

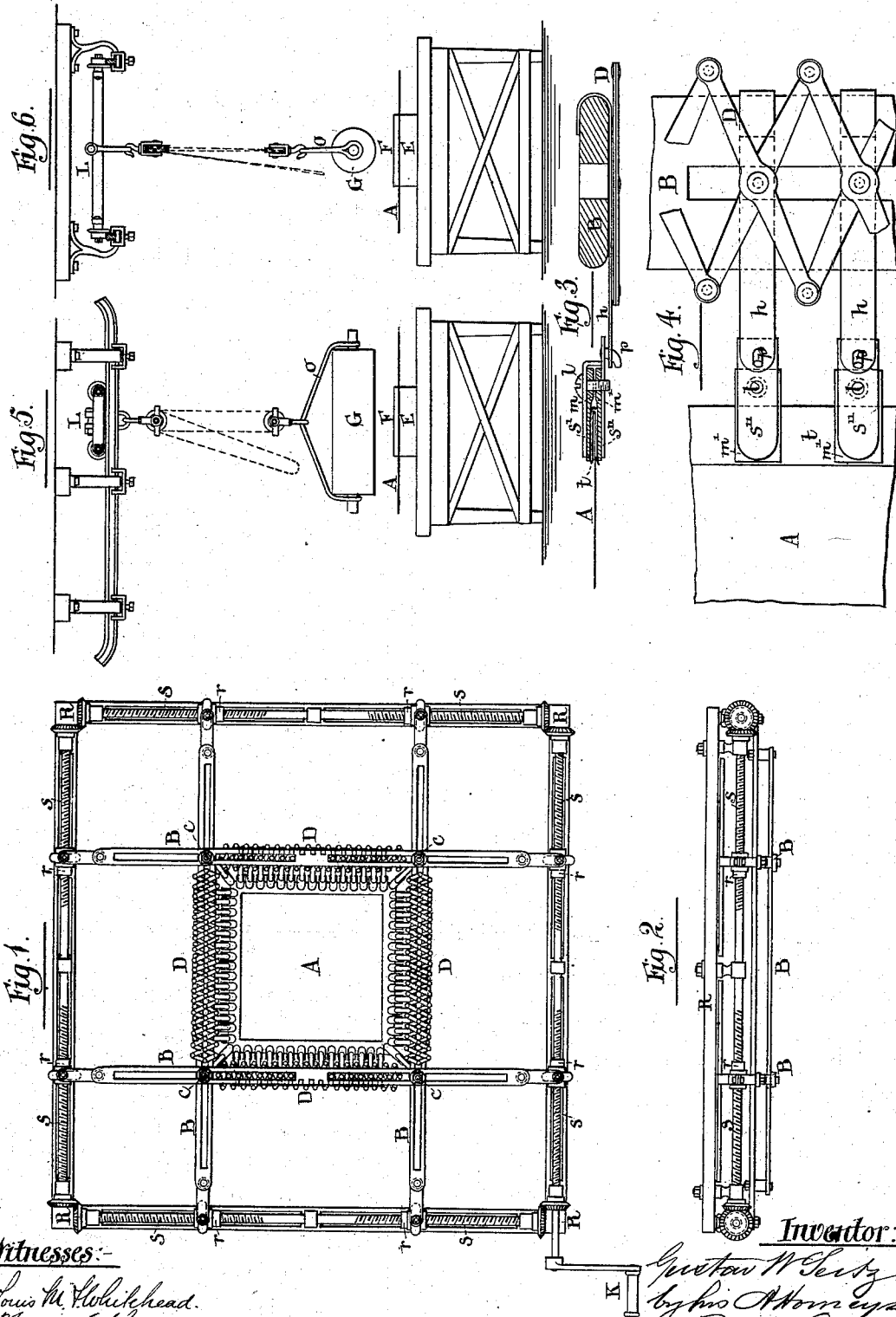
(No Model.)

G. W. SEITZ.

FRAME FOR STRETCHING RUBBER TRANSFER SHEETS.

No. 249,552.

Patented Nov. 15, 1881.



Witnesses:-

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# UNITED STATES PATENT OFFICE.

GUSTAV W. SEITZ, OF WANDSBECK, GERMANY.

## FRAME FOR STRETCHING RUBBER TRANSFER-SHEETS.

SPECIFICATION forming part of Letters Patent No. 249,552, dated November 15, 1881.

