

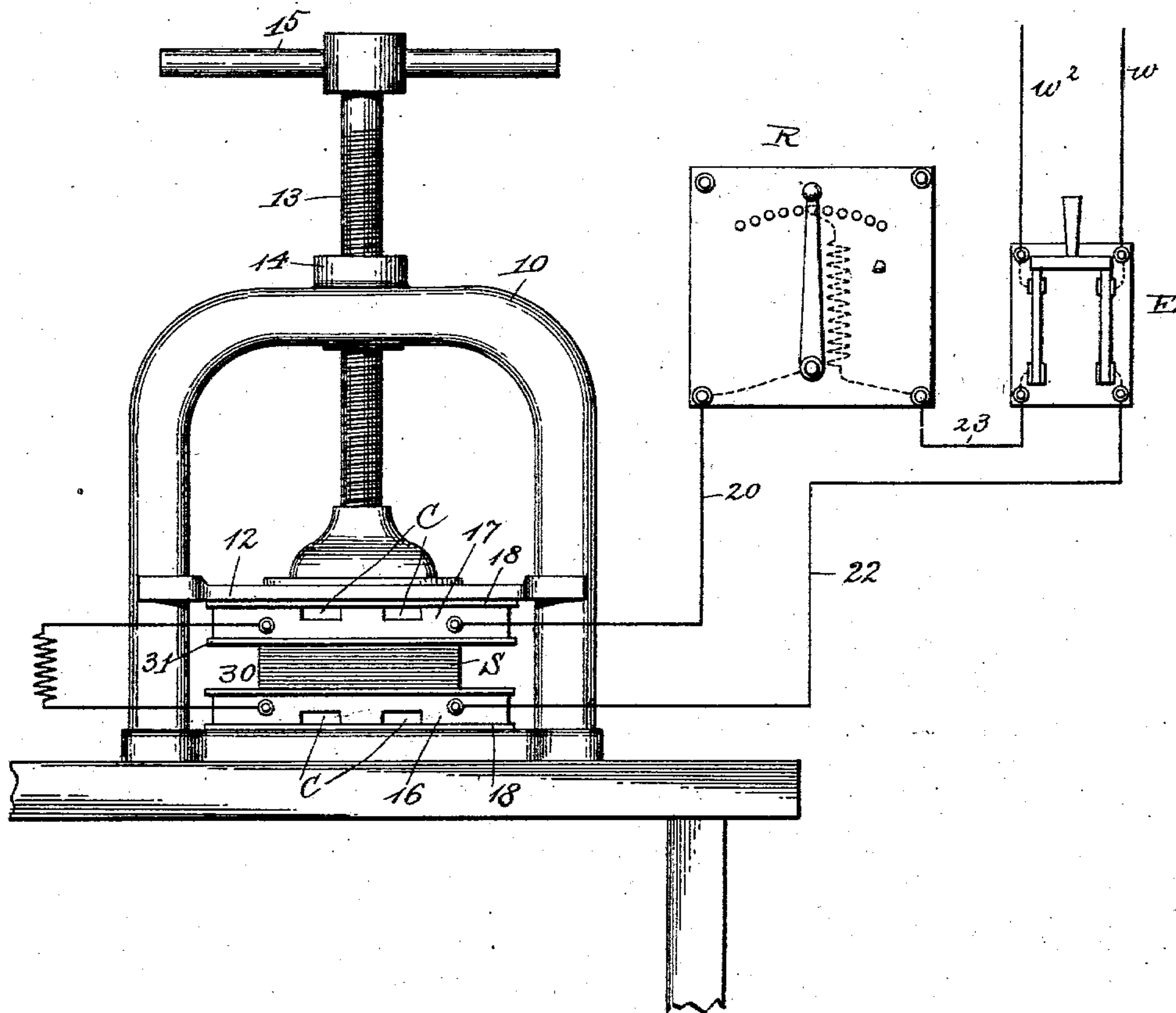
No. 730,314.

PATENTED JUNE 9, 1903.

E. H. & M. H. SWIFT.
METHOD OF DRYING GOLD BEATER SKINS.

APPLICATION FILED JUNE 21, 1902.

NO MODEL.



Witnesses:

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UNITED STATES PATENT OFFICE.

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METHOD OF DRYING GOLD-BEATER SKINS.

SPECIFICATION forming part of Letters Patent No. 730,314, dated June 9, 1903.

Application filed June 21, 1902. Serial No. 112,614. (No model.)

To all whom it may concern:

Be it known that we, ERNEST H. SWIFT and MATTHEW H. SWIFT, citizens of the United States, and residents of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Methods of Drying Gold-Beater Skins, of which the following is a full, clear, and exact specification.

This invention relates to the art of gold-beating; and it has for its object an improvement in the method of smoothing and drying the skins between which gold is placed in sheets and subsequently beaten until it has attained that condition in which it is marketed under the name of "gold-leaf." These skins are generally made of ox-skin and are extremely sensitive regarding the absorption of moisture, so that it is a difficult matter to retain them in proper condition for work, perfect dryness and smoothness being essential features in producing good work.

