April 16, 1935. H. COLE 1,997,809

BUILDING CONSTRUCTION

Filed April 12, 1933 2 Sheets-Sheet 1

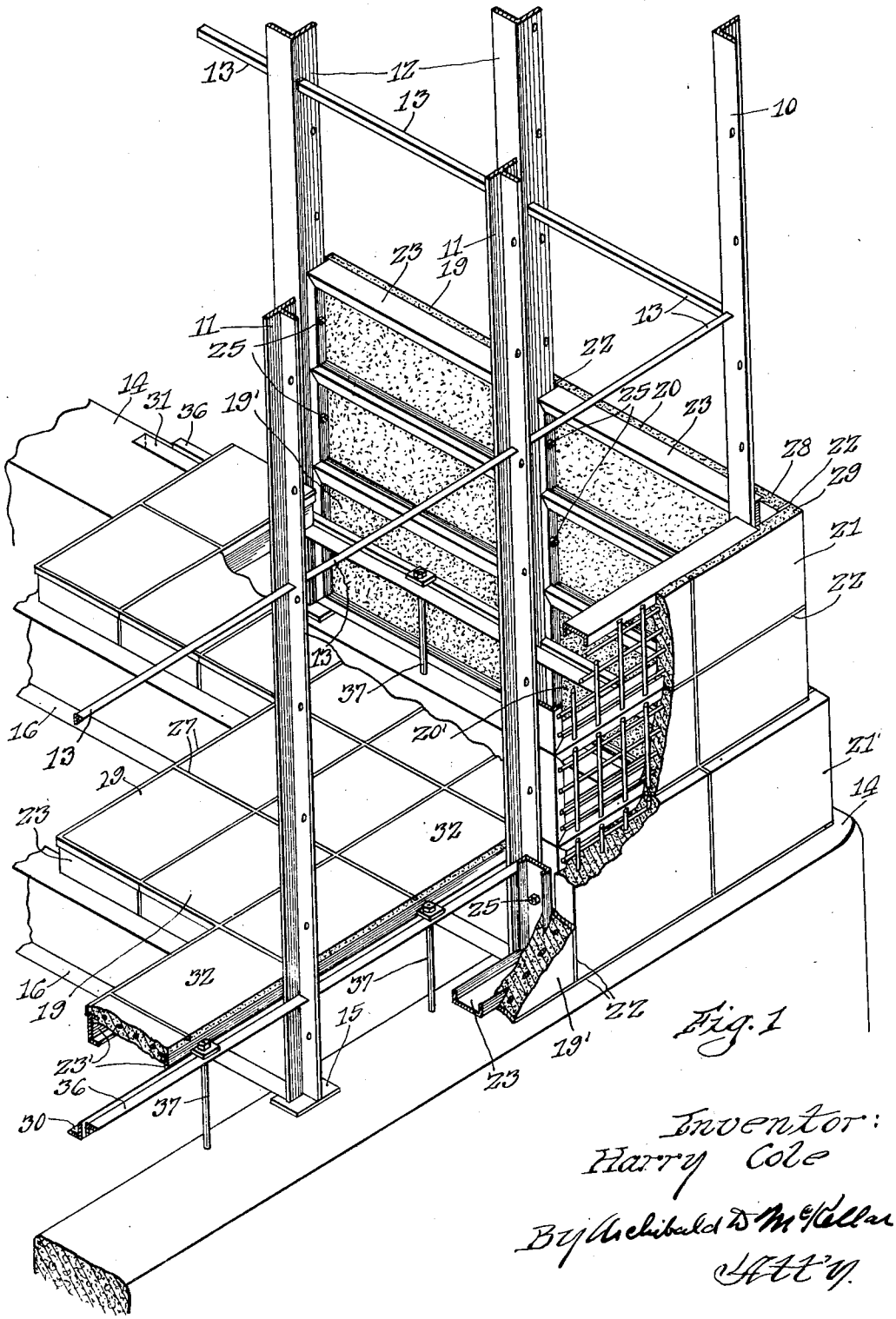


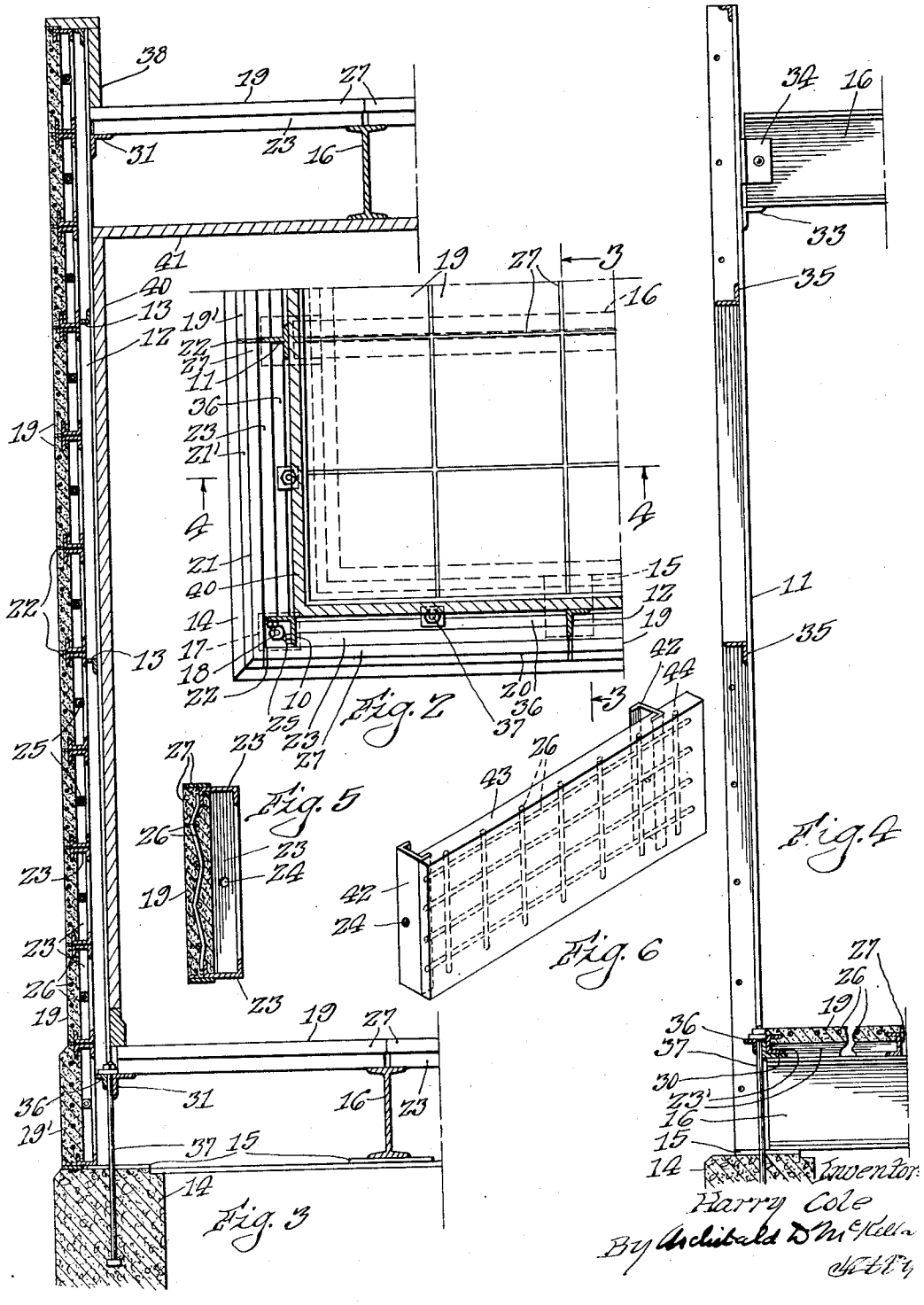
Fig. 1

Inventor:
Harry Cole
By Archibald D. McKellar
Att'y.

April 16, 1935. H. COLE 1,997,809

BUILDING CONSTRUCTION

Filed April 12, 1933 2 Sheets-Sheet 2



Patented Apr. 16, 1935 1,997,809

UNITED STATES PATENT OFFICE

1,997,809

BUILDING CONSTRUCTION

Harry Cole, Park Ridge, Ill.

Application April 12, 1933, Serial No. 665,704

7 Claims. (Cl. 72—1)

The invention relates to an improved building construction, and more particularly to the type of construction having a fabricated structural-steel frame and exterior facing blocks or panels secured thereto, the primary object of the invention being the provision of a building of this character which is suitably rigid, relatively permanent, and capable of economical construction.

Another object of the invention is the provision of such a building capable of economical production in separated parts and the ready assembling thereof as and where desired.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification and in which:

Fig. 1 is a perspective view of a fragmentary portion of a building construction embodying the invention.

