

C. J. Hone,
Bundling Wood.

Nº 28,753.

Patented June 19, 1860.

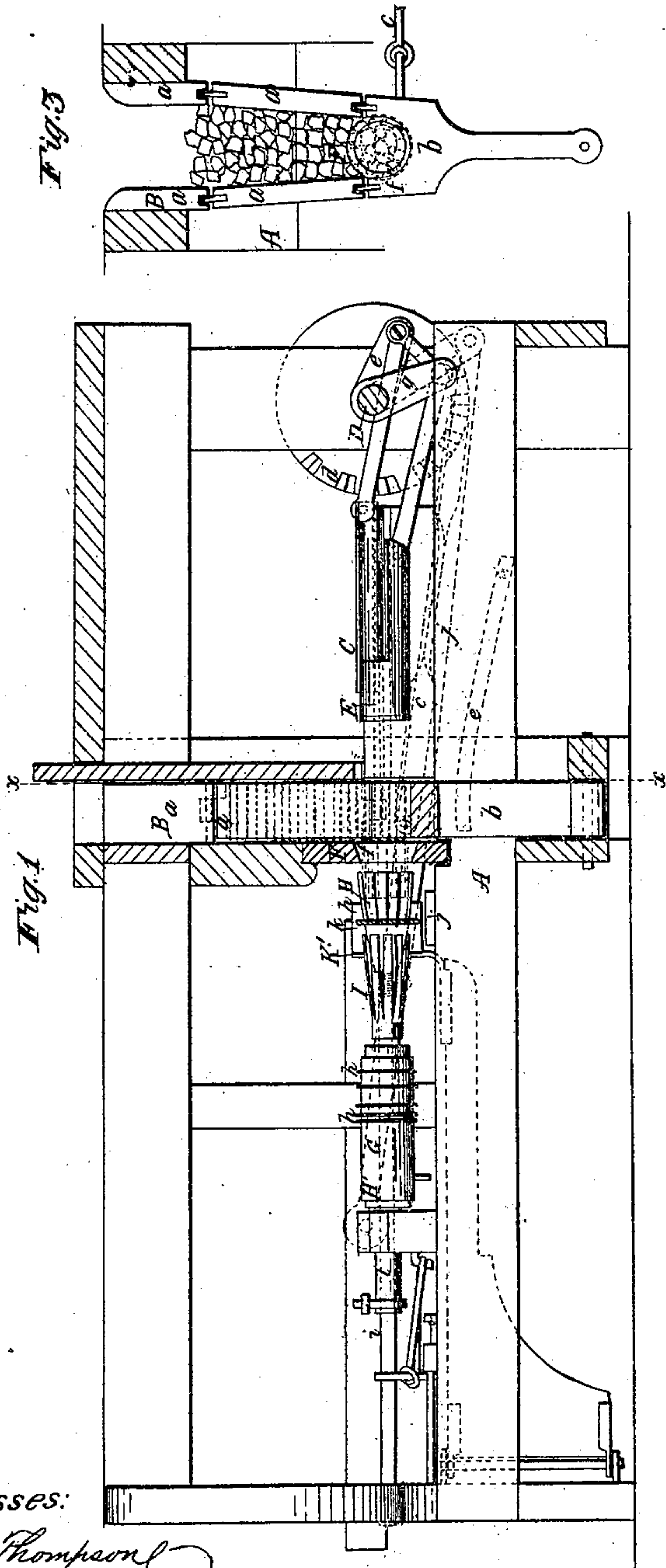


Fig. 1

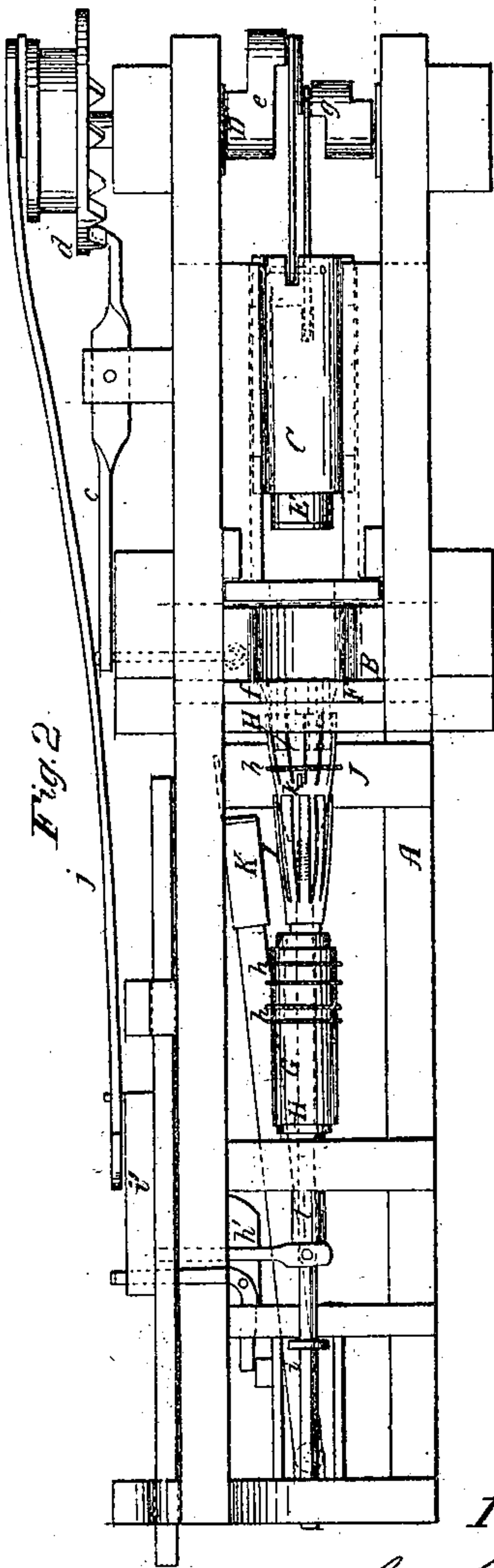


Fig. 2

Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES J. HOBE, OF NEW YORK, N. Y.

MACHINE FOR BUNDLING FIRE-WOOD.

Specification of Letters Patent No. 28,753, dated June 19, 1860.

To all whom it may concern:

Be it known that I, CHARLES J. HOBE, of the city, county, and State of New York, have invented a new and Improved Machine for Bundling Fire-Wood; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of my invention. Fig. 2, a plan or top view of ditto, the cover being removed to expose the working parts. Fig. 3, a transverse vertical section of ditto, the line *x x*, Fig. 1, indicating the plane of section.

Similar letters of reference in the three views indicate corresponding parts.

This invention consists in a certain arrangement of parts for forming the bundles, for retaining them ready to receive the cords, and for carrying the cords, and bringing the same over the bundles, in such a manner that the pieces of wood, which are fed into the machine, are thrown out in bundles of the required size.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation, with reference to the drawings.

A frame A, made of timber or of any other suitable material, supports the working parts of my machine. The wood is brought into the machine through a hopper B, the sides of which are made out of several sections *a*, (see Fig. 3) united to a half circular hinged bottom piece *b*, which connects by means of a hooked bar *c*, with a cogged wheel *d*, and which is subjected to the action of a spring *e* in such a manner that by rotating the wheel *d*, the sides of the hopper receive a shaking motion, causing the pieces of wood to drop down to the bottom of the hopper.

C is a reciprocating curved knife, which is operated by means of a crank *e*, on the driving shaft D, and as this shaft rotates, said knife is moved forward, and made to pass through the pieces of wood in the hopper, cutting off a quantity of wood just sufficient to make a bundle. The knife in my machine is represented as being half circular, to form with the half circular bottom of the hopper a complete bundle, but it must be remarked that I do not confine myself to any precise form of the knife, nor of

the bottom of the hopper, for it will be easily understood that the knife might form a larger or smaller portion of a circle or of any other curve, and that instead of making the bundles round, they might be made square, or in any other desirable shape. After the bundle has thus been cut off by the action of the knife C, it is forced by the action of the plunger E, into a tapering hole *f*, in the plate F, which forms the front of the hopper.