The method heretofore employed for drying the skins was far from achieving satisfactory results—a fact which is largely due to the apparatus, which was not only primitive in construction and operation, but which, furthermore, required extreme care in handling. This method consisted in exposing a bunch of skins under pressure to a heat which in itself was such as to destroy or burn the skins, the temperature decreasing gradually, and therefore rendering frequent changes and renewals of the heat-imparting instrumentalities necessary, and especial precautions were required to protect the outer layers against this excessive, and therefore injurious, heat, the bunch of skins being placed between cardboards or analogous material, through which the heat must travel before it reaches the skins. In practice, however, we have found that when the moist skins are first exposed to pressure and under low heat the entire bunch will be smoothed and the several individual layers are completely flattened out, thus laying any wrinkles or swellings resultant from moisture. If now the heat applied to the bunch is increased, the outer layers will dry first, and as the temperature is increased the entire bunch will be gradually dried throughout. It is of course understood that the temperature of

the heat-inducing members shall not exceed certain limits, depending upon the quality and general condition of the skins, while at the same time it is of material benefit and aid in the drying operation to maintain the temperature constant for a period and until the operator's judgment warrants a further increase. This condition is all the more desirable, as it prevents a too sudden shrinkage of the skins to their normal size, and hence perfectly dry and smooth skins will be the result.

In view of the fact that the skins are expensive and great quantities are unavoidably used the loss due to burning and unfitness on account of wrinkles is considerable, not to speak of the loss in time in drying by the old method heretofore in use, which at best was uncertain in results. Hence our invention refers directly to the method of smoothing and drying the skins in a positive and accurate manner, which may be systematically followed out and will produce the best results, and in the accompanying drawing we have illustrated an apparatus which we employ in carrying our invention into practice.

In order to explain our improved method of drying skins, we will refer in the following description to the drawing, in which similar characters denote similar parts, it being understood, however, that the apparatus shown serves only as one form of device for practically substantiating the present invention.

In the drawing, 10 denotes a frame secured at its lower end to a platen 11, which is preferably stationary and may be secured to a table or bench, as desired. Coöperative with the platen 11 is a movable platen 12, which may be raised or lowered on the frame 10, as, for instance, by a screw 13 in threaded engagement with the hub 14 of the frame 10, said screw being operable by a handle or wrench 15, as clearly shown in Figure 1. Secured to each of the platens 11 and 12 are plates 16 and 17, respectively, which constitute the device for heating a bunch of skins (designated herein by S) and which are isolated from their respective carriers or platens by cardboards or similar material 18, so that the heat which may be transmitted to the plates 11 12 will not be transferred to the rest of the apparatus, and in order to guard

more effectually against such transmission of heat said plates have at their sides adjacent the supporting-platens a series of air channels or grooves C to permit a free circulation of air, and thus reduce the transmission of heat to the apparatus to a minimum. While, primarily, it is immaterial what particular method is employed for heating said plates, we have shown in the drawing an apparatus the platens of which are heated by an electric current simultaneously and means are provided whereby the temperature of said plates may be variably controlled, so that said plates may be gradually heated as required, these means consisting substantially of a rheostat R, electrically connected with the plate 17 by a conductor 20, while the plates 16 and 17 in turn are electrically connected by a conductor 21, so as to permit a movement of said plates toward and away from each other. The plate 16 is connected by a conductor 22 with one pole of a switch E, the other pole of which is connected by a conductor 23 with the rheostat R, electric energy being supplied from any convenient source by the wires or conductors W' and W².

As above stated, the plates may be heated in any convenient manner, and by this statement is meant that gas or naphtha may be used, as well as electricity, the latter being, however, far preferable, not only on account of ease of operation, but on account of the convenience with which the heat of said plates may be regulated.

The operation of the apparatus is substantially as follows: The package of skins S is at first placed between cardboards 30 and 31 and then inserted with said boards between the plates 16 and 17, whereupon the screw 13 may be operated to force the platens 11 and 12, and therefore the plates above mentioned, into close contact with each other. The switch E being in a position to connect the

electric conductors 22 and 23 with their respective wires W' and W², the arm of the rheostat is gradually shifted from its normal position or point of rest, thus gradually cutting out the resistance between the conductors 23 and 24 and applying electric energy to the plates 16 and 17 evenly and simultaneously, bringing the temperature approximately to 130° Fahrenheit. After this low heat has been applied for about seven or eight minutes to thoroughly dry the outer layers of skins the heat may be gradually increased by shifting the operating-arm of the rheostat so as to gradually cut out more and more resistance during the next ten minutes, thereby increasing the heat applied to the plates 16 and 17 until the temperature of about 190° has been reached, and at which temperature said plates may be uniformly maintained for from thirty to forty-five minutes until the entire package of skins has been dried. By raising the platen 12 and the plate 17 the package of skins may now be removed and another substituted, when the same method as hereinbefore described may be repeated.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The improved method of drying gold-beater skins, which consists in compressing a bunch of skins, subjecting the same to a gradually-increasing heat, until the maximum temperature consistent with the condition of the skins, has been reached, and maintaining said maximum temperature for a predetermined length of time, while the compression of the bunch remains constant.

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