

No. 720,114.

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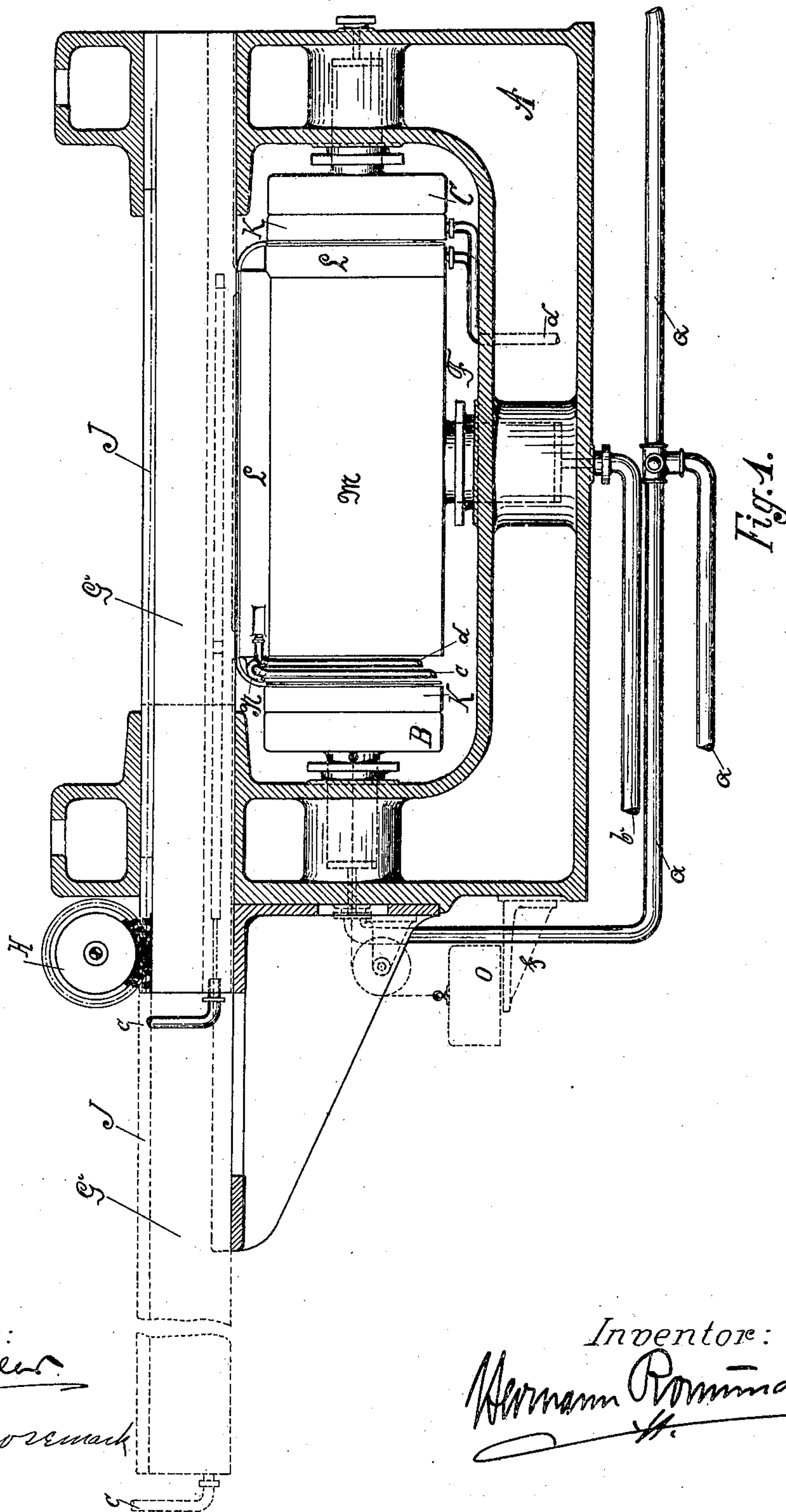
H. ROMÜNDER.

PRESS FOR WOOD VENEER TRUNKS OR OTHER HOLLOW PACKAGES.

