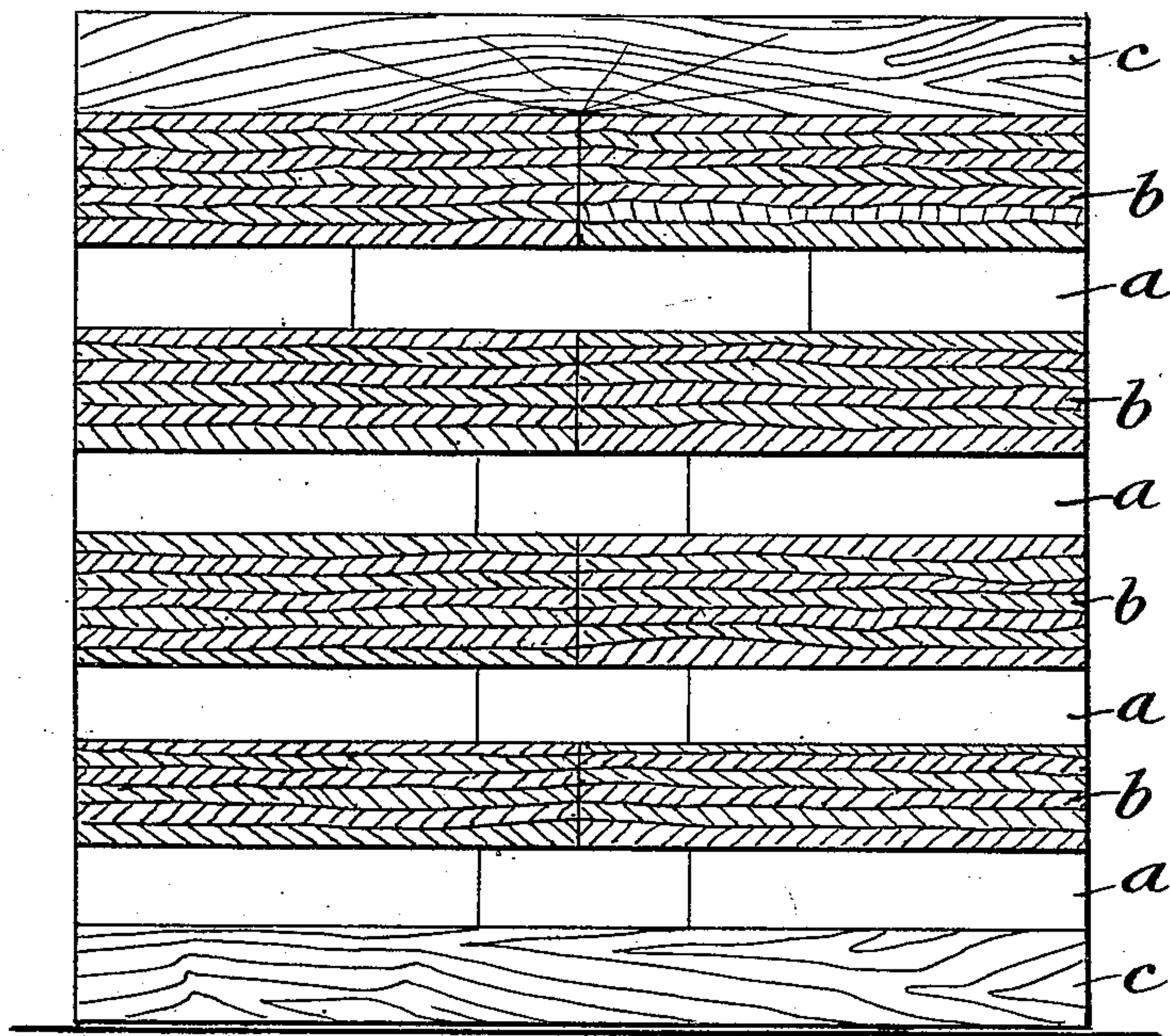


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WALLING OF MINES.
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999,582.

Patented Aug. 1, 1911.



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UNITED STATES PATENT OFFICE.

FRIEDRICH NELLEN, OF ESSEN-ON-THE-RUHR, GERMANY.

WALLING OF MINES.

999,582.

Specification of Letters Patent.

Patented Aug. 1, 1911.

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To all whom it may concern:

Be it known that I, FRIEDRICH NELLEN, a citizen of the Empire of Germany, residing in Essen-on-the-Ruhr, in said Empire of Germany, have invented certain new and useful Improvements in the Walling of Mines, of which the following is a specification.

This invention relates to an improved wall for the levels and other parts of mines.

In walling the levels heretofore, the space between the wooden props and the natural rock is filled up with broken stones. This walling has the disadvantage that by the pressure of the superposed rock, in consequence of the unevenness of the broken stone filling, the wooden props are bent inwardly, so that the transverse profile of the level is contracted. Sometimes the pressure of the superposed rock and the inward bending of the wooden props is so considerable that the props break down entirely.

The object of this invention is to prevent the objections of the prior walling construction and furnish a wall which has a certain degree of elasticity so as not to bend or break down; and for this purpose the invention consists of a wall for mines which is composed of alternating layers of stone and peat, which wall is compressed by the pressure of the superposed rock without affecting the cross-sectional area of the level.

The accompanying drawing represents a front view of my improved wall for mines, which shows one form of carrying out my invention.

The wall is composed of alternating layers of peat and stone *a*. The wall is built up at both sides of the level and supports the caps *c* which are preferably made of semi-circular shape. The peat which is used for the walls of the levels is preferably pressed

into the form of bricks, so that it can be conveniently handled. The stone-layers are made of broken stone formed with a mortar or other binder into blocks. The layers are superposed alternately one above the other until the roof or hanging wall is reached.

The walls are of sufficient thickness to be self-sustaining, notwithstanding the materials are in a dry state. The peat grips the loose stones at the top and bottom of each stone layer, thereby holding the stones in place. The vacant spaces between the yielding side-walls and the caps *c* are filled up with broken stone. Props of any approved construction are used for supporting the caps *c*, and the props removed later on when working on the level is to be continued. In walls made of alternating layers of stone and peat, the peat layers are gradually compressed by the pressure of the superposed rock, so that the inward bending or breaking down of the walls is entirely obviated.

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

1. A wall for mines, consisting of alternating layers of loose dry stone and dry peat, said layers being of such width as to be self-sustaining in the wall.

2. A wall for mines consisting of alternating layers of dry peat and loose dry stone, and a cap supported on the uppermost layer of peat, said layers being of such width as to be self-sustaining in the wall.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

FRIEDRICH NELLEN.

Witnesses:

BESSIE F. DUNLAP,
LOUIS VANDORN.