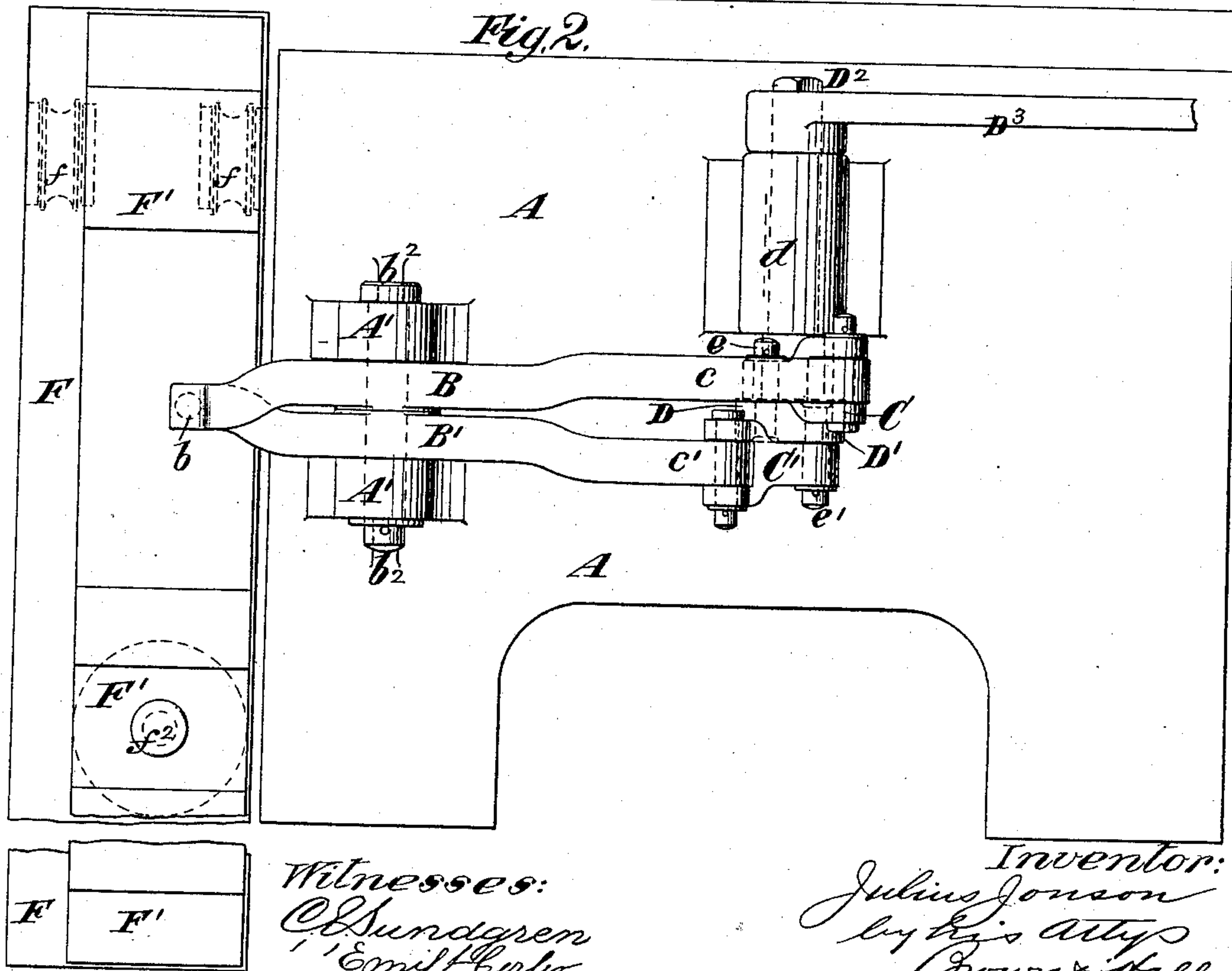
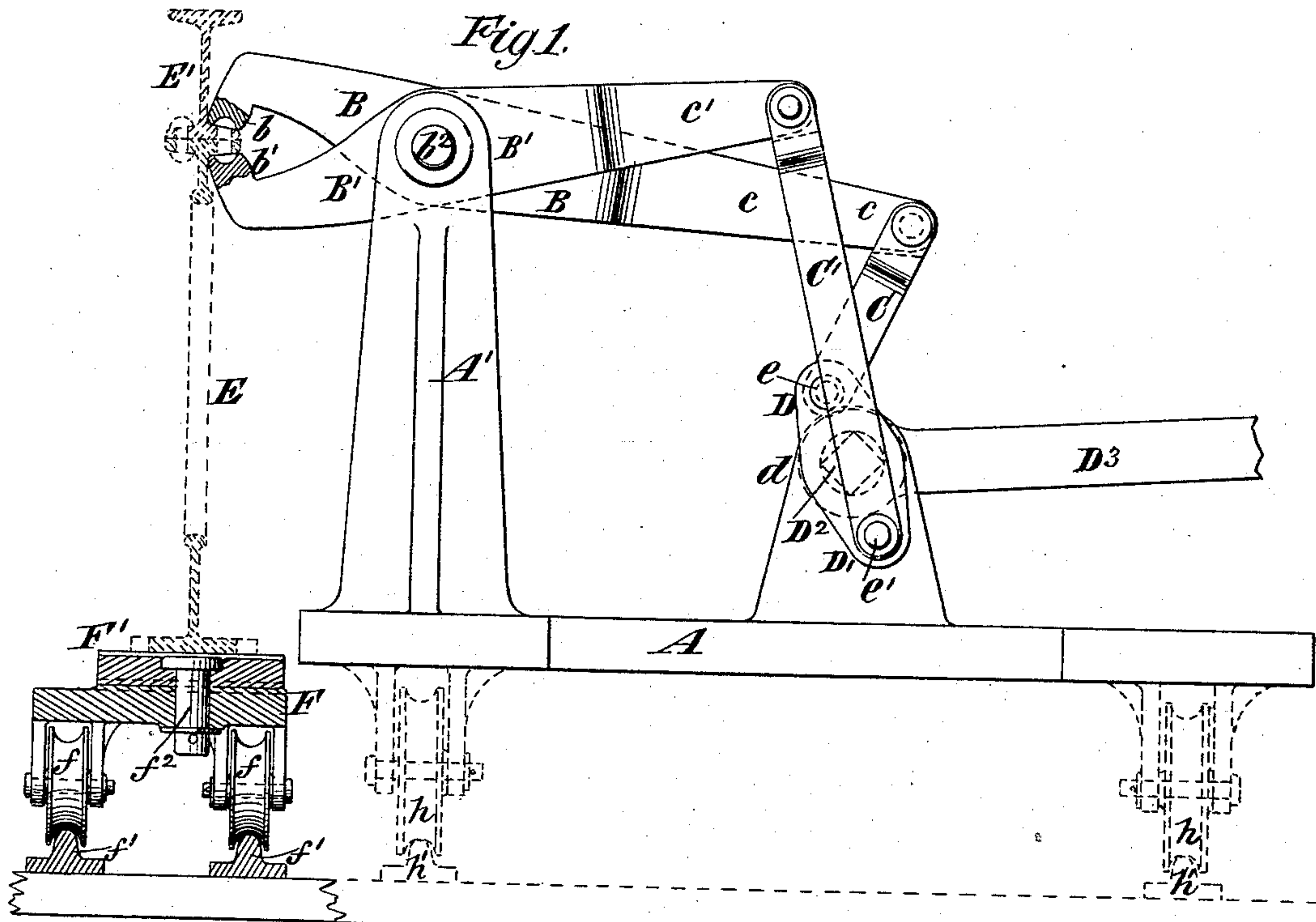