APPLICATION FILED JAN. 23, 1904.

NO MODEL.

4 SHEETS—SHEET 1.



Witnesses:

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Inventor:

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4 SHEETS—SHEET 2.

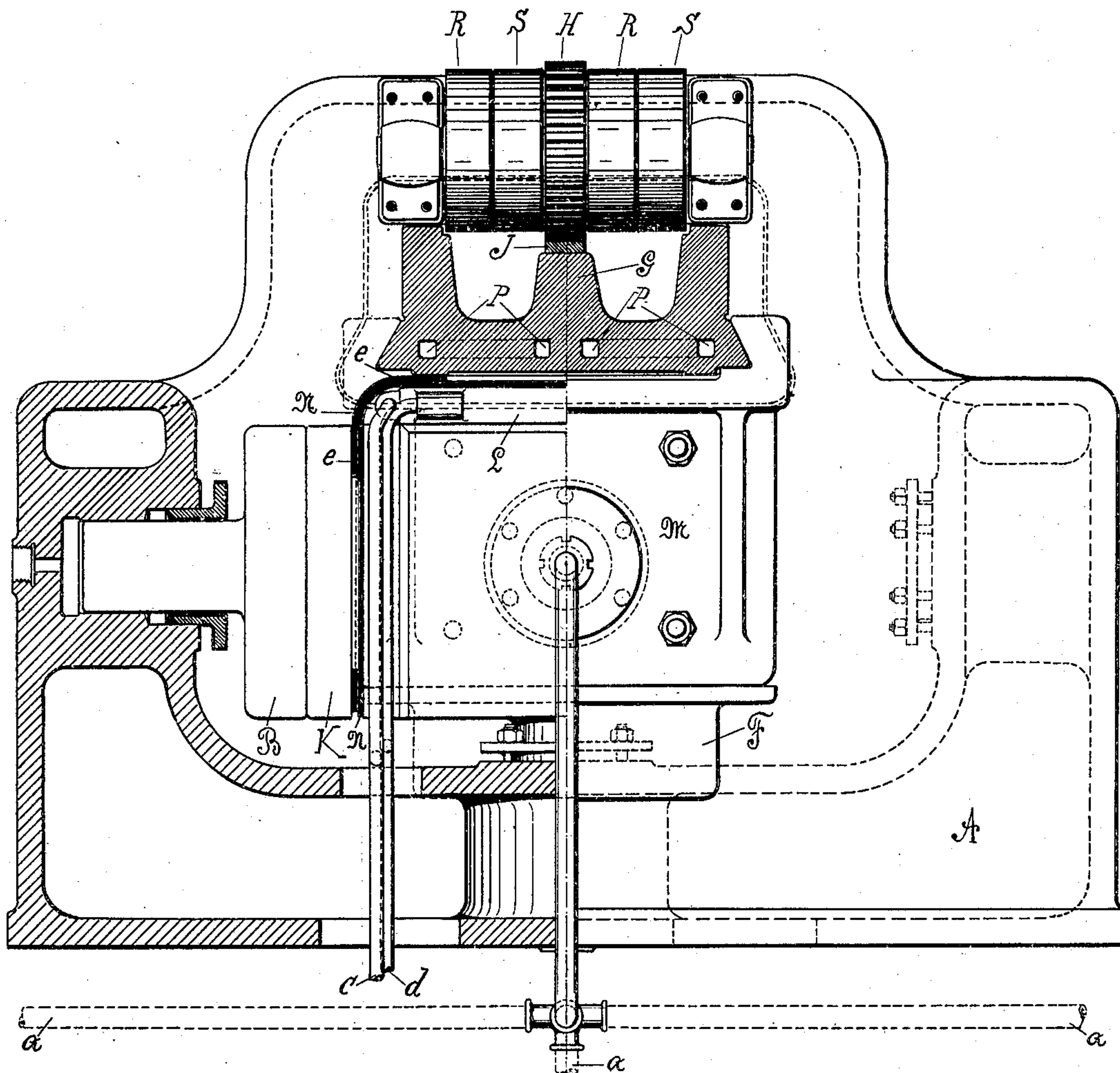


Fig. 2.