Fig. 2 is a horizontal section of a corner of such a building construction.

Fig. 3 is a vertical cross-section taken substantially on line 3—3 of Fig. 2.

Fig. 4 is a vertical cross-section taken substantially on the line 4—4 of Fig. 2.

Fig. 5 is an enlarged vertical section of a surface block detached; and

Fig. 6 is a perspective view of a modified form of surface block.

The embodiment of the invention illustrated in the drawings comprises a welded structural steel frame composed of spaced vertical members secured together by suitable horizontal members. As best shown in Fig. 1, the vertical members at the corners of the building consist of angle members 10 arranged as shown with the legs of the angles perpendicular to the adjacent exterior surface of the building. The intermediate vertical members may consist of either T members 11 or angle members 12, the T members being arranged with their stems and the angle members with one of their legs, perpendicular to the exterior surface of the building. The said vertical members are connected by cross-bars 13 and the frame is mounted on a suitable foundation 14. A suitable base plate 15 is attached to the bottom of each of the intermediate vertical members 11 and 12, projecting inwardly sufficiently to provide a support or rest for the corresponding floor beam 16, as best shown in Figs. 1, 3 and 5. The corner vertical member 10 is also similarly provided with a suitable base plate 17 having a suitably located opening arranged and adapted to receive the anchor bolt 18, as best shown in Fig. 4.

The main outer surface of each wall of the building is composed of a plurality of blocks 19 and the corner portions thereof of blocks 20 and 21, best shown in Figs. 1 and 5. The outer portion of each of said blocks is composed of reinforced concrete having an outer facing surface ornamented and divided by transverse strips of lead or other suitable marking material 22. Each of these wall blocks is provided with a securing frame 23 formed of a channel bent into rectangular form as shown, the outer flanges thereof being embedded in the concrete of the corresponding block, as best shown in Fig. 5. Each of these securing frames is provided centrally at the opposite vertical side thereof with a bolt hole 24 for the passage of bolts 25 serving to temporarily secure the blocks in position on the uprights 10, 11 and 12. After the blocks have thus been secured and assembled, they are further permanently secured to the uprights by electric welding. The reinforcement of the concrete in the blocks is effected by a mesh or net-work of rods 26 electrically welded to the frame 23, as best indicated in Figs. 1 and 5. Lead sealing strips 27 are also secured around the edges of the concrete portion of each of the building blocks and serve to seal the joints between said blocks when assembled, as above described.

The corner blocks 20 and 21 differ from the blocks 19 only in that the blocks 20 are provided with extensions 28 and the blocks 21 with extensions 29 to overlap each other at the corners, as best shown in Fig. 1.

For ornamental and other purposes it is desirable that the lowermost row of blocks be somewhat wider than the blocks above. For this reason the lowermost tier of blocks 19', 20' and 21' are identical with the superposed blocks 19, 20 and 21 except that the outer concrete portion of each is correspondingly increased in width, as best indicated in Fig. 1.

Supporting angles 30 and 31 are secured to the inner sides of the uprights 11, 10 and 12, as indicated, the angles 30 being arranged as shown in Fig. 4 with the under surfaces of their horizontal legs flush with the top surfaces of the floor beams 16, and the angles 31 are arranged with the upper surfaces of their horizontal legs flush with the top surfaces of the floor beams 16, as indicated in Fig. 3. The main or body portion of the floor of the building is composed of a plurality of the blocks 19 resting upon the tops of the floor beam 16 as indicated. On the side of

the building where the ends of the floor beams reach to the foundation 14 and where the supporting angle 30 is located, special floor blocks 32 are provided which are identical with floor blocks 19 except that special securing frames 23' are provided, having their outer sides of slightly less depth so as to accommodate the corresponding supporting angle member 30 as shown at the bottom of Fig. 4, and so that the outer edges of the blocks 32 will be adequately supported flush with the other blocks in the floor. The edge blocks 19 along the other wall of the building have their outer edges adequately supported by the angle 31 as shown in Fig. 3. In this manner the complete floor of the building is formed and the outer edges of the floor blocks adequately supported.

The roof of the building is formed by means of the floor beams 16 having their ends resting upon supporting angles 33 secured, as shown, to the uprights 12 and 10, the ends of said floor beams 16 being further anchored and secured by means of securing angles 34, as shown. Blocks 19 and 32 are arranged on top of the upper floor beams 16 as for a floor, thus constituting the roof of a one story building. Obviously, if desired, the cracks between these blocks could be further sealed by tar, melted pitch or the like.

