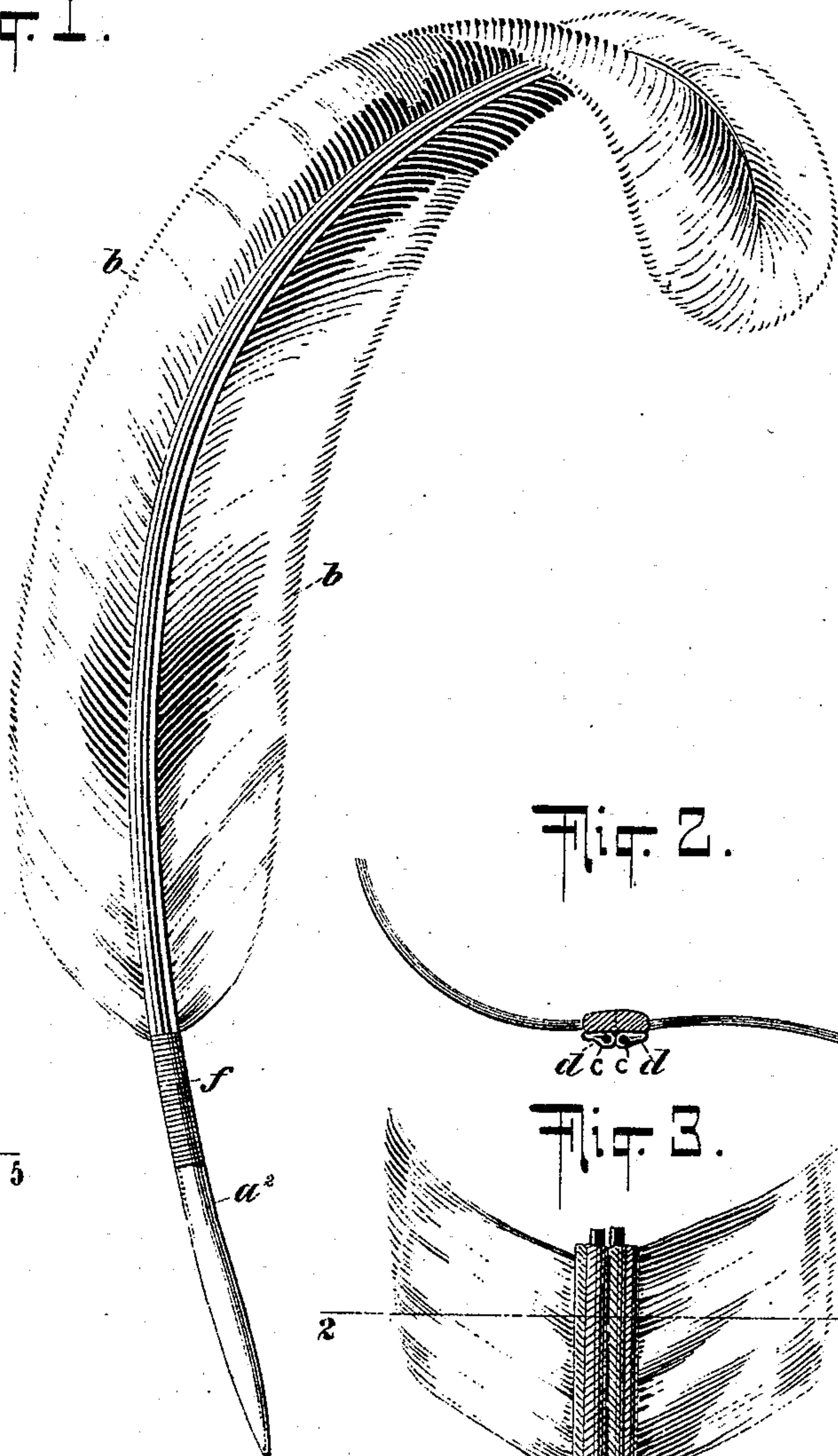


Fig. 4.

