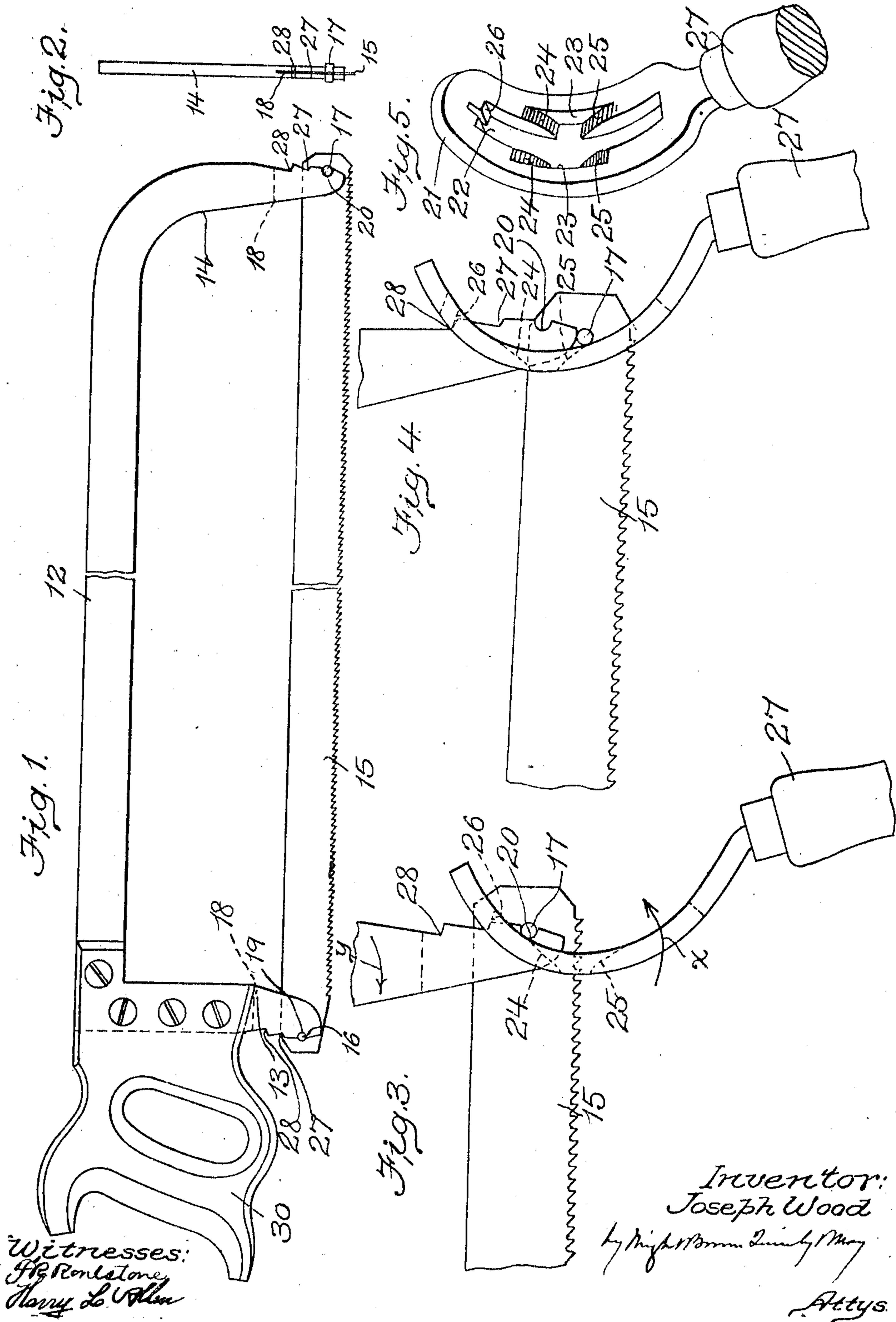


J. WOOD.
HANDSAW.

APPLICATION FILED DEC. 27, 1910.

999,617.

Patented Aug. 1, 1911.



UNITED STATES PATENT OFFICE.

JOSEPH WOOD, OF EVERETT, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS,
OF ONE-HALF TO MARGARET A. WOOD, OF EVERETT, MASSACHUSETTS.

HANDSAW.

999,617.

Specification of Letters Patent.

Patented Aug. 1, 1911.

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To all whom it may concern:

Be it known that I, JOSEPH WOOD, of Everett, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Handsaws, of which the following is a specification.

