

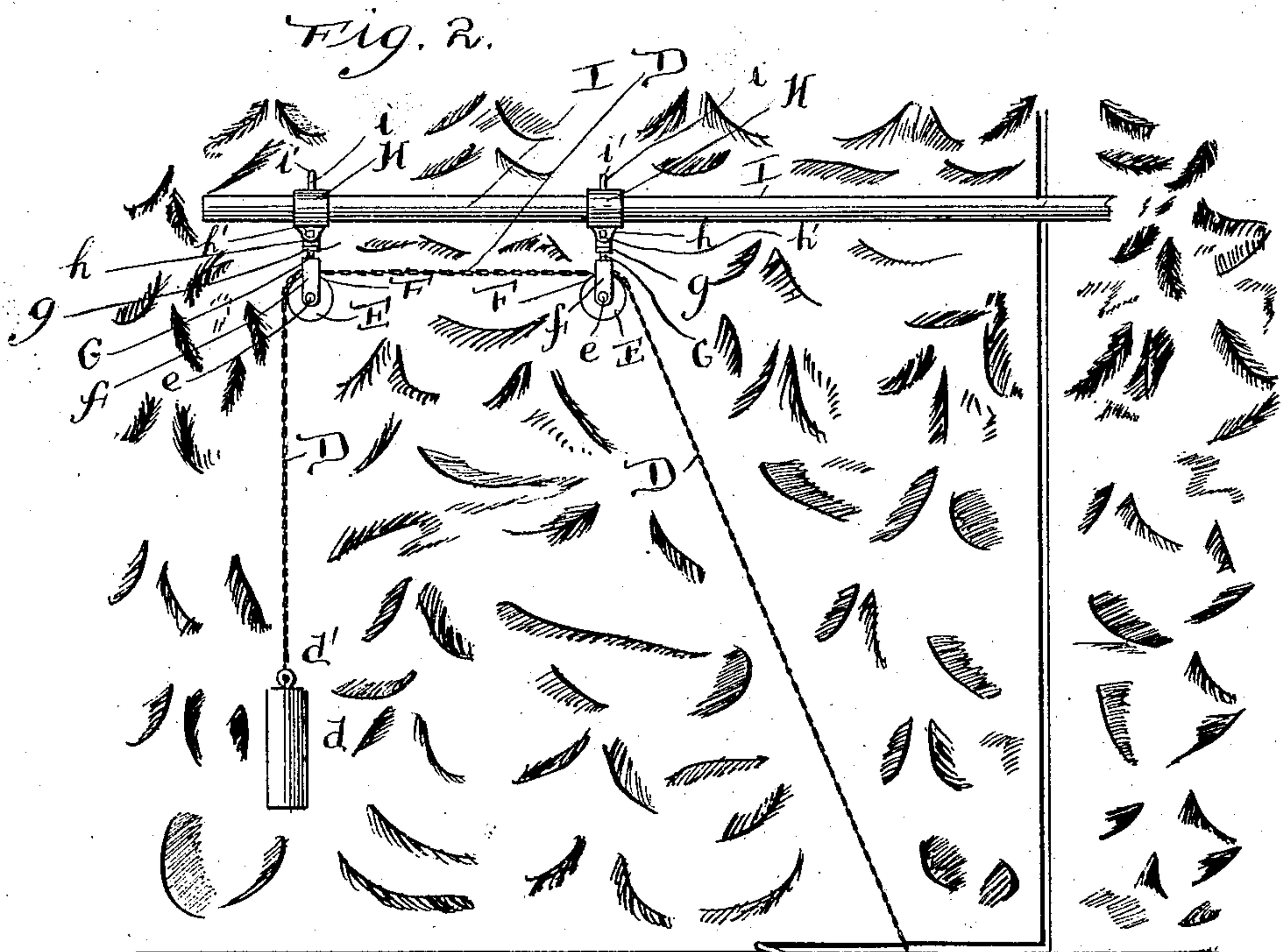
