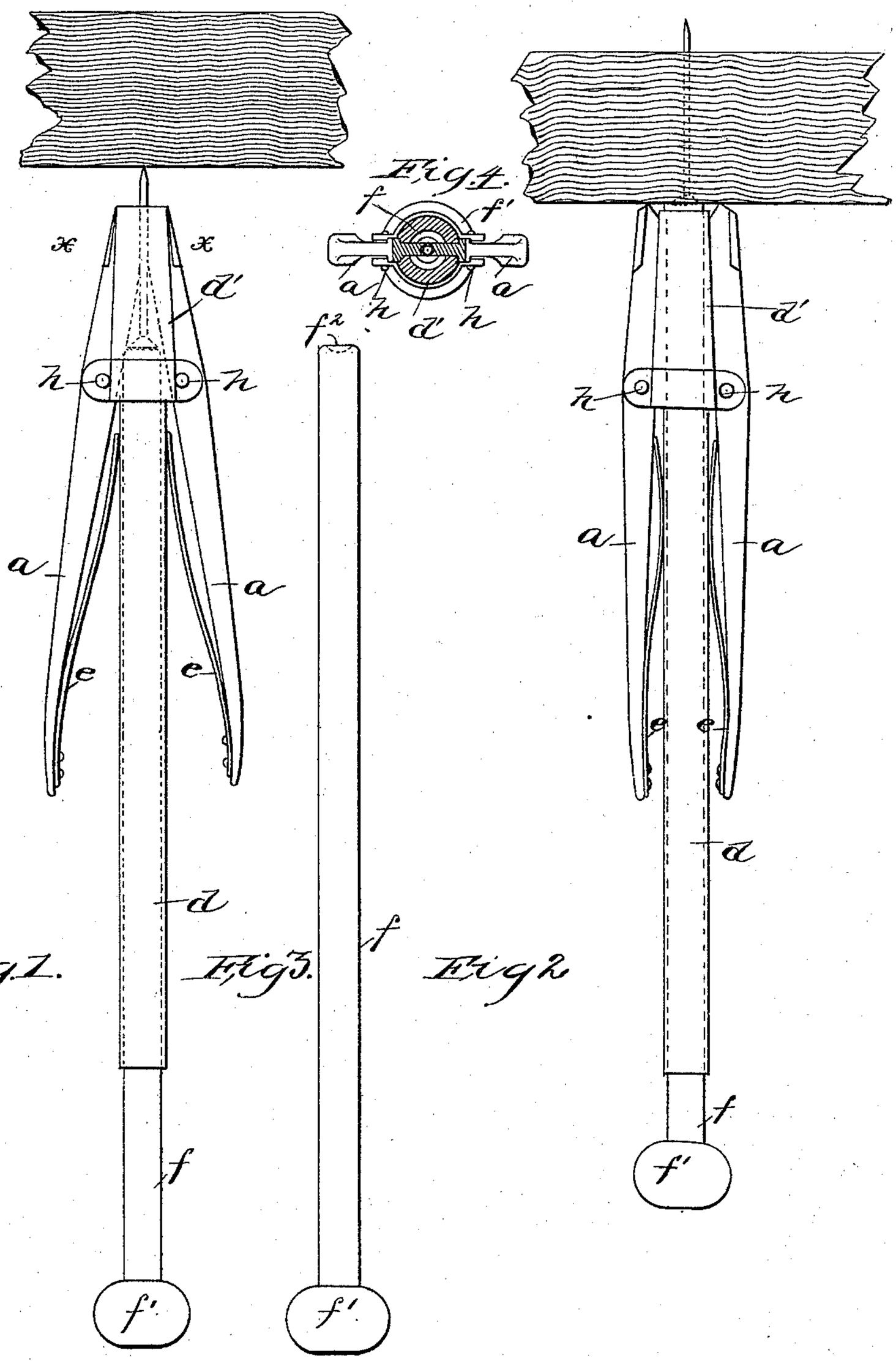
(No Model.)

L. KORNDER.

NAIL DRIVING APPARATUS.

No. 535,503. Patented Mar. 12, 1895.



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UNITED STATES PATENT OFFICE.

LEONHARDT KORNDER, OF UFFENHEIM, GERMANY.

NAIL-DRIVING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 535,503, dated March 12, 1895.

