

Dec. 30, 1930.

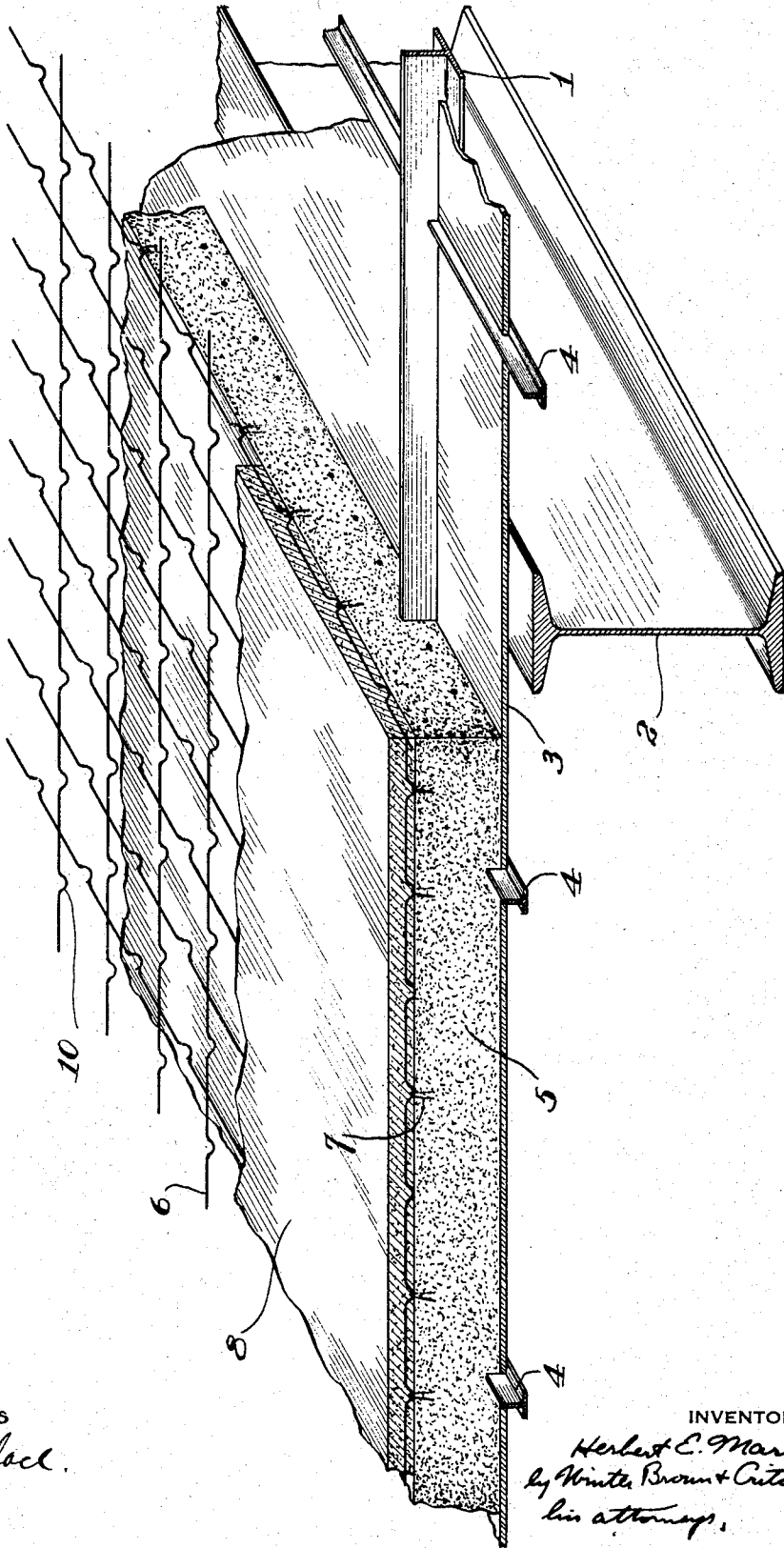
H. E. MARKS

1,787,049

FLOOR CONSTRUCTION

Filed April 19, 1926

Fig. 1.



WITNESS
A. B. Wallace

INVENTOR
Herbert E. Marks
by Winters Brown & Cristobal,
his attorneys.