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4 SHEETS—SHEET 3.

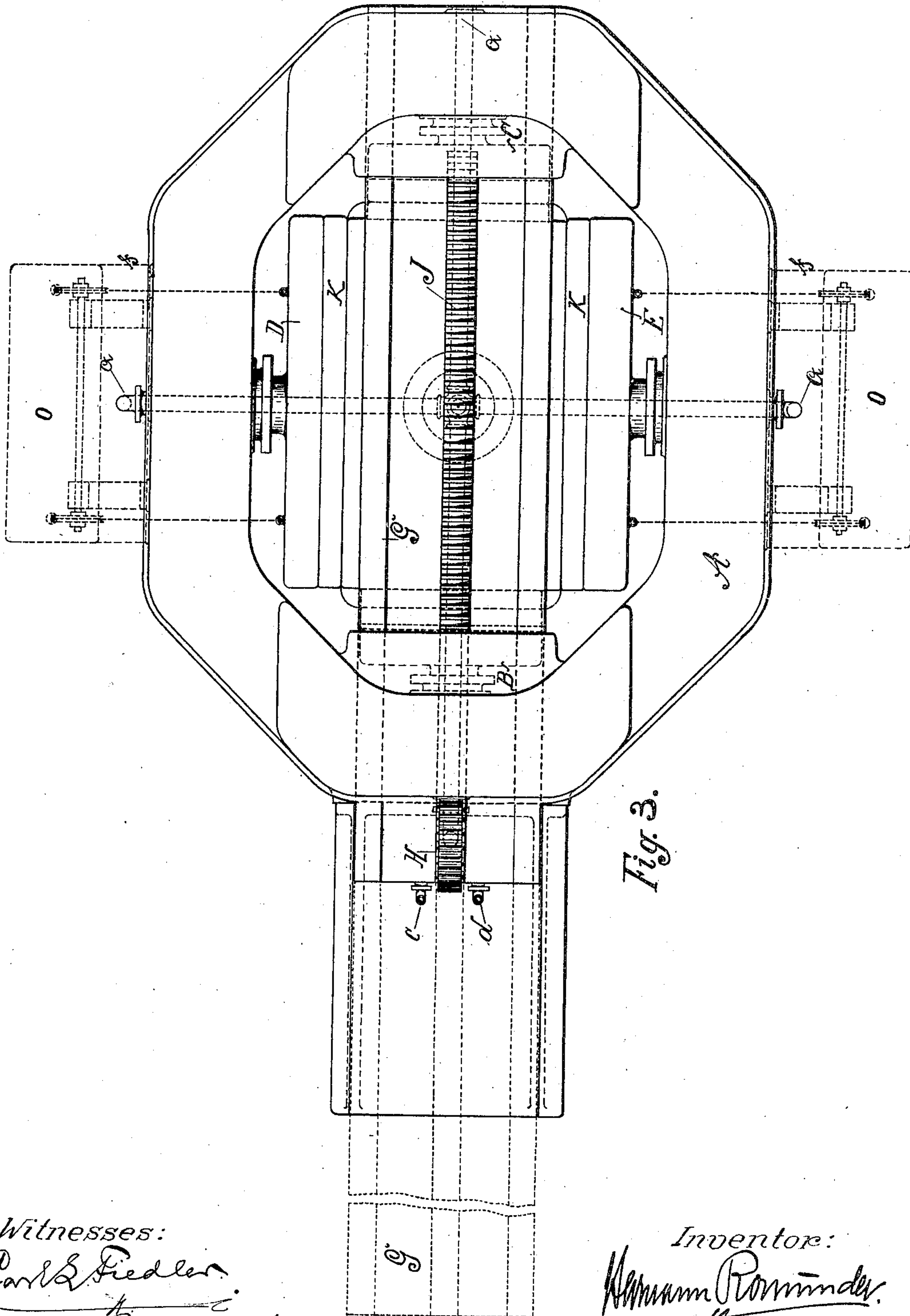


Fig. 3.

