W. V. ELLIS.

SKID.

APPLICATION FILED JAN. 5, 1911.

1,036,816.

Patented Aug. 27, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

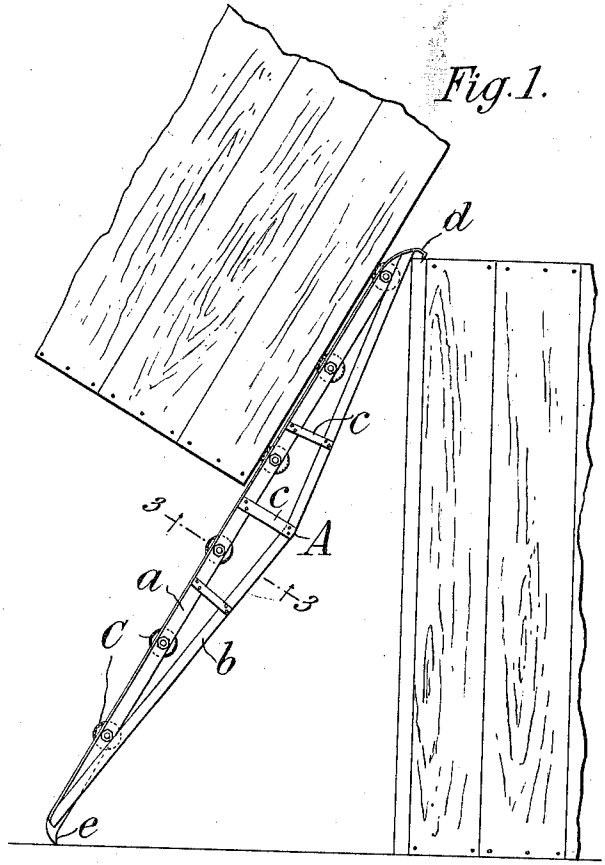


Fig. 2.

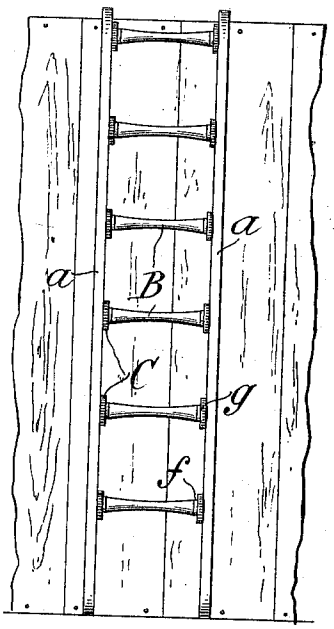


Fig. 3.

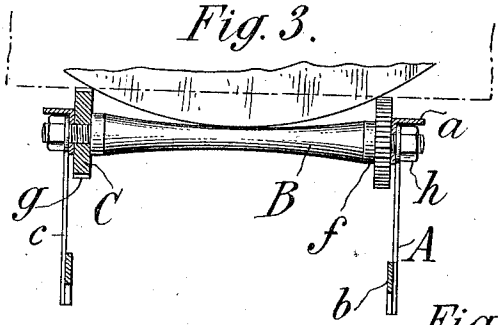


Fig. 4.

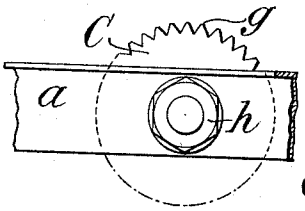
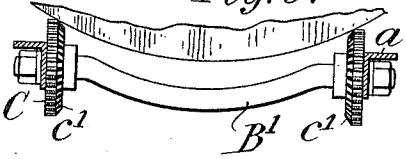


Fig. 6

Fig. 5.



WITNESSES:

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2 SHEETS—SHEET 2.

Fig. 7.

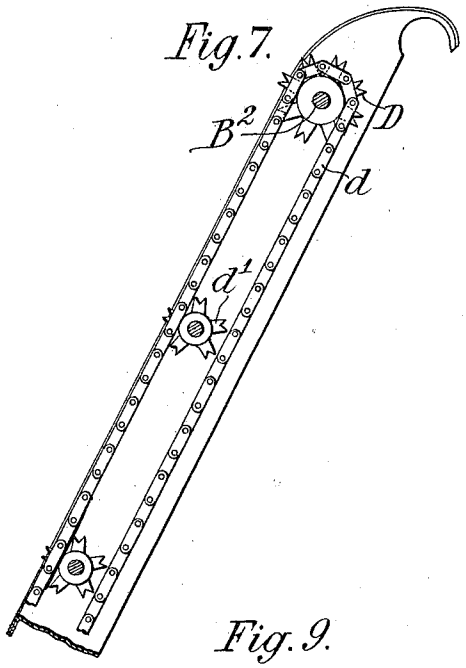


Fig. 8.