This invention relates particularly to meat saws employed by butchers, the saw comprising a resilient frame and a blade which is detachable from the frame and is held in engagement therewith by the resilience of the frame, the blade being disengageable from the frame by the springing of the frame from its normal shape.

The invention has for its object to provide a simple and durable saw of this character, the frame of which is adapted to be sprung to release the saw from the frame and permit its application to the frame, by a lever fulcrumed on the blade and having a bearing on the frame, the construction being such that the same lever may be used to disconnect the blade from the frame and engage it with the frame.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings,—Figure 1 represents a side elevation of a saw embodying my invention. Fig. 2 represents an elevation of the outer end of the saw. Fig. 3 represents an enlargement of a portion of Fig. 1 showing the lever engaged with the frame and blade preparatory to the removal of the blade from the frame. Fig. 4 represents a view similar to Fig. 3 showing the lever engaged with the frame and blade preparatory to the engagement of the blade with the frame. Fig. 5 represents a perspective view of the lever shown by Figs. 3 and 4.

The same reference characters indicate the same or similar parts wherever they occur in the figures.

The frame of my improved saw is composed of a back 12, an inner arm 13, and an outer arm 14, said back and arms being preferably made in a single part of tempered steel, the arms normally standing at a predetermined distance apart and being adapted to be moved slightly toward each other by a springing of the frame due to pressure tending to force the arms inwardly from their normal positions.

15 represents the blade which is provided

at its end portions with coupling members which are preferably studs 16 and 17, projecting from opposite sides of the blade. The frame arms 13 and 14 are provided with slots 18 in their outer end portions adapted to receive the end portions of the blade 15. In the branches of the frame arms formed by said slots are complementary coupling members 19 and 20 formed to engage the blade coupling members 16 and 17, the coupling members 19 and 20 being recesses formed in the outer edges of said arms as shown by Fig. 1. When the frame and blade are operatively connected, as shown by Fig. 1, the resilience of the frame causes the coupling members 19 and 20 to exert pressure in opposite directions on the coupling members 16 and 17, the latter entering the former and thus holding the blade in positively interlocked engagement with the frame.

The studs, constituting the coupling members, are elongated, as shown by Fig. 2, so that they project outwardly from opposite sides of the arm 14 and constitute collectively a fulcrum for a lever 21 which is employed for the purpose of springing the frame arms toward each other for the purpose of removing and applying the blade, as hereinafter described. The said lever has a curved body in which is formed a longitudinal slot 22, which is widened by recesses 23, formed between the ends of the slot. The ends of said recesses are oppositely inclined and form cam-shaped shoulders 24 and 25. The outwardly curved side of the lever at one end of the slot 22 is adapted to bear on the outer edge of the arm 14, said outer edge being hereinafter referred to as the "lever seat", which faces outwardly and is located above the coupling recess 20 in said arm. The end of the slot adjacent to the portion of the lever which bears on said lever seat is preferably inclined to form a tooth 26 adapted to engage either of two notches 27 and 28 formed in said lever seat, said notches being at different distances from the coupling recess 20.

The relative positions of the tooth 26 and the inclined shoulders 24 and 25 are such that, when the tooth 26 engages the inner notch 27, the inclined shoulders 24 bear on the studs 17 as shown by Fig. 3. It will now be seen that, when the lever is applied, as shown by Fig. 3, and is moved in the

direction indicated by the arrow α , the studs 17 constitute a fulcrum for the lever so that the portion of the lever bearing on the arm 14 will exert pressure on said arm in the direction indicated by the arrow γ , pressure being at the same time exerted through the blade 15 on the inner arm 13 in the opposite direction. These pressures result in a springing of the frame, the arms being sprung toward each other sufficiently to permit the disengagement of the coupling members of the blade from the coupling members of the frame.

In engaging the blade with the frame, the coupling members 16 are first engaged with the coupling members 19 and the tooth 26 of the lever is engaged with the outer notch 28, as shown by Fig. 4, the inclined shoulders 25 at the same time bearing on the studs 17. Pressure on the lever in the direction of the arrow α will again cause a springing of the frame sufficient to permit the studs 17 to pass upwardly into engagement with the recesses or coupling members 20, the inclined shoulders 25 acting as cams to move the studs 17 and the outer end of the blade from the position shown by Fig. 4 to that shown by Figs. 1 and 3.