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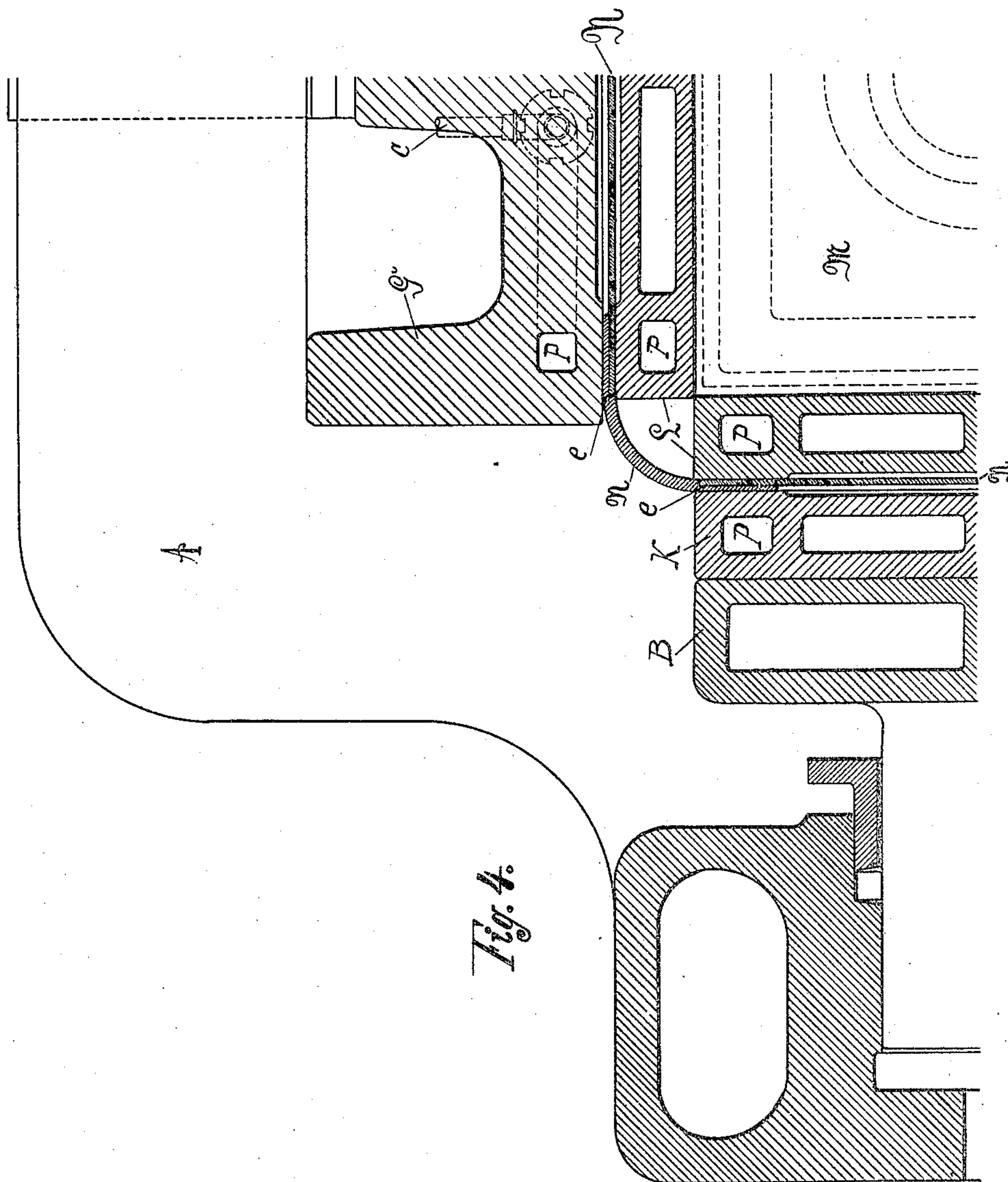
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4 SHEETS—SHEET 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

HERMANN ROMÜNDER, OF MILWAUKEE, WISCONSIN.

