No. 847,866. PATENTED MAR. 19, 1907.

G. WEST.

STOPPER FOR VESSELS.

APPLICATION FILED JULY 6, 1906.

Fig. 1.

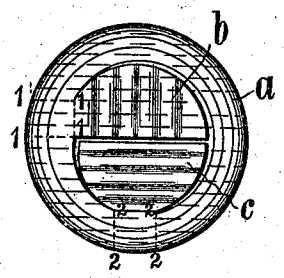
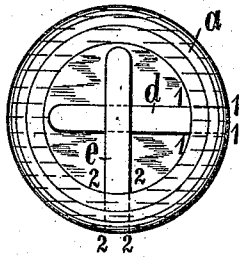


Fig. 2.



WITNESSES

William Abbe

M. E. Keir

INVENTOR

George West

by Howson and Howson

Attys.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORG WEST, OF GODESBERG, GERMANY.

STOPPER FOR VESSELS.

No. 847,866. Specification of Letters Patent. Patented March 19, 1907.

Application filed July 6, 1906. Serial No. 325,038.

To all whom it may concern:

Be it known that I, GEORG WEST, a subject of the King of Prussia, residing at Godesberg-on-the-Rhine, Germany, have invented certain new and useful Improvements in Stoppers for Vessels, of which the following is a specification.

This invention relates to improvements in stoppers for vessels, and has for its object a stopper adapted to be torn up or cut from the vessel it closes by means of devices attached to or forming part of said stopper.

Stoppers which are able to be opened suddenly, in which either the closing part—say a cap, lid, or the like—is itself formed as a device adapted to tear open or in which a special device adapted to tear said closing part open—such as a wire, strip of metal, or the like—is provided, it frequently happens that the strength of the parts to be torn open exceeds the strength of the device adapted to tear the same open, and the latter tears away before said stopper is completely open. This occurs particularly if the material of the stopper happens to be especially hard or separable with difficulty at the place of tearing or cutting open. Such harder places, or those able to offer resistance, are always present in the kinds of stoppers made of sheet metal, as the sheet metal is rolled in a certain direction.

The employment of several tongues on the same stopper for opening the same has in itself already been proposed; but these tongues were arranged parallel to and close beside one another in known stoppers, and consequently the tearing or cutting open took place from one place, the material at which place possessing the same resistance as that of the material to be torn open. Hence such devices did not offer sufficient certainty of performing the opening required by them. Now the cap-stopper according to the present invention is characterized by its possessing several devices for tearing the same open, said devices being arranged at an angle one with another in order to be able to tear or cut open the cap in a given case in various directions in a manner known in itself from the inside toward the outside. By this arrangement if one device for tearing the cap open tears or breaks off because it either does not possess sufficient resistance in consequence of the unfavorable direction of the grain of the material or is opposite to a part of the cap which is able to offer very considerable resistance in consequence of the direction of the grain or fiber the other tongue or one of the other tongues at which the conditions affecting the resistance are more favorable is able to effect the detachment.

By employing several devices for tearing the cap open arranged at an angle one with another the further advantage is obtained that a device adapted to tear or cut the cap open is formed by the tearing open of the edge of the cap in this itself, which can then be used if the existing devices adapted to tear the cap open happen to be all broken off. Such a stopper is illustrated in the accompanying drawing in various forms, in which—

Figures 1 and 2 are plans of two forms.

In the cap-stopper shown in Fig. 1 the lid of the cap *a* is itself made suitable for tearing open the cap by two tongues *b* and *c* being partly stamped out, so that the places of junction 1 1 and 2 2 remain, which permit the cap to be torn open in two directions at right angles to one another. When the tongue *b* fails to act, the tongue *c* comes into operation, and it is assumed that if the tearing open does not succeed at 1 1 an equal resistance of the rim of the cap does not exist at 2 2. More than two tongues may be arranged, and also the tongues or devices for tearing or cutting the cap open can be crossed in a given case at other than right angles with the rim of the cap.

In the example shown in Fig. 2 the devices for tearing or cutting the cap open are formed in a manner known in itself of wire or strips of sheet metal *d e*, which are likewise arranged in directions not parallel to one another.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A stopper adapted to be torn open, comprising in combination a cap adapted to engage the opening of a vessel, a plurality of tongues attached to said cap arranged at different angles to the grain of the material of which said cap is made, said tongues being adapted to tear said cap from the inside to the outside and thereby away from said vessel, substantially as described.

2. A stopper adapted to be torn open, comprising in combination a cap adapted to engage the opening of a vessel, a plurality of tongues in the cover of said cap arranged at different angles to the grain of the material of which said cap is made, said tongues being adapted to tear said cap from the inside to

the outside and thereby away from said vessel, substantially as described.

3. A stopper adapted to be torn open, comprising in combination a cap having an opening at the center adapted to engage the opening of a vessel, and a plurality of tongues at different angles to the grain of the material of which said cap is made, the free ends of said tongues reaching into said opening in said cap, said tongues being adapted to tear said cap from the inside to the outside and thereby away from said vessel, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORG WEST.

Witnesses:
BESSIE F. DUNLAP,
LOUIS VANDORY