

Intellectual Property Quality Enforcement Analysis United States Steel Corporation

May 2, 2018

Since the commencement of China's accession process into the World Trade Organization in the late 1990s, several U.S. companies have encouraged the government of the United States to recite sweeping allegations of the "theft" of intellectual property by the Chinese. Having spent considerable time in China since 1999, we have personally witnessed several instances of misappropriated products on **copyrighted** and **trademarked** goods and services. And while there are well-documented instances in which Chinese individuals, firms, and agencies of government have accessed corporate secrets, the allegation of general IP theft and misappropriation is reckless.

Since the 1980s, many U.S. and European firms have sold intellectual property to the Chinese as part of commercial sales. While they failed to disclose these sales with any precision in shareholder filings, the allegation that IP was stolen, appropriated or transferred under duress is false. If a firm makes an economic decision in which it exchanges technology for revenue, that's its own decision. If China makes such sale conditions a requisite component of approved transactions, the foreign firm and its shareholders need to weigh the short-term economic value of the transaction against the long-term consequence of releasing certain rights.

Of greater concern is the wholly falsifiable "presumption of validity" which has shrouded gross abuses of the patent systems in the U.S., Europe and Japan. Upon review, most issued patents are held invalid in part or in whole whether that review happens within the Patent Trial Appeals Board (PTAB) or in the U.S. Court of Appeals for the Federal Circuit (CAFC). Consistent with M·CAM CEO Dr. David E. Martin's testimony to the United States House Judiciary Committee in 2001¹, two thirds of patents' claims subjected to a second review are modified or rejected². It is therefore wholly illogical to presume that China is "stealing" what in the majority of cases should never have been granted **by the United States' own rules.**

In the interest of a more complete conversation about U.S. innovation, M-CAM has conducted a commercial fitness review of the patents held by US Steel. The majority of the company's patent portfolio is expired or has been abandoned and the company has applied for few patents in recent years, leaving a very thin portfolio of active patents. The information provided represents patents which were available for review at the time the patent rights were granted to US Steel but, for a variety of reasons, were not explicitly included in the United States Patent and Trademark Office's review of patentability. As patentable distinction was not considered for each of the "precedent" innovations, China or any other competitor or country may elect to develop commercial products or services based on the information contained in these precedent disclosures.

¹ http://commdocs.house.gov/committees/judiciary/hju72305.000/hju72305_0f.htm

² https://www.morganlewis.com/~/media/files/publication/presentation/speech/smyth_uspatentinvalidity_sept12

<u>Analysis</u>

The table below presents selected US Steel patents and commercial alternatives for each.

Patent Number	Patent Title
US8882157	Connecting oil country tubular goods
US7823931	Tubular threaded joint
US7686350	Mismatched flanks for a wedge thread
US7585002	Expandable tubular connection
US6817633	Tubular members and threaded connections for casing drilling and method
US6755444	Slim-type threaded joint for oil well pipes
US6581980	Threaded connection with high compressive rating
US6550822	Threaded coupling with water exclusion seal system
US6412831	Threaded connection of two metal tubes with high tightening torque
US6347814	Integral joint for the connection of two pipes
US6322110	Tubular connection
US8755923	Optimization system
US5729463	Designing and producing lightweight automobile bodies
US20090182538	MULTI-OBJECTIVE OPTIMUM DESIGN SUPPORT DEVICE USING MATHEMATICAL PROCESS TECHNIQUE, ITS METHOD AND PROGRAM
US20090164178	CRASHWORTHINESS DESIGN METHODOLOGY USING A HYBRID CELLULAR AUTOMATA ALGORITHM FOR THE SYNTHESIS OF TOPOLOGIES FOR STRUCTURES SUBJECT TO NONLINEAR TRANSIENT LOADING
US7621323	Solid expandable tubular members formed from very low carbon steel and method
US7383889	Mono diameter wellbore casing
US7240928	Tubing connection arrangement
US7240729	Apparatus for expanding a tubular member
US7216701	Apparatus for expanding a tubular member
US7198100	Apparatus for expanding a tubular member
US7128146	Compliant swage
US7121337	Apparatus for expanding a tubular member
US7114559	Method of repair of collapsed or damaged tubulars downhole
US7104322	Open hole anchor and associated method
US7063142	Method of applying an axial force to an expansion cone
US7596848	Method for producing bimetallic line pipe
US6691397	Method of manufacturing same for production of clad piping and tubing
US6659137	Two-layer clad pipe

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US4394186Method for producing a dual-phase steel sheet having excellent formability, high artificial-aging hardenability after forming, high strength, low yield ratio, and high ductilityUS4361448Method for producing dual-phase and zinc-aluminum coated steels from plain low carbon steelsUS20040047756Cold rolled and galvanized or galvannealed dual phase high strength steel and method of its productionUS20040035500Dual phase steel sheet with good bake-hardening propertiesUS7225657Elimination of rolling mill chatterUS6510721Rolling mill	US6423426	High tensile hot-dip zinc-coated steel plate excellent in ductility and method for production thereof
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US20040047756 Cold rolled and galvanized or galvannealed dual phase high strength steel and method of its production US20040035500 Dual phase steel sheet with good bake-hardening properties US7225657 Elimination of rolling mill chatter US6510721 Rolling mill	US4361448	Method for producing dual-phase and zinc-aluminum coated steels from plain low carbon steels
US20040035500 Dual phase steel sheet with good bake-hardening properties US7225657 Elimination of rolling mill chatter US6510721 Rolling mill	US20040047756	Cold rolled and galvanized or galvannealed dual phase high strength steel and method of its production
US7225657 Elimination of rolling mill chatter US6510721 Rolling mill	US20040035500	Dual phase steel sheet with good bake-hardening properties
US6510721 Rolling mill	US7225657	Elimination of rolling mill chatter
	US6510721	Rolling mill