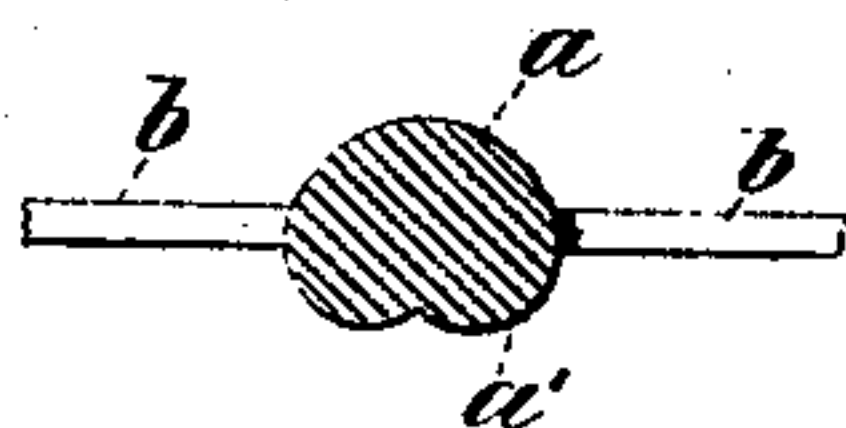


Fig. 5.



Fig. 6.