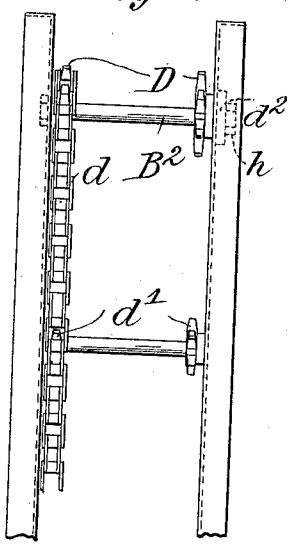


Fig. 9.

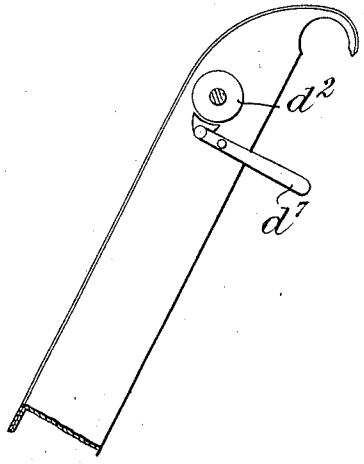
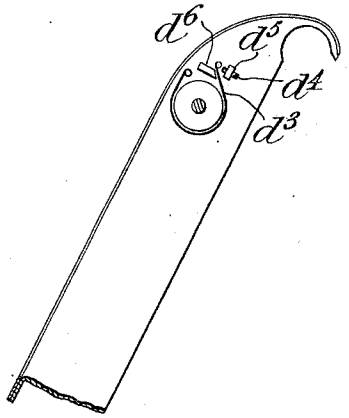


Fig. 10.



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UNITED STATES PATENT OFFICE.

WILLIAM VIRTUS ELLIS, OF HUNTINGDON, PENNSYLVANIA, ASSIGNOR TO J. C. BLAIR SPECIALTY COMPANY, OF HUNTINGDON, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SKID.

1,036,816. Specification of Letters Patent. Patented Aug. 27, 1912.

Application filed January 5, 1911. Serial No. 600,983.

To all whom it may concern:

Be it known that I, WILLIAM VIRTUS ELLIS, a citizen of the United States, residing in Huntingdon, in the county of Huntingdon and State of Pennsylvania, have invented certain new and useful Improvements in Skids, of which the following is a specification.

My invention relates to skids, particularly such skids as are used in unloading or transferring packages, barrels or cases of merchandise, etc., and has for its object to provide means in connection with said skid whereby when the same is held in tilted position heavy packages, barrels, etc., may slide upon the face of the skid and their momentum be checked.

The device will be found useful for a number of purposes. It is particularly useful for the moving of boxes of merchandise that are piled one on top of another, either in a car or in a warehouse or in any other position. Likewise for removing barrels tiered on end or sidewise, one on top of another. The device will also be found available for use in connection with removing merchandise in cases and barrels from platforms, wagons, etc.

By the use of the said skid I achieve the following advantages:—I save strain on labor by requiring a very slight amount of force to hold back a case which is sliding upon the skid. Also I preserve the case intact and keep it from getting racked and broken. Further, the transferring of tiered cases and barrels to a landing are expedited and easy and free movement of such cases permitted. Further, my invention tends to prevent the falling of cases and the consequent injuring of employees etc.

A desirable form in which my invention may be embodied is illustrated in the accompanying drawing, wherein,—

Figure 1 is a side elevation of my skid in use, showing its pointed end resting upon the floor or ground and its hooked end upon a case from the top of which another case has been turned on to the skid upon which it is sliding. Fig. 2 is a face view of a skid. Fig. 3 is a transverse section on the line 3—3, of Fig. 1, illustrating in full lines a portion of a barrel upon the skid and in dotted lines a portion of a packing case. Fig. 4 is a detail illustrating a side view of a spur wheel employed and the means of holding same in place. Fig. 5 is a detail view of a modified form of brace and spur wheel. Fig. 6 is a detail partly in section of a modified form of spur wheel of Fig. 5. Fig. 7 is a longitudinal section of a modified form of retarding means. Fig. 8 is a plan view of the device shown in Fig. 7. Fig. 9 is a side elevation illustrating a modified way of frictionally retarding the operation of the skid retarding means. Fig. 10 is a still further modification thereof.

My improved skid is represented in the inclosed drawings as embodied in a very simple and strong construction composed of side trusses united by transverse braces, spur gears mounted upon the braces so that they will project and engage the package or case, and means for securing the parts together and exerting a frictional retarding motion upon the spur gears.