Application filed December 13, 1880. (No model.) Patented in Belgium January 4, 1879, in France January 6, 1879, in England January 11, 1879, in Germany January 15, 1879, and in Austria July 12, 1879.

*To all whom it may concern:*

Be it known that I, GUSTAV WILHELM SEITZ, of the city of Wandsbeck, in the Empire of Germany, have invented a certain improvement in apparatus for producing fac-simile or corresponding printing-plates or printing-stones in reduced or enlarged scale from original printing-plates or printing-stones, of which the following is a specification.

The purpose of this invention is the production of fac-simile printing-plates or printing-stones in reduced or enlarged scale from original printing-plates or printing-stones, used for the production of chromo-pictures and such like.

Hitherto such new printing-plates or printing-stones were made by copying the original prints by hand to the required scale, and as one chromo-picture often requires twenty and more corresponding printing plates or stones this manner of production is very troublesome, takes a long time, and requires skilled artists, while with this invention the new printing-plates or printing-stones can be produced of thorough exactness and very rapidly in a mechanical manner.

This invention consists of improvements founded upon what is known as "Lewis's automatic pantograph," by means of which this instrument is rendered applicable for the reproduction of corresponding printing-plates or printing-stones of the required exactness on reduced or enlarged scale. Formerly reduced or enlarged copies produced by this instrument always showed more or less distortion from the original, and in consequence the instrument was not applicable for the purpose in question.

In the accompanying drawings, Figure 1 is a ground plan of the tension-frame and transfer-sheet A. Fig. 2 is a side elevation of the apparatus; Figs. 3 and 4, side view and ground plan, respectively, of the connecting parts between the sheet and frame, on increased scale. Figs. 5 and 6 represent front and side views of the pressure apparatus for assisting in giving off the impression.

R is the iron foundation-framing of the tension-frame, to which are attached four double screws, S, connected to each other by bevel-gearing actuated by means of handle K. By

turning screws S, four bars, B, of which two and two are placed in parallel direction, and the ends of which bars B are connected to nuts r, moved by the screws S, are shifted in such manner that the bars will inclose a square of larger or smaller dimensions, according to the direction in which the handle K is turned. The two pairs of bars B, crossing at right angles, are kept together by means of screw bolts and nuts C, which run in slots. To these bolts C are likewise connected the four pantographic frames D, the same being a construction of lazy-tongs, which expand or reduce in length according to the required size of the square.

The connection between the transfer-sheet A and bars B is shown in Figs. 3 and 4. The india-rubber sheet A is furnished with a strong rim, t, all round, formed either by folding over the edge several times, as in Fig. 3, or in other convenient manner, and it is in certain intervals fastened between strips or clips of metal, S' S'', and leather, m m', pressed together by means of screws l, the said strips or clips S' S'' and the said screws l constituting screw-clamps. The lower strip, S'', is somewhat prolonged, while the upper is bent at right angles, and the foot of this angle rests on the lower strip. Within the prolongation of S'' a hook, p, is fastened, which catches into a slot of a strip of sheet-iron, h, the other end of which is curved and placed over the corresponding bar B. Each strip h is connected to the fulcrum of two arms of the pantographic frames, and consequently follows the motions of the latter.

For using the apparatus the transfer-sheet is tensioned as far as required, and the bars B are then fixed in position by the screws c. The tension-frame with transfer-sheet can now be lifted off from frame R.

Figs. 5 and 6 represent the printing or impressing apparatus.

A represents the transfer-sheet in bar-frame B, and expanded or reduced to the required size on frame R, and lifted off from same, as before described.

E represents a printing-stone, from which the copy is to be taken, or to which it is to be transferred.

F is the metal plate placed on the back of A, and G is the pressure-roller, which is rolled

over the back of the plate F to produce thereon the pressure necessary for the giving off of the impression. G is suspended in a hanging frame, O, from a crane, L, for convenience of manipulation, and can be lifted off or lowered by means of pulley-blocks.

Having now described the nature of said invention in such a way that the same may be carried into practical effect, what I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with the rubber sheet A, of the screw-clamps grasping the sheet on all four

sides, the pantographic frame D, of lazy-tongs construction, to which said clamps are attached, the slotted bars B, to which said pantographic frame is attached, and which are provided with nuts r, the screws S, fitting said nuts and connected by bevel-gearing, and the foundation-frame R, and handle K, all substantially as herein described.

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