No. 771,669. PATENTED OCT. 4, 1904.

A. SCHNEEGASS.

COLD PROCESS OF SIMULTANEOUSLY CUTTING OUT AND STAMPING POLISHED WOODEN ARTICLES.

NO MODEL. APPLICATION FILED FEB. 23, 1904.

Fig. 3.

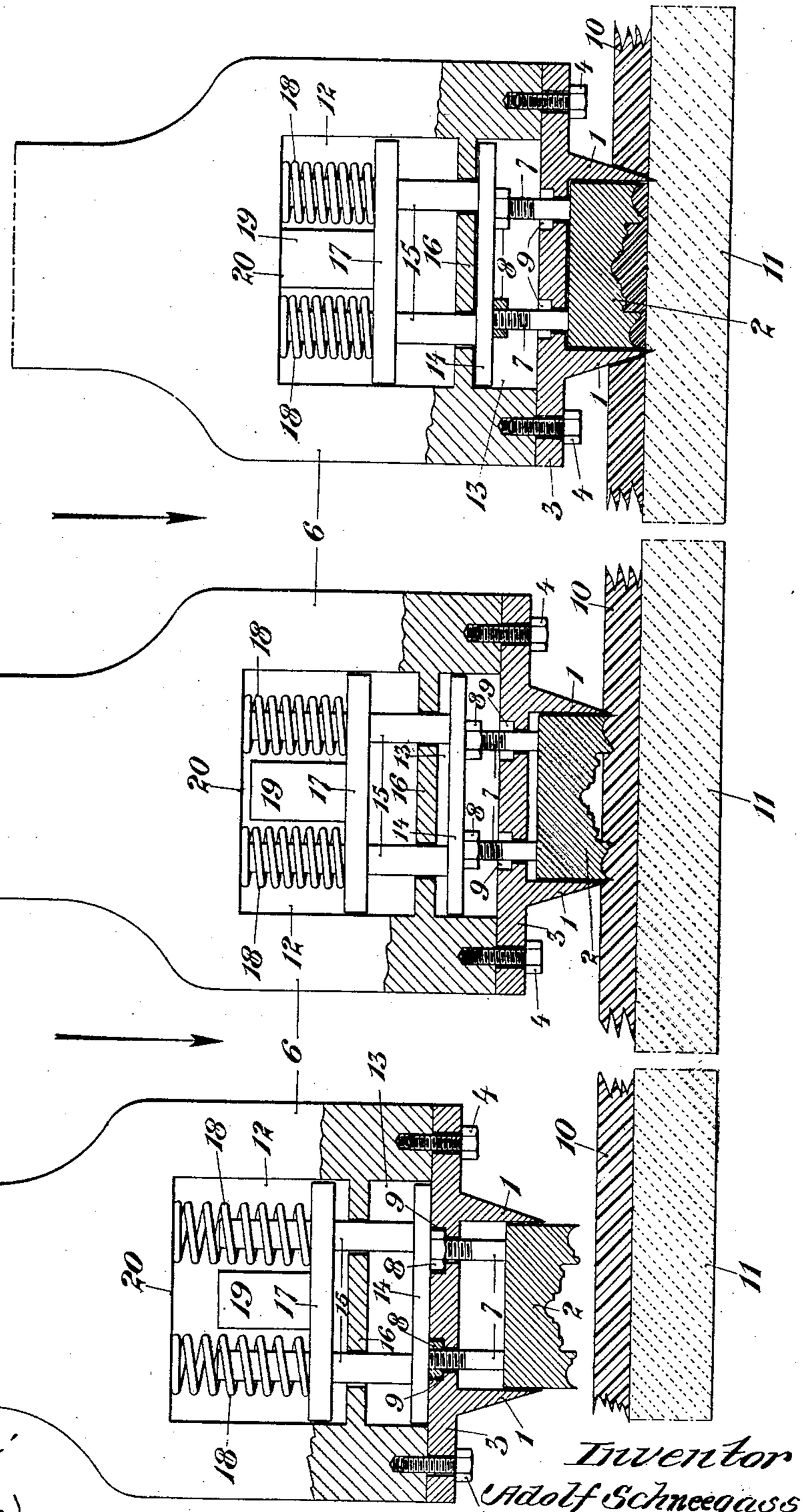

Fig. 2.