UNITED STATES PATENT OFFICE

HERBERT E. MARKS, OF GLEN OSBORNE, SEWICKLEY, PENNSYLVANIA, ASSIGNOR TO UNITED STATES GYPSUM COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

FLOOR CONSTRUCTION

Application filed April 19, 1926. Serial No. 102,834.

When floors are formed of monolithic slabs of chalky calcium cementitious material such as gypsum or slaked lime, or compositions containing either or both, it is necessary to surface such slabs with a layer of wearing material, usually concrete, because chalky calcium cementitious materials are not resistant to wear, are a source of dust, and readily absorb moisture. The usual practice is to pour a layer of concrete directly upon the slab of calcium cementitious material without attaching the concrete to it otherwise than by the meager bond which naturally exists. Because the concrete surfacing layer is unattached to the slab it has been necessary to make it quite thick to prevent it from cracking, a matter which adds materially to the expense of the floor and to its weight.

The object of this invention is to so apply a surfacing layer to a monolithic floor formed of a chalky calcium cementitious material that the surfacing layer may be of minimum thickness.

The invention is illustrated in the accompanying drawing which is a perspective view of a portion of a floor showing progressive stages of its construction.

According to the invention a floor comprising a monolithic slab or layer of chalky calcium cementitious material, preferably gypsum, has a reinforcing material, preferably in the form of welded wire fabric, laid upon the upper surface of the slab and anchored to it, and a wearing layer of dense, cementitious material is then laid upon the slab so as to encase the reinforcing material.

In the illustrative embodiment of the invention, the monolithic slab floor is formed as disclosed in my reissue Patent No. 16,243, although it will be understood that the invention is applicable to such floors regardless of how they are formed or how the chalky calcium cementitious material is supported while being poured.

As shown in my said patent, and also in the accompanying drawing, the floor may be formed by first placing a series of T-bars 1, or equivalent structural members, upon floor beams 2, and in supporting gypsum or equivalent boards 3 on the flanges of the

members 1. If desired the meeting edges of the gypsum boards may be supported and the crevices between them sealed by small T-bars 4 or equivalent members extending between the larger members 1 and supported by their flanges, the monolithic slab 5 being then poured upon the gypsum boards.

After the slab 5 has been thus or otherwise formed, reinforcing material 6 is laid upon its upper surface. This reinforcing material may be of any suitable form but is preferably welded wire fabric provided with off-set portions 10 to raise its main body above the surface of the slab. The reinforcing material is then anchored to the slab preferably by means of staples 7 driven into the slab at the off-set portions 10. After the reinforcing material has been thus laid upon and anchored to the slab, a thin layer 8 of concrete or equivalent wear-resisting material is poured upon the slab, so as to encase the reinforcing material. Because wearing layer 8 is reinforced and because it is anchored to the slab, it may be formed much thinner than heretofore possible.

While the monolithic slab 5 may be formed of slaked lime or a slaked lime composition, it is preferably formed of gypsum.

According to the provisions of the patent statutes, I have explained the principle and operation of my invention, and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it understood that, within the scope of the appended claims, the invention may be practiced by other forms of construction than that particularly illustrated and described.

I claim as my invention:

1. A floor, comprising a monolithic slab of chalky calcium cementitious material, reinforcing material laid upon and spaced from the upper surface by offset integral portions which are anchored to said slab, and a relatively thin wearing layer of concrete laid upon the slab and encasing said reinforcing material.

2. A floor comprising a monolithic slab of gypsum, reinforcing fabric laid upon and spaced by offset, integral portions from the

upper surface of the gypsum, means for anchoring the fabric to the gypsum, and a relatively thin wearing layer of concrete laid upon the gypsum and encasing said reinforcing fabric.

- 5 3. In a cementitious slab construction, a pair of cementitious slabs in bonded, parallel relation, said slabs being of different thickness, a steel fabric imbedded in the thinner of the two slabs, and having integral,
10 offset portions contacting with the thicker of said slabs so as to space the main body of reinforcing fabric apart from said thicker slab a predetermined distance, and anchoring means engaging an offset portion and em-
15 bedded in said thicker slab.

In testimony whereof, I sign my name.

HERBERT E. MARKS.

20

25

30

35

40

45

50

55

60