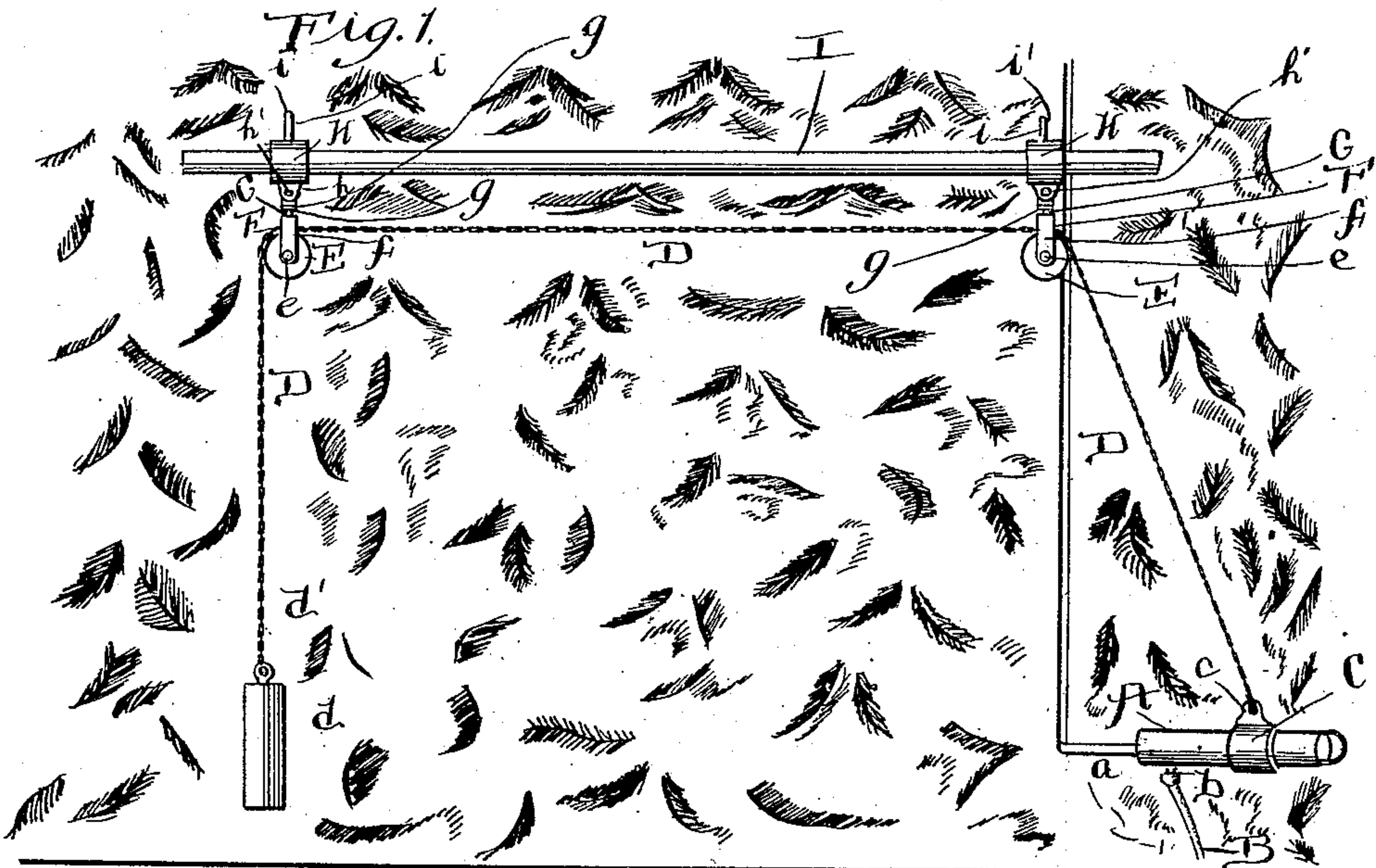
No. 842,656.

