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R. H. SCHNEIDER

2,136,471

BONE PIN

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Fig. 1.

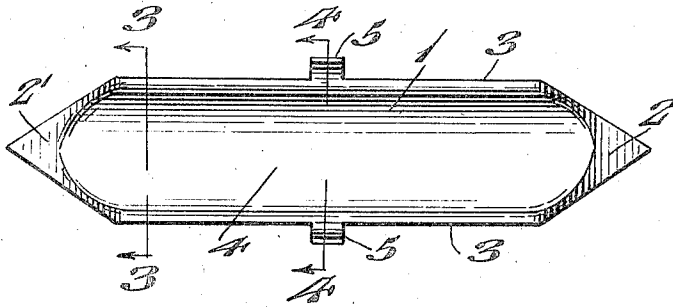


Fig. 2.

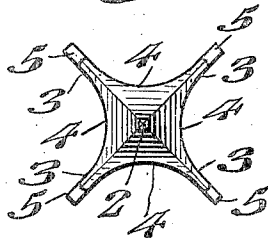


Fig. 3.

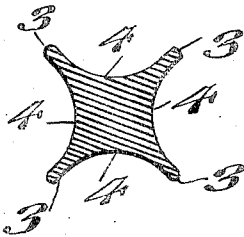
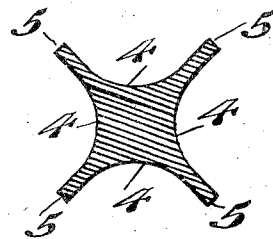


Fig. 4.



INVENTOR
RUDOLPH H. SCHNEIDER.
BY *Wm. G. Schmidt*
ATTORNEY

UNITED STATES PATENT OFFICE

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BONE PIN

Rudolph H. Schneider, Chestnut Hill, Mass.

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4 Claims. (Cl. 128—92)

My invention relates to fracture pins, and more particularly to such fracture pins as are used in the healing of the fractures of the bones of lower animals.

5 An object of my invention is to provide a fracture pin which by virtue of its structural design can hold in rigid alignment a fractured bone, whether transversely or obliquely broken, while the healing or mending activities are in process.

10 Another object of my invention is to provide a fracture or bone pin that can be easily inserted into the medullary cavity of a fractured bone and is slowly absorbed by the organism during the period of time it is restraining the fractured bone in its normal position.

15 A further object of my invention is to provide an absorbable fracture pin that not only facilitates the mending process of the fractured bone of an animal, but is also adapted to restrain in proper alignment the broken bone of a human being.

Other purposes and further advantages will be more clearly disclosed in a description of the accompanying drawing, in which;

Fig. 1 is a front elevation of the fracture pin.

Fig. 2 is an end view of the fracture pin.

Fig. 3 is a transverse sectional view taken on line 3—3 of Fig. 1.

Fig. 4 is a transverse sectional view taken on line 4—4 of Fig. 1.

30 Referring specifically to the drawing, in which like reference numerals indicate like parts, 1 is a slender, quasi-cylindrical body fabricated of bone or any other suitable absorbable material. The termini of 1 are drawn or shaped into the pointed ends 2 and 2'. Running longitudinally along the outer surface of 1 are fins 3, which can, within the limits of reasonableness and practicality, be of any number. The fins 3 traverse the entire length of the body 1 and terminate sharply in the ends 2 and 2'. Although the fins 3 can be separately mounted upon the body 1, yet it is preferable as a result of practice to have them fabricated integrally with the aforesaid body 1. In order that structural weaknesses inherent in any other type of design may be avoided, I have discovered that strength and rigidity can be had if the said fins 3 are joined either separately or integrally to the body 1 along a rounded or curved plan of structure as indicated at 4 in Figs. 2, 3 and 4.

55 Mounted integrally on the longitudinal fins 3 are the projections 5, which extending above the said fins 3 prevent slippage of the fracture pin in the medullary cavity of the bone undergoing repair. The projections 5 may be positioned anywhere along the fins 3 depending upon the nature of the fracture, since their primary function is to

eliminate a possible shifting of the fracture pin in the marrow cavity of a bone.

The method of using the fracture pin is quite obvious. The pin is partly inserted into one of the sections of the fractured bone. The pointed end 2 can be pushed easily into the marrow canal. The other pointed end 2' is then inserted into the marrow cavity of the other section of the fractured bone. The pin thus inserted holds the parts of the fractured bone in rigid alignment. The spaces intermediate among the fins allow for the development of bone marrow and the formation of new bone cells. The projections 5 afford an opportunity to the bone surgeon to anchor the pin securely and prevent its slipping beyond the point of fracture. In the course of time not only are the fractured ends of the bone reknitted in their normal position and without any displacement, but the material of the pin, whether it be bone or any other adsorbable material is slowly absorbed or systemically acted upon by the fluids of the organism. Although the drawing illustrates a fracture pin which is best adapted to aligning the portions of a transverse fracture, yet the projections 5 can be fabricated at different positions along the fins 4 in order that the parts of an oblique fracture can be rigidly constrained to their normal position.

The present preferred embodiments of my invention are illustrative only and may be modified in detail without departing from its spirit and are not to be construed as restrictive of the scope of the appended claims.

Having thus described by invention, what I claim as new and desire to secure by Letters Patent is:

1. A fracture pin fabricated of non-living bone and comprising a shaft, said shaft terminating in pointed ends; longitudinal fins or ridges running along said shaft; and projections mounted on said fins or ridges.

2. A fracture pin of non-living, absorbable material comprising a shaft, said shaft terminating in pointed ends; longitudinal fins or ridges running along said shaft; and projections mounted on said fins or ridges.

3. A fracture pin of non-living, absorbable material comprising a shaft, said shaft terminating in pointed ends; and longitudinal ridges running along said shaft.

4. A fracture pin of non-living, absorbable material comprising a shaft, said shaft terminating in pointed ends; longitudinal fins or ridges running along said shaft, said fins or ridges attached by rounded joints to said shaft; and projections mounted on said fins.

RUDOLPH H. SCHNEIDER.