(No Model.)

A. VUILLIER.

DROP HAMMER.

No. 262,155. Patented Aug. 1, 1882.

fig. 1

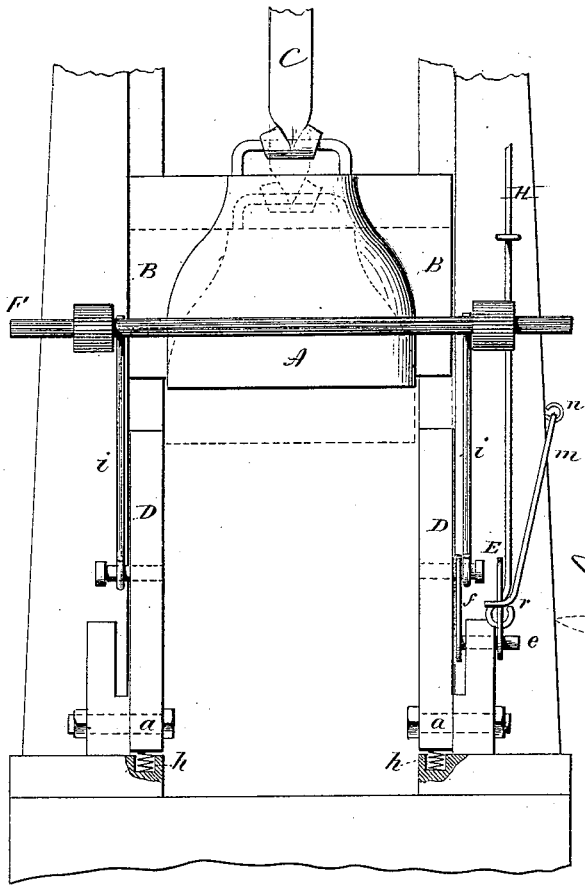
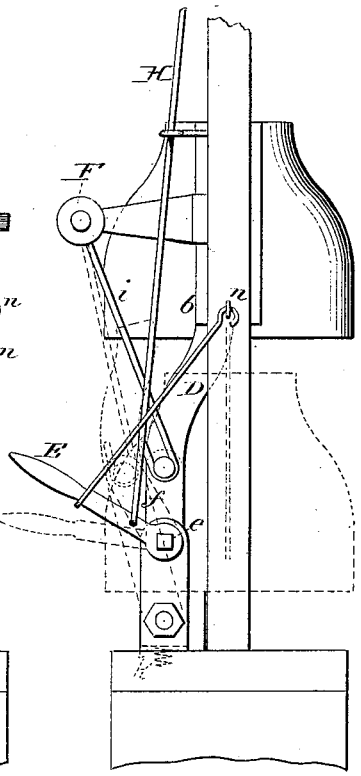


fig. 2



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AIMÉ VUILLIER, OF PORTLAND, CONNECTICUT.

DROP-HAMMER.

SPECIFICATION forming part of Letters Patent No. 262,155, dated August 1, 1882.

Application filed April 24, 1882. (No model.)

To all whom it may concern:

Be it known that I, AIMÉ VUILLIER, of Portland, in the county of Middlesex and State of Connecticut, have invented a new Improvement in Drop-Hammers; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a front view, and in Fig. 2 a side view, of the device hereinafter described.

This invention relates to an improvement in that class of drop-hammers such as are used for stamping purposes. This class of drops employs a lifting mechanism, which operates a crank connected by a strap to the hammer, the crank raising the hammer, then, as it throws over, leaves the hammer free to drop on the descent of the crank. The mechanism is arranged so as to catch the crank in its up position. This mechanism is too well known to require any detailed description in this application. In the use of this class of drops serious accidents occur to the workmen because of the accidental descent of the hammer. The mechanism is operated usually by a treadle, or may be by a hand-lever, and if by accident this mechanism be disengaged the hammer drops to its full extent, and nothing can arrest it until it strikes its blow.

The object of my invention is to provide this class of drop-hammers with a safety device which will prevent the hammer accidentally dropping; and it consists in a stop-lever hung below the hammer, so as to be turned into the path of the hammer, so that when the hammer rests upon it it will be supported in that position, and from which it can only be relieved by the removal of the lever, combined with mechanism for operating the said stop, as more fully hereinafter described.

A represents the hammer, of usual form, arranged to move up and down between guides B B; C, the strap which connects the hammer to the crank or lifting device above.

D D are two stop-levers, one arranged at each side, hung upon a pivot, *a*, below and near the anvil. They extend up so as to swing out and in—that is, toward and from the hammer—as indicated in broken lines, Fig. 2. The upper ends of these levers, when turned inward, as seen in Fig. 2, stand in the path of the descending hammer, and so that a shoulder or projection, *b*, thereon will strike upon the upper end of the stops and be there held; but when turned outward, as seen in broken lines, Fig. 2, then the stops are free from the hammer and permit it to fall. To thus operate the stop-levers D, a short shaft on which is a hand-lever, E, is hung to the frame, as at *e*, and from this shaft an arm, *f*, extends up into engagement with the lever D at one side, as seen in Fig. 1. Hence pressing down the hand-lever E, as seen in broken lines, Fig. 2, will force the stop-lever D outward, as also indicated in broken lines.

Beneath the heel of the stop-levers D, and outside the pivot, a spring, *h*, is arranged, the tendency of which is to force the levers inward, so that as the hammer rises, if otherwise free, the stop-levers will be automatically forced inward and beneath the hammer. In order that the one lever may operate the two stops, I arrange a rock-shaft, F, above, from which an arm, *i*, extends down into connection with the levers, as shown. Hence as the handle is pressed down at one side and the lever upon that side turned outward it correspondingly turns the arm *i*, and with it the shaft F, and through the corresponding rod *i* upon the opposite side the other stop-lever D is given a corresponding movement. One stop, however, may answer the purpose in light hammers; but I prefer two in all weights of hammers, but especially in hammers of heavy weight.

It often occurs that the hammers are required to be suspended for change, repair, or arrangement of dies, and in order to lock the hammer in its up position while such work is being done, that no accident can possibly occur, I provide a catch for the hand-lever E, (here represented as a rod, *m*, hung to the frame, as at *n*,) so as to be hooked into or beneath the handle, as at *r*. Thus secured, the hammer cannot be disengaged.

The upper end of the stops must or should be held below the highest point of elevation of the hammer, as indicated in Fig. 2, so that the weight of the hammer may be taken from the

stops by the lifter before the stops are withdrawn. Otherwise the withdrawal of the stops would require considerable power.

The hand-lever E may be the lever by which the lifting mechanism is engaged. In this case the usual rod, H, is attached directly to the hand-lever, as seen in Fig. 2.

I claim—

1. In a drop-hammer, the combination therewith of the hinged stop-lever D, arranged to be turned into or away from the path of the hammer, the hand-lever E, in connection with said stop, and a catch to hold the stop in its active position, substantially as described.

2. In a drop-hammer, the combination of the two stop-levers D D, one arranged at each side, the rock-shaft F, and connections *i i* from said shaft to said levers, whereby the movement of one is imparted to the other, substantially as described.

3. In a drop-hammer, the combination of the two stop-levers D D, one arranged at each side, the rock-shaft F, and connections *i i* from said shaft to said levers, whereby the movement of one is imparted to the other, with a spring, *h*, arranged outside the pivot, on which the lever or levers turn, substantially as described.

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Witnesses:
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