PATENTED JAN. 29, 1907.

M. HARDSOCC.
SUPPORT FOR PNEUMATIC TOOLS.

APPLICATION FILED FEB. 13, 1906.

2 SHEETS—SHEET 1.



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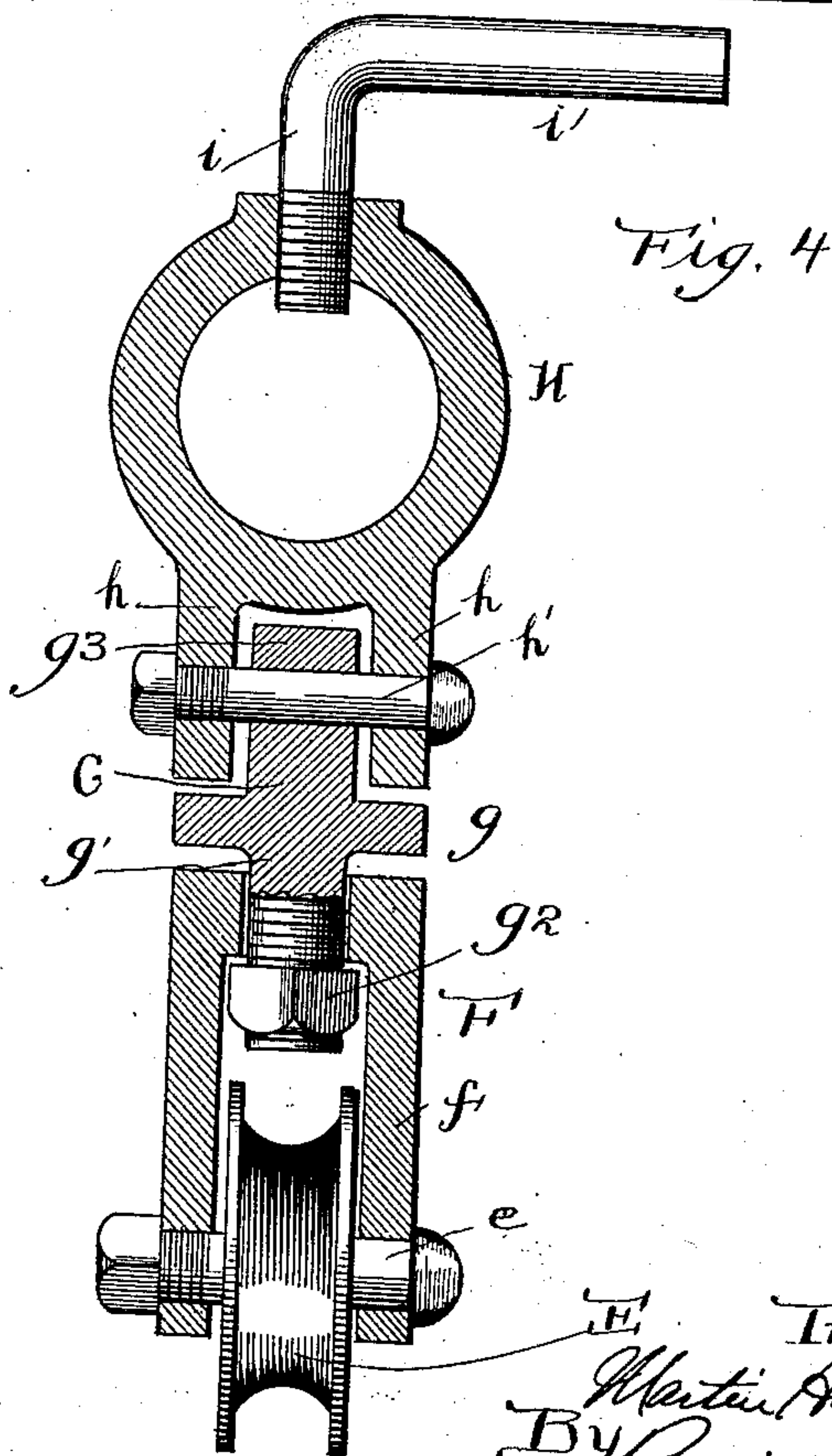
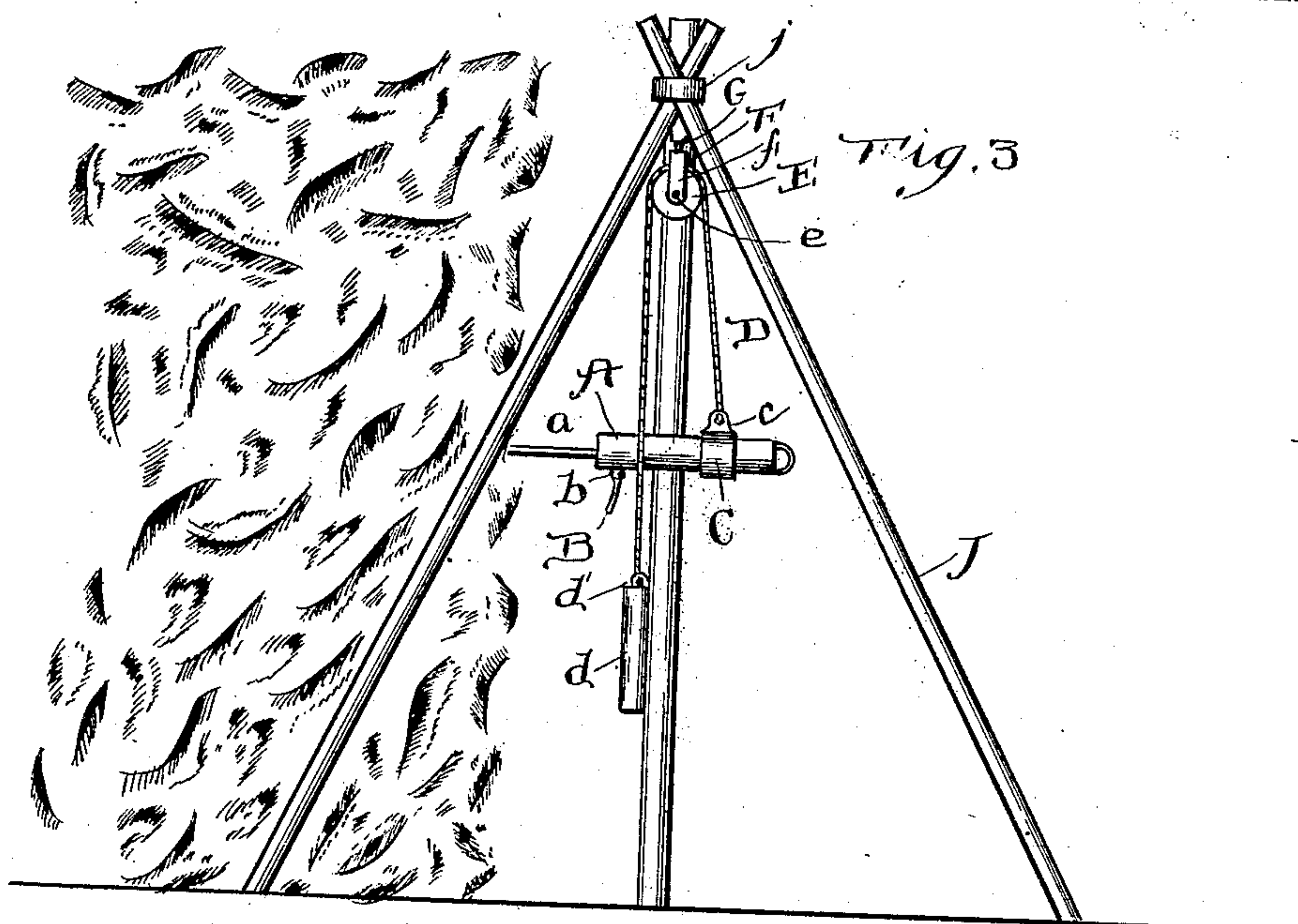
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UNITED STATES PATENT OFFICE.