The lever 21 is here shown as a hand-operated tool provided with a handle 29. It is obvious, however, that said lever may be a fixture on a bench or table, in which case, the springing of the frame will be caused by a movement of the frame relatively to the lever. The lever 21 may be engaged with the inner arm 13 instead of with the outer arm, said inner arm being formed to furnish a seat for said lever and provided with notches 27 and 28, as shown by Fig. 1. When the lever is operated by hand it is preferable to engage it with the inner arm 13 because the operator is enabled to more conveniently apply and remove the blade using one hand to hold the saw by its handle 30, and the other hand to apply the lever to the inner arm. The lever seat being located on the outer edge of one of the frame arms and therefore facing outwardly, and being also located above the coupling recess of said arm, or in other words, between said recess and the plane of the back 12, is adapted to engage and support the lever 21 in either of two positions while it is engaged with the fulcrum studs on the blade, a movement of the lever in the direction of the arrow α while it is in either position, causing a sufficient springing of the frame, to separate the positively interlocked frame and blade coupling members from each other. The lever is therefore adapted, while engaged with the seat, to either detach or secure the blade.

I claim:—

1. A saw comprising a resilient frame having slotted arms and recesses formed in

the outer edges of said arms, and a blade formed at its end portions to enter the arm slots and having at said portions laterally projecting studs located between its inner and outer edges and adapted to enter said recesses, the said studs and recesses constituting complementary coupling members adapted to be held in positively interlocked engagement by the resilience of the frame, and to be separated by the inward springing of the frame arms, the outer edge of one of said arms being formed as a lever seat having provisions for engaging an arm-springing lever in either of two positions, and the corresponding studs on the blade being formed to project from the sides of said arm and constitute a fulcrum to engage said lever when the latter is in either of said positions, whereby the lever may be simultaneously engaged with the lever seat and fulcrum and caused to spring the arms inwardly either to separate or connect the coupling members.

2. A saw comprising a resilient frame having slotted arms and recesses formed in the outer edges of said arms, and a blade formed at its end portions to enter the arm slots and having at said portions laterally projecting studs located between its inner and outer edges and adapted to enter said recesses, the said studs and recesses constituting complementary coupling members adapted to be held in positively interlocked engagement by the resilience of the frame, and to be separated by the inward springing of the frame arms, the outer edge of one of said arms being formed as a lever seat having two notches located at different distances from the coupling recess in said arm, and adapted to engage an arm-springing lever in either of two positions, and the studs forming the corresponding coupling member on the blade being formed to project outwardly from the opposite sides of said arm and constitute a fulcrum adapted to engage said lever while the latter is engaged with either of said notches, the lever being simultaneously engageable with one of said notches and the said fulcrum to spring the arms in securing the blade, and with the other notch and the fulcrum to spring the arms in detaching the blade.

3. A saw comprising a resilient frame having slotted arms, and a blade formed at its end portions to enter the slots in said arms, said blade and arms having complementary coupling members adapted to be held in positively interlocked engagement by the resilience of the frame and to be separated from their interlocked engagement by the inward springing of the frame arms, the outer side of one of the said arms being formed as a lever seat, and the corresponding coupling member on the blade being formed as a lever fulcrum, combined with

an arm-springing lever adapted to simultaneously engage the said seat and fulcrum and exert pressure thereon to spring the arms inwardly, the seat being adapted to
5 engage said lever in either of two positions whereby the lever may be caused to spring the arms inwardly in either securing or detaching the blade.

4. A saw comprising a resilient frame
10 having slotted arms and recesses formed in the outer edges of said arms, and a blade formed at its end portions to enter the arm slots and having at said portions laterally projecting studs located between its inner
15 and outer edges and adapted to enter said recesses, the said studs and recesses constituting complementary coupling members adapted to be held in positively interlocked engagement by the resilience of the frame,
20 and to be separated by the inward springing of the frame arms, the outer edge of one of said arms being formed as a lever seat having two notches located at different dis-

tances from the coupling recess in said arm, and adapted to engage an arm-springing
25 lever in either of two positions, and the studs forming the corresponding coupling member on the blade being formed to project outwardly from the opposite sides of said arm and constitute a fulcrum adapted
30 to engage said lever while the latter is engaged with either of said notches, combined with a lever having a tooth adapted to engage either of said notches, and with two
35 oppositely inclined shoulders located at different distances from said tooth, one of said shoulders being adapted to engage said fulcrum to detach the blade and the other being adapted to engage the fulcrum to secure
40 the blade.

In testimony whereof I have affixed my signature, in presence of two witnesses.

JOSEPH WOOD.

Witnesses:

C. F. BROWN,

P. W. PEZZETTI.