The plunger E, receives its motion from a crank *g*, on the driving shaft and the two cranks *e*, and *g*, are in such relative position to each other, that the knife and the plunger act at the proper time, and in the proper intervals. By giving to the hole *f*, in the plate F, a tapering form, the bundle is allowed to pass in freely, compressed, and it is firmly grasped by the small end of the hole, and retained ready to receive the cord. Each bundle is forced into the plate F, about halfway, or a little over, so that the cords when put on are as near as possible in the middle. The cords *h*, which are all tied to the required width, are slipped on a removable sleeve G, which is placed loosely over a tube H', that forms the guide for the mechanism, designed to carry the cord and to place it around the bundle. The cord carrier H, consists of a conical slotted tube of thin metal, screwed to the reciprocating sliding shaft *i*, which connects by means of an arm *h'*, with a slide *i'*, to which motion is imparted by a rod *j* from the driving shaft.

The large end of this conical tube is split open, as clearly shown in the drawing, so as to allow its sides to spread to a certain extent over the bundle, and a nose *k*, on its upper side serves to carry the cord from the sleeve G, and to retain the same until taken off by the fingers I, which are attached to a reciprocating sliding hollow shaft *l*. This shaft receives its motion through the same rod *j* and slide *i'*, which imparts motion to the shaft *i*, and the fingers I, are arranged in such a manner, that the same, in moving up on the surface of the cord-carrier H, begin to spread, and that they sweep close over the surface of the same, so as to push the cord from the carrier H, over its large end on the bundle of wood protruding from the tapering hole *f*. It is obvious that the motion imparted to the cord-carrier H, and to the fingers I, must be at the proper intervals, the carrier first and the fingers afterward,

and when the cord has been pushed off the carrier, both together recede, ready for a new move.

It must be remarked that instead of making the hole *f* in the plate *F*, as described, it might be constructed of a series of bars placed together in the form of a truncated cone, or in any other way, producing the same effect. After the cord has thus been placed around the bundle, the latter is released from the tapering hole *f*, by the action of the next succeeding bundle, and it is deposited on a platform *J*, from which it is swept off by a vibrating arm *K*, operated at the proper intervals from the driving shaft *D*.

Firmly secured to the front end of the vibrating arm *K*, is the angular bundle remover *K'*, and the motion of the arm *K*, is so adjusted that the bundles, as they fly out of the hole *f*, are caught by the remover *K'*, and prevented from injuring the cord carrier or other parts of the machine.

By these means all the bundles are made perfectly alike, and as the pieces of wood, on being released from the tapering hole *f*, will expand or spring apart, the cords become perfectly tight.

This machine is of great value in large cities, where a great mass of kindling wood is consumed, and those acquainted with the business will know how to appreciate a machine which performs the otherwise tiresome and slow process of bundling the wood.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The employment of a reciprocating knife *C*, more or less curved, in combination with the relatively shaped hollow bottom of the hopper *B*, both operating together for the purpose of gathering, cutting off, and

thus forming conjointly between them, a bundle of wood of the size and shape required, the whole substantially as described. 45

2. The employment of the conical, or tapering hole *f*, substantially as described, as a simple means for effectually compressing within it, the aforesaid loosely gathered bundle, and to firmly hold it while receiving the cord. 50

3. The combination of said hole *f*, and the plunger *E*, for forcing the bundles into and through said hole, arranged and operating substantially as described. 55

4. The method of arranging the cords *h*, on an adjustable sleeve *G*, and fixed drum *H'*, or their equivalents, substantially as described, enabling the operator to quickly adjust a large number of cords at a time, and to have them at hand in such convenient position, so that said cords can be readily passed, one after another, on to the cord carrier *H*, when required. 60

5. The arrangement of the reciprocating tubular cord-carrier *H*, and the combination of the same, and the fingers *I*, constructed and operating substantially as, and for the purpose set forth. 65

6. The arrangement of the doubly flanged bundle-remover *K'*, attached to a vibrating arm *K*, or its equivalent, when operating as and for the purpose specified. 70

7. The arrangement and combination of the knife *C*, hopper *B*, hole *f*, plunger *E*, drum *H'*, and sleeve *G*, cord-carrier *H*, fingers *I*, and bundle remover *K'*, constructed and operating substantially in the manner and for the purpose specified. 75

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Witnesses:

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