MARTIN HARDSOCC, OF OTTUMWA, IOWA.

SUPPORT FOR PNEUMATIC TOOLS.

No. 842,656.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed February 13, 1906. Serial No. 300,858.

To all whom it may concern:

Be it known that I, MARTIN HARDSOCC, a citizen of the United States, residing at Ottumwa, in the county of Wapello and State of Iowa, have invented a certain new and useful Improvement in Supports for Pneumatic Tools, of which the following is a specification.

It is a common and general practice in coal-mining, stone-quarrying, and analogous purposes to use pneumatic tools, such as drills and hammers, for separating or cutting out the material.

The use of pneumatic tools for mining, quarrying, and other analogous purposes has been found extremely effective and reliable in operation, but more or less difficulty is presented in handling the tools, owing to the weight and the frequent withdrawal and insertion of the cutter or drill.

It is to overcome the difficulty in quickly and properly handling the tools that constitutes the purpose of the present invention, which has for its objects to furnish a support by which the tool is carried in a flexible manner and its weight removed from the operator; to furnish a counterbalance in connection with a support for a pneumatic tool by which the control of the tool is greatly facilitated; to enable the support to be readily attached to the wall in the mine or other place where the tool is used, and this without the requirement of any particular skill in making the connection, and to improve generally the construction and arrangement of the several elements entering into the support as a whole.

The invention consists in the features of construction and combinations of parts hereinafter described and claimed.

In the drawings, Figure 1 is an elevation showing the support arranged for the pneumatic tool to operate vertically; Fig. 2, an elevation showing the support arranged for the pneumatic tool to operate horizontally; Fig. 3, an elevation showing a tripod as a support in connection with a counterbalance for the pneumatic tool, and Fig. 4 a detail in section of the pulley-wheel and hanger carrying the flexible connection for the tool with the fixed support.

The pneumatic tool can be either a drill or hammer having a casing or body A and a drill-point or hammer a and having compressed air or other fluid supplied to the casing or body to operate the drill or hammer-

head by means of a supply-pipe B, connecting with a nipple b on the casing or body of the tool. The casing or body of the tool is encircled by a collar or socket C, in which the casing or body is slidably mounted or otherwise supported, so as to give the operator a full control of the tool. The socket or collar C in the construction shown has an ear c , to which is attached one end of a chain or other cable D, the other end of which has attached thereto a counterbalance or weight d by an eye d' , so that the weight of the tool will be practically counterbalanced by the weight or counterbalance d , thus removing the weight of the tool and the supply-pipe from the operator and giving the operator a free and perfect control for manipulating the tool as required for use.

The chain or other cable D, as shown in Figs. 1 and 2, is carried by pulley-wheels E, two wheels being shown; but more than two can be used, if necessary or desired. The journal pin or shaft e of each journal-wheel is supported in a bracket F, with the wheel located between the arms or side faces f of the bracket. The bracket F is swiveled on a link G, (see Fig. 4,) which link has a stem g' passing through the cross bar or head of the bracket F and receiving a nut g^2 , by means of which the bracket and link are connected together, so that the bracket is free to turn around the stem g' as a pivot. The link, as shown, has a flange or guard g to limit the movement of the bracket endwise on the stem g' , and the link has an ear g^3 , which is entered between ears h of a socket or collar H, and through the ears g^3 and h is passed a bolt h' , furnishing a pivot connection for the link. The bracket F, link G, and socket or collar H form a hanger as a whole for the pulley-wheel E, by which the pulley-wheel is supported so as not to interfere with the travel of the chain or other cable D thereover.

The construction shown has for each socket or collar a hook formed with a screw-thread end or section i and a shank or stem i' , which can be entered into a hole drilled or otherwise formed therefor in the wall of the coal, stone, or other material where the tool is used. The hook alone can be employed for attaching the collar or socket to the wall and will furnish a secure fastening for the pulley-wheel to support the casing. As shown, rigidity is given to the sockets or collars H by means of a cross stick or rod I, onto which the sockets or collars H can be slipped

and secured by causing the end of the screw-threaded body *i* of the hook to embed into or impinge solidly against the exterior of the stick or rod, so as to fixedly hold the socket or collar in position on the rod.

In use the pulley-wheels, either with or without the connecting stick or rod *I*, are attached to the wall of the mine, quarry, or other place of use by the hooks, so that the pulley-wheels are suspended to support and carry the cable *D*, one end of which is attached to the casing or body of the tool and the other end of which is attached to the counterbalance or weight *d*, so that the operator will be relieved of the weight of the tool and its supply-pipe in operating the tool. The pulley-wheels can be set as required for the use of the tool, and they can be adjusted far apart or close together without interfering with their carrying the cable and the tool. The operator is relieved practically of the entire weight of the tool, so that the manipulation of the tool is rendered easy and not interfered with by the weight. The flexible connection furnished by the cable enables the operator to swing the tool as required for use and to travel the tool vertically up and down or horizontally across the wall of coal, stone, or other material as required for mining and quarrying purposes.

