

(No Model.)

A. KIRSCHBAUM.
TUBE.

No. 573,602.

Patented Dec. 22, 1896.

FIG. 1.

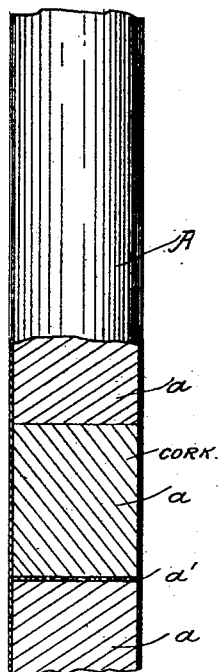


FIG. 3.

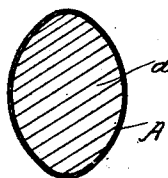


FIG. 4.

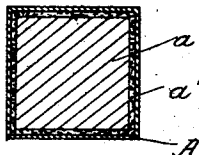


FIG. 2.

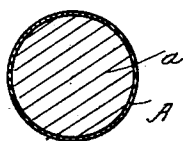
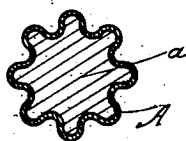


FIG. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

AUGUST KIRSCHBAUM, OF SOLINGEN, GERMANY.

TUBE.

SPECIFICATION forming part of Letters Patent No. 573,602, dated December 22, 1896.

Application filed March 21, 1896. Serial No. 584,342. (No model.)

To all whom it may concern:

Be it known that I, AUGUST KIRSCHBAUM, a resident of Solingen, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Tubes, of which the following is a specification.

This invention relates to metallic tubes such as used in the manufacture of bicycles, bedsteads, carriage-axles, and for many other purposes; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view, partly in section, of a tube constructed according to this invention. Fig. 2 is a cross-section through the same. Figs. 3, 4, and 5 are cross-sections showing modifications in the form of the tube.

A is a thin metallic tube. In order to permit this tube to be made as thin and as light as possible and at the same time to prevent it from being bent, indented, or otherwise distorted or deformed when subjected to a sudden strain or blow, the tube is packed with a filling *a* of compressed cork. This filling adds materially to the ability of the tube to withstand distortion and adds but little to its weight. The cork is preferably

forced into the tube in the form of disks or plugs, and these disks are packed in with disintegrated cork *a'* in the form of dust or shavings mixed with adhesive material, such as a solution of india-rubber or casein or cellulose.

The cork filling may be compressed within the tube to any desired extent in order to increase its strengthening effect.

The tubes may be of any form or section. Figs. 2, 3, 4, and 5 show, respectively, a round, oval, square, and fluted tube.

What I claim is—

1. A thin metallic tube provided with elastic material such as cork secured under pressure inside it and holding its walls constantly in tension, substantially as set forth.

2. A thin metallic tube provided with a filling formed of plugs of cork set in a mixture of disintegrated cork and adhesive material, substantially as set forth.

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

AUGUST KIRSCHBAUM.

Witnesses:

JULIUS VOM HAGEN,
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