(No Model.)

J. JONSON.
RIVETING MACHINE.

No. 353,140.

Patented Nov. 23, 1886.



Witnesses:
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UNITED STATES PATENT OFFICE.

JULIUS JONSON, OF NEW YORK, N. Y.

RIVETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 353,140, dated November 23, 1886.

Application filed August 10, 1886. Serial No. 210,507. (No model.)

To all whom it may concern:

Be it known that I, JULIUS JONSON, of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Riveting-Machines, of which the following is a specification.

The object of my invention is to provide a simple machine, which is usually operated by hand, but which may be worked by power, and by which hot rivets may be rapidly headed or set.

The invention is more particularly intended for riveting together the parts of girders and other structures where the rivets are inserted in lines or rows, and as usually constructed the machine is mounted upon a base piece or support, and the work upon a traveling carriage, although the machine itself may be provided with wheels or mounted upon a carriage, so as to be moved along the line of the work.

In my improved machine I employ two levers, which are fulcrumed upon the base piece or support, and have riveting-dies secured directly upon their front arms or ends, and these levers have their rear ends or arms extending in substantially the same direction, and are operated by a rock-shaft and links or other connections, which are jointed to their rear ends or arms. I prefer to make the rear arms of the levers of unequal length, the lower riveting-jaw preferably being upon the lever having the shorter arm, and in such case the movement transmitted to the levers from the rock-shaft will give to one jaw a quicker movement than that which is imparted to the other jaw, and will cause one jaw to advance quicker than the other, and by bearing upon the head of the rivet to press it home upon the part to be riveted before the opposite jaw completes the upsetting of the rivet.

I also employ, in connection with the machine as above described, a carriage for the work, which is mounted upon rails to travel along the front of the machine, and which is provided with an upper portion or plate, secured by a vertical pivot on the carriage, and capable of being turned to present opposite sides of the work to the machine.