Where it is desired to insert the windows or doors in the walls of the building, supporting angles 35 are arranged between the uprights as shown in Fig. 4, for supporting the window or door frames as will be readily understood.

Anchoring strips or angles 36 are also arranged, as shown, opposite the angles 30 and 31 and anchoring bolts 37 are secured at intervals between said strips and the foundation 14.

The portions of the walls protruding above the roof thus formed are sealed and closed at their upper ends by means of angular coping blocks 38 as indicated and whereby the exterior of a one story building will be completed.

Where it is desired to add additional floors, the coping blocks 38 are omitted and the roof formed as above is utilized as the second floor and additional uprights and other frame members secured to the protruding ends of the uprights 10, 11 and 12, a similar supporting frame being thus provided and the blocks 19, 20 and 21 utilized to complete the wall and roof structure as for the first floor. Thus additional floors may be added to the building as desired.

The inner walls of the building are preferably covered by suitable wall board or the like 40, secured to the inner faces of the uprights and a suitable ceiling 41 is secured to the under surfaces of the upper beams 16 as indicated.

In the modified form of building block illustrated in Fig. 6, the securing frame 23 is dispensed with and in its place vertical channels 42 are secured, as shown, to the ends of the block 43, said vertical channels 42 being provided with the bolt holes 24 for securing the blocks to the building frame as before. The block illustrated in Fig. 6 is a corner block substitute for the block 21 and is provided with an extension 44 corresponding to the extension on the block 21. Otherwise this modified form of block is identical with one of the blocks 21. Obviously this same plan of modified construction can also be utilized for blocks 19 and 20.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

I claim:

1. In a building construction of the class described, a frame having outwardly and vertically extending securing members; a plurality of blocks each formed of plastic material and having securing elements projecting therefrom, said securing elements constructed of channel irons having one of their sides embedded in the block and their backs projecting inwardly substantially flush with the corresponding edges of the blocks and extending inwardly beyond the inner sides thereof; and means for attaching said securing elements to said securing members to assemble such blocks to form a surface of a building.

2. In a building construction of the class described, a frame having outwardly and vertically extending securing members; a plurality of blocks each formed of plastic material and having securing elements projecting therefrom, said securing elements constructed of channel irons having one of the flanges embedded in the edges of the block the backs of said channels projecting inwardly substantially flush with the corresponding edges of the blocks, and extending inwardly beyond the inner side thereof, reinforcing elements attached to said securing elements and traversing the body of said blocks, and means for attaching said securing elements to said securing members.

3. In a building construction of the class described, a frame having outwardly and vertically extending securing members; and surface forming blocks having securing elements constructed of channel irons having one of the flanges embedded in the edges of the blocks the backs of the channels projecting inwardly substantially flush with the corresponding edges of said blocks and extending inwardly beyond the inner side thereof, and secured to opposite sides of said securing members.

4. A building of the class described having a corner construction comprising an upright angle iron member having its legs arranged to form outwardly extending securing members; cooperating surface forming blocks each having an inwardly projecting securing member adjacent its outer end adapted to be secured to the corresponding leg; and extended end portion on each of said surface forming blocks projecting sufficiently beyond its securing member to contact the outer end of the opposite block to form the corner of a building, and defining an open space within said corner.

5. A building of the class described having a corner construction comprising a suitable base plate; an upright angle iron member having its legs arranged to form outwardly extending securing members; cooperating surface forming blocks each having an inwardly projecting securing member adjacent its outer end adapted to be secured to the corresponding leg; and extended end portion on each of said surface forming blocks projecting sufficiently beyond its securing member to contact the outer end of the opposite block to form the corner of a building, and defining an open space within said corner; there being a hole substantially in the center of said base plate to receive an anchor bolt.

6. In a building construction of the class de-

scribed, a plurality of blocks in contiguous relation each having an outward body portion; securing elements constructed of channel iron, having one of the flanges embedded in the edges thereof projecting inwardly substantially flush with the corresponding edge; and a strip of lead mounted on said body at its outer edge to form a sealing media with the adjacent block.

7. A building block of the character described comprising a securing frame; a body portion of plastic material secured within said frame and projecting outwardly therefrom; a protecting and sealing rim secured around the outer portion of said body outwardly of the embedded portion of said securing frame.

HARRY COLE.