No. 871,255. PATENTED NOV. 19, 1907.

G. W. BRAGG.

CRANE.

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Fig. 2.

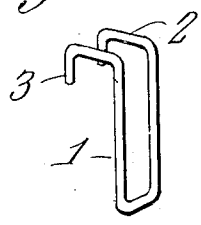


Fig. 1.

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CRANE.

No. 871,255. Specification of Letters Patent. Patented Nov. 19, 1907.

Application filed April 1, 1907. Serial No. 365,828.

To all whom it may concern:

Be it known that I, GEORGE W. BRAGG, a citizen of the United States, residing at Marietta, in the county of Washington and State of Ohio, have invented a new and useful Crane, of which the following is a specification.

This invention relates to cranes and is more particularly designed for use in connection with well drilling machines.

As is well known the drills used in sinking deep wells must be sharpened at certain intervals and considerable difficulty has heretofore been experienced in handling these drills because of their extreme weight and bulk. In order to properly handle these drills it has heretofore been necessary to use large cranes of that type employing swinging arms or beams, and such a device has been objectionable because it has been impossible to properly house the forge where the drills are sharpened.

The object of the present invention is to provide a crane which can be readily placed within a low shed and will be completely housed thereby so that the forge will be fully protected from the elements at all times.

Another object is to provide a crane which is of durable and compact construction, which can be easily placed in position within sheds of different proportions and which can be readily manipulated so as to convey a drill to or from the forge within the shed or housing.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a perspective view of the crane in position within a shed, portions of said shed being removed; and Fig. 2 is a detail view of one of the supporting brackets.

Referring to the figures by characters of reference, A is the mast of a well drilling machine, and a shed B is constructed at the base of this mast and over the well C. This shed is designed to contain the forge, anvil, and temper box, which are necessary for the proper sharpening of the drills. These devices may be of any desired construction and arrangement and it is not deemed necessary to show the same, inasmuch as they constitute no part of the present invention. Supporting brackets are mounted upon one of the side beams *b* of the shed and each of these brackets consists of a heavy rod bent upon itself to form a yoke 1 from which arms 2 extend at right angles and terminate in depending stop fingers 3. The arms 2 are designed to rest upon the beam *b* and the yokes 1 project therebelow sufficient distances to permit the insertion thereinto of the end portions of transverse guide rails 4. The other ends of these rails may be adjustably supported in different ways and in the drawing one of the rails has been shown provided with a clevis 5 from which extends a chain 6. This chain extends through and engages the apex or contracted portion of a V-shaped bracket 7 having arms 8 designed to bear upon another beam *b'* of the shed, said arms being provided with retaining fingers 9 for preventing them from being withdrawn from the beam. The chain 6 can be lifted within the bracket 7 and shifted longitudinally so that any one of the links will rest within the contracted end thereof, and when the chain is positioned within said end it is incapable of moving longitudinally and therefore constitutes an efficient adjustable support for the rail 4. In Fig. 1 one of the rails has also been shown supported by a cable 10 one end of which is secured within a clevis 11 upon the rail, while the other end is fastened to the mast as shown at 12. It is to be understood that both supporting means may be used as shown or, if preferred, a chain 6 can be used with each rail 4. Obviously as each of the rails 4 is supported at one end by a flexible device said rails are capable of swinging laterally to a slight extent. Mounted upon one of the rails 4 is a carriage 13 supported by a roller 14 mounted to travel on the rail 4 and this roller is adjustably mounted within the carriage. A pin 15 extends downward from the carriage and through one end of a longitudinal supporting rail 16. The other end of this rail is supported by a roller 17 carried by a link 18 which is in turn supported by a carriage 19. This carriage has a roller 20 disposed to travel upon the other rail 4 and said roller is also adjustable. A roller 21 is mounted upon the rail 16 and has a yoke 22 depending therefrom and embracing the rail. This yoke supports a suitable chain hoist 23 which may be of any preferred construction. A stop pin 24 is disposed in one end of the

rail 16 and is designed to prevent the withdrawal of said rail from the yoke 18.

It is obvious from the foregoing description that the rail 16 can be moved laterally within the shed by causing the rollers 14 and 20 to travel upon the rails 4 and should one end of rail 16 be moved faster than the other the pivotal connection 15 and the roller support 17 will prevent the parts from binding. As the roller 21 is movable longitudinally of the rail 16 it is apparent that in view of the various movements which can be obtained the chain hoist 23 can be shifted to any point desired within the shed B. For instance, if it is desired to fasten the hoist to a drill after it has been lifted from the well C the hoist is pulled to the right along rail 16 and said rail is pulled forward in relation to the rails 4 until the hoist is brought close to the drill. The hoist is then fastened to the drill and said drill is lifted and can be conveyed by the hoist to the forge which may be at any desired point within the shed, thence to the anvil, and finally to the temper box. By so mounting the rails 4 as to permit them to swing laterally for short distances the starting of the hoist 23 along the rail 16 is greatly facilitated.

It will be seen that this crane is very simple, compact and durable in construction and can be readily adjusted to sheds of different proportions. It constitutes a very convenient means for manipulating heavy objects such as well drills and is particularly desirable in view of the fact that it can be completely housed within a low shed.

What is claimed is:

1. In a crane the combination with movably supported guide rails, and a carriage upon each of said rails; of a supporting rail suspended from and pivotally connected to one of the carriages, a roller bearing for said supporting rail and suspended from the other carriage, and a hoist movable upon the supporting rail.

2. A crane comprising movably and adjustably supported guide rails, a carriage mounted to travel upon each of said rails, a roller bearing suspended from one of the carriages, a supporting rail supported by and pivotally connected to the other carriage, said rail being movably mounted upon the bearing, means for limiting the movement of said rail upon the bearing, and a hoist movably mounted upon the supporting rail.

3. In a crane the combination with adjustably and movably supported guide rails; of a supporting rail suspended from and movable longitudinally of the guide rails, and a hoist movably mounted upon the supporting rail.

4. In a crane the combination with laterally movable guide rails, and adjustable supports for said rails; of a supporting rail suspended from and movable longitudinally of the guide rails independently of the lateral movement of said guide rails, and a hoist movably mounted upon the supporting rail.

5. In a crane the combination with laterally movable guide rails, and flexible means for adjustably supporting said rails; of a carriage upon each of the rails, a supporting rail movable with and pivotally connected at one end to one of the carriages, one end of said rail being supported by and movable longitudinally in relation to the other carriage, and a hoist movably mounted upon the supporting rail.

6. In a crane the combination with supporting brackets, guide rails detachably seated within said brackets, and flexible means for adjustably supporting said rails; of a carriage movable longitudinally upon each rail, a supporting rail, a pivotal connection between one end of said rail and one of the carriages, a roller supported by the other carriage and constituting a bearing for the supporting rail, means upon the supporting rail for limiting the longitudinal movement thereof, and a hoist movable upon the supporting rail.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE W. BRAGG.

Witnesses:
CHAS. HICKS,
MIKE LANGAN.