The support is of simple construction and can be attached to the wall without any great labor or inconvenience, it only being necessary to drill or form a hole for the reception of the shank or stem *i* of the hook and enter the shank or stem of the hook in the hole, so that the hanger will be attached to the wall in proper shape for the cable to be carried by the pulley-wheels, allowing the operator to turn, swing, or travel the tool in any direction required for its use. The cross stick or rod when used stiffens the support as a whole and insures a firmer retention of the hooks in the wall and a positive steady-
ing of the pulley-wheels at any point desired.

The construction shown in Fig. 3 utilizes a tripod in the place of the cross stick or rod for supporting the hanger and its pulley-wheel. The tripod can be formed of sticks or timbers *J*, spread apart at their lower end and tied together at their upper end by a band or clasp *j*, and the hanger can be attached to one of the timbers of the tripod by the hook or can be secured in any other suitable manner at the apex end of the tripod. The construction of Fig. 3 utilizes the flexible cable and the counterweight or balance, as in the construction of Figs. 1 and 2, and the tool can be manipulated and operated in practically the same manner as described for the construction of Figs. 1 and 2, and the operator will be relieved of sustaining the weight of the tool, which will be carried by the flexible cable and the hanger, as in the construction of Fig. 2.

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

1. In a support for pneumatic tools, the combination of the tool, a collar encircling the body of the tool, a cable attached at one end to the collar, a counterweight at the opposite end of the cable to the tool, pulley-wheels over which the cable travels, a hanger for each pulley-wheel, a cross-rod on which the hangers are mounted, a hook for each hanger provided with locking means for locking the hangers in adjusted position on the cross-rod and further provided with a shank adapted to be secured in fixed position for supporting the cross-rod and hangers in position, substantially as described.

2. In a support for pneumatic tools, the combination of the tool, a collar encircling the body of the tool, a cable attached at one end to the collar, a counterweight at the opposite end of the cable to the tool, a pulley-wheel over which the cable travels, a bracket in which the pulley-wheel is mounted, a swivel for the bracket, a collar for the swivel, a cross-rod entered through the collar upon which the collar is adjustably mounted and a hook for attaching the cross-rod with the pulley-wheel and its support in position, substantially as described.

3. In a support for pneumatic tools, the combination of the tool, a cable secured at one end to the tool, a counterweight at the opposite end of the cable, pulley-wheels over which the cable travels, a hanger for each pulley-wheel, a cross-rod on which the hangers are mounted, a hook for each hanger provided with locking means for holding the hangers in adjusted position on the cross-rod, and further provided with a shank adapted to be secured in fixed position for supporting the cross-rod and hangers secured thereto, substantially as described.

4. In a support for pneumatic tools, the combination of the tool, a cable secured at one end to the tool, a counterweight at the opposite end of the cable, a pulley-wheel over which the cable travels, a bracket in which the pulley-wheel is mounted, a swivel for the bracket, a collar from which the swivel depends, a cross-rod entered through the collar upon which the collar is adjustably mounted, and a hook secured at one end to the collar and adapted to have its other end secured to the surface to be drilled, substantially as described.

5. In a support for pneumatic tools, the combination of the tool, a cable secured at one end to the tool, a counterweight at the opposite end of the cable, a pulley-wheel over which the cable travels, a bracket in which the pulley-wheel is mounted, a swivel for the bracket, a collar to which the swivel is attached, a cross-rod entered through the collar upon which the collar is adjustably mounted, and a hook provided with means for locking

the collar upon the cross-rod and provided with a shank adapted to be inserted into the material to be drilled to support the cross-rod and pulley carried thereby, substantially
5 as described.

6. In a support for pneumatic tools, the combination of a tool, a cable secured at one end of the tool, a counterweight on the opposite end of the cable, pulley-wheels over
10 which the cable travels, brackets in which the pulley-wheels are mounted, a swivel for each of the brackets, a collar for each of the swivels to which the swivels are attached, a cross-rod entered through both of the collars upon

which the collars are adjustably mounted, and 15
a hook for each collar provided at one end with a screw-threaded portion entered through the collar and adapted to bear against the cross-rod, the hooks terminating in
shanks adapted to be secured in position in 20
the material to be drilled to support the cross-rod and the collars mounted thereon, substantially as described.

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Witnesses:

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