Fig. 1.

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UNITED STATES PATENT OFFICE.

ADOLF SCHNEEGASS, OF WALTERSHAUSEN, GERMANY.

COLD PROCESS OF SIMULTANEOUSLY CUTTING OUT AND STAMPING POLISHED WOODEN ARTICLES.

SPECIFICATION forming part of Letters Patent No. 771,669, dated October 4, 1904.

Application filed February 23, 1904. Serial No. 194,917. (No specimens.)

To all whom it may concern:

Be it known that I, ADOLF SCHNEEGASS, manufacturer, a subject of the Duke of Saxe-Coburg-Gotha, residing at Waltershausen, in the Duchy of Saxe-Coburg-Gotha, German Empire, have invented certain new and useful Improvements in Cold Processes of Simultaneously Cutting Out and Stamping Polished Wooden Articles, of which the following is a specification.

My invention relates to a process for cutting out and stamping wooden articles. In the processes hitherto known, however, a high degree of heat is usually employed, and the articles cannot therefore be produced in a polished or bright state, but are always dull. Owing also to the necessity for the application of heat, these well-known processes are complicated, and the articles manufactured by them are therefore expensive, especially as the cutting out and stamping are carried out in two different operations.

The object of the present invention is to obviate the above drawbacks, and by the process according to this invention wooden articles of various kinds—such as, for instance, parts of furniture and the like—are treated, impregnated, and polished, so that the stamping can be effected in one operation with the cutting out without any application of heat.

The process according to this invention is as follows: Wood of any kind (not veneering, but solid wood of any desired thickness) cut in the form of strips, boards, plates, or the like, either in the direction of the grain or across the grain, is thoroughly rubbed with a paste consisting of pumice-stone powder, resin, chalk, and oxid of copper, boiled in concentrated sulfuric acid or any other paste for preparing wood to be polished. The best proportions for this paste are as follows: One part of resin, two parts of chalk, two parts of pumice-powder, and oxid of copper and sulfuric acid in quantities sufficient to give the paste the consistency of a fluid syrup. After being rubbed with the said paste the wood is impregnated either on the surface to be worked or throughout with glue-water. It is then again rubbed with the paste and is finally polished in the usual manner. After this has been done the wood is placed under a press or under the punch. The latter is provided with a loosely-mounted and exactly-fitting spring-die, whose height can be varied and which when the press is started at first holds fast the wood in such manner that it cannot become broken or split by the action of the punch. At the same time that the wood is cut out it is also stamped.

Figures 1 to 3 of the accompanying drawings show in vertical section the tool-holder of a press of any desired construction in three working positions with the tools by means of which my process may be carried out—that is to say, the cutter 1 and die 2—attached to it. The cutter 1, with its carrier-plate 3, is mounted in an easily-detachable manner by means of screws 4 on the bottom surface of the tool-holder 6 of the press. The cutter 1 carries between its cutting edges the die 2, which is placed loose into it and fits it exactly. Bolts 7 of the die, projecting upward, pass loosely through the cutter-plate. The upper ends of the guide-bolts 7 are provided with nuts 8, fitting into recesses 9 of the cutter-plate 3, so that the die can be fixed by means of these nuts at any desired level to suit the thickness of the work 10 before the cutter-plate 3 is secured to the press. During the cutting out or stamping the work rests in the well-known manner on a block 11 of some elastic material. The tool-holder 6 forms a spring-box and is provided for the purpose with two superposed chambers 12 and 13, the lower of which, 13, is open downward and receives a plate 14. As long as no pressure is exercised on the moving parts the plate 14 rests with its bottom face in the same horizontal plane as that of the lower face of the tool-holder 6. Its thickness is about one-third of the depth of the chamber 13; but otherwise it fits the latter exactly and can freely move in it up and down. Carried by the said plate 14 are guide-pins 15, projecting upward and passing loosely through the transverse partition 16 of the tool-holder 6, situated between the two chambers 12 and 13. Above the said transverse partition the pins 15 support a plate 17, which is rigidly

