No. 640,653. Patented Jan. 2, 1900.

# C. GUY.

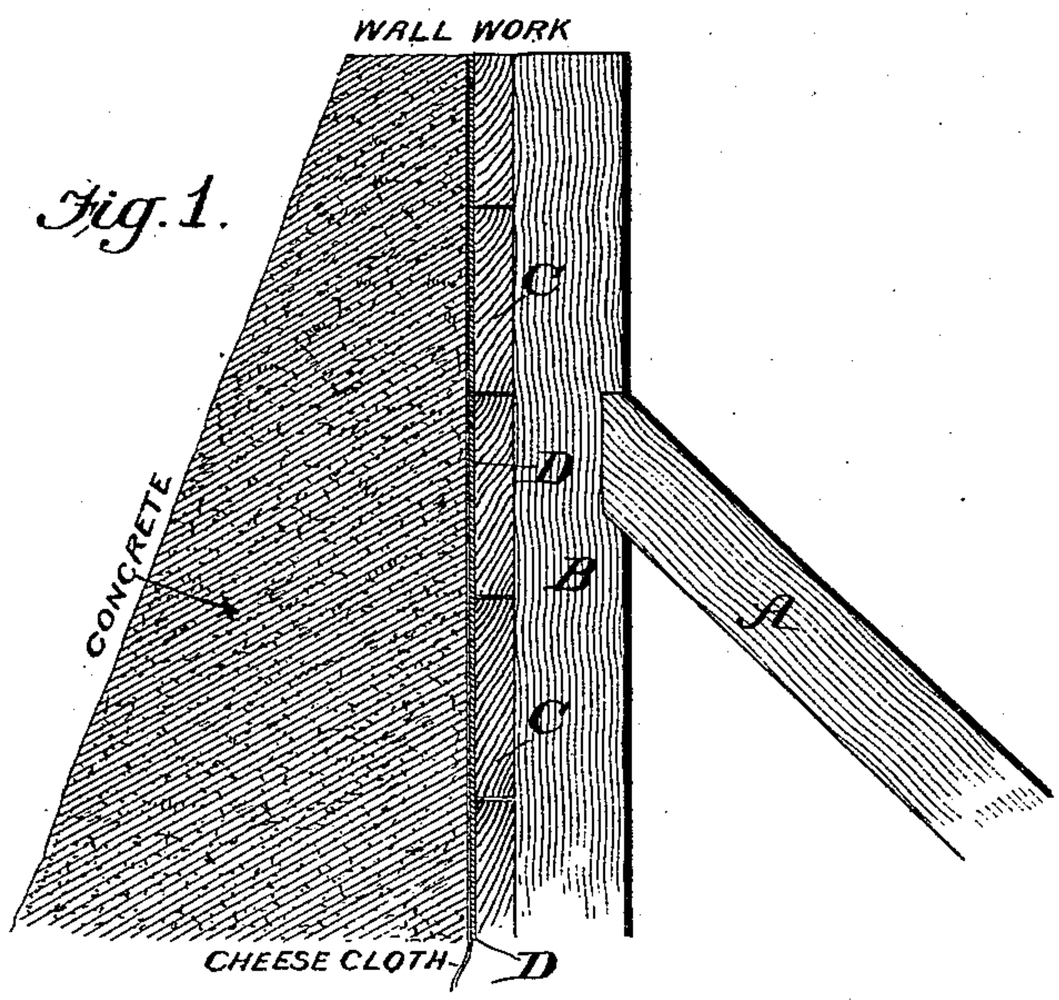
## PROCESS OF FORMING CONCRETE WALLS.

(Application filed Oct. 30, 1897.)

(No Model.)

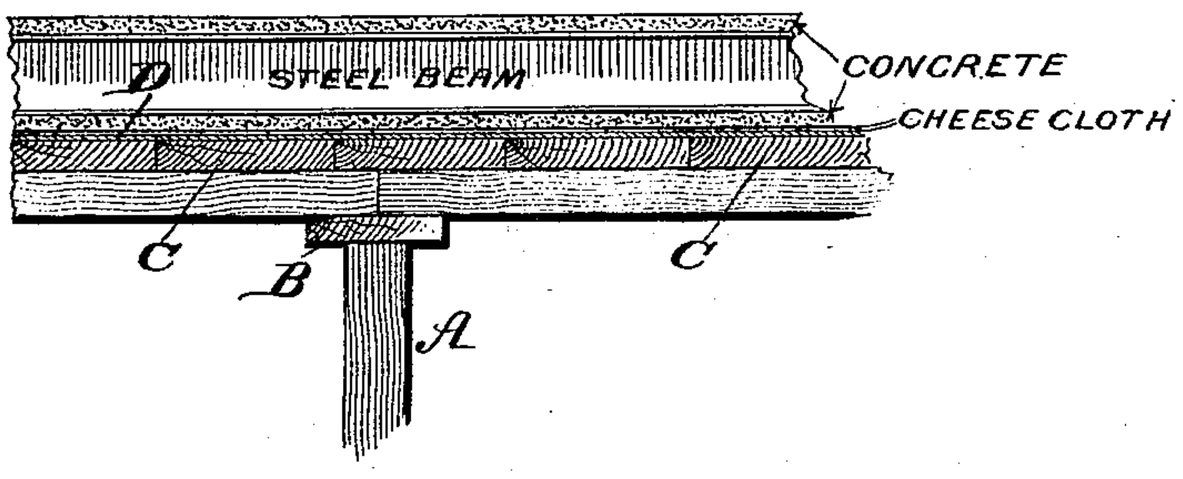
WALL WORK

Fig. 1.