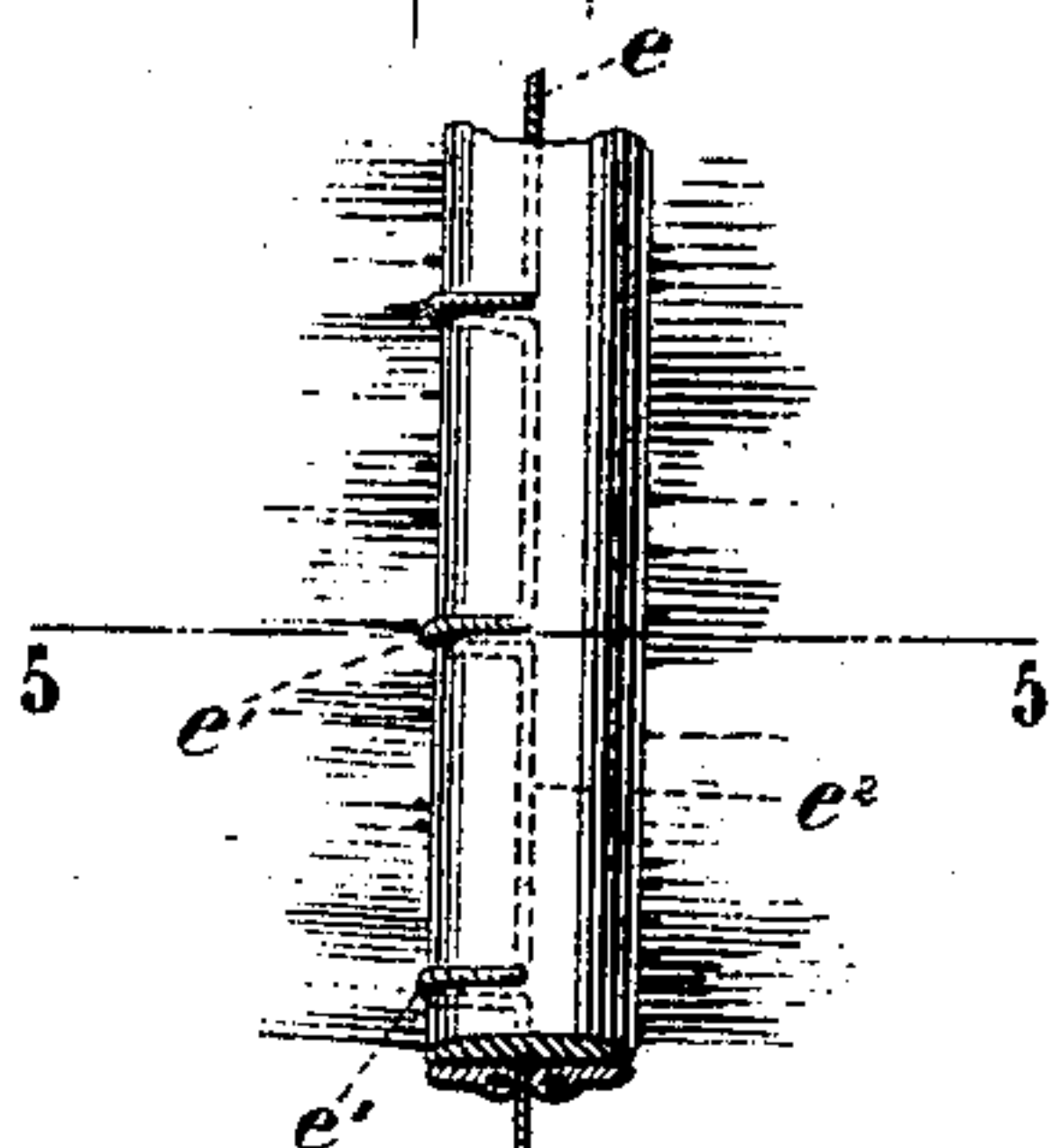


Fig. 2.