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US6151943	Rolling machine and rolling method
US4736609	Adjusting device for rolling mill rolls
US4312209	Method for operating a strip rolling mill
US7134514	Dual wall drill string assembly
US4691790	Method and apparatus for removing the inner conduit from a dual passage drill string
US4691790 US4683944	Method and apparatus for removing the inner conduit from a dual passage drill string Drill pipes and casings utilizing multi-conduit tubulars
US4691790 US4683944 US3998479	Method and apparatus for removing the inner conduit from a dual passage drill string Drill pipes and casings utilizing multi-conduit tubulars Dual conduit drill stem member and connection

For a more detailed examination of the patents mentioned in this report, please contact us at: patentlyobvious@m-cam.com.

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M·CAM's Patent Glossary

Aligned Sector:	The business sector in which the product(s) resulting from the patent(s) is currently or intended to be sold.
<u>Applicant</u> :	The person or corporation that applies for a patent with the intent to use, manufacture or license the technology of the invention; under U.S. law, except in special situations, the applicant(s) must be the inventor(s).
Application:	Complete papers submitted to the U. S. Patent and Trademark Office seeking a patent including oath, specification, claims, and drawings. This usually does not signify a Provisional Patent Application, but only a regular patent application.
<u>Art</u> :	The established practice and public knowledge within a given field of technology. This also identifies a process or method used to produce a useful result. A term used in consideration of the problem of patentable novelty encompassing all that is known prior to the filing date of the application in the particular field of the invention.
<u>Assignee</u> :	The person(s) or corporate body to whom the law grants or vests a patent right. This refers to the person or corporate entity that is identified as the receiver of an assignment.
Business Method	
<u>Patent</u> :	A patent that controls the way a business process is undertaken. The issuance of these patents by the United States Patent and Trademark Office (USPTO) is new and controversial, since many allege that it is unfair to allow a patent on a way of doing business.
<u>Citation</u> :	This may include patents or journal articles that the applicant or examiner deems relevant to a current application. A reference to legal authorities or a prior art documentation are examples of a citation.
<u>Claim</u> :	The language in a patent application that defines the legal scope of the patent. Most patents have numerous claims. This is typically the single most important section in the application.
<u>Concurrent Art</u> :	Concurrent art occurs when related patent applications are being examined by the USPTO at the same time. It is difficult for any company or inventor to know, at the time they file for a patent, whether a "related" patent application exists.
Filing Date:	The date when a properly prepared application reaches the patent office in complete form.
Innovation Cycle:	A description of the commercialization timeframe for the intellectual property.
Innovation Space:	M·CAM's representation of the innovation(s) that occur before, during, and after the pending period of the subject patent. The innovation space is the first place to look for patents that are closely related to the subject patent and that may impact the defensibility of the subject patent or create opportunities for patent licensing.
Issue Date:	Not to be confused with the filing date, which is the date the patent application was physically received by the U.S. Patent and Trademark Office. This is the date on which the patent actually issues.
Non-Aligned	
<u>Sector</u> :	Any sector in which the patent can be used or sold, other than the sector for which the patent or resultant product was invented or intended
<u>Pod</u> :	A group of patents owned by a company that should be treated as a single unit of innovation (e.g., a certain group of patents that comprise a single product or multiple related products).
<u>Prior Art</u> :	Any relevant patent that was issued before the patent being analyzed. If this previous patent was specifically mentioned in the new patent's application, the previous patent is referred to as "cited prior art". If it was NOT mentioned, then that previous patent is referred to as "uncited prior art".
<u>Subsequent Art</u> :	Any patent that has a filing date with the USPTO that is after the issuance date of the subject patent. This subsequent art patent may or may not have cited (see "Citation" above) the subject patent. As subsequent art represents more recent innovation than the subject patent, it has great potential to shrink the market opportunity for the subject patent.

A Brief Primer on the Patent System

In recent years, the importance of patents and intellectual property rights as an important variable in the marketplace has come to the forefront of the public consciousness as world leaders declare their country's lead in the innovation race. Damaging intellectual property litigation is becoming increasingly common across all industries. This is exacerbated when patent rights are granted for non-novel ideas. A vast amount of precedent innovation is unconsidered by patent-granting authorities in the creation of new IP rights. Patent granting authorities including the United States Patent and Trademark Office (USPTO), European Patent Office (EPO), Japanese Patent Office (JPO), Chinese State Intellectual Property Office (SIPO), Korean Intellectual Property Office (KIPO) and many others are constrained by the use of patent classification systems which are routinely circumvented by patent applicants.

There is a two-way social contract underlying the patent system. In the United States, patent terms are generally limited to 20 years from the date of application. By statutory intention, once a patent has expired, the patent holder loses the right to exclude others from fully utilizing any innovation described in the patent. A large number of patents enter the public domain when they are "abandoned" – when owners discontinue paying patent maintenance fees. Patents also only provide an exclusionary right in the country for which the patent is filed. As demonstrated by the Global Innovation Commons³ (G.I.C.), using intellectual property available in the public domain eliminates the need to pay licensing fees on those innovations in countries where the patent was never registered, or worldwide, if abandoned.

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³ http://www.globalinnovationcommons.org/