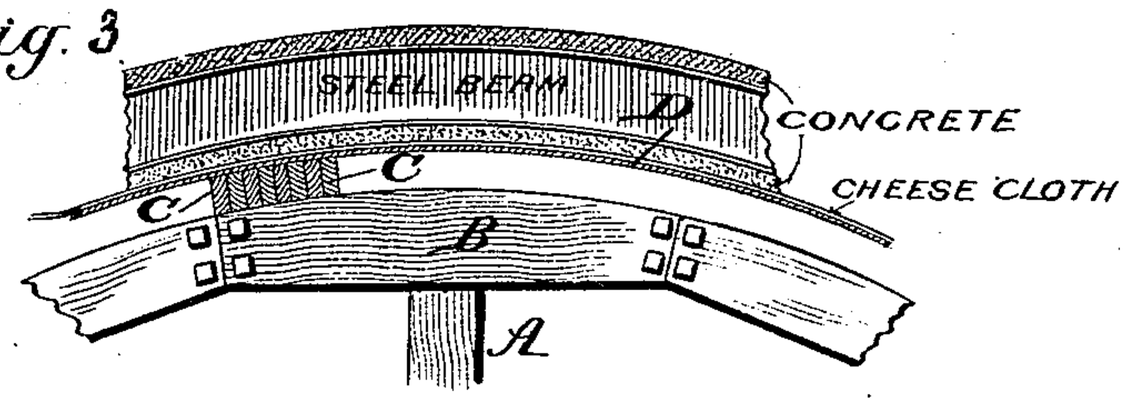

FLOOR OR CEILING

Fig. 2.




ARCH WORK

Fig. 3.

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CHARLES GUY, OF TOPEKA, KANSAS.

## PROCESS OF FORMING CONCRETE WALLS.

SPECIFICATION forming part of Letters Patent No. 640,653, dated January 2, 1900.

Application filed October 30, 1897. Serial No. 656,981. (No specimens.)

*To all whom it may concern:*

Be it known that I, CHARLES GUY, of Topeka, in the county of Shawnee and State of Kansas, have invented an Improved Process for Forming Monolithic Concrete Structures or Walls, of which the following is a full specification.

In the accompanying drawings, Figure 1 is a vertical section illustrating the application of the mold for forming a vertical wall. Fig. 2 illustrates the application of the same for a horizontal surface or wall. Fig. 3 is a view showing the application of the invention to archwork.

My invention has for its object to mold concrete walls, ceilings, arches, piers, or other monolithic structures in an improved manner.

Heretofore in concrete-work the forms have been made of lumber carefully dressed or surfaced and then oiled to prevent the adhesion of the concrete or covered with oil-paper for the same purpose. The smooth lumber-finish in complicated forms is expensive and the result is unsatisfactory. Oil-paper is but little, if any, better, as its fabric is often injured by the tamping of the concrete and the fault is not discoverable till the completed surface is uncovered, when it is too late to remedy it, except by an after coating, which destroys the monolithic feature.

In the drawings, C indicates a sheeting or rough board face for a skeleton frame or crib B, having a brace A. Upon such face C is plastered a layer of staff, lime, gypsum, or any plastering material of suitable strength, setting qualities, and consistency for the purposes hereinafter mentioned. After this plaster has hardened its exposed surface is covered with cheese-cloth or other similar cheap, strong, and open-grained fabric, held on by paste of flour or other suitable material. The monolith is then constructed, and after it has been given ample time to properly harden or set the structure A, B, and C is removed. The staff or other plaster D, having been made barely strong enough to resist the compression coming against it from the ramming or tamping of the concrete, but not having any transverse strength, now falls to pieces, and the cloth is readily pulled off of the concrete, leaving a handsome granular finish, which is not obtained by the oiled or oil-papered forms. The cloth being of a flimsy nature adapts itself very readily to any variations from plane forms—as, for example, the curved or warped faces of bridge-piers, arch-soffits, cornices, rock-faced imitations of stonework, and embossed or otherwise fancified faces.

The use of the temporary cheap plaster not only avoids the necessity of surfacing the lumber, but avoids also the necessity for matching or edging it together, as any openings between the sheeting-boards C have no effect whatever upon the surface which forms the mold for the concrete. The effect of the granular surface in artificial stonework is a better imitation of stone and a richer appearance. The forms may be and often are built of galvanized sheet-iron, zinc, or other metal instead of lumber. The plaster and cloth are then applied to the metallic form. In any case the plaster needs to be only thick enough to thoroughly cover all roughness of surface of the form to which it is applied. When a long wall or cornice or any large surface is built, a lap of muslin, one piece upon or over another, leaves no visible sign of such lapping, and the plaster covers all joints where one mold is slipped ahead of another, so that the highest effects in finish are by this means obtained, while with oiled wood or oil-paper the laps or joints almost invariably show in such manner as to be unartistic and objectionable.

If a wall has a coping or has buttresses or offsets or if a ceiling or cornice has in section numerous reëntering angles, reversed curves, or other irregularities, the cheese-cloth fits them all, and even if it is doubled over itself it is just as effective as on a plane surface.

I claim and desire to secure by Letters Patent—

The process described of forming a concrete wall for architectural purposes, the same consisting in erecting crib or other structure hav-

ing a face corresponding to the desired form of the concrete surface to be produced; next applying a thin layer of plaster upon such face, then laying a coarse or open-grained fabric upon the stratum of plaster; then applying concrete in contact with the fabric, and allowing the same to "set;" and, finally, removing the aforesaid crib and stripping the fabric, with adhering plaster, off the concrete surface, as specified.

CHAS. GUY.

Witnesses:
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