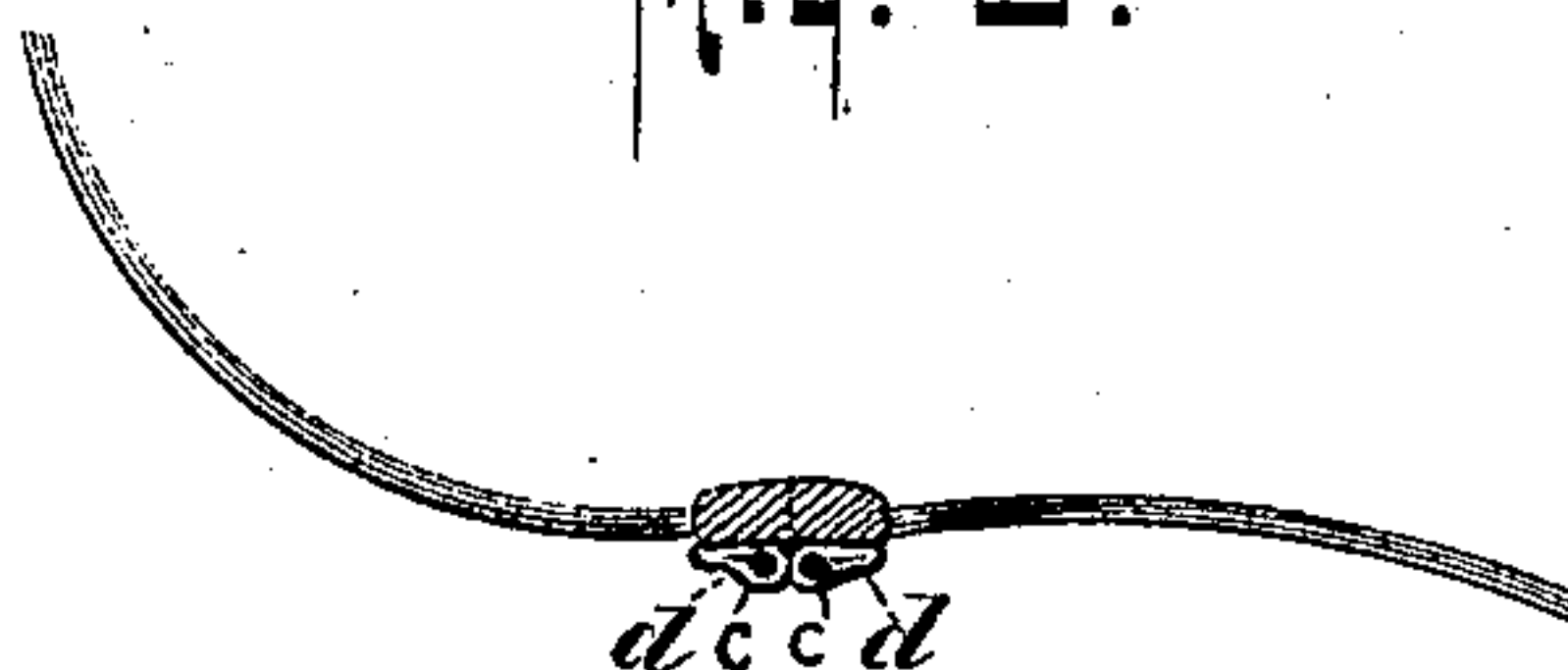
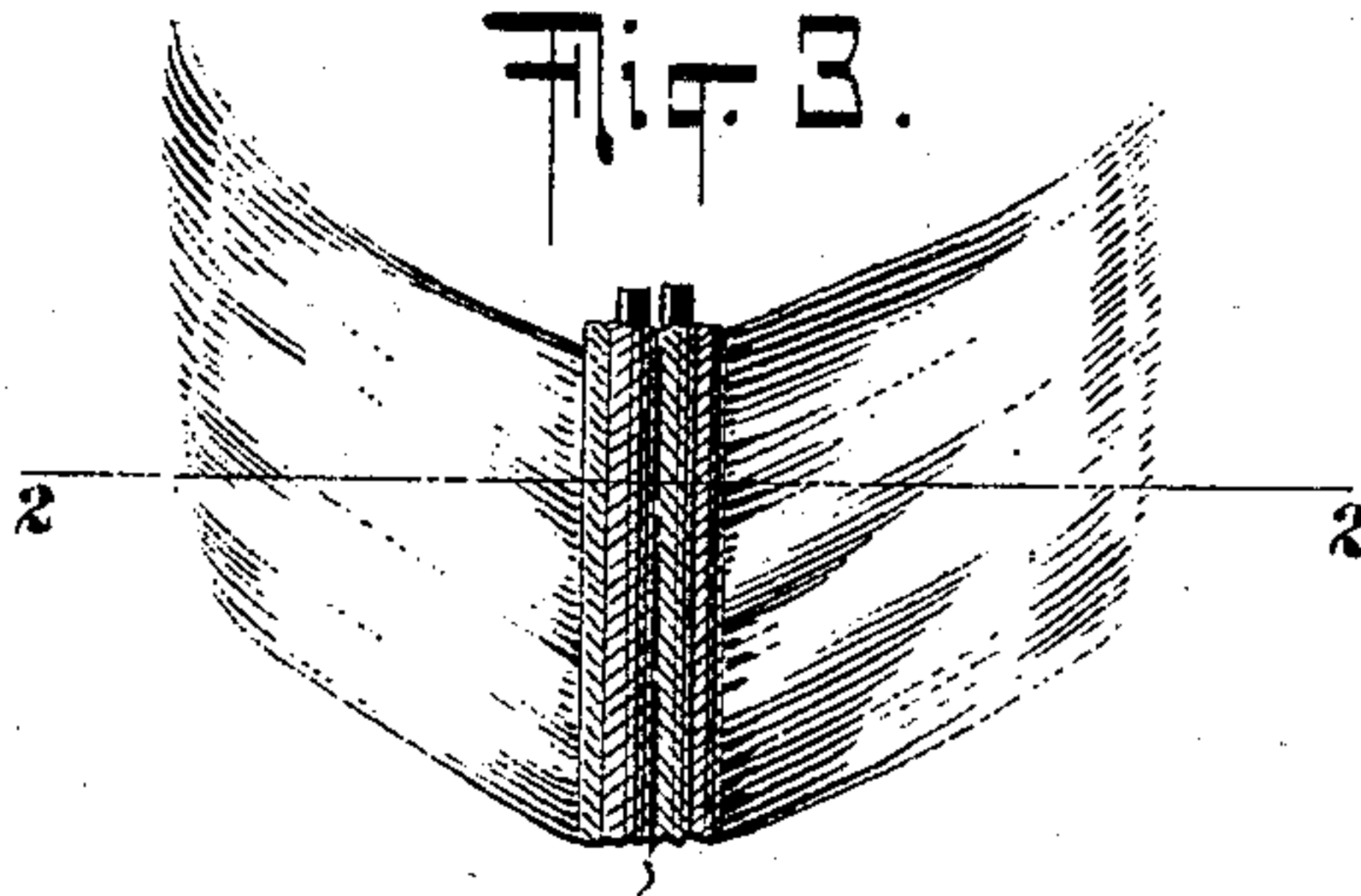


Fig. 3.



