

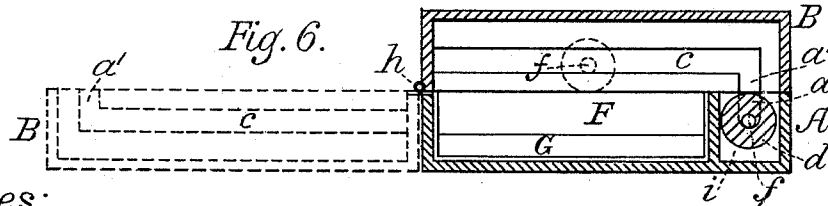
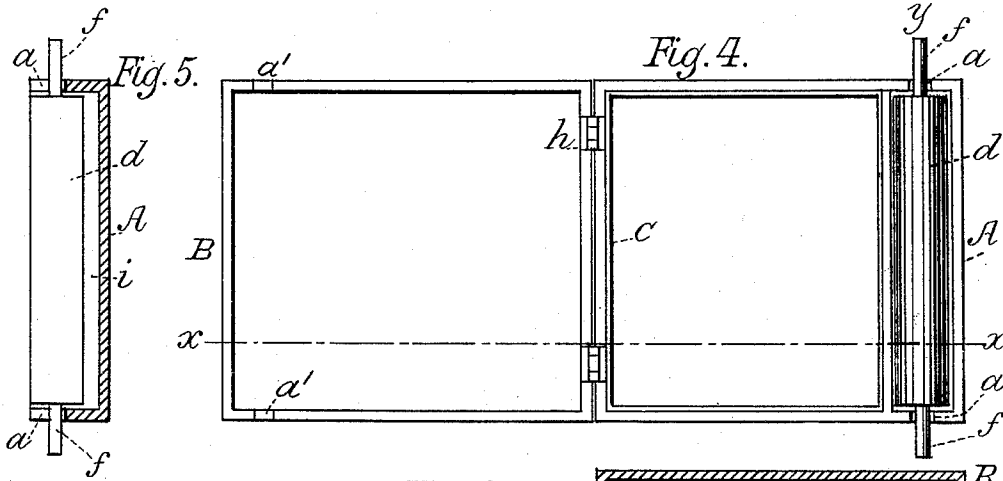
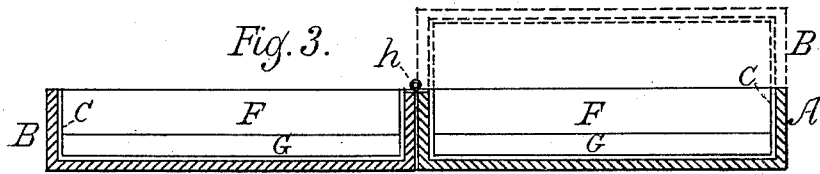
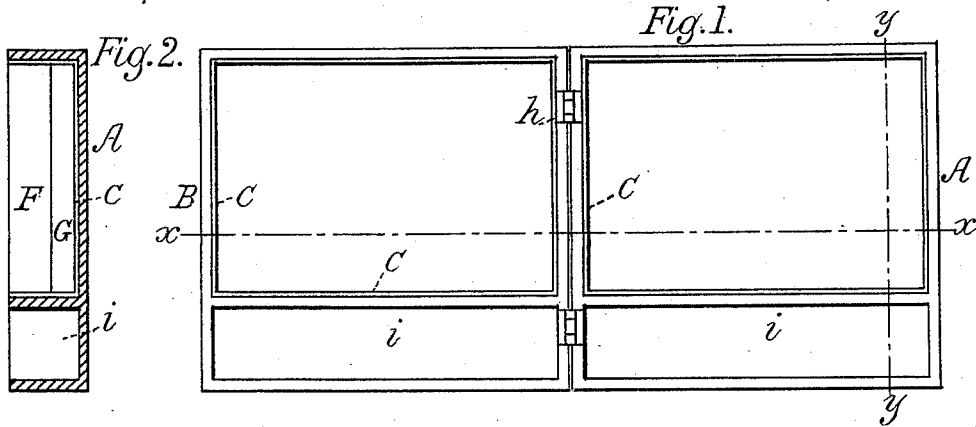
(No Model.)

W. M. GORDON.

APPARATUS FOR PRODUCING MANIFOLD COPIES.

No. 477,000.

Patented June 14, 1892.



Witnesses:

Fred. Artos.
John Hoffman

Inventor:

William M Gordon

UNITED STATES PATENT OFFICE.

WILLIAM M. GORDON, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
JOHN W. HOFFMAN, OF SAME PLACE.

APPARATUS FOR PRODUCING MANIFOLD COPIES.

SPECIFICATION forming part of Letters Patent No. 477,000, dated June 14, 1892.

Application filed June 8, 1891. Serial No. 395,460. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. GORDON, a citizen of the United States, residing at Chicago, in the county of Cook, in the State of Illinois, have invented new and useful Improvements in Apparatus to Produce Manifold Copies, of which the following is a description, reference being had to the accompanying drawings, and which are made a part of this specification.

My invention relates to an improved apparatus for producing manifold copies by the dry process, with prepared ink, of pen or type-written manuscript, designs, drawings, and anything that may be produced by pen, stylus, or any other instrument, in ink, in one or more colors, on paper, tracing-cloth, or other suitable fabrics or material, from a negative obtained by transferring the original manuscript, design, or drawing on the surface of a compound slab or pad, from which any desired number of copies can be obtained instantaneously, and from which fac-simile drawings executed in india-ink can be clearly and readily obtained.