PRESS FOR WOOD-VENEER TRUNKS OR OTHER HOLLOW PACKAGES.

SPECIFICATION forming part of Letters Patent No. 770,114, dated September 13, 1904.

Application filed January 23, 1904. Serial No. 190,323. (No model.)

To all whom it may concern:

Be it known that I, HERMANN ROMÜNDER, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee, State of Wisconsin, have invented certain new and useful Improvements in Presses for Wood-Veneer Trunks or other Hollow Packages, of which the following is a specification.

My invention relates to machines in which under the simultaneous action of heat and pressure the overlapping portions of a number of plates of wood, generally in the form of water and weather proof wood-veneer plates, are forced into intimate union with each other to form in one operation the body or lid of trunks, boxes, or other like hollow packages.

The object of my invention is to provide an efficient, economical, and rapid overlap-joining machine or press, whereby at each operation the overlapping portions of a number of wood-veneer plates or solid-wood boards, or both, or other suitable material, preferably eight bent or curved edge plates and from five to nine straight plates of various sizes and thicknesses, as may be required, may be brought under the influence of heat and pressure and by means of a suitable waterproof cementing composition applied to the overlapping parts into this homogeneous union, resulting in the formation of the body or lid of a trunk or box-shaped package which is practically seamless, simple, and cheap of construction, of greatest strength and durability, and may be used for various purposes.

One form of my invention is shown in the accompanying drawings, in which—

Figure 1 is a side view of a machine or press embodying my invention. Fig. 2 is an end view of same. Fig. 3 is a top view of it; and Fig. 4 is an enlarged detail section of part of Fig. 1, showing part of the horizontally-reciprocating carriage, part of one horizontal piston and of the center or press block, also part of two straight boards and one curved edge plate with their overlapping parts being glued together under heat and pressure.

Same letters indicate similar parts in the different drawings.

A is the framework, consisting, chiefly,

of a metal casing, which the moving parts are mounted on and connected to in suitable manner.

B, C, D, and E are pistons, each movable in a horizontal cylinder, the four cylinders being fed by one press-water-supply pipe *a*, whereby all four presses operate simultaneously.

F is the piston of the vertical hydraulic press, fed by a separate press-water-supply pipe *b*, whereby this press can be operated independently of and started before the horizontal hydraulic presses.

G is a carriage supported by the metal casing of the frame A and arranged to move horizontally by means of the cog-wheel H, mounted on the frame A and meshing with the rack or gear rail J, provided on the carriage G.

K K are press-plates suitably secured to the pistons B, C, D, and E of the horizontal hydraulic presses, and L L are press-plates suitably secured to the center or press block M, which block M consists of metal or other suitable material and is suitably secured to the piston F of the vertical hydraulic press. Each of these press-plates K K L L and the carriage G is provided with steam flues or chests P P, adapted to be heated by steam or other means entering through inlets *c c* and discharging through outlets *d d*, whereby the pressing-surfaces of the press-plates and carriage may be heated to the desired degree to act upon the material N to be pressed and the waterproof cementing composition applied to the overlapping portions of the material. This material N consists of a number of water and weather proof wood-veneer plates or solid-wood boards, or both, or other suitable material with overlapping portions *e e*, which are designed to be glued and pressed together between the press-plates K K L L and the carriage G under sufficient heat and pressure and continued thereunder for a sufficient time to enable them to set and become virtually integral with each other, the waterproof cementing composition with which the overlapping portions have been coated binding them together to one practically homogeneous piece of wood. Counterweights O O, resting on brackets *f f*, when released are provided to return the pistons of the hori-

zontal presses and the press-plates secured to said pistons as soon as the water-pressure is released, or other suitable means may be employed for this purpose.