WITNESSES:

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FEATHER.

SPECIFICATION forming part of Letters Patent No. 622,835, dated April 11, 1899.

Application filed August 25, 1898. Serial No. 689,460. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH WURZBURGER, a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Feathers, of which the following is a specification.

My invention relates to feathers, and has for its object to so improve a natural feather as to impart to it elasticity and "life."

It is well known that feathers are more or less rigid and inflexible and apt to break under strain. These faults of feathers are great drawbacks to their free use as millinery, both because they render the feathers fragile and because the said feathers are more or less stiff and ungraceful, lacking the graceful resiliency which should be their chief perfection. By my invention I produce a feather from which these faults are absent, which possesses resiliency and elasticity to a remarkable degree, and which is practically unbreakable in use.

In the accompanying drawings I have shown a feather embodying my invention.

In the drawings, Figure 1 shows a feather of the cock's-plume type, embodying my invention. Fig. 2 is a cross-section thereof, showing its construction, the section being taken on line 2 2 of Fig. 3. Fig. 3 is an enlarged view showing a short length of the feather. Fig. 4 is a section showing the central rib of a feather as it exists in its natural state. Fig. 5 is a section of the same rib when it exists in a feather embodying my invention; and Fig. 6 is a detail view of the rib, showing the preferred mode of stitching.

In the drawings, *a* is the central rib of the feather from which the individual plumes *b* project. This central rib *a* is more or less rigid upon its rear side *a'* and the feather is in consequence comparatively rigid, although it has a slight elasticity. Such elasticity, which arises from the resiliency of the rib *a*, is nullified by the pith in the elastic rear portion *a'*. In order to deprive the feather of such stiffness, I cut away this rear portion *a'*, as will be seen in Fig. 5, and supplement the said feather by a highly elastic and resilient structure, comprising a rib or ribs *c* of featherbone, each preferably consisting of a number of strands of the resilient por-

tion of a feather assembled together and held in place by a woven fabric *d*, the whole constituting a resilient backing-strip, which is secured to rib *a* by means of stitches, which stitches are preferably arranged as shown in Fig. 6, wherein the threads *e* are shown as passing through the rib *a* and the backing-strip, thence embracing the two structures by a loop *e'*, and thence running along the face of the backing-strip for a short distance, where it again passes through the said two structures and embraces them in a loop *e'*. At the lower end of the plume portion of the feather the backing-strip may be firmly secured to the quill *a²* in any suitable manner, preferably by strongly wrapping the quill at the end of the backing-strip with a serving *f*. It will be observed that I have cut away from the rib of the feather the pithy irresilient portion *a'* and have left only the more resilient portion *a* and have backed the said rib with a resilient strip consisting of the resilient portion of another feather inclosed in the textile fabric. It will be obvious that by thus constructing a feather I obtain all the resiliency and life possible and greatly improve upon the natural feather, which by reason of the pithy irresilient portion *a'* is devoid of life and elasticity.

I am aware that attempts have been made to combine feathers with metallic structures and with whalebone; but such structures are wholly lacking in life. While they may have a certain resiliency, that resiliency is characteristic of metal and whalebone, whereas in my feather the resiliency is characteristic of the feather, and there is considerable difference, as I have discovered, between the characteristic resiliency of featherbone and the characteristic resiliency of metal and whalebone, such a difference, indeed, that metal or whalebone would deprive the resilient portion *a* of the rib of the feather of its characteristic resiliency, whereas featherbone, by reason of its greater and peculiarly constituted resiliency, supplements the resiliency of the resilient portion *a* of the feather and produces a very perfect structure.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

In a feather for millinery purposes, the combination with the plumes of a rib *a* devoid of the pithy irresilient portion *a'* and supplemented by a backing of featherbone of substantially the same characteristic resiliency as the resilient portion or front of the feather-
5 rib *a*, the said backing being secured to the

said rib *a*, substantially as described and for the purposes set forth.

ADOLPH WURZBURGER.

Witnesses:

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