The construction of the apparatus and the composition of the slab will be hereinafter described, and set forth in the claims.

Referring to the drawings, Figure 1 is a plan view of a folding case containing trays with slab or pad. Fig. 2 is a transverse section of the foregoing one, taken on line *yy*. Fig. 3 is a longitudinal section on line *xx*. Fig. 4 represents a folding case, as shown in Fig. 1, provided with only one tray and supplied with a roller. Figs. 5 and 6 are sectional views of the foregoing one on line *xx* and *yy*.

As shown in the drawings, the apparatus consists of two separate cases A B, which are hinged together to be folded and provided each with a fitting tray C and partition-space *ii* for diverse use, or, as shown in Fig. 4, for the reception of a roller *d*. Said trays are made of suitable material, removably inserted in their respective compartments of the cases, and they contain the compounded copying slab or pad. The constituents of said slab or pad are an absorbent base G of hydrous sulphate of lime, in combination with an adhesive composition F above of carbonic mat-

ters, and a concentrated or crystallized neutral oleaginous substance and a solution of muriatic acid in the following proportions:

For the base G: plaster-of-paris, (sulphate of lime,) *qu. libet.*

For the composition F:

Whiting (carbonate of calcium) ..	200 parts
Crude glycerine	99 parts
Muriatic (hydrochloric) acid	1 part
	300 parts

In forming the compound slab or pad of my invention a quantity of plaster-of-paris, tempered to a proper consistency with water, is molded in the bottom of tray C, which when hardened forms the absorbent base G. Then the above-specified components, thoroughly incorporated, are cast as a saponaceous layer F on top of the hardened absorbent base G, to fill out the remaining space to the full height of the tray.

The selected constituent of the absorbent base-filling G serves for the purpose of absorbing and retaining the surplus moisture of the adhesive composition F, and subsequently resupplying it with needed moisture to prevent the copying-surface from hardening and keep it constantly in a proper condition for use.

Of the matters used for the adhesive composition F, whiting or the impure carbonate of calcium is introduced and mixed with crude glycerine, in the above-stated proportions, to form a plastic mass, and muriatic or hydrochloric acid is for the purpose of more readily extracting and transferring the ink from the manuscript, designs, or drawing to the surface of the slab or pad in clear and sharp lines.

In using the slab or pad of the apparatus for producing manifold copies of original pen or type written manuscript, designs, or drawings, in one or more colors, on paper, tracing-cloth, or other material the same is brought in contact with the even surface of the slab or pad in the usual manner, and, after passing the hand or a roller over it firmly, letting it remain in that position two or three minutes, which is regarded to be sufficient time for the transfer and fixing of the negative on the surface of the pad, so that manifold cop-

ies by the dry process can be taken off in rapid succession and in the most satisfactory manner.

Figs. 4, 5, and 6 of the drawings show the 5 folding apparatus containing in one of the cases A a removable tray C, with copying slab or pad, and is provided with a roller *d*, inserted into a partitioned space *i*, purposely reserved to carry the same alongside the slab or 10 pad. Said roller is made of fibrous material having the properties of capillary attraction—such as sponge, blotting-paper, cloth, &c.—and is provided with projecting handles *ff*, in axial line and resting in fitting grooves *a* 15 *a* of the case A, and is provided for the purpose of supplying a gradual pressure upon the original manuscript, design, or drawing on the slab or pad, and may also be used to remove any surplus moisture from the sur- 20 face of the slab or pad before the manuscript, design, or drawing is placed thereon.

To be able to use the roller with the best results, the case B is provided with side ways, and the longitudinal openings *cc* for the roller- 25 handles *ff*, the termini *a'a'* of the said openings corresponding to the grooves *aa*, so that when the apparatus is closed, as shown in Fig. 6, the roller can be easily elevated into the ample spaces or openings *cc*, so as to guide 30 it securely in its functions.

The composition of the pad is of such a character as to prevent the ink employed from penetrating below the surface of the pad, even 35 though the negative be allowed to remain on the pad for some time. The negative may be instantly removed with a sponge dampened

with cold water and another negative may be transferred on it at once.

In Figs. 1, 2, and 3 a convenient construction of case for holding my improved composition of matter is shown, but no specific claim 40 is made for the same.

Having described my invention, I claim—

1. A transferring-surface for producing manifold copies, composed of carbonate of calcium, glycerine, and muriatic acid, substantially as described. 45

2. The herein-described composition of matter to be used as a slab or pad for taking manifold copies, consisting of an absorbing 50 base portion composed of hydrous sulphate of lime and a transferring-surface portion composed of carbonate of calcium, glycerine, and muriatic acid, substantially as described.

3. The case for receiving and retaining the 55 transferring-pad, having two hinged folding sections, one of said sections being provided with openings or guideways *cc* and passages *a'a'*, and the other with a tray *i* and grooves *aa*, and a roller which is adapted to travel 60 in the openings or guideways *cc* over the surface of the transferring-pad, for the purpose of removing any surplus moisture, substantially as described.

In testimony whereof I have hereunto set 65 my hand in the presence of two subscribing witnesses.

WILLIAM M. GORDON. [L. s.]

Witnesses:

JNO. W. HOFFMAN,
FRED. ARTOS.