Application filed May 6, 1893. Serial No. 473,310. (No model.) Patented in Switzerland February 21, 1893, No. 6,469; in England April 10, 1893, No. 7,335; in France April 21, 1893, Nos. 227,426 and 214,186; in Belgium May 31, 1893, Nos. 104,669 and 79,497; in Canada August 12, 1893, Nos. 43,913 and 63,220; in Austria-Hungary August 27, 1893, No. 23,035 and No. 38,321, and in Italy October 9, 1893, Nos. 34,428/272 and 12,225.

To all whom it may concern:

Be it known that I, LEONHARDT KORNDER, boot and shoe manufacturer, of 6 Ansbacherstrasse, Uffenheim, Bavaria, in the Empire of Germany, have invented a new and useful Improved Nail-Driving Apparatus, (for which patents have been obtained in France, Nos. 227,426 and 214,186, dated April 21, 1893; in England, No. 7,335, dated April 10, 1893; in Canada, Nos. 43,913 and 63,220, dated August 12, 1893; in Belgium, Nos. 104,669 and 79,497, dated May 31, 1893; in Italy, Nos. 34,428/272 and 12,225, dated October 9, 1893; in Austria-Hungary, No. 23,035 and No. 38,321, dated August 27, 1893, and in Switzerland, No. 6,469, dated February 21, 1893,) of which the following is a specifiation, reference being had therein to the accompanying drawings.

The present invention has for its object to provide an improved nail-driving apparatus, which is intended to drive nails, of various sizes, home, and is adapted to be used especially in places difficult of access. In addition to the apparatus being constructed in such manner as to allow of its being used in places difficult of access, it can be elongated by means of additional screwed parts so that it can be used also at more or less great distances.

In the accompanying drawings Figure 1 is a side view of my improved nail-driving apparatus showing the parts in the position they would assume preparatory to the driving of a nail. Fig. 2 is a similar view but showing the parts in the position they would assume when a nail has been driven home. Fig. 3 is a side view of the driving mandrel; and Fig. 4 is a cross section of the nail driver taken on the line *x—x* Fig. 1.

The nail-driving apparatus consists of a cylindrical tube *d*, which, at the end *d'*, is strengthened on the outside and made conical and provided with spring gripping tongues *a e h* hereinafter described. The other end of the tube *d* is provided with a loosely fitting mandrel, or driving plunger *f* having a strong rounded head *f'*, while the other end, in f^2 Fig. 3, is provided with a recess for the reception of the head of the nail to be driven. In Fig. 4 it will be seen that the conical part *d'* of the tube *d* has open slots in opposite sides thereof. These two slots are intended to give passage to the parts *a* of a pair of spring grippers. The fulcra *h* for the gripper arms *a* are fixed in the conical part *d'* of the tube *d*.

In order to drive a nail the latter is first inserted into the mouth of the grippers, after having previously pressed the springs *e* of the arms *a* together so as to open the said mouth of the grippers. The nail to be inserted is introduced head first into the said mouth, while the point is allowed to stand out beyond the same. Then, by releasing the arms *a*, the nail is gripped tightly by the grippers through the action of the springs *e*. The next operation is to insert the plunger *f* into the tube *d*. The nail held in the apparatus is then put in its desired position, after which the plunger *f* is driven farther into the tube *d* by means of a hammer, thereby causing the nail to be driven home. As the plunger passes farther into the tube, it passes between the two parts of the mouth of the grippers, which thereby open, but as the nail is now already partly driven into the material, it requires no longer to be held. By the addition of the extra lengths of tube *d* and driving mandrel *f* screwed together, the nail driver may be made of any desired length.

What I claim, and desire to secure by Letters Patent of the United States, is—

A nail driving implement, comprising an essentially cylindrical tube provided with two opposing longitudinal slots at one of its ends, spring-controlled grippers pivoted exteriorly on the tube and each normally projecting into one of the slots of the said tube and being essentially flush with the slotted end thereof to allow of the implement being used in places difficult of access, the other end of each gripper being located exteriorly of the tube to permit of manual operation, and a plunger adapted to slide in the said tube, substantially as described.

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

LEONHARDT KORNDER.

Witnesses:
FRITZ SCHÖRK,
CONSTANTIN SIMON.