The side trusses A may advantageously be composed of compression chords formed of straight longitudinal angle irons *a* and tension chords *b* and struts *c* uniting same. Chord *a* is continued at its upper end and turned to form hooks *d* which are adapted to rest upon the tail rod of a wagon, the iron on the door of a car, or for attachment to tops of cases, in order to support the skid in position while the cases are sliding downward. The opposite end of said chord is turned to form hooks *e* which are conveniently located to hold the skid in position by engaging with the floor, ground, etc., and are preferably pointed.

Braces B connect the trusses A and have their upper faces preferably concaved to receive a barrel and permit the same to rest upon the retarding means as shown in Fig. 3. Upon these braces are formed shoulders *f* which receive the retarding means which I have shown as consisting of wheels C, the peripheries of which have suitable means for frictionally engaging the barrels, a very desirable form of which is the spur teeth *g*. The braces pass through the chord *a* and at their outer ends receive nuts *h* which hold the parts together. These nuts *h* upon being tightened will exert frictional pressure upon the wheel C from the chord *a* and from the shoulder *f* and may be adjusted to retard the turning of said wheels to any desired extent.

Although I have described with particularity the precise construction of my im-

proved skid, I do not regard it as essential that said construction should be adhered to in every detail, as the same might be modified within the limits of the appended claims, as for instance the construction of the longitudinal members of the skid might be changed or other means than those illustrated employed for retarding the movement of cases.

The braces may be differently constructed, as for instance they may be formed with a bend as at B′ to accommodate rounded packages. The spur gears also may have their inner edges beveled as at c' furnishing a beveled surface for engagement with rounded objects, as barrels etc. and avoiding the engagement of the sharp corner of such wheels with the said barrel. Nor is it essential that the retarding means should be the spur gears illustrated and the frictional retarding nuts shown in Figs. 1 to 5, as such means may take the form of frictionally retarded sprocket wheels D d' as illustrated in Figs. 7 and 8 upon which are mounted sprocket chains d. In this construction the packing case would be frictionally retarded by contact with the said sprocket wheel D as also with the sprocket wheel d'. The sprocket wheels D may be suitably frictionally retarded as by nuts h if desired, or by means of a hand-operated brake d^7 mounted upon the frame and engaging the hub d^2 of the sprocket wheel or by a band brake d^8 as illustrated in Fig. 9 which is suitably attached to the frame and may be maintained in desired frictional adjustment with the said hub by adjusting screw d^4 mounted in a post d^5 on the said side frame which coöperates with a stop d^6 likewise so mounted. Such means for frictionally retarding the sprocket wheels may be mounted upon the shaft B^2 of wheels D and through chain d will likewise retard intermediate wheels d'.

What I claim is:—

1. A portable skid having a hooked end and provided with spur gears projecting above its face and adapted to turn and means for frictionally retarding the movement of said spur gears.

2. A skid having a hooked end and a pointed end, toothed wheels mounted to revolve in said skid and having their peripheries projecting above the face, and means for frictionally retarding the said wheels.

3. A skid having its face concaved transversely and wheels having retarding means on their peripheries, projecting above said face, and means for frictionally retarding said wheels.

4. A skid formed of side trusses and transverse connecting braces having concave faces, wheels having spur teeth mounted upon said braces inside of said trusses and projecting above the face thereof, and nuts threaded in said braces outside of said trusses and adapted to connect the parts and frictionally retard the said wheels.

5. A skid formed of side trusses and transverse connecting braces having concave faces, wheels having spur teeth with beveled inner edges mounted upon said skid, and means for frictionally retarding the turning of said wheels.

6. An unloading skid having package retarding wheels mounted thereon, package gripping means upon said retarding wheels and projecting from the face of said skid, and means for increasing the frictional resistance to the rotation of the said wheels.

7. An unloading skid formed of side members and connecting braces having shoulders near their ends and threaded extensions beyond said shoulders, package retarding wheels mounted upon the said extensions, package gripping means upon said retarding wheels and projecting from the face of said skid, and nuts securing said side members and said wheels upon said braces and frictionally retarding the said wheels by forcing the same against said shoulder.

8. An unloading skid formed of side members and connecting braces having shoulders near their ends and threaded extensions beyond said shoulders, package retarding wheels mounted upon the said extensions, package gripping means upon said retarding wheels and projecting from the face of said skid, the said wheels being mounted upon said threaded extension next said shoulder and said side members being mounted on said extension outside of said wheels and nuts on said extension outside of said side members adapted to secure said parts together and to cause said wheels to be frictionally retarded.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

WILLIAM VIRTUS ELLIS.

Witnesses:
ELLIOTT JOHNSTON,
MARGARET SCHAFER.