5 The operation of my improved machine is as follows: The machine standing idle and the carriage G being in its outer position, as shown in dotted lines in Figs. 1 and 3, and the horizontal and vertical presses being open, 10 the number of straight and curved wood-veneer plates or material N required to form the body or lid of a trunk or box-like package are placed in position over the center or press block M with its press-plates L L, the over- 15 lapping portions of the material having previously been coated with a suitable water-proof cementing composition. The carriage G is then moved forward by the cog-wheel H, which is operated mechanically by belting on 20 tight and loose pulleys R S or otherwise from a source of power (not shown) until it reaches its inner position exactly over and covering the center or press block M with its upper press-plate L, as shown in heavy lines in Figs. 25 1 and 3. The piston F of the vertical press and the press-block M, suitably connected therewith, with its press-plates L L, are then sufficiently raised, by means of operating the vertical hydraulic press through its separate 30 press-water-supply pipe b, until the overlapping parts of the material N between the press-plate L on top of the press-block M and the carriage G are thoroughly compressed. Then the four horizontal hydraulic presses are 35 started simultaneously by operating the press-water-supply pipe a, which press the overlapping parts of the material N between the vertical press-plates K K and L L. The machine then stops and is allowed to stand, exerting this fixed pressure until the overlapping 40 portions of the material N have assumed permanent union and practically become one continuous homogeneous plate of wood or material, impervious to moisture and atmospheric influences, it being understood that the 45 press-plates K K L L and the carriage G are sufficiently heated during the pressing operation by means of steam circulating through the flues or chests P or otherwise to bring 50 about the desired result under simultaneous heat and pressure. The horizontal hydraulic presses are then opened, the water-supply through pipe a being shut off. The pistons B, C, D, and E return by means of the counterweights O O or other means provided for 55 this purpose. Then the vertical press is opened, the piston F moving downward of its own weight as soon as the water-pressure through pipe b is released, and the carriage G moves 60 back to its previous outer position by the reverse action of cog-wheel H, when the complete trunk or box may be taken from the press by lifting it from the press-plates L L on the press-block M.

The distance between opposite press-plates 65 L L and K K and carriage G when the machine is open is only about one and one-half inches in practice, but may be more or less to meet requirements.

The details of operation and construction 70 of the machine may be varied from the above description without changing the nature of my invention so long as the separate overlapping portions of the material N are pressed and joined together into a practically homo- 75 genous piece, the material forming a complete trunk or box-like package in one operation of the machine.

By means of inserting longer or shorter pistons B and C into the longitudinal horizontal cylinders and a center or press block M and press-plates K K L L of corresponding size, while retaining the same size lateral horizontal pistons D and E and press-plates K K 80 L L, trunks or box-like packages of any desired length and height, but of the same width, may be produced in the same press, and the machine can be regulated to press materials 85 of any desired thickness.

By means of this improved machine I am 90 able to produce a large variety of structures in which any suitable material, such as plates of solid wood or wood veneer, or both, can be joined, so as to produce a continuous homogeneous body, which may be of rectangular, cylindrical, oval, or such other shape as may be 95 desired, the overlaps, owing to the waterproof cementing composition with which they have been coated and owing to the simultaneous influence of heat and pressure to which they 100 are subjected in this machine, forming absolutely tight joints impervious to moisture and atmospheric influences and becoming as strong and durable as the material the trunk or box 105 is composed of. The carriage G may also be provided with a press-plate similar to press-plates K K and L L at its base in any suitable manner.

I claim—

1. The above-described press consisting of 110 a horizontally-reciprocating carriage, a number of horizontally-reciprocating pistons and a vertically-reciprocating piston with a center or press block suitably secured thereto, means whereby said horizontally-reciprocating 115 carriage and said vertically-reciprocating piston and said horizontally-reciprocating pistons are forced and held together and the material between the said press-block and the horizontally-reciprocating pistons and carriage is pressed, and means whereby the said material may be heated during compression.

2. The above-described press consisting of 120 a horizontally-reciprocating carriage, a number of horizontally-reciprocating pistons with press-plates suitably secured thereto, and a vertically-reciprocating piston with a press-block suitably secured thereto and a number 125

of press-plates suitably secured to the said press-block; means whereby the said horizontally-reciprocating carriage and said vertically-reciprocating piston with press-block and press-plates and said horizontally-reciprocating pistons and press-plates are forced and held together and the material between the said press-plates is pressed, and means whereby the said material may be heated during compression.