secured to them. When the plate 14 is in its lowest position, Fig. 1—that is to say, when it is resting on the cutter-plate 3—the helical springs 18, placed at the top on the pins 15, are quite slack, except for a small tension due to the mounting. The said springs 18 are arranged between the plate 17 and the tool-holder 6, so that when the tool-holder 6 descends the springs 18 are compressed as soon as the die 2 meets a resistance. Between the guide-pins 15 or the helical springs 18 is arranged a stop 19, secured to the plate 17 and arranged in the same plane as the upper surfaces of the pins 15, so that before the pressure-plate 14 has been completely raised or when the helical springs 18 have been completely compressed said stop strikes the upper surface 20 of the tool-holder, Fig. 3. On starting the press, first the die 2 presses against the work 10 and holds it fast, so as to prevent the cutter 1, which then comes into action, from splitting or cracking the work. Fig. 2 shows the die 2 firmly pressing down the work 10 and the cutter 1 just coming into action. When the work has finally been cut through and stamped out to a sufficient depth, or, in other words, when the tools 1 and 2 or the tool-holder 6 of the press have arrived at their bottom position, Fig. 3, and the movement of the tool-holder 6 or of the cutter has been reversed, then first of all the pressure ceases on the cutter 1, it rises, and the die 2, descending under the influence of the expanding springs 18, Fig. 2, ejects the work, which is generally taken up between the edges of the cutter.

The preparation of the wood with paste and its impregnation with glue-water renders the wood supple and capable of being stamped. As owing to the softness of the wood the stamping can be effected without the application of heat, the polish is in no way affected. On the contrary, its brilliancy is increased by the smooth stamping-surfaces of the die and its pressure.

It must be expressly pointed out that by means of the process described all kinds of wood, from the softest to the hardest, can be successfully stamped, and, as has been already stated, not only in the direction of the fibers, but also across them. Owing to the above-described preparation of the wood, its separate fibers are rendered sufficiently strong for the purpose of stamping.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. The herein process for stamping and cutting polished wood articles consists in rendering the material pliable without the application of heat, then polishing the surface thereof and then simultaneously stamping and cutting the article.

2. The herein process for stamping and cutting polished wood articles consists in suitably preparing the same for polishing, then rendering the wood pliable, then polishing the surface of the wood, and then simultaneously stamping and cutting the article.

3. The herein process for stamping and cutting polished wood articles consists in suitably preparing the wood for polishing by applying the fluid paste to the surface thereof, then rendering the wood pliable and then polishing the surface thereof, then simultaneously stamping and cutting the article.

4. The herein process for stamping and cutting polished wood articles consists in suitably preparing the wood for polishing by applying the fluid paste to the surface, then impregnating the wood with glue-water, for rendering the same pliable, then polishing the same with paste, and then simultaneously stamping and cutting the article.

5. The herein process for stamping and cutting polished wood articles without the application of heat consists in thoroughly rubbing the surface of the wood with the fluid paste, then impregnating said wood with a glutinous composition to soften the same and again rubbing the wood with the polishing-paste until the surface becomes polished, and then the prepared wood is placed in position under a press having dies for stamping and simultaneously cutting the article into strips substantially as described.

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

ADOLF SCHNEEGASS.

Witnesses:

FRITZ SCHNELL,

ERNST EBERHARDT.