In the accompanying drawings, Figure 1 is a side elevation of a machine embodying my

invention, and a transverse section of a carriage and rails upon which work is supported and presented to the machine; and Fig. 2 is a plan of the machine and carriage, a portion of the carriage being broken away to reduce the size of the figure.

Similar letters of reference designate corresponding parts in both figures.

A designates a base piece or support having upright standards or bearers, A', to which two levers, B B', are fulcrumed by a pin, b². These levers, although fulcrumed side by side, have their front end portions, which are provided with riveting-dies b b', offset or bent laterally, so as to bring the dies one over the other, as shown in Fig. 2. The rear arms, c c', of these levers have connected with them links or rods C C', which are actuated by crank-arms D D', upon a rock-shaft, D². This rock-shaft D² is mounted in a suitable bearing, d, upon the base piece or support A, and has applied to it a hand-lever, D³, whereby it may be turned. If desired, the rock-shaft might be operated by power instead of by hand. By turning the shaft D² in one direction, the riveting-jaws, on which are dies b b', will be moved apart or spread, and by turning said shaft in the opposite direction such jaws will be brought toward each other with sufficient force to upset and properly fix a hot rivet in position.

The crank-arms D D' upon the shaft D² should be so arranged that when the jaws about complete their movement toward each other, the pins e e' will be brought near to their central position, or nearly into line with the center of the shaft D², and the points of connection between the rods or links C C' and the lever-arms c c', as thereby the final operation of the rock-shaft will produce a very powerful pressure of the riveting-jaws upon the rivet.

I have shown in dotted outline in Fig. 1 an example of the work which the machine is intended to perform, and which is to rivet frames or yokes E upon the I-beam E'.

As clearly shown in Fig. 1, the arm c' of the lever B', on which is the riveting-die b', is of less length than the arm c of the lever B, and consequently the riveting-jaw of the lever B', which carries the die b', will be advanced

toward the work quicker than the upper jaw of the lever B, which carries the die *b*, and will press upward the rivet inserted from below and hold it tightly against the work until the movement of the upper jaw brings the die *b* sufficiently down to complete the setting of the rivet.

F designates a carriage, which in this example of my invention supports the work E E', and is provided with wheels *f*, running upon tracks *f'*. The carriage F is movable along these tracks in front of the machine, and the rivets are brought successively into position between the dies *b* *b'*. As here shown, the work is not supported directly upon the upper surface of the carriage F, but upon a top plate or piece, F', which is secured by a vertical pivot, *f*², on the carriage, and also bears at each end upon the carriage.

After a line of rivets have been inserted along one side of the work, the carriage, with the work upon it, may be moved away from the machine, and the top plate or portion, F', with the work still supported upon it, may turn upon the pivot *f*², so as to bring the opposite side of the work into such position that the rivets may be inserted along that side by the operation of the machine.

Where the work is of very large dimensions and cumbersome, it may be advantageous to move the machine along the work, allowing the work to remain stationary, and I may, therefore, provide the machine with wheels *h*, journaled in bearings projecting from the base plate or portion A, and running upon tracks or rails *h'*, as shown by dotted lines in Fig. 1.

I have in Fig. 1 represented a portion of the carriage F and its upper portion, F', as broken away, in order to reduce the size of the figure.

The machine above described is very strong and simple in its construction, and by its use rivets may be set rapidly and thoroughly with the power of two or three men exerted upon the lever D³, thereby accomplishing with a small and portable machine, which will cost but little, as good and nearly as rapid work

as is usually done with a steam or hydraulic riveting-machine.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a riveting-machine, the combination, with a support or base portion, of two levers fulcrumed thereon and riveting-dies secured directly upon the front arms of the levers, the rear arms of the levers being extended in substantially the same direction, and the rock shaft and links or rods connected with the rear ends or arms of said levers, and through which motion is transmitted for operating the levers, substantially as herein described.

2. In a riveting-machine, the combination, with a support or base portion, of two levers fulcrumed thereon, riveting-dies arranged directly on the front arms of the levers, the rear arms of the levers being extended in substantially the same direction, and being of unequal length, and a single rock-shaft and connections for operating said levers, substantially as herein described.

3. In a riveting-machine, the combination, with a base piece or support, of the levers B B', fulcrumed thereon, having their front arms provided with dies, and having rear arms, *c* *c'*, of unequal length, a rock-shaft, D², having crank-arms D D' extending radially in opposite directions, and links or rods C C', connecting the crank-arms and the lever-arms *c* *c'*, substantially as herein described.

4. The combination, with a base piece or support, of levers fulcrumed thereon and having front arms provided with riveting-dies, a rock-shaft and connections for operating said levers, and a carriage for the work provided with an upper portion secured by a vertical pivot on the carriage and capable of being turned to present opposite sides of the work to the machine, substantially as herein described.

JULIUS JONSON.

Witnesses:

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