3. The above-described press consisting of a horizontally-reciprocating carriage with a press-plate secured thereto, a number of horizontally-reciprocating pistons with press-plates suitably secured thereto, and a vertically-reciprocating piston with a press-block suitably secured thereto and a number of press-plates suitably secured to the said press-block; means whereby said horizontally-reciprocating carriage with press-plate and said vertically-reciprocating piston with press-block and press-plates and said horizontally-reciprocating pistons with press-plates are forced and held together for the purpose of joining and gluing together the overlapping parts of a number of wood-veneer plates or other suitable material placed between the said press-plates and forming in one operation of the press of the body or lid of a trunk or other box-like package, and means whereby the said material may be heated during compression.

4. The above-described press consisting of a horizontally-reciprocating carriage with a press-plate secured thereto, a number of horizontally-reciprocating pistons with press-plates suitably secured thereto, and a vertically-reciprocating piston with a press-block suitably secured thereto and a number of press-plates suitably secured to the said press-block; means whereby said horizontally-reciprocating carriage with press-plate and said vertically-reciprocating piston with press-block and press-plates and said horizontally-reciprocating pistons with press-plates are forced to hold together for the purpose of joining and gluing together in one operation of the press the overlapping portions of a number of wood-veneer plates or other material placed between the said press-plates, the said overlapping portions being coated with a waterproof cementing composition; means whereby the said material may be heated during compression; the said overlapping portions becoming virtually integral with each other, impervious to moisture and atmospheric influences, under the simultaneous action of heat and pressure; one operation of the press forming the body or lid of a practically seamless trunk or box-shaped package, substantially as shown and described.

5. A trunk-press composed of a suitable frame, a horizontally-reciprocating carriage,

operated by a cog-wheel and suitable means of power, a press-plate suitably secured to said carriage, a number of horizontally-reciprocating pistons, operated by hydraulic power; a center or press block suitably secured to a vertically-movable piston operated by hydraulic power, and a number of press-plates suitably secured to said horizontally-reciprocating pistons and to said press-block; the horizontally-reciprocating pistons being operated simultaneously by means of one common press-water-supply pipe and the vertically-reciprocating piston being operated independently by means of a separate press-water-supply pipe; means whereby the said press-plates are heated; each operation of this press uniting under the simultaneous influence of heat and pressure a number of wood-veneer plates or other material, of required sizes, forms and thicknesses, placed between the said press-plates, by means of a waterproof cementing composition applied to the overlapping portions of said material, and forming the practically seamless body or lid of a trunk or box-shaped package, the overlapping portions becoming virtually integral with each other, impervious to moisture and atmospheric influences, substantially as shown and described.

6. An improved overlap-joining press composed of a horizontally-reciprocating carriage, a number of horizontal hydraulic presses and one vertical hydraulic press, set in a suitable frame of metal or other material; a center or press block suitably connected to the piston of the vertical press, and a number of press-plates suitably secured to the pistons of the horizontal presses and to the said center or press block; means whereby said press-plates are heated, and means whereby the said carriage and pistons with the said press-plates are forced and held together and the material placed between the said press-plates is pressed; the material consisting of a number of straight and a number of curved waterproof wood-veneer plates the overlapping portions of which, coated with a waterproof cementing composition, become virtually integral with each other under the simultaneous influence of heat and pressure; the press in one operation forming the body or lid of a trunk or other box-shaped package, substantially as shown and described.

7. In an improved overlap-joining press a number of horizontally-reciprocating pistons, a vertically-reciprocating piston and a horizontally-reciprocating carriage, a press-block suitably secured to the vertically-reciprocating piston, and a number of press-plates suitably secured to the horizontally-reciprocating pistons and carriage and the said press-block; means whereby the said pistons and carriage are operated as required, and means whereby the press-plates and the material placed be-

tween the press-plates to be pressed, are heated; the press compressing the overlapping portions of the said material, coated with a waterproof cementing composition, into a
5 practically homogeneous union, impervious to moisture and atmospheric influences, and producing in one operation the body or lid of a

trunk or similar hollow package, substantially as shown and described.

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